

# Meeting Report

## June 10<sup>th</sup> NDDB-Canadian Zinc meeting in Nahanni Butte

**Main Issue:** Meeting between NDDB and Canadian Zinc to discuss the Developers Assessment Report (DAR); observed by Canada

**Meeting Date:** June 10, 2010

### **Participants:**

NDDB: Chief Fred Tesou; Councillor Jim Betsaka; Councillor Jayne Konisenta; Councillor Tammy Matou; Councillor Peter Marcellais; Councillor Lorraine Vital; Band Manager Pauline Campbell; Delores McPherson; David Konisenta; Leon Konisenta; Herb Betsaka; Tommy Betsaka; Jean Marie Konisenta; Lena Marcellais. Interpreter: George Betsaka.

Crosscurrent Associates Ltd (CA, consultant to Nahanni Butte): Peter Redvers; Shauna Morgan.

Canadian Zinc (CZN): Alan Taylor; David Harpley; Wilbert Antoine.

INAC: Darha Phillipot; Val Gordon; Michael Vandell.

### **Summary of Discussion:**

#### **1) Prayer and Opening Comments:**

- Opening prayer
- Welcome from Chief Tesou
- Peter Redvers provided a summary of the work done to date by CA for NDDB to review the DAR (i.e., TK assessment, review of DAR, internal community meeting on May 25<sup>th</sup> and preparation of meeting summary report (attached), identification of technical issues for further discussion with regulators)

#### **2) Conditional Community Support for the Mine**

- CA noted that the DAR inaccurately characterizes NDDB's support for the Mine; Community support is conditional upon protection of the land, water and wildlife and clear and reasonable benefits for NDDB members. Without the qualifier "conditional" the public record is inaccurate.
- CZN noted that it understands and accepts that community support is conditional upon environmental protection and community benefits. The DAR did not specify this because it was assumed to be an established, widely accepted fact. CZN noted that commitments to environmental protection and community benefits had been discussed at previous community meetings between CZN and NDDB.

- CA noted that the DAR is posted on the public registry, and many people reading it would not be familiar with the understanding reached between CZN and NDDDB at those meetings.

### **3) Socio-economic Impact Assessment**

- Community members voiced their unhappiness with the way the community was portrayed in the socio-economic impact assessment (SEIA) conducted by Graeme Clinton for CZN. The community feels more positive about their prospects than was indicated in the SEIA. The community was also critical of the fact that they were not asked to participate in the preparation of the SEIA, or consulted on the contents of the report before it was submitted to the Review Board. The community was disappointed at the approach taken, since they thought CZN had committed to deal directly with NDDDB. They asked to be included in the preparation of any future studies related to the community, and they asked that Chief and Council have a chance to review any reports about the community before they are made public.
- CZN stated that the SEIA was done by an independent consultant, and in hindsight, wished that the comments had been written differently. CZN accepted that some of the comments may have been offensive. It was noted that the consultant was tasked to answer a lengthy terms of reference from the Review Board, that the comments in question were few considering the volume of the report, and that the context for the comments was macro-economic prospects and not intended to be a comment on the current status of the community. The DAR was also already delayed, and CZN was eager to submit it.
- NDDDB indicated that the delay of the DAR was not a satisfactory reason to not include them in review of the SEIA.
- CZN apologized to those offended by the comments, and agreed to work closely with the Band in order to avoid a similar situation in the future. CZN proposed to further strengthen communications by having a weekly telephone call between CZN's representative in Fort Simpson and the community's CZN community liaison representative. Such a call was held recently to discuss job openings at the mine over the summer, and the availability of Nahanni residents.

### **4) Technical Advisory Committee (TAC)**

- CZN provided background information on the TAC:
  - Was formed in Ottawa between Parks Canada & CZN to deal with the Nahanni National Park Reserve Expansion
  - Subsequently expanded to include DCFN
  - Parties agreed that the TAC would be a good vehicle to deal with the EA and ongoing mine operations.

- Parties are now proposing further evolution of the TAC, including expansion of membership. They support NDDB participation. According to CZN, the model under consideration includes:
  - Expanding the TAC to include representation from Communities (primarily NDDB and Ft. Simpson), and making the Committee open to the general public.
  - CZN noted that while agencies would be invited to attend on an as needed basis, including Environment Canada, departmental budgets would likely preclude attendance at all meetings. Three meetings per year might occur, which could rotate between Nahanni Butte, Fort Simpson and the mine. A winter meeting in Nahanni would be good as the ice bridge would be in operation, and attendees could witness the winter hauling and Liard Transfer Facility activities. A spring meeting in Fort Simpson would be the main meeting of the year at which most agencies would likely attend. A summer meeting could be held at the mine and include a site tour.
- NDDB is writing to PC, CZN, and DFN to formally request a seat on the TAC. NDDB will be requesting two seats – a community member and a technical support person. NDDB’s first goal is to gain a place on the Committee; then NDDB can be part of decisions about how the structure/mandate of the TAC should evolve further. In the meantime, the NDDB will accept CZN’s invitation for CA along with a NDDB representative to attend the multi-agency meetings on June 11 arranged by CZN to discuss the more technical details of the DAR.
- NDDB suggested that the TAC could be a useful collaborative forum for reviewing and clarifying the technical aspects of CZN’s development proposals throughout the remainder of the EA process. CZN said it is unlikely that the TAC could move fast enough to be used throughout the EA as meetings are usually every 4 months.
- NDDB recommended that the TAC function as a forum for Community participation in oversight of research and monitoring activities during mine construction, operations, and decommissioning. CZN similarly proposed that an expanded TAC could be a forum for discussion of monitoring data being generated by CZN and regulatory inspectors, and an opportunity for communities to raise questions and concerns.
- CZN commented that participation by NDDB immediately is welcomed by CZN, but the matter requires resolution with DFN. However, CZN cautioned that the schedule of the EA was such that committee meetings alone (every 3-4 months) would likely not suffice for the required review, and that this review would likely need to occur independent of the committee.
- INAC requested additional information about the TAC, including the current Terms of Reference and any draft Terms of Reference or considerations of models for the new TAC. INAC has an interest in participating and noted that, in considering models for the TAC, thought should be given to how any monitoring and oversight functions of the TAC feed into the existing regulatory process.

- INAC requested that the TAC post all of its discussions / meeting notes on the public registry during this EA process, so that all parties could be aware of what issues are being discussed.
- In response to questions of funding, INAC noted that IRMA funding would be an appropriate existing short-term source of funding for NDDB participation in the TAC. INAC's policy to support such participation is on a case by case basis.
- CZN noted that funding for things such as training and technical committee representation (if not funded by government) would need to be discussed at the IBA table and included in any final IBA agreement.

## 5) Environmental Monitoring

- **Community Involvement in Monitoring:** CZN said that it can guarantee some NDDB representation as monitors, but cannot guarantee numbers. The current plan is for an environmental manager and 2 environmental technicians to be on site at any one time. The hope is that over time, these positions will be filled by Nahanni members. However, CZN recognizes that it may be difficult for Nahanni residents to acquire the necessary skills (a diploma is required for the technician position). Therefore, CZN agrees that Nahanni members will be hired as monitors, with 1 monitor at the mine at all times, and 1 on the access road during the road season (4 total). All monitors would receive on-the-job training and will be asked to complete tasks to support operations. The hope is that this will be the appropriate stepping-stone for monitors to become technicians, and possibly the environmental manager. If NDDB members become environmental technicians/managers, this may make the community monitor positions redundant.
- CZN also confirmed that all environmental staff and monitors would have spills response training and would be involved in the response team. CZN will meet with the Mining Society on the 16<sup>th</sup> to discuss training and report back to the Community. NDDB said that MTS should come and meet with the community directly.
- CA noted that the community had an interest in independent environmental monitoring, but that if the Technical Committee was structured to provide monitoring oversight, with NBDB involvement, the interest in independent monitoring may be alleviated.
- **Water Monitoring:** CZN said that regarding which analysis/testing will be done on site, and what tests will be conducted off-site, and how often each will be done - this is still being determined. Daily on site discharge testing is a given. There is a difference between testing to ensure operating criteria are being met, and testing to provide formal data for reporting to the Water Board. To ensure water treatment effectiveness, zinc would need to be tested every few hours with immediate results, with a response taken if the result is not within an acceptable range. Therefore, it is likely that all metals testing will be done on site. A number of duplicates would also be taken for testing off site. All other analyses would likely be done off site (e.g. ammonia) as it would not be cost

effective to have such testing equipment on site. Testing takes about 1 week after arrival at the laboratory.

- Figures from the DAR were projected on a screen by CZN and used to explain water monitoring locations, including those for flow monitoring. CZN explained that flow monitoring on Prairie Creek would be continuous to ensure the volume of creek water was sufficient for the site discharge occurring.
- INAC informed NDDDB that Taiga Labs in Yellowknife offers tours of their lab. INAC offered to arrange a tour if any NDDDB members are passing through Yellowknife and would like to learn more about water testing procedures.
- **Water Storage Pond:** With reference to the current Water Storage Pond, a community member had asked if water levels were dropping indicating a leak. CZN noted that the water level rises and falls in response to snowmelt, rainfall and evaporation, and CZN has no evidence of a leak. However, CZN recognized this concern previously, and proposed a new liner for the pond in the DAR in addition to the existing clay for added security. Chief Tesou will visit the site in late July, including viewing the Water Storage Pond. Divisions will be added to the water storage pond to control the rate of flow to allow breakdown of organic compounds.
- **Erosion of the berm:** Community members had suggested that erosion of the berm might be taking place where Prairie Creek curves sharply and hits the berm (near the middle). CZN noted that this has in fact occurred. CZN showed photographs on the projector of repair works that were completed last year before the problem became too bad, and explained that while this has addressed the immediate risks, more armour rock needs to be placed for long-term protection. Regulators have been informed of the work (DFO & INAC inspectors).
- **Spill Response:** The community wants to ensure that they are notified immediately if a spill occurs. CZN agreed to add this to its Fuel Spill Contingency Plan. CZN also noted that all monitors will have spill response training and be involved in the spill response team
- **Prairie Creek Mine Winter Road Access:** INAC said that they are aware of the community's concern that public access to the Winter Road could provide access for non-local hunters and that the community has an interest in wanting to control/monitor access. She noted that generally speaking, there is a lack of clarity regarding jurisdiction over NWT roads to resources, since the GNWT technically has jurisdiction over public roads, yet it has not assumed this authority for roads to resources. Initial discussions about jurisdiction over NWT roads to resources have begun between INAC (Operations) and the GNWT (MACA). The specific concerns raised by the community about this road (i.e. interest in controlling access) are being considered internally, and discussions will continue as the EA progresses. INAC suggested that a meeting between the GNWT, INAC Operations, and the community would be an appropriate next step to ensure that there is a common understanding of the various issues and interests. A commitment was made to work with

INAC's EA staff in coordinating this meeting. CA suggested that the Community take a lead role in these discussions and suggested that Parks Canada also be involved.

- **Diffuser:** In response to the community's concerns about potential ice build-up during the winter at the effluent discharge point, and to minimize impacts on receiving water, CZN had proposed a diffuser. This is a pipe with ports which is submerged in the creek near the stream bed. CZN provided additional information about diffusers, showing examples of various possible designs on the projector. Prairie Creek is quite braided, but there is a single deep channel that will be ideal for a diffuser adjacent to the final pond on site. NDDB will be looking for additional discussions about technical water quality issues with regulators and experts on June 11th.
- **Winter Access Road and Transfer Facilities:** NDDB noted that overflow and flooding can occur at Second Gap. CZN responded that this issue will be looked into and dealt with during road construction. There may be a need to use culverts seasonally. NDDB advised CZN that the road route is subject to poor weather, flooding and rock falls that may cause delays. CZN agreed and noted a need to build flexibility into their haul schedule. NDDB suggested that there is a better location for the Liard Transfer Area, within 0.5 km up the community access road from the Liard Highway where the ground is harder. NDDB members noted that community members had recently indicated the spot to CZN. CZN responded that to move the transfer station up the community access road would potentially require the road segment to be upgraded to withstand the heavy trucks. CZN agreed to send an aerial photo to the community so that they could indicate the exact spot and that CZN would consider it. It was noted by NDDB that the proposed Liard ice bridge location for the access road is not at Swan Point, but at what the community refers to as 'Tachée'.
- **Winter Road Haul Schedule:** NDDB expressed an interest in further discussions about the haul schedule for the winter road between Parks Canada, GNWT, and CZN. CZN suggested it would be appropriate for these to take place during the technical session following the IRs.
- **Heritage Resources:** NDDB raised the concern that any heritage resources found during work on the road be ultimately returned to the community, and expressed an interest in being involved in a heritage resources protocol. CZN noted that their understanding was that the proper protocol is not to disturb any such items and to notify the appropriate authorities, who would then likely engage the community regarding a solution. CZN agreed that NDDB would be involved in the development and implementation of a Heritage Resources Protocol.
- **Mine Site Visit:** Chief Tesou requested that two other NDDB members come with him to the Mine site. CZN said that currently the plane is at capacity, but that they would do what they could to accommodate the request.

#### **Summary of Proponent's Commitments**

- CZN proposed communication between Ft. Simpson Office and the Community on a weekly basis.

- CZN will meet with the Mining Society on the 16<sup>th</sup> to discuss training and report back to the Community.
- CZN agreed that NDDB monitors will have spill response training and be involved in the response team.
- CZN agreed to add to its Fuel Spill Contingency Plan the requirement that NDDB be notified immediately should any spill occur.
- CZN agreed to send an aerial photo of the proposed Liard transfer Station area to the community so that they could indicate the area of high ground, and to consider the proposed location.

#### **Summary of INAC's Commitments**

- INAC offered to arrange a tour of Taiga Labs in Yellowknife for any interested NDDB members.
- INAC's EA staff will coordinate a meeting between INAC Operations, GNWT (MACA) and NDDB to discuss access road jurisdiction and monitoring.

#### **Attachments:**

May 25<sup>th</sup>, 2010 Meeting Summary, including Draft Agenda

Canadian Zinc Comments on May 25<sup>th</sup> Nahanni DAR Meeting Notes

Canadian Zinc Presentation

# May 25, 2010 Meeting with Nahzq Dehé Dene Band Review of CZN's Developer's Assessment Report for the Prairie Creek Mine

*Summarized Meeting Notes prepared by Crosscurrent Associates Ltd.*

## **In Attendance**

Fred Tesou	Pauline Campbell
Lorraine Vital	Flora Cli
Jim Betsaka	Tammy Matou
Elsie Marcellais	Peter Marcellais
Jonas Marcellais	Leon Konisenta
Lena Marcellais	Jayne Konisenta
Francis Betsaka	Maurice Vital
Robert Vital	

Crosscurrent Associates Ltd: Peter Redvers, Shauna Morgan

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## **Opening Prayer (Flora Cli)**

### *1. Technical Committee*

#### *Structure*

- Community agrees with the idea of expanding the Technical Committee to include DFO, ENR, INAC and NDDB.
- NDDB must be directly represented on the Committee.
- There should be 2 spots for NDDB: one community member, one technical support.
- NDDB needs a technical support person who the community is comfortable with – not someone selected by the government or by DFN.
- Should the mine be approved, the TC should hire a staff person / coordinator to ensure the Committee runs smoothly (similar to the model of the Community Advisory Boards for the diamond mines). This person might be an NDDB member.

#### *Role*

- During EA process (essentially, from now on) NDDB would raise its environmental concerns and questions at the Technical Committee and get feedback from both government agencies and CZN. This process is likely a more collaborative and efficient process than formal 'Information Requests'.
- NDDB prefers to deal with CZN face to face first to get concerns / questions addressed.
- Should the mine go ahead, the TC would coordinate and oversee project and cumulative monitoring programs and adaptive management planning.

### *Funding*

- NDDDB needs enough funds from CZN and/or governments to support meaningful participation—this would include: background research / preparation (technical support), participation of 2 NDDDB reps in meetings, and follow-up.
- Need funds for TC staff person/ coordinator: INAC? Jointly funded by governments and CZN (similar to diamond mine model)?
- INAC may be able to fund immediate /short term participation.

### *Timing*

- NDDDB should be involved in Technical Committee right away – through the remainder of the EA process.

## *2. Environmental Monitoring*

- NDDDB can test to see how well the Technical Committee works during the EA process; if NDDDB is not comfortable with the TC, then NDDDB can push for independent NDDDB environmental monitoring rather than just having community monitors hired by CZN. If TC is effective, NDDDB may agree to community monitors hired by CZN.

### *How many NDDDB community monitors?*

- There should be 8 monitors hired total:
  - 4 for the mine site (2 per shift – these would be environmental monitors, possible hired directly by CZN)
  - 4 for the access road (2 per shift – these would primarily be access/road safety/security monitors, likely arranged through contract with Development Corporation)
    - But... 1 of the 2 road monitors should have basic environmental training to assist with soil & water sampling, wildlife monitoring, etc. along the access road, if and as required).
- 4 NDDDB members have already taken the Environmental Monitor training program.

## *3. Water Monitoring / Testing*

- Questions for CZN:
  - a) Which analysis/testing will be done on site, and what tests will be conducted off-site?
  - b) How long does it take to receive results from off-site testing?
  - c) If test results showed a problem, how long would it take to put contingency plans and improved mitigation measures in place?
  - d) [to combine b and c above] What could be the maximum total lag time between testing of the water and actual elimination of any problem / risk that is found?
- Need CZN to provide more detail on flow monitoring: how often, where, etc.
- Need CZN to provide photos of the 'diffuser' and proposed sample sites

--Apparently the current Water Storage Pond has been leaking – water levels are continually dropping. Is this accurate? If so, why is this happening? Will this be eliminated when a new liner is put in?

--Community members suggested that erosion of the berm might be taking place where Prairie Creek curves sharply and hits the berm (near the middle). Should/can this be addressed?

There are a number of other water management questions to address, most of which are technical in nature, and it is preferred that these get discussed at the Technical Committee level with NDDB participation.

#### *4. Fish & Fish Habitat*

--DFO and Parks coming next month to make presentation on recent studies on fish & fish habitat in Funeral Creek and Prairie Creek – they plan to do more tagging also.

--Prairie Creek must be viewed as important fish habitat.

--NDDB questions relating to fish and fish habitat should be discussed at the Technical Committee level.

#### *5. Spills Response*

--Community is interested in participating in a Spills Response Team – would like to discuss this with CZN as a component of IBA negotiations.

--NDDB trying to arrange a meeting with the Mine Training Society to get relevant training.

#### *6. Winter Access Road / Transfer Facilities*

--If the road was public, NDDB Dev Corp would want to try to get a lease for the lower portion of the access road, as a means to control entry.

--Department of Transportation told Chief Tesou that they have nothing to do with the winter haul road. Jurisdiction needs to be clarified with INAC and GNWT as soon as possible so better planning can be done in relation to road access/monitoring issues.

--Community member pointed out that at Second Gap (Grainger Creek) there is severe overflow and flooding at certain points during the winter – a lot of water funnels down into this narrow gap - this could cause trouble with the road.

-This matter needs to be discussed further with CZN.

-CZN should expect to experience many delays along the entire road due to snowstorms, overflow, fallen rock, etc.

--The proposed area for the Liard Transfer Facility is on soft ground (muskeg) – should build this facility back from the highway, just at the first corner where it jogs right. This is on higher, more solid ground.

## 7. *Employment & Contracting*

--There may be a gravel source near the Netla River bridge. Need to clarify who owns the gravel and whether NDDDB could access it to supply the Liard Transfer Facility.

--Development Corporation is supposed to receive funding to conduct a Human Resources Assessment that will assist with socio-economic planning and negotiations.

## 8. *Socio-Economic Assessment*

--This issue should be first on the agenda for the meeting with CZN on June 10.

--NDDDB strongly disagrees with the way Nahanni Butte was portrayed in the SEIA.

--Nahanni Butte feels positive about its future and has been holding workshops, etc. to get on a healing path. The SEIA does not reflect any of this; its portrayal of a 'bleak' future for Nahanni Butte without the mine is offensive and untrue.

--Was permission obtained to publish community members' names beside their comments on socio-economic issues? (Appendix 26 – Ethel Lamothe's interview notes) Or did members consider these interviews to be confidential, with only an overall summary provided?

--Volume 1 of the SEIA did not utilize much of the input gathered by Ethel Lamothe – eg. community members' concerns about the mine and about the consultation process.

--CZN should have checked with the community whether its socio-economic analysis was accurate before publishing it.

--In the future, the socio-economic assessment should be done by a person from the community, or should at least include direct community visitation by the consultant.

-Heritage Resources Protocol: Any heritage or archeological items found should be returned to NDDDB. NDDDB should be involved in a meaningful way in the development and implementation of the Heritage Resources Protocol.

## 9. *Issues to be Discussed through Technical Committee*

-Water monitoring / testing methods

-Toxicity of chemicals and release of metals

-Source of nutrient load detected in Prairie Creek

-Contamination / containment / spills response / emergency planning

-Road bed construction

-Monitoring plan along access road (Where? How often? Testing parameters?)

-Wildlife monitoring and management

-Post-closure and reclamation issues.

### **Draft Agenda for June 10 meeting with CZN:**

- Socio-Economic Impact Assessment (see above);
- Issue of Community Support for the Mine:
  - --NDDB reaffirmed that its support for the mine remains conditional on:
    - →protection of the land, water, wildlife
    - →clear and reasonable benefits for NDDB and its members through;
- Contradictory Statements in DAR on Traditional Land Use;
- Structure, Role, and Funding of Technical Committee (immediate for technical EA purposes and long-term);
- Community Monitors;
- Suggestions/discussion about road access, LTF location, overflow at Second Gap, access to gravel, water sampling/testing procedures, NDDB role in the heritage resources protocol, spills response training.

## CZN COMMENTS ON MAY 25 NAHANNI DAR MEETING NOTES

NDDB Issue	CZN Response
<b>Technical Committee</b>	
Community agrees with the idea of expanding the Technical Committee to include DFO, ENR, INAC	Agencies invited to attend on as needed basis, including EC. ENR expected more often
There should be 2 spots for NDDB: one community member, one technical support who the community is comfortable with – not someone selected by the government or by DFN	One for sure, suggest wait to see TC make-up before confirming need for 2 <sup>nd</sup> . Considerable technical support expected on TC. Problem may be more communication of technical info. Does Nahanni have a NNPR consensus team rep?
The TC should hire a staff person / coordinator to ensure the Committee runs smoothly (similar to the model of the Community Advisory Boards for the diamond mines)	CZN expects the Mine and Parks Canada to share coordination of the TC. CZN will commit in the EA to ensure a smooth operating TC as a licence condition. CZN believes the best coordinator will be a CZN environmental manager and/or local Parks rep, people with direct knowledge of the project and region and a vested interest
During EA process (essentially, from now on) NDDB would raise its environmental concerns and questions at the Technical Committee	TC not set-up for this function. Different mandate and schedule. Nahanni welcomed on TC, but EA issues will need to be addressed directly and/or through formal EA process
NDDB prefers to deal with CZN face to face first to get concerns / questions addressed	Agreed
The TC would coordinate and oversee project and cumulative monitoring programs and adaptive management planning	While the Mine would be responsible for carrying out Mine-related monitoring, programs, in particular results, and adaptive management would be subject to TC review. Note the TC is for the region, and will consider other research (Parks, ENR) also
NDDB needs enough funds from CZN and/or governments to support meaningful participation—this would include: background research / preparation (technical support), participation of 2 NDDB reps in meetings, and follow-up	To be discussed further. As noted before, CZN welcomes Nahanni participation. We also note that there is likely to be significant independent technical representation on the TC. Considerations from CZN would need to be built into the IBA
<b>Environmental Monitoring</b>	
There should be 8 monitors hired, 4 for the mine site (2 per shift – these would be environmental monitors, possible hired directly by CZN), 4 for the access road (2 per shift – these would primarily be access/road safety/security monitors, likely arranged through contract with Development Corporation). 1 of the 2 road monitors should have basic environmental training to assist with soil & water sampling, wildlife monitoring, etc. along the access road	CZN presently has plans for an environmental manager and 2 environmental technicians. CZN would hope to hire Nahanni members for these positions, but would undertake to hire Nahanni members as monitors, and 1 monitor would be at the mine at all times, and 1 on the access road in the road season (4 total). All monitors would receive on-the-job training

<b>Water Monitoring/Testing</b>	
Which analysis/testing will be done on site, and what tests will be conducted off-site?	Still being evaluated. Daily on site discharge testing is a given. SNP samples may all be tested off site, or mostly on site with a small number of duplicates tested off site
Which analysis/testing will be done on site, and what tests will be conducted off-site?	Metals can likely be done on site. All other analyses would likely be done off site (including phosphate, ammonia etc.)
How long does it take to receive results from off-site testing?	Testing takes about 1 week. However, it can take 1 week for the samples to arrive.
If test results showed a problem, how long would it take to put contingency plans and improved mitigation measures in place?	To ensure water treatment effectiveness, an indicator (likely zinc) would need to be tested every few hours with immediate results, and an adaptive response if the result is poor
Flow monitoring: how often, where	DAR Table 6-8. Site discharge and Prairie Creek flows would be monitored hourly
Apparently the current Water Storage Pond has been leaking – water levels are continually dropping. Is this accurate? If so, why is this happening? Will this be eliminated when a new liner is put in?	There is no evidence of pond leakage. The water level rises and falls in response to snowmelt, rainfall and evaporation. A new liner has been proposed for added security
Community members suggested that erosion of the berm might be taking place where Prairie Creek curves sharply and hits the berm (near the middle). Should/can this be addressed?	This has occurred and CZN started repairs last year before the problem became too bad. More armour rock is being placed
Prairie Creek must be viewed as important fish habitat.	We are treating it as such
<b>Spills Response</b>	
Community is interested in participating in a Spills Response Team	All environmental staff and monitors would have spills response training and would be involved in the response team
<b>Winter Access Road/Transfer Facilities</b>	
Jurisdiction needs to be clarified with INAC and GNWT as soon as possible so better planning can be done in relation to road access/monitoring issues	Agreed.
Community member pointed out that at Second Gap there is severe overflow and flooding at certain points during the winter	This will require consideration, perhaps culverts built into a seasonal road bed
CZN should expect to experience many delays along the entire road due to snowstorms, overflow, fallen rock	We realize it is a mountain road and appropriate plans are required. Hence, there is a need for flexibility in terms of operating periods, traffic
The proposed area for the Liard Transfer Facility is on soft ground (muskeg) – should build this facility back from the highway	It may be easier preparing a site at the highway as opposed to upgrading the access road to a more westerly location

<b>Socio-Economic Assessment</b>	
NDDDB strongly disagrees with the way Nahanni Butte was portrayed in the SEIA	Although the SEIA was done by an independent consultant, CZN regrets the tone of some of the comments, and understands they may be offensive
Nahanni Butte feels positive about its future and has been holding workshops, etc. to get on a healing path. The SEIA does not reflect any of this	CZN is encouraged by Nahanni's aspirations, and is ready to fully support the community. However, the consultant was tasked to answer the Review Board's terms of reference, mainly from a macro economic perspective
Was permission obtained to publish community members' names beside their comments on socio-economic issues?	No. Most of the commentary included in the DAR was not person specific. The part that was contained comments we did not consider to be overly sensitive. However, we accept that this is our perspective and others may disagree. Our difficulty is we are criticized for generalizing, and now for including specific comments. It is hard to find a balance
Volume 1 of the SEIA did not utilize much of the input gathered by Ethel Lamothe – eg. community members' concerns about the mine and about the consultation process	CZN has integrated Nahanni's concerns into the mine plans described in the DAR. We will explain. We believe we have consulted frequently and openly, and responded to concerns. We know that concerns remain and are willing to work to resolve these. However, some may have a scope beyond the EA process and/or beyond our control/responsibility
CZN should have checked with the community whether its socio-economic analysis was accurate before publishing it	The DAR was already late and CZN wanted it submitted to the Review Board as soon as possible
<b>Heritage</b>	
Any heritage or archeological items found should be returned to NDDDB	We believe the proper protocol is not to disturb any such items and to notify the appropriate authorities
NDDDB should be involved in a meaningful way in the development and implementation of the Heritage Resources Protocol	No problem. Such a protocol would normally be a condition of a land use permit, and a draft permit is normally circulated for comment



# Prairie Creek Mine NDDDB DAR Meeting June 10, 2010



# Conceptual View of Modified or Additional Infrastructure



## Upgraded Mine Facilities:

- 1 - Water Storage Pond - Cell A
- 2 - Water Storage Pond - Cell B
- 3 - Reagent Storage Sheds
- 4 - Water Treatment Plant

- 5 - Staff Accommodation Block
- 6 - Ore Stockpile Lined Pad
- 7 - 2nd 870 Underground Portal
- 8 - Concentrate Storage Shed

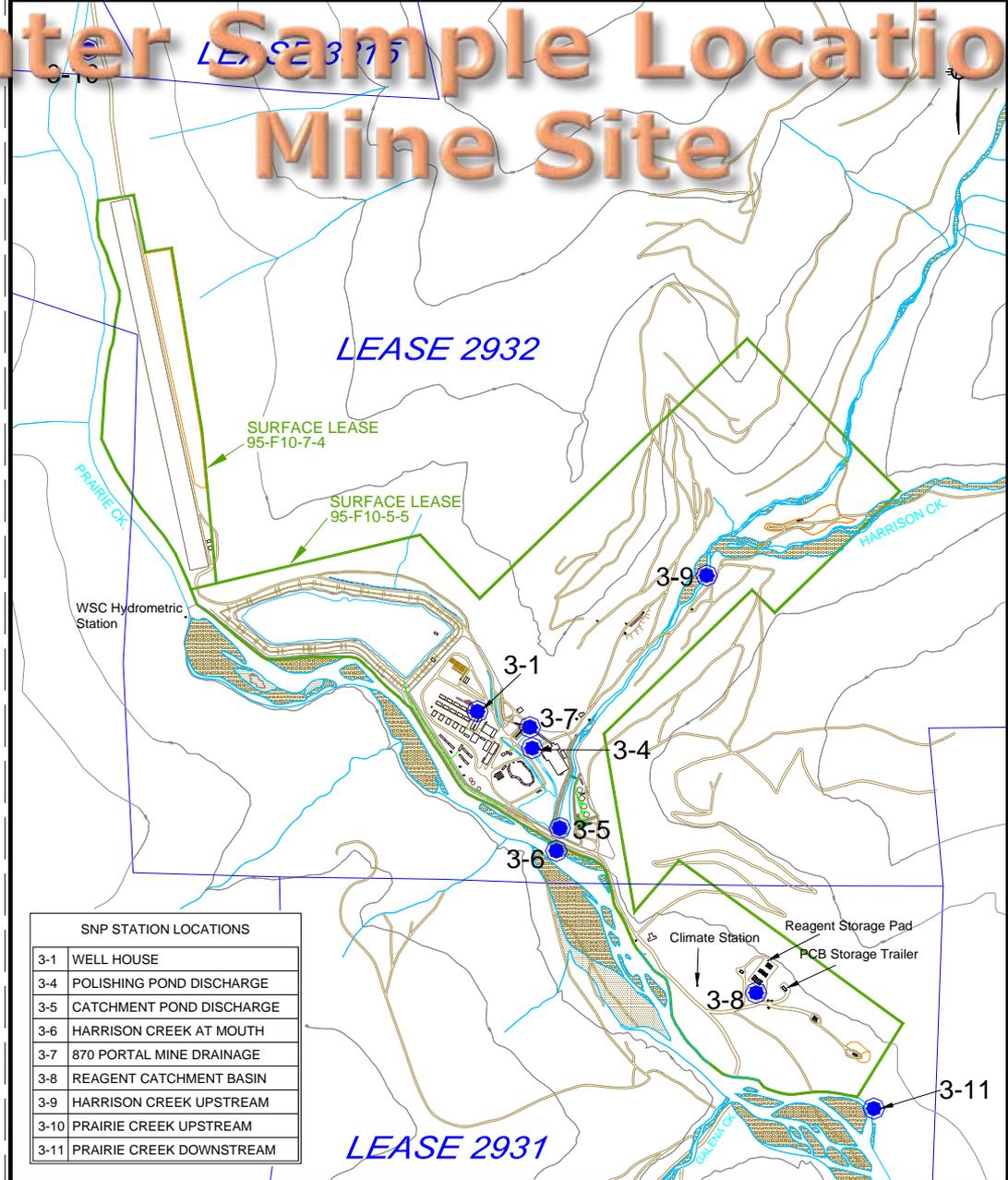
- 9 - DMS Plant (Attached to Mill)
- 10 - Temporary Float Storage Pile
- 11 - Paste Backfill Plant (Attached to Mill)
- 12 - Waste Rock Pile

- 13 - Acid Storage Tanks
- 14 - Bagging Plant
- 15 - Cement Storage Shed

# Water Sample: Surveillance Network Program Outline

Location	Frequency	Flows	Water Quality
Well House	Quarterly	No	BOD, coliforms, N species, diss. metals
Sewage Effluent	Quarterly	No	Ammonia, nutrients
Water Storage Pond	Monthly	No	Total & diss. metals, ammonia
Final Underground Sump	Weekly	Weir	No
Waste Rock Pile Seepage	Monthly	Weir	Diss. metals, ammonia
Mine Water into WTP	Weekly	Meter	pH, TSS, diss. metals, ammonia, EPH
Mill Effluent into WTP	Weekly	Meter	pH, TSS, diss. metals
WTP Effluent	Weekly	Meter	pH, TSS, total & diss. metals
Mill Ditch	Monthly	Weir	TSS, total metals
Site Ditch	Monthly	Weir	TSS, total metals
Catchment Pond discharge	Weekly	Meter	pH, TSS, total & diss. metals, ammonia, nutrients, EPH
Harrison Creek upstream	Monthly	No	TSS, total metals
Harrison Creek at Prairie	Monthly	No	TSS, total metals, ammonia
Prairie Creek upstream	Monthly	No	pH, TSS, total & diss. metals
Prairie Creek at WSP	Weekly	Auto	No
Prairie Creek downstream	Monthly	No	pH, TSS, total & diss. metals, ammonia, nutrients, EPH

# Water Sample Locations Mine Site



SNP STATION LOCATIONS	
3-1	WELL HOUSE
3-4	POLISHING POND DISCHARGE
3-5	CATCHMENT POND DISCHARGE
3-6	HARRISON CREEK AT MOUTH
3-7	870 PORTAL MINE DRAINAGE
3-8	REAGENT CATCHMENT BASIN
3-9	HARRISON CREEK UPSTREAM
3-10	PRAIRIE CREEK UPSTREAM
3-11	PRAIRIE CREEK DOWNSTREAM

**Legend**

- Minesite Infrastructure
- Watercourse
- Property Roads
- SNP Sampling Locations

**Scale**

0 100 200 300 400 500 Metres

Scale: As Shown  
 Contour Interval: 125m  
 File Name: DAR Fig 4-5.dwg  
 Date: October 2009

**PRAIRIE CREEK MINE**

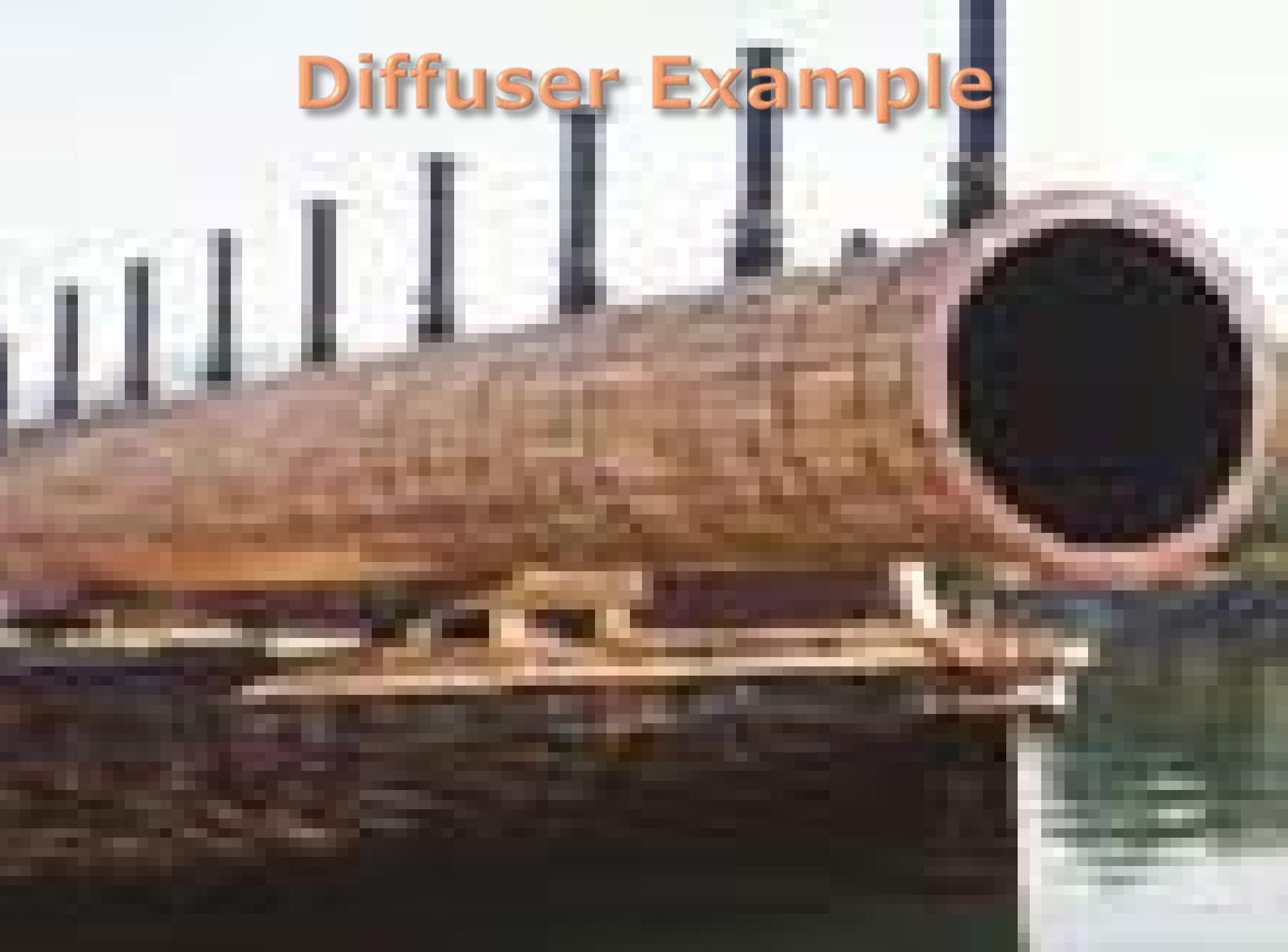
**Figure 4-5:**  
**WATER SAMPLE LOCATIONS, MINE SITE**

# Diffuser Example



**Tidflex**  
Technologies

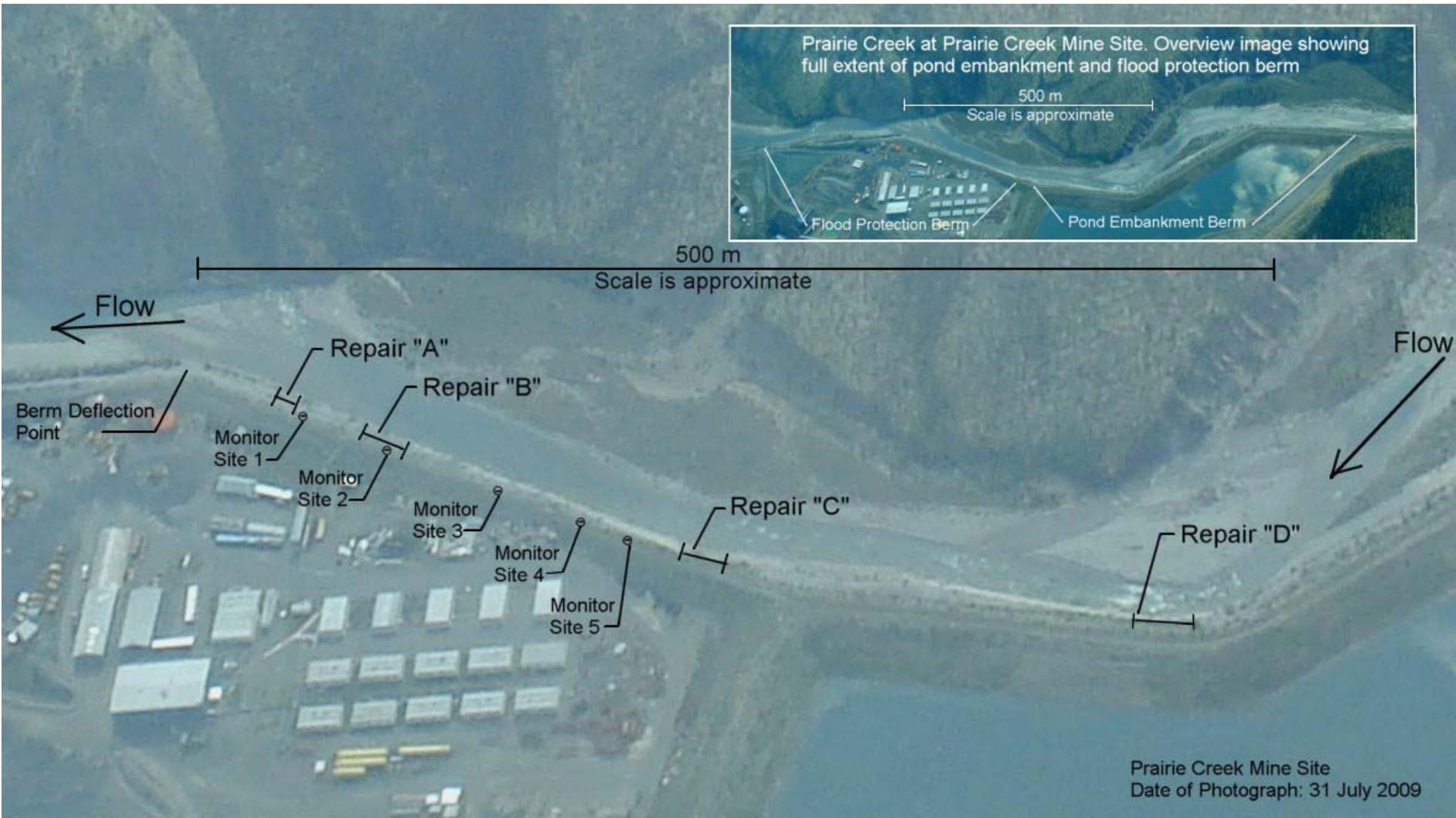
# Diffuser Example



# Diffuser Example



# Dyke Repairs



Prairie Creek at Prairie Creek Mine Site. Overview image showing full extent of pond embankment and flood protection berm

500 m  
Scale is approximate

Flood Protection Berm  
Pond Embankment Berm

500 m  
Scale is approximate

Flow

Flow

Repair "A"

Repair "B"

Repair "C"

Repair "D"

Monitor Site 1

Monitor Site 2

Monitor Site 3

Monitor Site 4

Monitor Site 5

Berm Deflection Point

# Dyke Repairs



Access Road

Site C

Site D

# Dyke Repairs



# Dyke Repairs: Before & After

