

Laurentian Vision Partnership

Meeting LXIX Report

"Planning and Project Implementation 2018"



Laurentian Vision Partnership
Transforming pits and piles into lakes and landscapes

Wednesday, October 24, 2018
Mining and Reclamation Classroom I Chisholm, Minnesota

Laurentian Vision Partnership

Meeting LXIX

October 24, 2018

“Planning and Project Implementation 2018”

MEETING OBJECTIVE

The Facilitator reviewed the past meeting results and next steps, highlighted meeting objectives and went over the agenda for today’s meeting.

Northeastern Minnesota’s mining industry and the communities that have grown out of natural resource development are facing changing landscapes, issues and opportunities. Impacted by global and national factors, existing Iron Range mines and proposed resource-based projects are embracing new challenges to remain globally competitive and operate with a social license to mine. Communities facing land use issues and seeking to provide residents with a high-quality of life are advancing new business, community and recreational projects by cooperatively solving land use issues. LVP, by convening stakeholders in timely discussions, seeks to collaboratively address the needs of communities, mining operations, resource management, land retention, reclamation, environmental permitting, local revenue generation and land reuse.

The focus of this meeting is on several major topics including an MDNR composite overview of iron mining reserves and future resource options to sustain iron mining on the Iron Range; we will discuss the status of all of the non-ferrous projects and have an introduction to the Core Scan Initiative and the future of the Drill Core Library maintained by MDNR; an introduction to the new Natural Resources Atlas, a multi-disciplinary data base and GIS mapping tool developed by NRRI; introduction to a new national cooperative education program built on the nationally acclaimed Iron Range Engineering Program called the Bell Program; find out how the Hector/Mesabi Trail washout event was addressed and lessons learned; see and learn about the Xcel Energy/Hibbtac 500 KV powerline rerouting project and why that’s important; and receive an update by PolyMet Mining on its project permitting status. Finally, we will hear progress reports from regional groups and work groups on several timely items of interest including Minescape Projects, new grant programs being offered by IRRR, sub-committee work on the draft 2019-2024 LVP Strategic Plan, and updates to the Mesabi Large Scale Projects Map.

MEETING SUMMARY

Laurentian Partnership Debriefing

- Participant introductions and expectations
- Opening comments
- Review of Meeting LXVIII results and next steps (May 2018)
- Overview of meeting objective and agenda

PRESENTATION

Minnesota Iron Ore – Sustainable Development on the Mesabi Range – Current Reserves and Future Resource Options

Pete Clevenstein
Assist. Director, Division of Lands and Minerals, MDNR
Ted Anderson
Manager, Engineering and Mineral Operations, MDNR

Pete and Ted shared a PowerPoint presentation providing details on the current iron ore market situation, production in Minnesota and Michigan, resource factors of a MnDNR mine cost model and its assumptions for sustainability and showed how Hibbtac plays out as one example in this model using these assumptions. Iron ore is used for steelmaking. 90% of metal consumed in the US is steel, and 80% of the iron ore is mined in Minnesota from 6 mines (with one mine in Upper Michigan). Sources of steel come from blast furnaces, electric arc furnaces and imported steel. Transportation costs are a significant part of competitor costs and define the market for our iron ore. They shared in detail how they use public sources of data to assess the market and its conditions and track on a regular basis and model information. Reviewed annual production by mine for Minnesota and Michigan with total production at around 48 million tons. Reviewed the resource factors impacting production and costs for various mines such as stripping ratios, environmental costs, and other factors. Went on to share the MnDNR Mine Cost Model and its assumptions explaining the costs per ton for variables making up the cost to mine. Showed the application of the model for Hibbtac and how it fairs comparatively with other mines and their cost structures. A lot of detailed information was shared and explained in the presentation and should be viewed to get the details surrounding this assessment of current future resources and competitive

considerations. It was emphasized that this is all public information that is track by MnDNR. There were questions asked throughout the presentation and was very well received by members.

A copy of Pete and Ted’s PowerPoint presentation is available on the LVP website at www.lvpmn.org.

P R E S E N T A T I O N

Non-Ferrous Metallic Mineral Projects and a Corescan Initiative with MDNR

Don Elsenheimer
Geologist, MDNR

Heather Arends
Minerals Potential Manager, MDNR

Don shared a PowerPoint presentation focusing on MDNR’s drill core library housed in three buildings in Hibbing. The facility is full today with over 9,000 drill locations and 3 million feet of bedrock drilled core samples catalogued and maintained onsite. State law requires cores to be shared and maintained for public access world-wide. Drill core analysis uses part of the core samples to do geotechnical tests where thin sections are used and is considered a “destructive drill core analysis” procedure. A new proprietary process has been developed by a private company in Australia which employs a “non-destructive core analysis” process called Corescan where cores are logged, microanalyzed, information interpreted and 3-D modeled preserving the core assets for future testing. Corescan technology uses high-resolution imaging to produce mineralogical, geochemical and textural maps of drill core. It is like an MRI – but for rocks. It’s an electronic core library. DNR and IRRR are investing in a pilot study where Corescan, as a mobile laboratory, will be onsite for thirty days at the Hibbing Library in December. Their technology will be used to evaluate 5,000 meters of core from three locations including the Biwabik Iron Formation, International Falls Greenstone and the Emily District Manganese cores all in the IRRR service area. Don went on to explain the goals of the project and shared that tours of the mobile lab will be offered.

Heather took over the next part of the two-part presentation sharing an update on non-ferrous minerals exploration that is underway on state leased lands. MDNR is responsible for state leases, approving exploration plans and for exploratory drilling inspections. She shared multiple slides highlighting the active mineral leases as of October 1st. Information covered 629 leases on almost 204,000 acres in eight northern Minnesota Counties. Exploration is underway for iron ore/taconite, metallic minerals, industrial minerals, and residue with a preponderance of leases, over 500 taken out for metallic minerals. AngloGold Ashanti Minnesota is the largest of the metallic lease holders with 271 leases spanning three counties and have drilled 68 rotonic holes since January 1st. Second largest is Kennecott Exploration with 27,763 acres leased in Aitkin Co. and third is Vermillion Gold with about 4500 acres leased in St Louis and Koochiching Counties. All of the exploration plans are on the MnDNR web site and the data base consists of over 40 years of data. These companies are here because we have data sets and we promote their availability. You will also find a 10-year overview of drill actions on the site. The presentation was well received, and several questions were posed and addressed by Don and Heather.

Copy of Don and Heather’s PowerPoint presentation is available on the LVP website at www.lvpmn.org.

P R E S E N T A T I O N

NRRI - Natural Resources Atlas of Minnesota

George Hudak
Director of Minerals-Metallurgy Initiative, NRRI

Will Bartsch
Senior Research Scientist, NRRI

George introduced the project and project leader, Will Bartsch. The Natural Resource Atlas of Northeastern Minnesota was funded by the State’s \$2.6 million, Mining and Water Innovation Initiative with work performed by NRRI over the past two years. Will shared a PowerPoint providing an overview of the new Atlas which is online and publicly available to use today. It’s a powerful database tool offering basic GIS functionality for viewing, analyzing, understanding, and sharing spatial natural resource data from multiple sources. He reviewed the geographic pilot area coverage of the database which is tied to the 26 northern Minnesota forested counties. He explained the user needs assessment process and the types of targeted users and their role and engagement as a targeted beta testing group. The Atlas consists of over 250 data layers broken down into 10 categories and are catalogued as such. With its GIS functionality, information can be used for identifying mining, water resources, forestry and tourism opportunities, to protect resources, and provide scientifically sound, unbiased data for a variety of public and private users. Will then demonstrated the tool and ways it might be used with several online examples. He addressed several questions on data updates and maintenance, where it might be further developed and where to access online. The presentation was well received. Randy thanked George and Will for the work done by NRRI.

A copy of the PowerPoint presentation is available on the LVP website at www.lvpmn.org.

P R E S E N T A T I O N

Overview of Iron Range Engineering and New Bell Program

Bill Maki
President, Northeast Higher Education District (NEHD)
Dr. Bart Johnson
Provost, Itasca Community College

Bill and Bart co-presented a PowerPoint presentation with Bill sharing information on the background and impetus for the new Bell Program and Bart providing an overview of the model and how it's being implemented. Bill explained that the Bell Program (BP) was an outgrowth of the Iron Range Engineering Program (IRE) which began as a pre-engineering program in the mid 1990's at Itasca Community College and evolved into a four-year program that graduated its first cohort in 2010. IRE is a four-year project-based engineering program delivered in concert with Mankato State. Students receive a Bachelor of Science degree in engineering from Mankato. A total of 150 students have graduated over the past 8 years with over half remaining in the area and working today. The IRE was developed by Dr. Bart Johnson and Dr. Ron Ulseth and has received national recognition and awards with the ABET Innovation Award in 2017 and MIT Top Five – Emerging World Leaders in Engineering Education award in 2018. These are both very prestigious awards. The Bell Program is a direct outgrowth of IRE and was designed and developed over a two-year period to be a national focused program that could help diversity the profession, be a self-sustaining program, could mitigate the costs borne by students, capitalize on IRE success and is an economic development opportunity for the Iron Range and NEHD.

Bart shifted to an explanation of the national model developed over a two-year feasibility assessment period that has now received a \$5 million grant by IRRR to launch a national pilot program in 2019. He provided a program summary handout and described the program where a cohort of students begin a learning process coming to the Iron Range for an initial 5 month Apprentice Development intensive training course followed by a one year Apprenticeship Cooperative learning on site at a business within the region or a business back in their home area, followed by another one year Design Apprenticeship with another business and leading to a B.S. Degree. He went into some detail on how this is supported with professors, learning coaches and peer learning groups and how the program is designed to be self-supporting within the first five years of implementation. He concluded by explaining how it's an economic development opportunity for NEHD and also businesses in the area. Bill and Bart addressed a number of questions and were complimented by members on their innovation and leveraging of the successful IRE program.

The presentation was well received, and a copy of the PowerPoint presentation is available on the LVP website at www.lvpmn.org.

P R E S E N T A T I O N

Hector/Mesabi Trail Washout

Linda Johnson
Director of Mining & Property Development, IRRR
Pete Kero
Senior Environmental Engineer, Barr Engineering

Linda and Pete shared a PowerPoint presentation. Linda began by explaining that last April water and sediment that had pooled in the old Hector Mine, a long time closed mine located just north of Biwabik, compromised the embankment near the adjoining lake, causing a washout that cut a ravine about 30-50 feet wide and 20-25 feet deep, completely severed a portion of the Mesabi Trail, and continued toward the south where it met the Embarrass River Diversion Channel. The material from the ravine dammed the river channel which temporarily blocked flow into the lake. Water and sewer lines, along with some utilities, were damaged and residences near Giants Ridge were impacted. Barr Engineering and MNDNR teamed up to find solutions to the event which led to clean-up and restoration of the area over the summer and fall. A lot of partners were engaged, and a positive outcome resulted.

Pete then shared a number of photos of the area showing what the impacts were and how the restoration efforts have improved the area and has been redesigned to ensure that this type of event does not happen again at the Hector Mine. He walked through a chronology and timelines of sediment removal, utility reconstruction, ravine stabilization, and improvements made to the Mesabi Trail. The Team addressed questions about the project, its impact, cost and why this collaborative effort was so successful. Sources of other media coverages were also highlighted. The presentation and discussion were well received by members.

A copy of the PowerPoint presentation is available on the LVP website at www.lvpmn.org

P R E S E N T A T I O N

Xcel Energy /Hibbtac 500 KV Powerline Rerouting Project Overview

Tom Hillstrom
Principal Agent, Xcel Energy

Tom shared that Xcel Energy is in the process of developing options to relocate an existing 500KV powerline that connects Manitoba, Canada with Minnesota and Xcel’s service area. The line needs to be re-routed to allow Hibbtac to expand its mining operations and is currently outlined in the approved Mine Plan for Hibbtac. Tom shared one slide of the map of the area showing the location of the existing line, two plan options that have been developed by a stakeholder’s group and how Xcel is engaged in the Mn Public Utilities Commission (MPUC) process for siting and permitting a re-routed line that will go across some private property. The stakeholder group is convening later today to go over where the route will go. He shared how the stakeholder group had looked at alternative routes and narrowed down to a proposed alignment in August. The preferred route is the most direct of all the alternatives considered. Tom showed and explained in detail the options considered and why the preferred option was selected. The goal is to achieve consensus and a supported preferred route and then follow the MPUC “Minor Alteration Process” and move ahead with the project. If there is a lot of opposition the process would become a “full route review and approval process” which is much more complicated and will take some time to go through. The schedule is getting the permit application done by the end of 2018 and hold a public hearing to assess its support and then to the MPUC with a least one more public hearing and comment period. The goal would be to build in 2020. Tom addressed several questions on the preferred route and amount of private property impacted and how surface and mineral rights would be handled.

A copy of the Site Map slide is available on the LVP website at www.lvpmn.org

P A R T N E R S H I P P R I O R I T I E S

Regional Group Action Progress Reports

The following Regional Groups were present and provided an update on their major activities related to LVP. Copies of the handouts are available on the LVP website at www.lvpmn.org.

REGIONAL GROUP	CURRENT PROJECTS
Western Mesabi Mine Planning Board (WMMPB) Doug Learmont, Director	<ul style="list-style-type: none"> Highlighted several major initiatives and their status including major legislative priorities developed for 2019 and completion of Highway 169 four lane - Cross Range Expressway project; highlights from the successful educational tour held for board members in September; shared the boards opposition to the moratorium on mining as proposed by the US Forest Service and briefly described other highlights included in a written summary handout.
Central Iron Range Initiative (CIRI) Rick Crum, Member	<ul style="list-style-type: none"> Updated members on the \$600,000 Brownfield Project. There were 13 active projects this summer, range-wide. The project is chaired by Harold Langowski, City of Ely and the City of Virginia is the fiscal agent. Projects are going well, and the federal EPA is planning to showcase the overall initiative and projects in Spring 2019.
East Range Joint Powers Board (ERJPB) Elissa Hansen, President of Northspan Group and Consultant to ERJPB	<ul style="list-style-type: none"> PolyMet Mining will continue to be the focus of the area as permitting is in process. Work is accelerating to market the Laskin Energy Park in cooperation with IRRR and MP with several new prospects in play; Lakehead Constructors purchased the former MP building in Aurora and is expanding on this site and Stern Industries a new company to the area is now operating in an existing building at the Laskin Energy Park; Northspan is providing consultant support services and plans to meet with all of the communities to formalize a 2019 work plan and area priorities for economic and community development.
Quad Cities Melissa Cox, President of the Laurentian Area Chamber	<ul style="list-style-type: none"> Shared that several efforts are underway in the area including recent approval of an IRRR/Blandin Foundation Broadband Grant; a hospitality study is underway to assess needs and opportunities for the area; we are engaging in a Blandin Leadership Program for area leaders; and will be holding a Candidates Forum before the election.

PARTNERSHIP PRIORITIES

Work Group Action Progress Reports

Individual work group representatives provided the following reports and next steps.

Action Areas	Work Group Priorities	Work Group Representative(s)	Update/Next Steps
TARGETING PRIORITY PROJECTS	1. <ul style="list-style-type: none"> ○ Minescape Projects FY 2018 Projects/Funding Update and FY 2019 Budget Update ○ New Mine Pits Grants Program-guidelines ○ New Trails Grants Program FY 19 	Jim Plummer , IRRR	<ul style="list-style-type: none"> · Shared a PowerPoint presentation addressing highlights for each of the three topics as follows: <ul style="list-style-type: none"> · Six Minescape Grants totaling 191,950 have awarded with \$200,000 approved for FY 2019 funding which began on July 1, 2018 and goes thru June 30, 2019 Potential projects include Bridgeview in Virginia and Hibbing Mine View. · Mine Pits Lakeshore Enhancement Grants is a new grant program with \$100,000 available for FY 2019 projects. Explained the eligible uses and related guidelines all are on the IRRR web site. · The new Trails Grants Program provides funding to assist with design, engineering and construction of various types of trails. The program has \$3 million available for FY19 and currently has 12 applications totaling over \$5 million in requests.
DELIVERING TOOLS AND RESOURCES	1. <ul style="list-style-type: none"> ○ Large Scale Projects Mapping Update 	Jim Plummer , IRRR Tim Pastika , MDNR	<ul style="list-style-type: none"> · Brief update highlighted. Any additions should be shared with Tim or Jim.

OTHER BUSINESS UPDATES and FUTURE TOPICS

Future Topics/Presentation Recommendations of LVP Coordinating Committee (Winter 2019)

The group discussed several possible discussion topics highlighted on the agenda by the Coordinating Committee and received a new updated handout of past topics of interest. The following topics were highlighted by members as possible priorities for Winter 2019 meeting.

- Regional Trails Development and Coordination – Panel Discussion
 - Focus on minerals impact and sustainability
 - Trail planning ties to local and regional comprehensive plans and mine development plans
 - Coordination of trails development and grant support – Range-wide
 - Plan development update from last spring
 - Projects demonstrations
 - Funding vehicles available
- Public Mining Resource Observations _Range-wide Overview
- Hibbtac Update – Cleveland-Cliffs
- Future Evolution of Mining – NRRI
- Election/Legislative 2019 Debrief
- Workforce/Talent Development
- Anglo Gold presentation on exploration interests
- New Gold Inc. - Rainy River Gold, Fort Frances, Ont.
- Community presentation on a planning effort and project?

COORDINATING COMMITTEE MEETING

The next Coordinating Committee will be held on **Tuesday, December 11, 2018 from 9:00 A.M. to Noon at the Mining and Reclamation Classroom**, Minnesota Discovery Center in Chisholm. Work Group and Regional Group representatives will be asked to assist in developing the January 2019 membership meeting agenda.

LVP QUARTERLY MEETING

The next Laurentian Vision Partnership meeting will be held on **Wednesday, January 23, 2019** from 9:00 A.M. to 12:30 P.M. in the Mining and Reclamation Classroom at Minnesota Discovery Center in Chisholm.

Partnership Meeting LXIX
 Wednesday, October 24, 2018 (9:00 AM – 12:30 PM)
 Mining & Reclamation Classroom, Chisholm

Northeastern Minnesota's mining industry and the communities that have grown out of natural resource development are facing changing landscapes, issues and opportunities. Impacted by global and national factors, existing Iron Range mines and proposed resource-based projects are embracing new challenges to remain globally competitive and operate with a social license to mine. Communities facing land use issues and seeking to provide residents with a high-quality of life are advancing new business, community and recreational projects by cooperatively solving land use issues. LVP, by convening stakeholders in timely discussions, seeks to collaboratively address the needs of communities, mining operations, resource management, land retention, reclamation, environmental permitting, local revenue generation and land reuse.

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PROPOSED AGENDA

9:00	Laurentian Partnership Debriefing	Randy Lasky , Facilitator
	<ul style="list-style-type: none"> • Participant introductions and expectations • Opening comments 	<ul style="list-style-type: none"> • Review of Meeting LXVIII results and next steps (May-18) • Overview of the meeting objective and agenda
9:15	PRESENTATION: Minnesota Iron Ore – Sustainable Development on the Mesabi Range – Current Reserves and Future Resource Options	Pete Clevenstein Assist. Director, Division of Lands and Minerals, MDNR Ted Anderson Manager, Engineering and Mineral Operations, MDNR
9:45	PRESENTATION: Non-Ferrous Metallic Mineral Projects and a Core Scan Initiative with MDNR	Don Elsenheimer Geologist, MDNR Heather Arends Minerals Potential Manager, MDNR
10:05	PRESENTATION: NRRI - Natural Resources Atlas of Minnesota	Will Bartsch Senior Research Scientist, NRRI
10:25	PRESENTATION: Overview of Iron Range Engineering and New Bell Program	Dr. Bart Johnson Provost, Itasca Community College Dr. Ron Ulseth Director of Academics and Research of the Iron Range Engineering Program and Bell Program
10:55	Break	
11:05	PRESENTATION: Hector/Mesabi Trail Washout	Linda Johnson

11:25	PRESENTATION: Xcel Energy /Hibbtac 500 KV Powerline Rerouting Project Overview	Tom Hillstrom Principal Agent, Xcel Energy
11:50	Partnership Priorities: Regional Group Action Progress Reports <ul style="list-style-type: none">• What's happening in regional areas across the Iron Range?<ul style="list-style-type: none">○ Western Mesabi Mine Planning Board (WMMPB)○ East Range Joint Powers Board (ERJPB)○ Quad Cities○ Central Iron Range Initiative (CIRI)	Doug Learmont , Coordinator Cherie Grams , Administrative Coordinator Melissa Cox , Executive Director, Laurentian Chamber John Fedo , CIRI Member
12:05	Partnership Priorities: Work Group Action Progress Reports Targeting PRIORITY PROJECTS <ul style="list-style-type: none">• Minescape Grant Update• Mine Pit Grants Program – guidelines• Upcoming Trails Grants – new grants program	Jim Plummer , IRRR
12:15	Facilitating REGIONAL VISIONING/LVP COORDINATORS REPORT <ul style="list-style-type: none">• 2019-2024 LVP Draft Strategic Plan Overview and Input	Jim Plummer , IRRR
12:20	Delivering TOOLS AND RESOURCES <ul style="list-style-type: none">• Mesabi large-scale map update	Tim Pastika , MDNR
12:25	Other Business Updates and Future Topics <ul style="list-style-type: none">• Future Topics/Presentations (Winter 2019)<ul style="list-style-type: none">○ Regional Trails Development and Coordination – Panel Discussion<ul style="list-style-type: none">- Focus on minerals impact and sustainability- Trail planning ties to local and regional comprehensive plans and mine development plans- Coordination of trails development and grant support – Range-wide- Plan development update from last spring- Projects demonstrations- Funding vehicles available○ Public Mining Resource Observations _Range-wide Overview○ Hibbtac Update – Cleveland-Cliffs○ Future Evolution of Mining – NRRI○ Election/Legislative 2019 Debrief○ Workforce/Talent Development	Facilitator
12:25	What's Next? <ul style="list-style-type: none">• Meeting Schedule• Meeting date and agenda<ul style="list-style-type: none">○ Coordinating Committee – TBD Dec/Jan○ Laurentian Vision Partnership – TBD Jan/Feb 2019• Wrap up announcements and conclusions	Facilitator Representative from each work group and each sub-regional group
12:30	Adjourn	
