

From: [Tyree Mullaney](#)
To: [Permits](#)
Subject: FW: MV2016Q0031 - Rowes Construction Ltd. - Incomplete Letter
Date: Tuesday, October 25, 2016 8:46:54 AM
Attachments: [km 518 emergency response plan.pdf](#)
[km 518 engagement plan.pdf](#)
[km 518 environmental information report.pdf](#)
[km 518 various attachments.pdf](#)
[km 518 waste management plan.pdf](#)
[MVLWB - application for MV2007Q0051.pdf](#)
[October 3 2016 - Application Letter.pdf](#)
[rowes construction engagement oct 2016.pdf](#)
[20161013152108776.pdf](#)

MV2016Q0031 – Rowes Construction – Additional Information

New App

App and related docs

Thanks

T

*you can combine the pdfs if it makes it easier for you.

From: Kyle Christiansen [mailto:Kyle_Christiansen@gov.nt.ca]
Sent: October 24, 2016 4:13 PM
To: Tyree Mullaney <tyree@mvlwb.com>
Subject: RE: MV2016Q0031 - Rowes Construction Ltd. - Incomplete Letter

Good afternoon Tyree,

The attached documents are for the new Rowe's Construction LUP. The numbers below correspond to the Incomplete letter you sent on September 28. They messed up with the Land Use Permit #MV2007Q0051, it should be the newest LUP MV2015Q0010. Unless they believe because the old LUP incorporated the whole Quarry area unlike the new LUP.

1. The 1:50000 scale map they provided is not the greatest quality. If you require a better quality let me know and I will figure something out.
2. They included a map of what the possible camp layout would look like if needed. This is found in the Various Attachments document. Throughout the documents they also mention if it happens it would be a 15-20 man camp.
3. They included the LUP application and put more information under 4. Eligibility. This can be found in the MVLWB – Application for MV2007Q0051 document.
4. The type and size of equipment is found in the MVLWB – Application for MV2007Q0051.
5. The updated Waste Management Plan is included
6. They included the Engagement letter sent to the SAO of the Village of Fort Simpson. The document I received hasn't been signed off by the SAO quite yet. If it is needed prior to consultation let me know and I could run over there and follow up on it.

7. The engagement plans are included
8. The application fee was submitted however it was made out to GNWT Lands, it was in the office safe however I found out it was deposited. I will have to follow up with what happened to the 150.00 and have to figure out where to go from there.
9. Owen Rowe signed the last page of the LUP.

If you require more information please feel free to contact me.

Thanks,

Kyle Christiansen
Resource Management Officer II
Government of the Northwest Territories
Department of Lands
Deh Cho Region
Phone: 867-695-2626 ext. 206
Email: kyle_christiansen@gov.nt.ca

From: Tyree Mullaney [<mailto:tyree@mvlwb.com>]
Sent: Wednesday, September 28, 2016 11:50 AM
To: orowe@rowes.ca
Cc: Permits; Kyle Christiansen
Subject: RE: MV2016Q0031 - Rowes Construction Ltd. - Incomplete Letter

Please see the updated letter.

Sorry about the inconvenience.

Tyree

Tyree Mullaney, EP
Regulatory Officer
Mackenzie Valley Land and Water Board
7th Floor, 4922 48th St, PO Box 2130 | Yellowknife, NT | X1A 2P6
ph 867.766.7464 | fax 867.873.6610
tyree@mvlwb.com | www.mvlwb.com

Please note: All correspondence to the Board, including emails, letters, faxes and attachments are public documents and may be posted to the public registry.



From: Tyree Mullaney

Sent: September 28, 2016 11:43 AM

To: 'orowe@rowes.ca' <orowe@rowes.ca>

Cc: Permits <permits@mvlwb.com>; 'Kyle_Christiansen@gov.nt.ca' <Kyle_Christiansen@gov.nt.ca>

Subject: MV2016Q0031 - Rowes Construction Ltd. - Incomplete Letter

Good morning Owen,

Please see the attached letter. If you have any questions or comments please contact me.

Thanks

Tyree

Tyree Mullaney, EP

Regulatory Officer

Mackenzie Valley Land and Water Board

7th Floor, 4922 48th St, PO Box 2130 | Yellowknife, NT | X1A 2P6

ph 867.766.7464 | fax 867.873.6610

tyree@mvlwb.com | www.mvlwb.com

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Rowe's Construction

Box 347

Fort Simpson, NT X0E 0N0

Ph: 867-695-3243 Fax: 867-695-2818



October 3, 2016

Mackenzie Valley Land and Water Board
7th Floor – 4910 50th Ave.
PO Box 2130
Yellowknife, NT
X1A 2P6

Attn: Julian Morse, Regulatory Manager
jmorse@mvlwb.com Ph#867-766-7453

RE: LAND USE APPLICATION – Km 518, Highway #1

Co-ordinates: N62°02'38" W122°01'05"

N62°02'27" W122°02'00"

N62°02'38" W122°02'00"

N62°02'27" W122°01'05"

Rowe's Construction Ltd. (851791 NWT Ltd.) of Fort Simpson, NT is making application for an amendment of an existing Land Use Permit for the above noted location. The Land Use Permit number is MV2015Q0010. A Quarry Application is already in effect pending the renewal process. (attached)

Scope of Work and Undertaking for the Project:

The project/scope of work will be to develop an existing gravel quarry pit located approximately 50.0 kilometres north/west of Fort Simpson, NT. The gravel quarry is an existing site and is a multi-user pit. Rowe's Construction is making application to renew their existing permit held at this site. Referenced mapping, GPS readings, typical and schematic drawings, etc., are provided in the appendix attachments of this LUP Land Use Application to the Mackenzie Valley Land and Water Board.

The proposed quarry area from the DoT highway easement is approximately 2,000 metres along an existing access road north east of centre line. The quarry site is located on a ridge approximately 30 metres in height. The proposed quarry area will be 100 metres in length and 40 metres in width with a combined area of 0.4 hectares. There will be a stockpile area adjacent to the quarry area 40.0 metres x 40.0 metres. The site has been previously cleared of vegetation. The grubbing/stripping excavated materials will be stock piled adjacent the perimeters of the outside edges for future pit restoration upon completion of the quarrying operation.

A camp and as well, fuel storage tanks will be utilized periodically for the duration of the permit when crushing or hauling operations take place. Refueling of the heavy equipment on site, ie Loaders, Crawler Cats, etc., will be carried out by Rowe's staff utilizing pickup trucks equipped with tidy tanks (500 litre capacity). During crushing and hauling operations, a 64,000 litre Enviro tank will be utilized to supply the crusher plant and heavy equipment. A spill plan and an emergency plan have been generated for this project (attached) and will be implemented when it commences.

Social and Economic Benefits to the Community of Fort Simpson, neighboring communities and subcontractors/suppliers:

The project is expected to produce up to 15-20 seasonal jobs for the surrounding communities in the region. This would represent approximately 300 man days of work and an estimated \$350,000 in wages. It is expected that the community of Fort Simpson would have 10 to 15 seasonal people in the role of heavy equipment operators, labour force and as well office/managerial support.

Other commodities such as fuel, groceries, equipment rentals, material/supplies, etc., would expend approximately \$100,000 to local businesses in the region.

The expenditures for the project for the equipment and resources required to undertake this project would be the bulk of the costs. Given that scope of the work, the equipment and resources required to complete the work, with an expected total of \$275,000 in revenue.

In conclusion, the undersigned will be the contact person for the permitting process through the Mackenzie Valley Land and Water Board.

Regards,



Owen Rowe
Chief Operating Office
Rowe's Construction Ltd. (851791 NWT Ltd.)
e-mail: orowe@rowes.ca



Mackenzie Valley Land and Water Board
 7th Floor - 4910 50th Avenue
 P.O. Box 2130
 YELLOWKNIFE NT X1A 2P6
 Phone (867) 669-0506
 FAX (867) 873-6610

Application for:

New Land Use Permit ☐ Amendment ☐ to #MV2007Q0051

1. Applicant's name and mailing address: Rowe's Construction O/A 851791 NWT Ltd. Owen Rowe, Chief Operating Officer PO Box 347 Fort Simpson, NW X0E 0N0	Fax number: 867-695-2818 Telephone number: 867-695-3243 Cell number: 867-445-8462
2. Head office address: Same as above***** Secondary contact**** Field Supervisor Mike Rowe (Jr.)	Fax number: 867-695-2818 Telephone number: 867-695-3243
3. Other personnel (subcontractor, contractors, company staff etc.) Heavy equipment operators, Foreman, etc. up to 15 staff TOTAL: (Number of persons on site)	
4. Eligibility: (Refer to section 18 of the <i>Mackenzie Valley Land Use Regulations</i>) As per a)i) Eligibility for a permit, hold the right based on existing permit #MV2007Q0051 a)(i) a)(ii) a)(iii) b)(i) b)(ii)	
5. a) Summary of operation (Describe purpose, nature and location of all activities.) Quarry for gravel pit for hauling materials for construction purposes and community needs. b) Please indicate if a camp is to be set up. (Please provide details on a separate page, if necessary.) Yes, a camp will be utilized periodically for the duration of the permit****see attached	

6. Summary of potential environmental and resource impacts (Describe the effects of the proposed land-use operation on land, water, flora & fauna and related socio-economic impacts. Use separate page if necessary.)

See attached Pit Development Plan, Environmental Plan, Waste Management Plan, etc.

7. Proposed restoration plan (please use a separate page if necessary).

See attached Pit Development Plan*****

8. Other rights, licenses or permits related to this permit application (mineral rights, timber permits, water licenses, etc.)

An approved Quarry Application/permit is in place (see attached) through the Government of NWT Lands Division. The gravel quarry site at Km 518 is a multi-user source with existing access and pit development by others.

Roads: Is this to be a pioneered road? Has the route been laid out or ground truthed?

9. Proposed disposal methods.

To complete this section of the application form, a Waste Management Plan for the proposed activities is to be developed in accordance with the Board's *Guidelines for Developing a Waste Management Plan* (click [here](#) to access) and submitted as an attachment to the application form. A template for this Plan is provided in the *Guidelines*.

**** See attached Waste Management Plan

a) Garbage:
Daily refuse will be taken back to town and
Disposed of in garbage collection containers

c) Brush & trees: Cleared previously

b) Sewage (Sanitary & Grey Water):
See attached Waste Management Plan

d) Overburden (Organic soils, waste material, etc.): Stored at site
for pit restoration

10. Equipment List

Please see full list attached as Schedule "A"

11. Fuels	()	Number of containers	Capacity of containers	Location
Diesel	N/A			
Gasoline	N/A			
Aviation fuel	N/A			
Propane	N/A			
Other				

12. Containment fuel spill contingency plans.

A spill contingency plan for the proposed activities is to be developed in accordance with INAC's *Guidelines for Spill Contingency Planning, April 2007* (accessible [here](#)). This plan is to be submitted as an attachment to the application form.

See attached Emergency Response/Spill Plan

13. Methods of fuel transfer (to other tanks, vehicles, etc.)

Transfer of fuel will be from tidy tanks (500 lt capacity) to the heavy equipment onsite, ie Loaders, Crawler Cats, Backhoes, trucks, etc. An Enviro-tank with a maximum capacity of 90,000 lts will also be set up on site seasonally when required and removed when not in use.

14. Period of operation (includes time to cover all phases of project work applied for, including restoration)

Operation will carry on for 365 days a year until expiry of the LUP permit. Pit restoration will be maintained as the quarry develops. Access is on an As and When basis and is estimated to less than 100 days each season/year. See attached Pit Development Plan.

15. Period of permit (up to five years, with maximum of two years of extension).
5 year plus 2 year extension

16. Location of activities by map co-ordinates (attach maps and sketches)

Minimum latitude (degrees, minutes, seconds)
N 62°02'38" W 122°01'05"

Maximum latitude (degrees, minutes, seconds)
N 62°02'38" W 122°02'00"

Minimum longitude (degrees, minutes, seconds)
N 62°02'27" W 122°02'00"

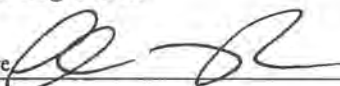
Maximum longitude (degrees, minutes, seconds)
N 62°02'27" W 122°01'05"

Map Sheet no. 095J1 at a scale of 1:50,000

17. Applicant

Print name in full **Owen Rowe, Chief Operating Officer**

Signature



Date October 3, 2016

18. Fees

Type A - \$150.00 **

Type B - \$150.00 **

(**Application Fees are Non-Refundable**)

Land use fee: _____ hectares @ \$50.00/hectare \$ _____
Assignment fee \$50.00 \$ _____

Total application and land use fees \$ 150.00

Please make all cheques payable to "Receiver General of Canada"

The types of equipment for the development of the quarry site follow suit to the Land Use Permit submission. There are as follows:

Equipment List:

QUARRY EQUIPMENT LIST – Rowe's Construction	SIZE/WEIGHT
HAUL TRUCKS	
Tandem Gravel Trucks (7.5 M3) Belly Dumps (14 M3) End Dumps (18 M)	21 to 45,000 kg
EXCAVATORS	
Excavator – 320 to 330 DL size	32 to 50,000 kg
LOADERS	
Loader – 930 to 988B	18 to 50,000 kg's
DOZERS	
Dozer D6R	21 tonne
Dozer - D8R	52 tonne
GRADERS	
Grader – 140M to 160H w/ Ripper and Wing	20 to 25 tonne
CREW TRUCKS	
Crew Truck - F350 (1-5 each) c/w tidy tank 500 ltr.	4,500 kg's
FUEL UNITS (33):	
Fuel & Lube Truck	10 tonne
Enviro Tank	90,000 ltr. Max.
SERVICE UNITS	
Mechanic Truck - F550	5 tonne

Schedule "A" – Page 2 of 2

Camp Units –
Refer to Appendix "D" for a typical camp layout

Year	Description	Vin #	Plate #	Unit #	Location
2004	6 Unit Side by Side 25 Man Camp	0254-97551		1200	Nahanni
2005	3 Unit Side by Side 18 Man Camp - Blue			1201	273 Rick
2010	4 Unit Slide Together, 18 Man			1202	Yard Rebuilt
2007	Well Site Unit - Red and White			1203	Km 375
2006	Consultant's Camp Unit	V		1204	
	Dan's Rebuilt Sleeper/Sleeper Wash Car/Kitchen			1205	
	Paramount Camp Unit - 5 Unit Side by Side			1206	Yard Rebuilt
1988	Northgate Sleeper Trailer 10' x 52'	SU030710501003		1207	Ft Simpson
	Clark Camp Unit	32507		1208	
1992	Northgate Kitchen, Diner, Wash Trailer 12'x 48' Travco side by side 5 unit	Z25115, Z25116, Z25117, Z25118			
1993	Northgate Kitchen, Diner, Wash Trailer 12'x 48' Travco side by side 5 unit	Z25115, Z25116, Z25117, Z25119			
	Sleeper Recreation Trailer	SR-260962418			
	Washcar	W-260962419			
	Sleeper	S-260962420			
2000	Gemco 11 Ft 6 In. x 56 Ft. 8 Man Wet Sleep	25600275		1214	

Crusher

Year	Description	Vin #	Plate #	Unit #	Reg. Ex.
1978	El-Russ Control Trailer Package w/ 6'x8' control tower	M2671ER00CT		743	
2006	Extec X44 C13 cone crusher track mount	10263		1300	
2008	Extec C12 track mount Jaw crusher	12497		1301	
2008	Powerscreen Chieftain 2100X track mount	P1D00124V87D10151		1302	
2007	Terex Cedar T/A 3 Deck Screening Plant	2007142	T51074	1303	Mar-16
1981	Mormak Portable Jaw Plant (Crusher)	M-38440	T51075	1304	Mar-16
1982	Cedarapids Twin Screen Plant	341458-M663	T44050	1305	May-12
1982	Aggmac Surge Bin (Crusher, Part of Eljay 1213)	SB2042IF	T42307	1306	May-16
1997	Mormak Portable Crusher Plant w/Jaw tieaxle	M817-6-97	T48523	1307	May-16
2001	Ctrail El-Russ Control Tower tandem 48'	2M5921468K1019973	T41918	1308	Jun-15
1978	Eljay 1213 Portable Crusher/Screening Plant	M55813581	T41908	1309	May-16
2005	Mormak, Power Control Van	M1206	T49123	1310	Jun-15
2004	Mormak, El-Jay 54 Cone Crusher	M1105-RB-04	T49124	1311	Jun-15
2005	Viking Feeder	0705F	T47268	1312	Jul-15
2012	Sandvik QJ341 Jaw Crusher track mounted	12417		1313	
2011	Sandvik QE440 Screening Plant track mount	11178		1314	
2012	New Eagle M580 Diesel Stacking Conveyor	12M58036093		1315	
	Cold Feeder Bin - Purchased from Lyle Whitford			1316	
2012	Kolberg Super Stacker 33-36150	411681	T49121	1317	Jun-15

Rowe's Construction

Box 347
Fort Simpson, NT X0E 0N0
Ph: 867-695-3243 Fax: 867-695-2818



Nogha Enterprises Ltd.
Fort Simpson
Attn. General Manager
E Mail Address: reception@nogha.com

October 3, 2016

RE: Land Use Application for Quarry Site at KM 518, Hwy #1

Please find application/information regarding the above noted site made by 851791 NWT Ltd. o/a Rowe's Construction of Fort Simpson, NT as one of the conditions of the permit application is an Engagement Plan, to which we are required to notify affected components of our application submitted to the Mackenzie Land and Water Board.

Should you have any concerns or input regarding our permit application, please direct them to the undersigned for an immediate response. I would also request that you send back the signed Engagement Plan Template attachment which will acknowledge receipt of the information provided.

Regards,



Owen Rowe
Chief Operating Officer
Rowe's Construction
Fort Simpson, NT
E mail: orowe@rowes.ca
Ph # 867-695-3243

Cc Tyree Mullaney, EP Regulatory Officer
Laurie Nadia, RS Lands GNWT

Engagement Plan

Km 518, Hwy # 1 – Quarry Site

October 3, 2016

Name of Proponent:

851971 NWT Ltd. o/a Rowe's Construction

Name of Affected Party:

Nogha Enterprises Ltd.

When will you be engaging? What is the trigger for engagement? Triggers may be regulatory (eg., determining drill locations, changes in project design, updates to a particular plan, etc.	What is the purpose for engaging? In relation to the trigger, what will you be discussing (eg., updates to design or plans, etc.)	Who will be engaged at each of these stages: The people engaged at each stage may vary depending on what is being discussed.	How will you engage? Which engagement methods will be used? (eg., written, face to face meetings, community public meeting)
October 3, 2016	Complete LUP permit application, letters, documentation forwarded from proponent	General Manager for Nogha Enterprises	Written copies e-mailed

Signature of Proponent (Representative):



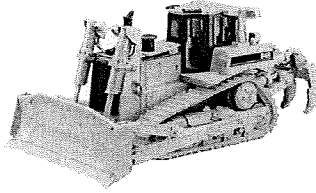
Signature of Affected Party (Representative): ²



1. One Engagement Plan must be completed for each party
2. These signatures represent agreement on the contents of the log and record, but do not necessarily imply that the parties agree on the topic that we discussed.

Rowe's Construction

Box 347
Fort Simpson, NT X0E 0N0
Ph: 867-695-3243 Fax: 867-695-2818



Fort Simpson Metis Local #52
Attn. Marie Lafferty, President
E Mail Address: metisnation52@northwestel.net

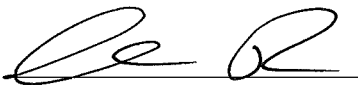
October 3, 2016

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Regards,



Owen Rowe
Chief Operating Officer
Rowe's Construction
Fort Simpson, NT
E mail: orowe@rowes.ca
Ph # 867-695-3243

Cc Tyree Mullaney, EP Regulatory Officer
Laurie Nadia, RS Lands GNWT

Engagement Plan

Km 518, Hwy # 1 – Quarry Site

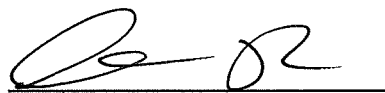
October 3, 2016

Name of Proponent: 851971 NWT Ltd. o/a Rowe's Construction

Name of Affected Party: Fort Simpson Metis Local #52

When will you be engaging?	What is the purpose for engaging?	Who will be engaged at each of these stages:	How will you engage?
What is the trigger for engagement? Triggers may be regulatory (eg., determining drill locations, changes in project design, updates to a particular plan, etc.	In relation to the trigger, what will you be discussing (eg., updates to design or plans, etc.)	The people engaged at each stage may vary depending on what is being discussed.	Which engagement methods will be used? (eg., written, face to face meetings, community public meeting)
October 3, 2016	Complete LUP permit application, letters, documentation forwarded from proponent	Marie Lafferty Local Metis President	Written copies e-mailed

Signature of Proponent (Representative):



Signature of Affected Party (Representative): ²

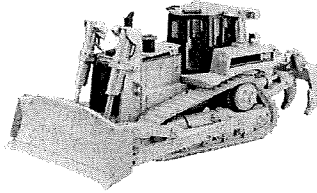
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Rowe's Construction

Box 347

Fort Simpson, NT X0E 0N0

Ph: 867-695-3243 Fax: 867-695-2818



Deh Cho First Nation
Attn. Dahti Tsetso
E Mail Address: dahti_tsetso@dehcho.org

October 3, 2016

RE: Land Use Application for Quarry Site at KM 518, Hwy #1

Please find application/information regarding the above noted site made by 851791 NWT Ltd. o/a Rowe's Construction of Fort Simpson, NT as one of the conditions of the permit application is an Engagement Plan, to which we are required to notify affected components of our application submitted to the Mackenzie Land and Water Board.

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Regards,

Owen Rowe
Chief Operating Officer
Rowe's Construction
Fort Simpson, NT
E mail: orowe@rowes.ca
Ph # 867-695-3243

Cc Tyree Mullaney, EP Regulatory Officer
Laurie Nadia, RS Lands GNWT

Engagement Plan

Km 518, Hwy # 1 – Quarry Site

October 3, 2016

Name of Proponent:

851971 NWT Ltd. o/a Rowe's Construction

Name of Affected Party:

Deh Cho First Nation

When will you be engaging? What is the trigger for engagement? Triggers may be regulatory (eg., determining drill locations, changes in project design, updates to a particular plan, etc.	What is the purpose for engaging? In relation to the trigger, what will you be discussing (eg., updates to design or plans, etc.)	Who will be engaged at each of these stages: The people engaged at each stage may vary depending on what is being discussed.	How will you engage? Which engagement methods will be used? (eg., written, face to face meetings, community public meeting)
October 3, 2016	Complete LUP permit application, letters, documentation forwarded from proponent	All parties associated in this organization	Written copies e-mailed

Signature of Proponent (Representative):



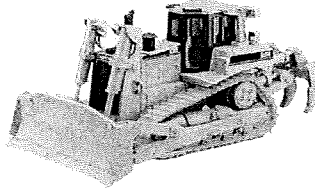
Signature of Affected Party (Representative): ²



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Rowe's Construction

Box 347
Fort Simpson, NT X0E 0N0
Ph: 867-695-3243 Fax: 867-695-2818



Northwest Territory Metis Nation
Attn. President
E Mail Address: president.nwtmn@northwestel.net

October 3, 2016

RE: Land Use Application for Quarry Site at KM 518, Hwy #1

Please find application/information regarding the above noted site made by 851791 NWT Ltd. o/a Rowe's Construction of Fort Simpson, NT as one of the conditions of the permit application is an Engagement Plan, to which we are required to notify affected components of our application submitted to the Mackenzie Land and Water Board.

Should you have any concerns or input regarding our permit application, please direct them to the undersigned for an immediate response. I would also request that you send back the signed Engagement Plan Template attachment which will acknowledge receipt of the information provided.

Regards,

A handwritten signature in black ink, appearing to read 'Owen Rowe', with a stylized flourish at the end.

Owen Rowe
Chief Operating Officer
Rowe's Construction
Fort Simpson, NT
E mail: orowe@rowes.ca
Ph # 867-695-3243

Cc Tyree Mullaney, EP Regulatory Officer
Laurie Nadia, RS Lands GNWT

Engagement Plan

Km 518, Hwy # 1 – Quarry Site

October 3, 2016

Name of Proponent:

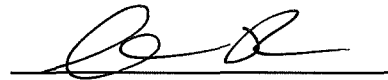
851971 NWT Ltd. o/a Rowe's Construction

Name of Affected Party:

Northwest Territory Metis Nation

When will you be engaging? What is the trigger for engagement? Triggers may be regulatory (eg., determining drill locations, changes in project design, updates to a particular plan, etc.	What is the purpose for engaging? In relation to the trigger, what will you be discussing (eg., updates to design or plans, etc.)	Who will be engaged at each of these stages: The people engaged at each stage may vary depending on what is being discussed.	How will you engage? Which engagement methods will be used? (eg., written, face to face meetings, community public meeting)
October 3, 2016	Complete LUP permit application, letters, documentation forwarded from proponent	Northwest Territories Metis Nation	Written copies e-mailed

Signature of Proponent (Representative):



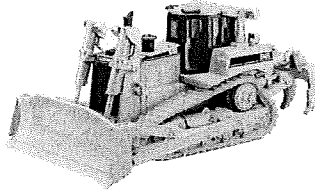
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Rowe's Construction

Box 347
Fort Simpson, NT X0E 0N0
Ph: 867-695-3243 Fax: 867-695-2818



Village of Fort Simpson
Attn. Mitch Gast, Acting SAO
E Mail Address: sao@vofs.ca

October 3, 2016

RE: Land Use Application for Quarry Site at KM 518, Hwy #1

Please find application/information regarding the above noted site made by 851791 NWT Ltd. o/a Rowe's Construction of Fort Simpson, NT as one of the conditions of the permit application is an Engagement Plan, to which we are required to notify affected components of our application submitted to the Mackenzie Land and Water Board.

Should you have any concerns or input regarding our permit application, please direct them to the undersigned for an immediate response. I would also request that you send back the signed Engagement Plan Template attachment which will acknowledge receipt of the information provided.

Regards,

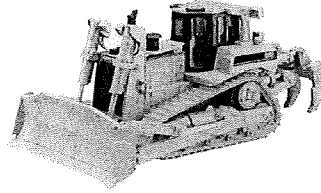
A handwritten signature in black ink, appearing to read 'Owen Rowe'. The signature is fluid and cursive, with a horizontal line drawn underneath it.

Owen Rowe
Chief Operating Officer
Rowe's Construction
Fort Simpson, NT
E mail: orowe@rowes.ca
Ph # 867-695-3243

Cc Tyree Mullaney, EP Regulatory Officer
Laurie Nadia, RS Lands GNWT

Rowe's Construction

Box 347
Fort Simpson, NT X0E 0N0
Ph: 867-695-3243 Fax: 867-695-2818



Village of Fort Simpson
Fort Simpson, NT
Attn. Mitch Gast, Acting SOA
E Mail Address: sao@vofs.ca

October 3, 2016

RE: Garbage Disposal from Km 518, Hwy #1 Quarry Site

851791 NWT Ltd. o/a Rowe's Construction is requesting permission to dispose of waste products from our quarrying operations at the above noted site. It will consist of daily refuse (when in operation) such as lunch bags, camp garbage, etc. We will comply with the Village's on site waste management guidelines at the dump site.

Should you have any questions or concerns, please contact the under-signed.

Regards,

Owen Rowe
Chief Operating Officer
Rowe's Construction
Fort Simpson, NT
E mail: orowe@rowes.ca
Ph # 867-695-3243

CC Julian Morse, Manager MLWB
Laurie Nadia, RS Lands GNWT

Engagement Plan

Km 518, Hwy # 1 – Quarry Site

October 3, 2016

Name of Proponent:

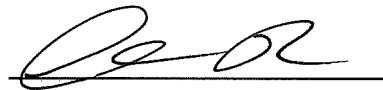
851971 NWT Ltd. o/a Rowe's Construction

Name of Affected Party:

Village of Fort Simpson

When will you be engaging?	What is the purpose for engaging?	Who will be engaged at each of these stages:	How will you engage?
What is the trigger for engagement? Triggers may be regulatory (eg., determining drill locations, changes in project design, updates to a particular plan, etc.	In relation to the trigger, what will you be discussing (eg., updates to design or plans, etc.)	The people engaged at each stage may vary depending on what is being discussed.	Which engagement methods will be used? (eg., written, face to face meetings, community public meeting)
October 3, 2016	Complete LUP permit application, letters, documentation forwarded from proponent	Village of Fort Simpson, Mitch Gast, Acting SAO	Written copies e-mailed
October 3, 2016	Garbage/refuse disposal from quarrying operations seeking approval letter	Village of Fort Simpson, Mitch Gast, Acting SAO	Written copies e-mailed

Signature of Proponent (Representative):



Signature of Affected Party (Representative):²



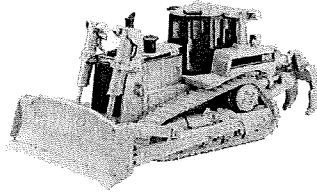
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Rowe's Construction

Box 347

Fort Simpson, NT X0E 0N0

Ph: 867-695-3243 Fax: 867-695-2818



Liidlii Kue First Nation
Fort Simpson, NT
Attn. Liza McPherson
E Mail Address: exdir@liidliikue.com

October 3, 2016

RE: Land Use Application for Quarry Site at KM 518, Hwy #1

Please find application/information regarding the above noted site made by 851791 NWT Ltd. o/a Rowe's Construction of Fort Simpson, NT as one of the conditions of the permit application is an Engagement Plan, to which we are required to notify affected components of our application submitted to the Mackenzie Land and Water Board.

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Owen Rowe
Chief Operating Officer
Rowe's Construction
Fort Simpson, NT
E mail: orowe@rowes.ca
Ph # 867-695-3243

CC Tyree Mullaney, EP Regulatory Officer
Laurie Nadia, RS Lands GNWT

Engagement Plan

Km 518, Hwy # 1 – Quarry Site

October 3, 2016

Name of Proponent: 851971 NWT Ltd. o/a Rowe's Construction

Name of Affected Party: Liidlil Kue First Nation

When will you be engaging?	What is the purpose for engaging?	Who will be engaged at each of these stages:	How will you engage?
What is the trigger for engagement? Triggers may be regulatory (eg., determining drill locations, changes in project design, updates to a particular plan, etc.	In relation to the trigger, what will you be discussing (eg., updates to design or plans, etc.)	The people engaged at each stage may vary depending on what is being discussed.	Which engagement methods will be used? (eg., written, face to face meetings, community public meeting)
October 3, 2016	Complete LUP permit application, letters, documentation forwarded from proponent	Liza McPherson	Written copies e-mailed

Signature of Proponent (Representative):



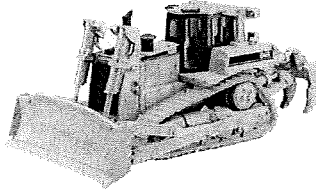
Signature of Affected Party (Representative): ²



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Rowe's Construction

Box 347
Fort Simpson, NT X0E 0N0
Ph: 867-695-3243 Fax: 867-695-2818



Nogha Enterprises Ltd.
Fort Simpson
Attn. General Manager
E Mail Address: reception@nogha.com

October 3, 2016

RE: Land Use Application for Quarry Site at KM 518, Hwy #1

Please find application/information regarding the above noted site made by 851791 NWT Ltd. o/a Rowe's Construction of Fort Simpson, NT as one of the conditions of the permit application is an Engagement Plan, to which we are required to notify affected components of our application submitted to the Mackenzie Land and Water Board.

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Chief Operating Officer
Rowe's Construction
Fort Simpson, NT
E mail: orowe@rowes.ca
Ph # 867-695-3243

Cc Tyree Mullaney, EP Regulatory Officer
Laurie Nadia, RS Lands GNWT

Engagement Plan

Km 518, Hwy # 1 – Quarry Site

October 3, 2016

Name of Proponent: 851971 NWT Ltd. o/a Rowe's Construction

Name of Affected Party: Nogha Enterprises Ltd.

When will you be engaging?	What is the purpose for engaging?	Who will be engaged at each of these stages:	How will you engage?
What is the trigger for engagement? Triggers may be regulatory (eg., determining drill locations, changes in project design, updates to a particular plan, etc.	In relation to the trigger, what will you be discussing (eg., updates to design or plans, etc.)	The people engaged at each stage may vary depending on what is being discussed.	Which engagement methods will be used? (eg., written, face to face meetings, community public meeting)
October 3, 2016	Complete LUP permit application, letters, documentation forwarded from proponent	General Manager for Nogha Enterprises	Written copies e-mailed

Signature of Proponent (Representative):



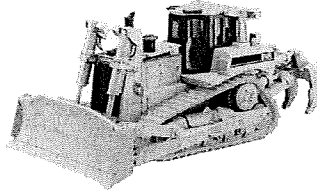
Signature of Affected Party (Representative):²



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Rowe's Construction

Box 347
Fort Simpson, NT X0E 0N0
Ph: 867-695-3243 Fax: 867-695-2818



Dene Nation
Attn. L. Mandeville
E Mail Address: lmandeville@denenation.com

October 3, 2016

RE: Land Use Application for Quarry Site at KM 518, Hwy #1

Please find application/information regarding the above noted site made by 851791 NWT Ltd. o/a Rowe's Construction of Fort Simpson, NT as one of the conditions of the permit application is an Engagement Plan, to which we are required to notify affected components of our application submitted to the Mackenzie Land and Water Board.

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Regards,

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Owen Rowe
Chief Operating Officer
Rowe's Construction
Fort Simpson, NT
E mail: orowe@rowes.ca
Ph # 867-695-3243

Cc Tyree Mullaney, EP Regulatory Officer
Laurie Nadia, RS Lands GNWT

Engagement Plan

Km 518, Hwy # 1 – Quarry Site

October 3, 2016

Name of Proponent:

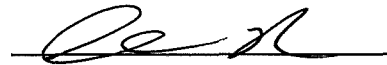
851971 NWT Ltd. o/a Rowe's Construction

Name of Affected Party:

Dene Nation

When will you be engaging? What is the trigger for engagement? Triggers may be regulatory (eg., determining drill locations, changes in project design, updates to a particular plan, etc.	What is the purpose for engaging? In relation to the trigger, what will you be discussing (eg., updates to design or plans, etc.)	Who will be engaged at each of these stages: The people engaged at each stage may vary depending on what is being discussed.	How will you engage? Which engagement methods will be used? (eg., written, face to face meetings, community public meeting)
October 3, 2016	Complete LUP permit application, letters, documentation forwarded from proponent	L. Mandeville	Written copies e-mailed

Signature of Proponent (Representative):



Signature of Affected Party (Representative):²

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851791 NWT Ltd.

o/a Rowe's Construction

Km 518, Hwy #1 Quarry Site

Engagement Plan Information

Rowe's Construction

Box 347

Fort Simpson, NT X0E 0N0

Ph: 867-695-3243 Fax: 867-695-2818



Engagement Plan Information

Km 518, Highway #1, NT

From: 851791 NWT Ltd. o/a Rowe's Construction

October 2016

List of Organizations Engagement Plan Sent to:

1. Fort Simpson Metis Local #52
2. Deh Cho First Nation
3. Northwest Territory Metis Nation
4. Village of Fort Simpson
5. Liidlil Kue First Nation
6. Nogha Enterprises Ltd.
7. Dene Nation

Engagement Plan KM 518, Hwy #1 Pit

Parties to be engaged:

- Fort Simpson Metis Local #52
- Deh Cho First Nation
- Northwest Territory Metis Nation
- Village of Fort Simpson
- Liidlíi Kue First Nation
- Nogha Enterprises Ltd.
- Dene Nation

1. Who	When	Why	How
<ul style="list-style-type: none"> • Fort Simpson Metis Local #52 • Deh Cho First Nation • Northwest Territory Metis Nation • Village of Fort Simpson • Liidlíi Kue First Nation • Nogha Enterprises Ltd. • Dene Nation 	Each spring	General notification	e-mail
2. Who	When	Why	How
<ul style="list-style-type: none"> • Fort Simpson Metis Local #52 • Deh Cho First Nation • Northwest Territory Metis Nation • Village of Fort Simpson • Liidlíi Kue First Nation • Nogha Enterprises Ltd. • Dene Nation 	If there is a spill that has been reported to the spill line	General notification	e-mail
3. Who	When	Why	How
<ul style="list-style-type: none"> • Fort Simpson Metis Local #52 • Deh Cho First Nation • Northwest Territory Metis Nation • Village of Fort Simpson • Liidlíi Kue First Nation • Nogha Enterprises Ltd. • Dene Nation 	Notice of re-apply for quarry permit from GNWT-Lands October 2019	General notification	e-mail

4. Who	When	Why	How
<ul style="list-style-type: none"> Fort Simpson Metis Local #52 Deh Cho First Nation Northwest Territory Metis Nation Village of Fort Simpson Liidlíi Kue First Nation Nogha Enterprises Ltd. Dene Nation 	<p>Any request made to the Mackenzie Valley Land and Water Board</p> <p>1st – October 13/16</p>	<p>To facilitate engagement and general notification and to see input.</p>	<p>e-mail</p>
5. Who	When	Why	How
<ul style="list-style-type: none"> Fort Simpson Metis Local #52 Deh Cho First Nation Northwest Territory Metis Nation Village of Fort Simpson Liidlíi Kue First Nation Nogha Enterprises Ltd. Dene Nation 	<p>End of operation (no longer using the quarry site)</p>	<p>General notification</p>	<p>e-mail</p>

Rowe's Construction

Box 347
Fort Simpson, NT X0E 0N0
Ph: 867-695-3243 Fax: 867-695-2818



Fort Simpson Metis Local #52
Attn. Marie Lafferty, President
E Mail Address: metisnation52@northwestel.net

October 3, 2016

RE: Land Use Application for Quarry Site at KM 518, Hwy #1

Please find application/information regarding the above noted site made by 851791 NWT Ltd. o/a Rowe's Construction of Fort Simpson, NT as one of the conditions of the permit application is an Engagement Plan, to which we are required to notify affected components of our application submitted to the Mackenzie Land and Water Board.

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Regards,

Owen Rowe
Chief Operating Officer
Rowe's Construction
Fort Simpson, NT
E mail: orowe@rowes.ca
Ph # 867-695-3243

Cc Tyree Mullaney, EP Regulatory Officer
Laurie Nadia, RS Lands GNWT

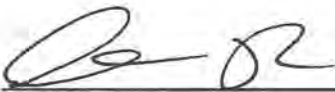
Engagement Plan

Km 518, Hwy # 1 – Quarry Site

October 3, 2016

Name of Proponent:**851971 NWT Ltd. o/a Rowe's Construction****Name of Affected Party:****Fort Simpson Metis Local #52**

When will you be engaging?	What is the purpose for engaging?	Who will be engaged at each of these stages:	How will you engage?
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October 3, 2016	Complete LUP permit application, letters, documentation forwarded from proponent	Marie Lafferty Local Metis President	Written copies e-mailed

Signature of Proponent (Representative):**Signature of Affected Party (Representative):²**

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Rowe's Construction

Box 347
Fort Simpson, NT X0E 0N0
Ph: 867-695-3243 Fax: 867-695-2818



Deh Cho First Nation
Attn. Dahti Tsetso
E Mail Address: dahti_tsetso@dehcho.org

October 3, 2016

RE: Land Use Application for Quarry Site at KM 518, Hwy #1

Please find application/information regarding the above noted site made by 851791 NWT Ltd. o/a Rowe's Construction of Fort Simpson, NT as one of the conditions of the permit application is an Engagement Plan, to which we are required to notify affected components of our application submitted to the Mackenzie Land and Water Board.

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Regards,

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Owen Rowe
Chief Operating Officer
Rowe's Construction
Fort Simpson, NT
E mail: orowe@rowes.ca
Ph # 867-695-3243

Cc Tyree Mullaney, EP Regulatory Officer
Laurie Nadia, RS Lands GNWT

Engagement Plan

Km 518, Hwy # 1 – Quarry Site

October 3, 2016

Name of Proponent:

851971 NWT Ltd. o/a Rowe's Construction

Name of Affected Party:

Deh Cho First Nation

When will you be engaging?	What is the purpose for engaging?	Who will be engaged at each of these stages:	How will you engage?
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October 3, 2016	Complete LUP permit application, letters, documentation forwarded from proponent	All parties associated in this organization	Written copies e-mailed

Signature of Proponent (Representative):



Signature of Affected Party (Representative):²



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Rowe's Construction

Box 347
Fort Simpson, NT X0E 0N0
Ph: 867-695-3243 Fax: 867-695-2818



Northwest Territory Metis Nation
Attn. President
E Mail Address: president.nwtmn@northwestel.net

October 3, 2016

RE: Land Use Application for Quarry Site at KM 518, Hwy #1

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Engagement Plan

Km 518, Hwy # 1 – Quarry Site

October 3, 2016

Name of Proponent:

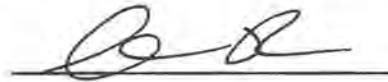
851971 NWT Ltd. o/a Rowe's Construction

Name of Affected Party:

Northwest Territory Metis Nation

When will you be engaging?	What is the purpose for engaging?	Who will be engaged at each of these stages:	How will you engage?
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Signature of Proponent (Representative):



Signature of Affected Party (Representative):²



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Rowe's Construction

Box 347
Fort Simpson, NT X0E 0N0
Ph: 867-695-3243 Fax: 867-695-2818



Village of Fort Simpson
Attn. Mitch Gast, Acting SAO
E Mail Address: sao@vofs.ca

October 3, 2016

RE: Land Use Application for Quarry Site at KM 518, Hwy #1

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Fort Simpson, NT
E mail: orowe@rowes.ca
Ph # 867-695-3243

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Laurie Nadia, RS Lands GNWT

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Box 347
Fort Simpson, NT X0E 0N0
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Village of Fort Simpson
Fort Simpson, NT
Attn. Mitch Gast, Acting SOA
E Mail Address: sao@vofs.ca

October 3, 2016

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Owen Rowe
Chief Operating Officer
Rowe's Construction
Fort Simpson, NT
E mail: orowe@rowes.ca
Ph # 867-695-3243

CC Julian Morse, Manager MLWB
Laurie Nadia, RS Lands GNWT

Engagement Plan

Km 518, Hwy # 1 – Quarry Site

October 3, 2016

Name of Proponent:

851971 NWT Ltd. o/a Rowe's Construction

Name of Affected Party:

Village of Fort Simpson

When will you be engaging?	What is the purpose for engaging?	Who will be engaged at each of these stages:	How will you engage?
What is the trigger for engagement? Triggers may be regulatory (eg., determining drill locations, changes in project design, updates to a particular plan, etc.	In relation to the trigger, what will you be discussing (eg., updates to design or plans, etc.)	The people engaged at each stage may vary depending on what is being discussed.	Which engagement methods will be used? (eg., written, face to face meetings, community public meeting)
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October 3, 2016	Garbage/refuse disposal from quarrying operations seeking approval letter	Village of Fort Simpson, Mitch Gast, Acting SAO	Written copies e-mailed

Signature of Proponent (Representative):



Signature of Affected Party (Representative): ²



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Rowe's Construction

Box 347
Fort Simpson, NT X0E 0N0
Ph: 867-695-3243 Fax: 867-695-2818



Liidlii Kue First Nation
Fort Simpson, NT
Attn. Liza McPherson
E Mail Address: exdir@liidliikue.com

October 3, 2016

RE: Land Use Application for Quarry Site at KM 518, Hwy #1

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Fort Simpson, NT
E mail: orowe@rowes.ca
Ph # 867-695-3243

CC Tyree Mullaney, EP Regulatory Officer
Laurie Nadia, RS Lands GNWT

Engagement Plan

Km 518, Hwy # 1 – Quarry Site

October 3, 2016

Name of Proponent: 851971 NWT Ltd. o/a Rowe's Construction

Name of Affected Party: Liidlil Kue First Nation

When will you be engaging? What is the trigger for engagement? Triggers may be regulatory (eg., determining drill locations, changes in project design, updates to a particular plan, etc.	What is the purpose for engaging? In relation to the trigger, what will you be discussing (eg., updates to design or plans, etc.)	Who will be engaged at each of these stages: The people engaged at each stage may vary depending on what is being discussed.	How will you engage? Which engagement methods will be used? (eg., written, face to face meetings, community public meeting)
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Engagement Plan

Km 518, Hwy # 1 – Quarry Site

October 3, 2016

Name of Proponent:

851971 NWT Ltd. o/a Rowe's Construction

Name of Affected Party:

Liidlil Kue First Nation

When will you be engaging?	What is the purpose for engaging?	Who will be engaged at each of these stages:	How will you engage?
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Signature of Affected Party (Representative): ²



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Fort Simpson, NT X0E 0N0
Ph: 867-695-3243 Fax: 867-695-2818



Nogha Enterprises Ltd.
Fort Simpson
Attn. General Manager
E Mail Address: reception@nogha.com

October 3, 2016

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Owen Rowe
Chief Operating Officer
Rowe's Construction
Fort Simpson, NT
E mail: orowe@rowes.ca
Ph # 867-695-3243

Cc Tyree Mullaney, EP Regulatory Officer
Laurie Nadia, RS Lands GNWT

Engagement Plan

Km 518, Hwy # 1 – Quarry Site

October 3, 2016

Name of Proponent:

851971 NWT Ltd. o/a Rowe's Construction

Name of Affected Party:

Nogha Enterprises Ltd.

When will you be engaging?	What is the purpose for engaging?	Who will be engaged at each of these stages?	How will you engage?
What is the trigger for engagement? Triggers may be regulatory (eg., determining drill locations, changes in project design, updates to a particular plan, etc..	In relation to the trigger, what will you be discussing (eg., updates to design or plans, etc.)	The people engaged at each stage may vary depending on what is being discussed.	Which engagement methods will be used? (eg., written, face to face meetings, community public meeting)
October 3, 2016	Complete LUP permit application, letters, documentation forwarded from proponent	General Manager for Nogha Enterprises	Written copies e-mailed

Signature of Proponent (Representative):



Signature of Affected Party (Representative):²



1. One Engagement Plan must be completed for each party
2. These signatures represent agreement on the contents of the log and record, but do not necessarily imply that the parties agree on the topic that we discussed.

Rowe's Construction

Box 347
Fort Simpson, NT X0E 0N0
Ph: 867-695-3243 Fax: 867-695-2818



Dene Nation
Attn. Sharon Hopf
E Mail Address: shopf@denenation.com

October 3, 2016

RE: Land Use Application for Quarry Site at KM 518, Hwy #1

Please find application/information regarding the above noted site made by 851791 NWT Ltd. o/a Rowe's Construction of Fort Simpson, NT as one of the conditions of the permit application is an Engagement Plan, to which we are required to notify affected components of our application submitted to the Mackenzie Land and Water Board.

Should you have any concerns or input regarding our permit application, please direct them to the undersigned for an immediate response. I would also request that you send back the signed Engagement Plan Template attachment which will acknowledge receipt of the information provided.

Regards,

A handwritten signature in black ink, appearing to read 'Owen Rowe', written over a horizontal line.

Owen Rowe
Chief Operating Officer
Rowe's Construction
Fort Simpson, NT
E mail: orowe@rowes.ca
Ph # 867-695-3243

Cc Tyree Mullaney, EP Regulatory Officer
Laurie Nadia, RS Lands GNWT

Engagement Plan

Km 518, Hwy # 1 – Quarry Site

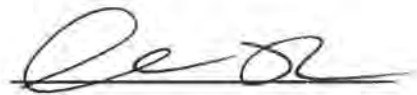
October 3, 2016

Name of Proponent: 851971 NWT Ltd. o/a Rowe's Construction

Name of Affected Party: Dene Nation

When will you be engaging?	What is the purpose for engaging?	Who will be engaged at each of these stages:	How will you engage?
What is the trigger for engagement? Triggers may be regulatory (eg., determining drill locations, changes in project design, updates to a particular plan, etc.	In relation to the trigger, what will you be discussing (eg., updates to design or plans, etc.)	The people engaged at each stage may vary depending on what is being discussed.	Which engagement methods will be used? (eg., written, face to face meetings, community public meeting)
October 3, 2016	Complete LUP permit application, letters, documentation forwarded from proponent	Sharon Hopf	Written copies e-mailed

Signature of Proponent (Representative):



Signature of Affected Party (Representative): ²



1. One Engagement Plan must be completed for each party
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Rowe's Construction

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2016 EMERGENCY RESPONSE/SPILL PLAN

**- Km 518, Highway #1 –
Gravel Quarry/Pit**

October 2016

TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	COMPANY INFORMATION.....	1
1.2	EFFECTIVE DATE OF PLAN.....	1
1.3	LAST REVISIONS TO THE ERP AND SPILL PLAN.....	1
1.4	PURPOSE AND SCOPE	1
1.5	COMPANY ENVIRONMENTAL POLICY.....	2
1.6	LIST OF HAZARDOUS MATERIALS ON-SITE.....	2
1.7	SITE SKETCH.....	3
2.0	RESPONSE ORGANIZATION	3
3.0	IMMEDIATE RESPONSE TO EMERGENCY SITUATIONS.....	1
3.1	FIRE	1
3.2	VEHICLE OR MOBILE EQUIPMENT INCIDENT.....	1
3.3	SERIOUS MEDICAL INCIDENT.....	1
3.4	WILDLIFE ENCOUNTERS	2
4.0	SPILL CONTINGENCY PLAN	2
4.1	PRELIMINARY REQUIREMENTS	2
4.2	INITIAL RESPONSE	2
4.3	GENERAL SPILL CONTAINMENT PROCEDURES.....	3
4.4	SPILLS ADJACENT TO OR INTO A WATER BODY	4
4.5	SPOT SPILLS.....	4
4.6	SPILL REPORTING	5
5.0	RESOURCE INVENTORY.....	5
6.0	TRAINING.....	1
	APPENDIX A – CLEAN UP PROCEDURES AND MATERIALS.....	2
	APPENDIX B – EMERGENCY CONTACT LISTS	8
	APPENDIX C – SPILL REPORT THRESHOLD QUANTITIES	9
	APPENDIX D – NT NU SPILL REPORT FORM.....	10
	APPENDIX E – MSDS SHEETS	12

1.0 INTRODUCTION

The following is a plan of emergency response and spill plan actions to be initiated, when required, by staff of Rowe's Construction Ltd., in relation to the gravel Quarrying Operations project located at Km 518 of Highway #1. The Emergency Response Plan (ERP) and Spill Plan will be reviewed with all workers as part of their orientation before commencing work. Revisions to the ERP and Spill Plan will be made as the project develops. Workers will be updated as changes occur to the EPR plan.

1.1 Company Information

Mailing Address:

Attn. Owen Rowe, Chief Operating Officer
Rowe's Construction Ltd.
PO Box 347
Fort Simpson, NW
X0E 0N0

Telephone: 867-695-3243
Cell: 867-445-8462
Fax: 867-695-2818

Site Name and Coordinates

Km 518, Hwy #1

Coordinate Location	Latitude	Longitude
North East Corner	N62° 02' 38"	W122° 01' 05"
West of Point 1	N62° 02' 27"	W122° 01' 00"
South of Point 2	N62° 02' 38"	W122° 01' 00"
North of Point 1	N62° 02' 27"	W122° 01' 05"

1.2 Effective Date of Plan

This ERP and Spill Plan will become effective upon the Mackenzie Land and Water Board's (MLWB) approval.

1.3 Last Revisions to the ERP and Spill Plan

The ERP and Spill Plan is current to October 3, 2016.

1.4 Purpose and Scope

The purpose and scope for this ERP and Spill Plan is to outline the procedures for the appropriate response, notification, duties and responsibilities of employees and key personnel in the event of a spill of hazardous materials at the quarry development or on the highway haul route.

A suitable response is necessary to minimize the potential adverse health effects on humans, the environmental damage and cleanup costs that may result if proper procedures are not established and followed.

1.5 Company Environmental Policy

Rowe's Construction Ltd. (851971 NWT Ltd.) is committed to achieving and maintaining a high standard of environmental stewardship in our operations while conducting business as a resource development and industrial construction company.

Rowe's Construction Ltd. will seek continuous improvement in all matters that effect the Environment by engaging employees, community, client, government and industry.

Rowe's will specifically:

- Communicate openly with our clients, the government, community leaders and employees regarding Environmental issues.
- Comply with applicable regulations, laws, and industry standards. Where regulations do not provide adequate Environmental protection, Rowe's will apply methods that will minimize Environmental impact
- Implement a risk management system that identifies controls and monitors potential environmental risks arising from Rowe's
- Ensure that employees are aware of this policy and their environmental responsibilities by utilizing the (IRS) system of individual accountability when it comes to the environment at every stage of the work process
- Provide site specific training for all employees and contractors, emphasizing that they must report all concerns or potential problems to their Supervisors immediately in an effort to prevent damage to the environment.
- Ensure that suppliers of goods and services, including sub-contractors, comply with this policy and are aware of their responsibilities in relation to Rowe's.
- Implement sustainable business practices in order to make efficient use of materials and energy, while reducing the use and production of hazardous materials.
- Continue to improve our environmental record through ongoing development of our programs and processes and ensure that new ideas and technology are always at the forefront of our business.
- Audit for effectiveness for our programs, our work sites and our practices to ensure the environment always remains in the highest regard.

October 3, 2015

Owen Rowe
Chief Operating Officer
Rowe's Construction Ltd. (851791 NWT Ltd.)

1.6 List of Hazardous Materials On-site

Listed hazardous materials that will be stored on-site; potentially hazardous materials that will be used for the project are:

- Diesel: 90,000 lt. Enviro tank max
- Gasoline: max. 200 lt.
- Hydraulic Oil: max. 200 lt.
- Lube Oil: max. 200 lt.
- Truck mounted tidy tanks: 2 x 500 lt.

The above listed materials will be transported from the Village of Fort Simpson, NT. General safety data sheets have been attached with this Spill Plan.

Fuel will be stored greater than 100 m from the high water mark of all water bodies and not located in a drainage channel.

1.7 Site Sketch

n/a

2.0 RESPONSE ORGANIZATION

The following responsibilities will be outlined during ERP and Spill Plan training to Rowe's Construction Ltd. staff and contractors.

Spill Response Team

- Conduct the cleanup of spills under the direction of the Supervisor
- Deploy booms, absorbent and other equipment and materials as required
- Take appropriate response measures
- Continue the cleanup as directed by the Supervisor or until relieved

Supervisor

- Assist in the initial and ongoing response efforts
- Supervise the response team
- With work crew, take initial action to seal off the source and contain spill
- Decide with Management if mobilization of additional equipment is required
- Assess whether burning is a viable cleanup measure; consult with Regulatory Agency
- Ensure co-ordination of equipment and manpower as needed (company and contractors)
- Ensure expeditious response and cleanup of spill site and impacted area

Additional Resources – Support Team

- Provides assistance to Supervisor as required
- Responsible for mobilizing additional local company support staff, security, and other contractors as required

Management

- Records the time of the report, source information and details on location, size, type of spill and any other information available on the spill report form
- Ensures that the spill is reported to the NWT 24-Hour Spill Report Line

Emergency Response & Spill Plan

- Oversees the cleanup operations until it is satisfactorily completed
- Together with the Supervisor decides if additional equipment is required to contain and cleanup spills
- Maintain contact with Supervisor to ensure final inspection and sign-off on spill site
- Notifies internal company departments
- Initiates Mutual Aid Agreements if so required
- Oversees completion and distribution of Spill Report
- Ensures investigation identifies measures to prevent similar spills
- Provides cleanup advice to the Supervisor
- Assists with preparation of press releases
- Provides advice on storage and disposal options
- Ensures that there are follow up reports prepared on the spill event, cleanup and environmental impacts
- Ensures that Post-Spill reports are completed and takes action, as necessary, to prevent a reoccurrence
- Liaise with government agencies (as required)

3.0 IMMEDIATE RESPONSE TO EMERGENCY SITUATIONS

3.1 Fire

- Secure the scene, PROTECT YOURSELF and OTHERS;
- Have all non-essential personal clear the area;
- Notify other workers by voice or alarm;
- Immediately shut off power, engines and fuel sources, if safe to do so;
- If the fire is small, extinguish it with the available fire- fighting equipment;
- If you cannot safely fight the fire, evacuate to a safe area and secure area;
- Do a head count to account for all workers; and
- Notify Supervision and Management in accordance with the emergency contact list in **Appendix B**.

3.2 Vehicle or Mobile Equipment Incident

- Secure the scene, PROTECT YOURSELF and OTHERS;
- Shut off equipment and fuel source, if safe to do so;
- Provide assistance to injured persons;
- Call for medical assistance, if needed; (**Appendix B**)
- If injured persons are in imminent danger, then remove injured persons and secure the incident scene;
- Control any spill or environmental hazard;
- Notify Supervision and Management in accordance with the emergency list in **Appendix B** and;
- Record third-party names, addresses, contact numbers, drivers' license numbers, vehicle and license information.

3.3 Serious Medical Incident

- Secure the scene, PROTECT YOURSELF and OTHERS;
- Attend to the injured worker;
- Call for medical assistance. Notify the RCMP that there are injured persons (**Appendix B**)
- Notify Supervision & Management in accordance with the emergency contact list in **Appendix B**.

Emergency Response & Spill Plan

3.4 Wildlife Encounters

- All workers will avoid situations that could create a wildlife encounter;
- All food items and domestic garbage should be secured;
- Garbage will be disposed of at approved sites only;
- Arctic or red fox may approach personnel to scavenge food. Avoid all contact as they may carry the rabies virus and exposure is through bites or saliva;
- Your operation is in an area where bears may be encountered. Proper food handling and garbage disposal procedures will lessen the likelihood of bears being attracted to your operation. Information about the bear detection and deterrent techniques can be obtained from the Department of Resources, Wildlife and Economic Development at 867-695-7450.

4.0 SPILL CONTINGENCY PLAN

The primary goal is to avoid spills or the unnecessary release of materials. All personnel shall have an environmental orientation prior to starting work. This will include a review of this Spill Contingency Plan (SCP).

In the unlikely event of a spill or release of materials, quick response is the objective. The SCP defines the responsibilities of site personnel and the required procedures for a quick response by emphasizing the need to reduce the safety hazards and minimize the impact on the environment.

4.1 Preliminary Requirements

- A copy of this Emergency Response Plan is available on site during all field operations;
- Materials Safety Data Sheets (MSDS) for each hazardous chemical shall be available on site during field operations;
- All vehicle/equipment will be equipped with spill kits and shovels. Spill Kits, at a minimum, will include absorbent pads or equivalent, shovels, and a means for containment of contaminated materials (e.g. impermeable tarps, barrels); and
- Suitable communication equipment and all emergency numbers will be available prior to commencement of all field activities.

4.2 Initial Response

In the event of a spill or a release of materials, the first person on the scene will:

- Cut off the source of the spill if possible;
- Immediately obtain the assistance of others and begin to assess and contain the spill;
- If possible, without further assistance, control danger to human life (i.e. remove ignition sources);

Emergency Response & Spill Plan

- Identify the material spilled, assess Material Safety Data Sheets (MSDS) information and implement appropriate safety procedures, based on the nature of the hazard;
- Assess the hazards to personnel in the vicinity of the spill. Evacuate people depending on the degree and nature of the hazard.
- Notify the NWT 24 Hour Spill Report Line (867)-920-8130, then the DoT primary contact (**Appendix B**).
- Gather information on the status and the nature of the situation.

When notified of a spill, the Field Supervisor, or person in charge of the emergency response measures shall immediately ensure that:

- Action is taken to control danger to human life;
- An onsite safety supervisor is designated;
- In the event that a spill exceeds any of the threshold quantities listed in **Appendix C**, the person in charge of the emergency response measures will complete the Northwest Territories (NT) Spill Report Form (see attached form in **Appendix D**) and then immediately report the spill to;

NWT 24 Hour Spill Report Line (867)-920-8130

Note: For fuel or hydraulic spills this threshold limit is 100 litres.

- The local R.C.M.P. shall be notified if a risk to the public exists;
- The necessary equipment and personnel shall be mobilized and measures implemented to stop the source of the spill and commence clean up.

4.3 General Spill Containment Procedures

The following is a list of general containment procedures. Refer to **Appendix A** for more detailed information on containment and clean up procedures and materials for spills on land, muskeg, water, and ice or snow.

- Identify the contaminant, stop the source of the spill, and when safe, immediately implement containment measures to limit the spread of the spill and to minimize the impacts to the environment.
- If spill source is a leaking fuel truck, pump tanker dry (into appropriate containers or another tanker).
- A shallow depression will be excavated or a surface berm constructed in the path of the flowing product to stop and contain the flow. If feasible, without unduly delaying containment efforts, stripping will be salvaged and stored separately during excavations.
- Absorbent materials will be utilized to contain and recover spilled material.

Emergency Response & Spill Plan

- Heavily contaminated soil and vegetation, as well as used absorbent material, will be disposed of at an approved hazardous waste treatment facility.
- Traffic will be minimized on and around contaminated areas.
- Attempts will be made to restrict the movements of wildlife near the area affected by the spill.
- Remediation and final clean-up will be conducted until the spill and immediate location has been completely reclaimed to an equivalent capability prior to the incident.

4.4 Spills Adjacent to or into a Water Body

- Berms or trenches will be constructed to contain spilled products from entering into a water body.
- Spilled materials will be recovered as quickly as possible.
- If spilled material enters an open water body, booms, skimmers and absorbent pads will be deployed, if feasible, to contain and recover the spill material.
- If spilled material is released onto a frozen water body, snow and absorbent pads will be used to contain and clean up the spill. A backhoe, or similar equipment, will remove all materials to prevent future release into the water body.
- Contaminated areas, including downstream shorelines (non-frozen conditions), will be cleaned up in consultation with spill response specialists and the appropriate government agencies.
- In the event that spilled materials enter a frozen water body through or under the ice to flowing or standing water, auguring will be conducted to determine the extent of the spill plume. If feasible, a vacuum truck will be brought to the site to skim off the contaminants. As well, the appropriate regulatory agencies will be contacted and a post-break-up monitoring and reclamation plan will be implemented to determine the extent of the impacts of the spill on the water body and its banks.

4.5 Spot Spills

- The GNWT, Environment and Natural Resources, (867) 873-7654, is to be contacted soon after a spot spill to determine appropriate methods to remove or restore contaminated soils. Since impacts from small spills can generally be minimized if immediate action is taken, all small spot spills will be cleaned up immediately.
- Activities in the immediate vicinity will be suspended until the Department of Transportation or an Inspector from GNWT, Environment and Natural Resources grants permission to resume.
- Heavily contaminated soil and vegetation, and/or removed contaminated materials will be incinerated, if safe to do so, or disposed of at an approved waste facility.

Emergency Response & Spill Plan

- Locations where spot spills have occurred will be flagged and the location GPS coordinates recorded by the Person-in-Charge of the spill. Flags will be removed once reporting is complete.
- The Person-in-Charge of the spill will document and report all details pertaining to the incident.

4.6 Spill Reporting

The size, type, and/or location of the spill will determine how the spill is reported.

- A. The spill exceeds the threshold quantity listed in **Appendix C**.

The Northwest Territories (NT) Spill Report Form is to be completed (see attached form in **Appendix D**); then immediately report the spill to:

NT 24 Hour Spill Report Line (867)-920-8130

- B. The spill, regardless of quantity, is near or into a water body, is near or into a designated sensitive environment or sensitive wildlife habitat, poses imminent threat to human health or safety, poses imminent threat to a listed species at risk or its critical habitat, or is uncontrollable.

The NT Spill Report Form is to be completed (see attached form in **Appendix D**); then immediately report the spill to:

NT 24 Hour Spill Report Line (867)-920-8130

5.0 RESOURCE INVENTORY

All vehicles and equipment will be equipped with a spill kit that, at minimum, includes the following:

- Absorbent material (i.e. 10 pads, 2 socks or equivalent);
- Disposal container (tarpaulin, pail, barrel);
- Safety gloves and goggles; and
- Shovel.

All fuel and services vehicle will carry a spill kit that includes the following:

- A minimum of 10 kg of absorbent materials (i.e. 200 pads, 12 socks, 10 pillows, or equivalent);
- Absorbent booms;
- Disposal container (tarpaulin, pails, barrel);
- Safety gloves and goggles; and
- Shovel.

Extra spill kits will be stored onsite as needed.

6.0 TRAINING

All Rowe's Construction Ltd. employees participate in a site-specific orientation program that includes WHMIS, Transportation of Dangerous Goods (TDG) and spill prevention information and safe working procedures for the handling of spills and spill cleanup.

Rowe's Construction Ltd. will ensure that all staff and contractors operating at the Project receive adequate training on spills procedures as outlined in this ERP and Spill Plan. Specific training on how to use spill kits and correct disposal requirements for contaminated material will be completed prior to commencement of operations.

In addition, morning staff meetings will regularly discuss spill contingency requirements.

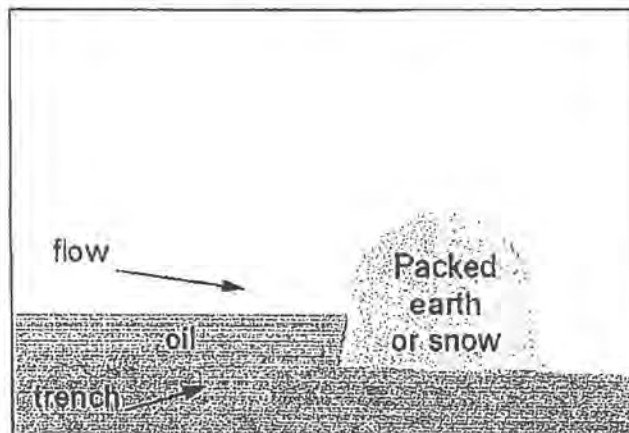
Appendix A – Clean Up Procedures and Materials

SPILLS ON LAND

Spills on land should be contained as close to the source as possible, if safety allows. Every effort should be made to ensure that a spill does not reach water, where its containment and recovery are much more difficult and the potential environmental impacts are much greater. Containment can be achieved using the following methods:

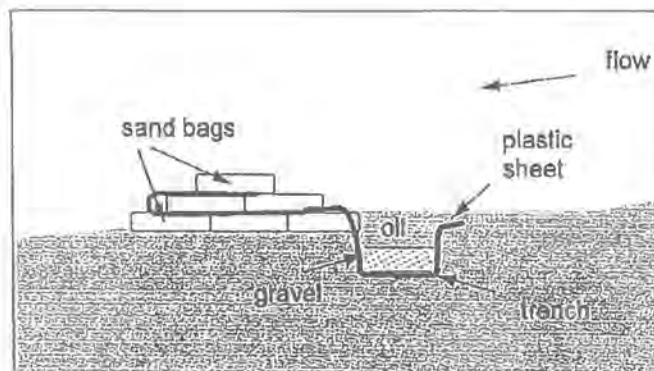
Earth Berm / Trench

If possible, locate the berm/trench sufficiently down slope of the release point to complete its construction before the spill arrives. Dig the trench along a natural drainage contour, approximately 0.5 m deep with a relatively flat bottom. The excavated material can then be combined with other available material to build the berm. This method prevents the spilled material from migrating further from the spill location, creating a type of sump from which the spilled material can be removed.



Sand Bag Berm/Trench

Sand bags can be used where available or if the earth is too hard or frozen and cannot be excavated or compacted. A plastic sheet or liner can be used to seal the trench by weaving it between layers of bags. Bags should then be anchored with gravel or rocks.



Emergency Response & Spill Plan

SPILLS ON MUSKEG

Muskeg is generally poorly drained, wet and spongy. Internal drainage is usually slow and the depth of peat over mineral soil varies greatly. Muskeg is also highly acidic and low in nutrients, making biodegradation very slow, even during the summer months.

It is recommended that small oil spills in muskeg be mixed with peat moss and allowed to degrade during the summer months since more damage can be done by attempting cleanup using mechanical removal methods.

In the event of a small spill, it is important to weigh the advantages of cleanup versus the potential negative impacts on the terrain. Both personnel and equipment on wet or sensitive areas can cause considerable damage. In many cases, the best solution may be to add nutrients to the contaminated area and monitor the site to ensure that the spill does not migrate to an adjacent sensitive area. In all cases appropriate environmental advisors and Regulatory Authorities should be consulted.

SPILLS IN OR ON WATER

Containing spills in water is often difficult because oil quickly spreads. In turbulent water, oil and chemicals are likely to mix into the water column, making recovery extremely difficult. For these reasons, it is important that if the spill reaches water that containment be attempted immediately and as close to the source as possible, and that the spill be prevented from reaching moving water. For example, spills in lakes must be contained before spilled materials reach outlet streams or rivers.

In flowing streams, oil travels at the same speed as the surface current. On larger rivers or in open lake areas, slicks are also transported at 3.5% of the wind speed. Although a comparatively small effect, it can be an important factor if the wind is at right angles to the water flow and if the water surface is extensive. The wind can force the spill to the sides of the river where flows are slower or to the shore of a lake. Long reaches of the river may become contaminated although containment and recovery might also be possible.

In smaller streams, the wind will have less impact and the slick speed can be easily estimated. Placing a small stick in the middle of the stream and determining the length of time required to travel a given distance, typically 10 m, this information can be quickly converted to speed ($36/\text{time (sec)} = \text{km/h}$) to determine the estimated travel time to a confluence or other sensitive area.

Containment Strategies

The best possible strategy for containment on or in water will depend on a number of factors:

1. Speed the slick is travelling.
2. Location of possible containment sites.
3. Availability of personnel and equipment.
4. Location of sensitive areas.
5. Safety of operations.

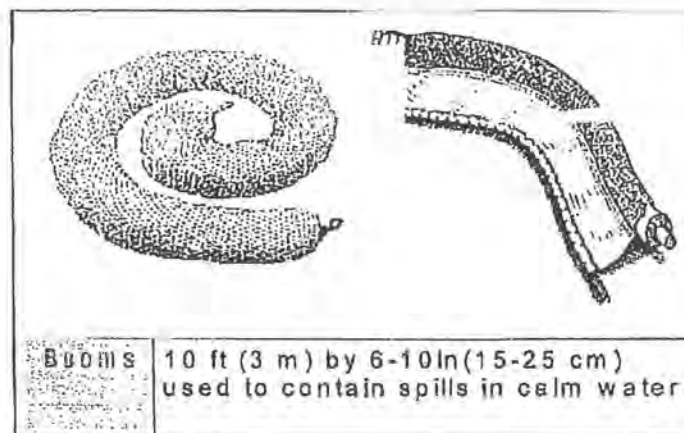
Spills on water can be contained by using floating booms/socks or by constructing a temporary berm or inverted weir. The objective is to build a barrier against which the (normally floating) oil will pool while allowing the underflow of water.

Emergency Response & Spill Plan

Booms / Socks

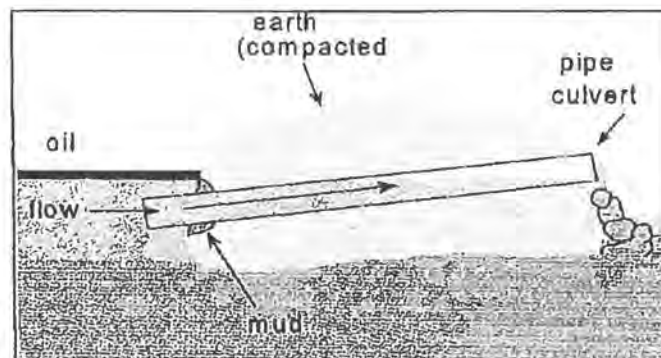
On slow-moving waters and in lakes, the use of booms/socks can be an effective means of containing spills. **Note that absorbent booms or pads should only be used in water if they are of the "Oil" variety.** "Universal" absorbents (booms and pads), if used, will become soaked with water and sink to the bottom of the waterway, causing an additional source of contamination. If universal materials are used care needs to be taken that they are removed from the water as soon as they begin to sink or cleanup efforts may result in additional contamination of the waterway.

In streams or rivers, where currents exceed 0.7 knots (0.4m/s), effective containment using conventional booming techniques will likely be very difficult. At these speeds, oil will become entrained in the water flowing under the boom resulting in significant loss of contaminant. Some improvements can be achieved in waters flowing at 1-2 (0.5-1 m/s) if the boom is deployed at an angle of less than 90 degrees to the direction of the flow.



Inverted Weir

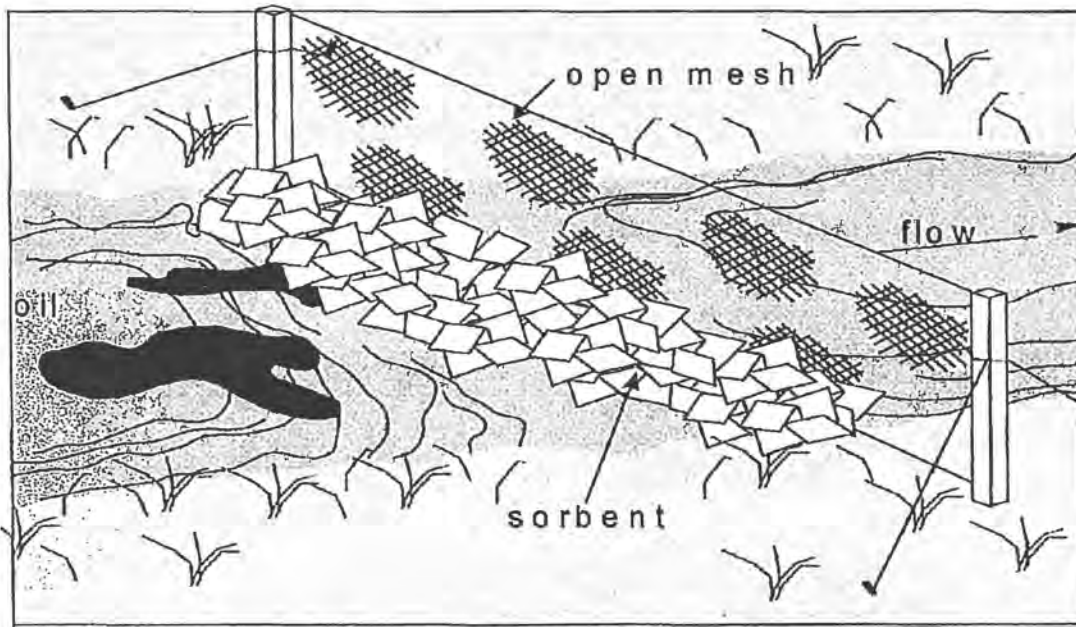
An inverted weir can be an effective means of recovery of spilled materials that float on water, as they allow only the clean water beneath to move through the earth dam. Skimmers or absorbents could then be used to remove the slick from the surface of the water behind the dam.



Emergency Response & Spill Plan

Filter Fence

Filter fences can be used to remove contaminants from water as it passes through the fence. Absorbent materials are placed upstream of a mesh fence, capturing contamination while allowing the clean water to pass through.



SPILLS ON ICE OR SNOW

Oil can remain relatively fresh under snow and ice for several months or more after a spill.

Evaporation rates will still be high when oil is ultimately exposed to the atmosphere except in very low temperatures. Oil can also move up and down small hills (several metres high) due to the capillary action of the snow.

Containment

Snow and ice can be used to create berms to keep spills from spreading. In frozen rivers angled slots about 1 metre wide or holes can be cut in the ice, where safety permits, to allow possible spill recovery. The oil will rise up into the openings where it will concentrate, and be available for recovery using skimmers or pumps.

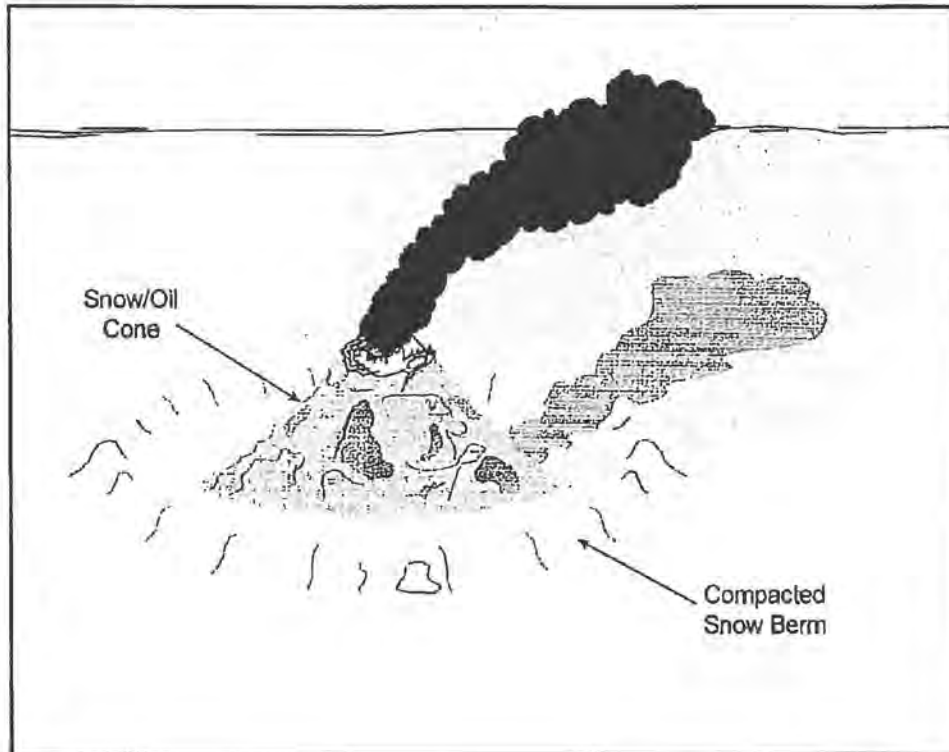
Disposal

Oil spills in snow and ice can sometimes be burned if the spill can be isolated from the source. Although there is generally a reduced fire hazard, proper attention to the safety of operations is still required. If burning is not effective, recovered contaminated material will need to be collected and transported to a designated disposal/treatment facility.

Emergency Response & Spill Plan

Burning Snow Cone

Another effective method for removal of oil from snow is to burn the product off. However in recent years, as concerns surrounding air pollution increase, burning has become a less popular method for spill cleanup. Burning should not take place until the proper Regulatory Authorities are contacted and their approval is given.



RECOVERY

When large volumes of oil have been contained either through natural or mechanical containment, it will be necessary to remove or recover the accumulated oil. This will generally occur in excavated trenches or adjacent to berms or natural barriers, and occasionally in slow running streams or quiet ponds.

Vacuum trucks are ideal at cleanup sites accessible by road and where a large volume of oil has pooled that is generally free of water. The truck must be positioned at a safe distance so that there is no possibility of fire or explosion.

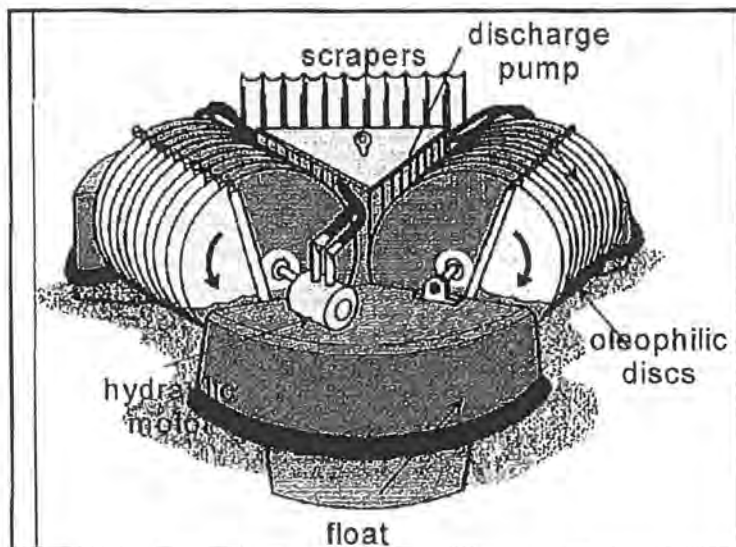
Oleophilic devices, such as disc or drum skimmers, can selectively recover oil in water, and are better suited to applications where the oil has formed a distinct layer on top of quiet water. Accumulations adjacent to an inverted weir are an example. A vacuum truck would be largely ineffective in this instance since it would recover large amounts of water in addition to the oil.

When using disc or drum skimmers ensure that small items of debris are periodically removed from the scrapers to ensure their efficient operation.

Emergency Response & Spill Plan

Disc Skimmer

Below is an example of a type of disc skimmer used to collect spilled oil floating on water. Please note that a variety of skimmers are available and equipment may vary from site to site. Refer to the operators' manual for the correct application and use of any spill containment or recovery equipment.



Emergency Response & Spill Plan

Appendix B – Emergency Contact Lists

Rowe's Construction Ltd.

Contacts	Name	Office	Cell
Primary	Owen Rowe Chief Operations Officer	(867) 695-3243	(867) 445-8462 24 hours
Alternate	Mike (Jr.) Rowe Safety Officer/Acting COO	(867) 695-3243	(867) 875-2809 24 hours

NT 24 Hour Spill Report Line (867)-920-8130
CAUTEC – Dangerous Goods – 24 hour line – (613) 996-6666

Dehcho/Sahtu Region

Emergency Services	Fort Simpson
Ambulance	(867) 695-3232
Hospital	(867) 695-7000
Ground and Inland Water Search & Rescue	(867) 669-1111
Marine and Air Search & Rescue	1 (800) 267-7270
Fire, RCMP	(867) 695-1111

NWT Regulatory Agencies

Regulatory Agencies	Contact
NWT OHS	(867) 678-2301
NWT OHS (Yellowknife)	1-800-661-0792
NWT Forest Fire	1-800-661-0800
INNAC Northern Affairs, Land Use	1-867-587-2911
24 Hour NWT Spill Report Line	Phone: (867) 920-8130 Fax: (867) 873-6924
GNWT- Environment and Natural Resources	(867) 695-2470
Environment Canada	(867) 669-4710 (867) 777-7520/7521 or
Fisheries and Oceans Canada	(867) 669-4931
Mackenzie Land and Water Board	(867) 669-0506

Appendix C – Spill Report Threshold Quantities

Item No.	TDGA Class	Description of Contaminant	Amount Spill
1	1	Explosives	Any amount
2	2.1	Compressed Gas (flammable)	Any amount of gas from containers with a capacity greater than 100 L
3	2.2	Compressed Gas (non-corrosive, non-flammable)	Any amount of gas from containers with a capacity greater than 100 L
4	2.3	Compressed Gas (toxic)	Any amount
5	2.4	Compressed Gas (corrosive)	Any amount
6	3.1,3.2,3.3	Flammable Liquid	100 L
7	4.1	Flammable Solid	25 kg
8	4.2	Spontaneously Combustible	25 kg
9	4.3	Water Reactant Solids	25 kg
10	5.1	Oxidizing Substances	501 or 50 kg
11	5.2	Organic Peroxides	1 L or 1 kg
12	6.1	Poisonous Substances	5 L or 5 kg
13	6.2	Infections Substances	Any amount
14	7	Radioactive	Any amount
15	8	Corrosive Substances	5 L or 5 kg
16	9.1 (in part)	Misc. Products or Substances, excluding PCB Mixtures	50 L or 50 kg
17	9.2	Environmentally Hazardous	1 L or 1 kg
18	9.3	Dangerous Wastes	1 L or 1 kg
19	9.1 (in part)	PCB Mixtures of 5 or more parts per million	0.51 or 0.5 kg
20	None	Other Contaminants	100L or 100 kg

Environmental Protection Act, Consolidation of Spill contingency Planning and Reporting Regulations
R.R.N.W.T. 1990, c, Schedule B

Emergency Response & Spill Plan

Appendix D – NT NU Spill Report Form



Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE

TEL: (867) 920-8130

FAX: (867) 873-6924

EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH - DAY - YEAR		REPORT TIME		<input type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER
	OCCURRENCE DATE: MONTH - DAY - YEAR		OCCURRENCE TIME			
C	LAND USE PERMIT NUMBER (IF APPLICABLE)			WATER LICENCE NUMBER (IF APPLICABLE)		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION				REGION <input type="checkbox"/> NWT <input type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN	
E	LATITUDE DEGREES MINUTES SECONDS			LONGITUDE DEGREES MINUTES SECONDS		
F	RESPONSIBLE PARTY OR VESSEL NAME		RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION			
G	ANY CONTRACTOR INVOLVED		CONTRACTOR ADDRESS OR OFFICE LOCATION			
H	PRODUCT SPILLED		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES		U.N. NUMBER	
	SECOND PRODUCT SPILLED (IF APPLICABLE)		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES		U.N. NUMBER	
I	SPILL SOURCE		SPILL CAUSE		AREA OF CONTAMINATION IN SQUARE METRES	
J	FACTORS AFFECTING SPILL OR RECOVERY		DESCRIBE ANY ASSISTANCE REQUIRED		HAZARDS TO PERSONS, PROPERTY OR ENVIRONMENT	
K	ADDITIONAL INFORMATION: COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS					
L	REPORTED TO SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLING FROM	TELEPHONE	
M	ANY ALTERNATE CONTACT	POSITION	EMPLOYER	ALTERNATE CONTACT LOCATION	ALTERNATE TELEPHONE	
REPORT LINE USE ONLY						
N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130	
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> IIRAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED	
AGENCY		CONTACT NAME		CONTACT TIME		REMARKS
LEAD AGENCY						
FIRST SUPPORT AGENCY						
SECOND SUPPORT AGENCY						
THIRD SUPPORT AGENCY						

Emergency Response & Spill Plan

Instructions for Completing the NT-NU Spill Report Form

This form can be filled out electronically and faxed to the spill line at 867-873-6924. Commencing on January 2, 2007, the form can also be e-mailed as an attachment to spills@gov.nt.ca. Until further notice, please verify receipt of e-mail transmissions with a follow-up telephone call. Spills can still be phoned in by calling collect at 867-920-8130.

A. Report Date/Time	The actual date and time that the spill was reported to the spill line. If the spill is phoned in, the Spill Line will fill this out. Please do not fill in the Report Number; the spill line will assign a number after the spill is reported.
B. Occurrence Date/Time	Indicate, to the best of your knowledge, the exact date and time that the spill occurred. Not to be confused with the report date and time (see above).
C. Land Use Permit Number /Water Licence Number	This only needs to be filled in if the activity has been licenced by the Nunavut Water Board and/or if a Land Use Permit has been issued. Applies primarily to mines and mineral exploration sites.
D. Geographic Place Name	In most cases, this will be the name of the city or town in which the spill occurred. For remote locations - outside of human habitations - identify the most prominent geographic feature, such as a lake or mountain and/or the distance and direction from the nearest population center. You must include the geographic coordinates (Refer to Section E).
E. Geographic Coordinates	This only needs to be filled out if the spill occurred outside of an established community such as a mine site. Please note that the location should be stated in degrees, minutes and seconds of Latitude and Longitude.
F. Responsible Party Or Vessel Name	This is the person who was in management/control/ownership of the substance at the time that it was spilled. In the case of a spill from a ship/vessel, include the name of the ship/vessel. Please include full address, telephone number and e-mail. Use box K if there is insufficient space. Please note that, the owner of the spilled substance is ultimately responsible for any spills of that substance, regardless of who may have actually caused the spill.
G. Contractor involved?	Were there any other parties/contractors involved? An example would be a construction company who is undertaking work on behalf of the owner of the spilled substance and who may have contributed to, or directly caused the spill and/or is responding to the spill.
H. Product Spilled	Identify the product spilled; most commonly, it is gasoline, diesel fuel or sewage. For other substances, avoid trade names. Wherever possible, use the chemical name of the substance and further, identify the product using the four digit UN number (eg: UN1203 for gasoline; UN1202 for diesel fuel; UN1863 for Jet A & B)
I. Spill Source	Identify the source of the spill: truck, ship, home heating fuel tank and, if known, the cause (eg: fuel tank overflow, leaking tank; ship ran aground; traffic accident, vandalism, storm, etc.). Provide an estimate of the extent of the contaminated/impacted area (eg: 10 m ²)
J. Factors Affecting Spill	Any factors which might make it difficult to clean up the spill: rough terrain, bad weather, remote location, lack of equipment. Do you require advice and/or assistance with the cleanup operation? Identify any hazards to persons, property or equipment: for example, a gasoline spill beside a daycare centre would pose a safety hazard to children. Use box K if there is insufficient space.
K. Additional Information	Provide any additional, pertinent details about the spill, such as any peculiar/unique hazards associated with the spilled material. State what action is being taken towards cleaning up the spill; disposal of spilled material; notification of affected parties. If necessary, append additional sheets to the spill report. Number the pages in the same format found in the lower right hand corner of the spill form: eg, "Page 1 of 2", "Page 2 of 2" etc. Please number the pages to ensure that recipients can be certain that they received all pertinent documents. If only the spill report form was filled out, number the form as "Page 1 of 1".
L. Reported to Spill Line by	Include your full name, employer, contact number and the location from which you are reporting the spill. Use box K if there is insufficient space.
M. Alternate Contact	Identify any alternate contacts. This information assists regulatory agencies to obtain additional information if they cannot reach the individual who reported the spill.
N. Report Line Use Only	Leave Blank. This box is for the Spill Line's use only.

Emergency Response & Spill Plan

Appendix E – MSDS Sheets

The following are generic safety data sheets for materials that may be used on site. Once HRN has received the MSDS sheets from the fuel supplier, the sheets will be forwarded to the SLWB and the Resource Management Officer.

DIESEL

DIESEL	
TYPICAL PHYSICAL AND CHEMICAL PROPERTIES	
APPEARANCE:	Clear, Yellow or Red
FLASH POINT:	40°C (Minimum)
ODOUR:	Petroleum
POUR POINT:	-50° to -6°C
SOLUBILITY:	Insoluble
VISCOSITY:	Not Viscous
VAPOUR DENSITY:	Will Sink to Ground Levels
SPECIFIC GRAVITY:	Floats on Water (0.8 – 0.9)
SAFETY MEASURES	
WARNING	<ul style="list-style-type: none"> Vapours are heavier than air and form easily at high temperatures. Empty containers can contain explosive vapours. Toxic gases form upon combustion. Eye contact causes irritation. Material can accumulate static charges. Inhalation of vapours can cause irritation of the respiratory tract, headache, vomiting, and unconsciousness.
PERSONAL PROTECTION	<ul style="list-style-type: none"> Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; Nitrile and PVC are suitable materials (DO NOT USE NATURAL RUBBER or NEOPRENE.) Wear full-face organic vapour cartridge respirator where oxygen is adequate, otherwise wear positive pressure SCBA.
PRECAUTIONS	<ul style="list-style-type: none"> Monitor for explosive atmosphere. Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozone, and peroxides. Eliminate ignition sources. Restrict access and work upwind of spill.
RESPONSE TO FIRES	
CONSIDER ACTION ONLY IF SAFETY PERMITS!	<ul style="list-style-type: none"> Wear SCBA in confined areas. Shut off fuel supply. Extinguish fire with CO₂, dry chemical, and alcohol foam or water fog. Use water to cool containers, exposed to fire.

Emergency Response & Spill Plan

HYDRAULIC OIL

HYDRAULIC OIL	
Typical Physical and Chemical Properties	
Appearance:	Straw-Yellow Liquid / Can be Clear (Depends on the time of Year)
Flash Point:	215°C (Minimum)
Odour:	Petroleum
Pour Point:	-25°C
Solubility:	Generally Insoluble
Viscosity:	Medium (265 x ST, 15°C)
Vapour Density:	Few Vapours Emitted
Specific Gravity:	Floats on Water (0.9)
Safety Measures	
Warning	<ul style="list-style-type: none"> Vapours are heavier than air but are unlikely to form. Toxic gas can form in fire and at high temperatures. CO, CO₂, and dense smoke are produced upon combustion. Oil mist or vapour from hot oil can cause irritation of the eyes, nose, throat and lungs.
Personal Protection	<ul style="list-style-type: none"> Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; PVC, Nitrile, and Viton are suitable materials (DO NOT USE NATURAL RUBBER). Use of organic vapour cartridge respirator is highly unlikely due to a lack of oxygen.
Precautions	<ul style="list-style-type: none"> Avoid excessive heat, which can cause formation of vapours. Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozone, and peroxides. Eliminate ignition sources. Restrict access and work upwind of spill.
Response to Fires	
Consider Action Only If Safety Permits!	<ul style="list-style-type: none"> Wear SCBA in confined areas. Shut off fuel supply. Extinguish fire with CO₂, dry chemical, alcohol, foam or water fog. NOTE: water or foam may cause frothing. Use water to cool containers, exposed to fire.

Emergency Response & Spill Plan

LUBE OIL

LUBE OIL	
TYPICAL PHYSICAL AND CHEMICAL PROPERTIES	
APPEARANCE:	Amber Liquid
FLASH POINT:	190° to 2220°C
ODOUR:	Petroleum
POUR POINT:	-35° to -40°C
SOLUBILITY:	Generally Insoluble
VISCOSITY:	Medium (255 xST, 15°C)
VAPOUR DENSITY:	Few Vapours Emitted
SPECIFIC GRAVITY:	Floats on Water (0.9)
SAFETY MEASURES	
WARNING	<ul style="list-style-type: none"> Vapours are heavier than air but are unlikely to form. Toxic gas can form in fire and at high temperatures. CO, CO₂, and dense smoke are produced upon combustion. Oil mist or vapour from hot oil can cause irritation of the eyes, nose, throat and lungs.
PERSONAL PROTECTION	<ul style="list-style-type: none"> Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; PVC, Nitrile, and Viton are suitable materials (DO NOT USE NATURAL RUBBER). Use of organic vapour cartridge respirator is highly unlikely.
PRECAUTIONS	<ul style="list-style-type: none"> Avoid excessive heat, which can cause formation of vapours. Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozone, and peroxides. Eliminate ignition sources. Restrict access and work upwind of spill.
RESPONSE TO FIRES	
CONSIDER ACTION ONLY IF SAFETY PERMITS!	<ul style="list-style-type: none"> Wear SCBA and eye protection when responding to lube oil fires. Shut off fuel supply. Extinguish fire with CO₂, dry chemical, alcohol foam or water fog. NOTE: water or foam may cause frothing. Use water to cool containers, exposed to fire.

Emergency Response & Spill Plan

WASTE OIL – CONSIDER ACTION ONLY IF SAFETY PERMITS! Eliminate Ignition Sources – Stop Source if Safe to Do So	
ON LAND	<ul style="list-style-type: none"> • Prevent additional discharge of oil. • Do not flush into ditch/drainage systems. • Block entry into waterways. • Contain spill by diking with earth, snow or other barrier. • Remove minor spills with absorbent pads and/or peat moss. • Remove large spills with pumps or vacuum equipment. • Spill can also be mechanically removed if oil is too viscous to be pumped.
ON WATER	<ul style="list-style-type: none"> • Use booms to contain and concentrate spill. • Remove spill using absorbent, skimmer or vacuum truck. • Protection booming can be considered for water intakes.
STORAGE & TRANSFER	<ul style="list-style-type: none"> • Store closed labelled containers in cool, ventilated areas away from incompatible materials.
DISPOSAL	<ul style="list-style-type: none"> • Segregate waste types. • Place contaminated materials into marked containers. • Consult with environmental authorities during final disposal.
FIRST AID	
EYES	<ul style="list-style-type: none"> • Flush eyes immediately with fresh, warm water (NOT HOT WATER) for 20 minutes, while holding the eyelids open. • Remove contact lenses, if exposed to vapours or liquid. • Get prompt medical attention.
SKIN	<ul style="list-style-type: none"> • Remove and launder contaminated clothing. • Wash skin thoroughly with soap and water. • Get medical attention. • Discard saturated leather articles.
INHALATION	<ul style="list-style-type: none"> • Move victim to fresh air. • Perform CPR if victim not breathing. • Provide oxygen if victim is having difficulty breathing. • Get prompt medical attention.
INGESTION	<ul style="list-style-type: none"> • DO NOT INDUCE VOMITING; if victim is conscious; give milk or water to drink. If vomiting begins, keep victim's head below hips to prevent aspiration. • Get prompt medical attention.

Emergency Response & Spill Plan

GASOLINE

GASOLINE	
TYPICAL PHYSICAL AND CHEMICAL PROPERTIES	
APPEARANCE:	Colorless Liquid (Can Be Dyed)
FLASH POINT:	-50°C
ODOUR:	Gasoline/Petroleum
POUR POINT:	-60°C
SOLUBILITY:	Insoluble
VISCOSITY:	Not Viscous (<1 cSt)
VAPOUR DENSITY:	Will Sink to Ground Level
SPECIFIC GRAVITY:	Floats on Water (0.7 - 0.8)
SAFETY MEASURES	
WARNING	<ul style="list-style-type: none"> Vapours form instantaneously, and are heavier than air. Empty containers can contain explosive vapours. Vapours can travel to distant sources of ignition and flash back. Eye contact causes irritation. Material can accumulate static charges. Inhalation of vapours can cause irritation of the respiratory tract, headache, vomiting, and unconsciousness.
PERSONAL PROTECTION	<ul style="list-style-type: none"> Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; PVC, Nitrile, and Viton and PVC are suitable materials (DO NOT USE NATURAL RUBBER or NEOPRENE). Wear full-face organic vapour cartridge respirator where oxygen is adequate; otherwise wear positive pressure SCBA, if circumstances warrant.
PRECAUTIONS	<ul style="list-style-type: none"> Monitor for explosive atmosphere. Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozone, peroxides. Eliminate ignition sources. Restrict access and work upwind of spill.
RESPONSE TO FIRES	
CONSIDER ACTION ONLY IF SAFETY PERMITS!	<ul style="list-style-type: none"> Wear SCBA in confined areas. Shut off fuel supply. Extinguish fire with CO₂, dry chemical, alcohol foam or water fog. Use water to cool containers, exposed to fire.

Emergency Response & Spill Plan

GASOLINE – CONSIDER ACTION ONLY IF SAFETY PERMITS! Eliminate Ignition Sources – Stop Source If Safe to Do So	
ON LAND	<ul style="list-style-type: none"> • ELIMINATE IGNITION SOURCES. • Do not flush into ditch/drainage systems. • Block entry into waterways. • Contain spill by diking with earth, snow or other barrier. • Remove minor spills with peat moss and/or absorbent pads. • Cover pools with foam to prevent vapour evolution if gasoline presents a fire hazard; otherwise allow vapours to dissipate.
ON WATER	<ul style="list-style-type: none"> • ELIMINATE IGNITION SOURCES. • DO NOT ATTEMPT TO CONTAIN OR REMOVE SPILLS. Protection booms can be considered for water intakes.
STORAGE & TRANSFER	<ul style="list-style-type: none"> • Store closed, labelled container in cool, ventilated areas away from incompatible materials. • Electrically ground containers and vehicles during transfer.
DISPOSAL	<ul style="list-style-type: none"> • Place contaminated materials into segregated marked containers. • Consult with environmental authorities during final disposal.
FIRST AID	
EYES	<ul style="list-style-type: none"> • Flush eyes immediately with fresh, warm water (NOT HOT WATER) for 20 minutes, while holding the eyelids open. • Remove contact lenses, if exposed to vapours or liquid. • Get prompt medical attention.
SKIN	<ul style="list-style-type: none"> • Remove and launder contaminated clothing. • Wash skin thoroughly with soap and water. • Get medical attention. • Discard saturated leather articles.
INHALATION	<ul style="list-style-type: none"> • Move victim to fresh air. • Perform CPR if victim not breathing. • Provide oxygen if victim is having difficulty breathing. • Get prompt medical attention.
INGESTION	<ul style="list-style-type: none"> • DO NOT INDUCE VOMITING; if victim is conscious; give milk or water to drink. If vomiting begins, keep victim's head below hips to prevent aspiration. • Get prompt medical attention.

Emergency Response & Spill Plan

PROPANE	
TYPICAL PHYSICAL AND CHEMICAL PROPERTIES	
APPEARANCE:	Colorless Gas
FLASH POINT:	-104°C
ODOUR:	Natural Gas Odour
POUR POINT:	-190°C
SOLUBILITY:	Insoluble
VISCOSITY:	N/A
VAPOUR DENSITY:	Will Sink to Ground Level
SPECIFIC GRAVITY:	Liquid Floats on Water
SAFETY MEASURES	
WARNING	<ul style="list-style-type: none"> Vapours form instantaneously, and are heavier than air. Vapours can travel to distant sources of ignition and flash back. Eye contact causes irritation. Material can accumulate static charges. Inhalation of vapours can cause irritation of the respiratory tract, headache, vomiting, and unconsciousness.
PERSONAL PROTECTION	<ul style="list-style-type: none"> Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; Nitrile and Viton are suitable protective materials (DO NOT USE NATURAL RUBBER, NEOPRENE, OR PVC). Avoid frostbite burn to skin and eyes from contact with propane. Wear full-face organic vapour cartridge respirator where oxygen is adequate, otherwise wear positive pressure SCBA.
PRECAUTIONS	<ul style="list-style-type: none"> Monitor for explosive atmosphere. Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozone, peroxides. Eliminate ignition sources. Restrict access and work upwind of spill.
RESPONSE TO FIRES	
CONSIDER ACTION ONLY IF SAFETY PERMITS!	<ul style="list-style-type: none"> Wear SCBA in confined areas. Shut off fuel supply. Extinguish fire with CO₂, dry chemical, alcohol foam or water fog. Use water to cool containers, exposed to fire.

Emergency Response & Spill Plan

PROPANE – CONSIDER ACTION ONLY IF SAFETY PERMITS!	
Response to Gas Releases	
ON LAND	<ul style="list-style-type: none"> ELIMINATE IGNITION SOURCES. DO NOT ATTEMPT TO CONTAIN OR REMOVE SPILLS.
ON WATER	<ul style="list-style-type: none"> ELIMINATE IGNITION SOURCES. DO NOT ATTEMPT TO CONTAIN OR REMOVE SPILLS.
STORAGE & TRANSFER	<ul style="list-style-type: none"> It is not possible to collect released material.
DISPOSAL	<ul style="list-style-type: none"> Consult with environmental authorities if the disposal of any contaminated materials is required.
FIRST AID	
EYES	<ul style="list-style-type: none"> Flush eyes immediately with fresh, warm water (NOT HOT WATER) for 20 minutes, while holding the eyelids open. Remove contact lenses, if exposed to vapours or liquid. Get prompt medical attention.
SKIN	<ul style="list-style-type: none"> Remove and launder contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention. Discard saturated leather articles.
INHALATION	<ul style="list-style-type: none"> Move victim to fresh air. Perform CPR if victim not breathing. Provide oxygen if victim is having difficulty breathing. Get prompt medical attention.
INGESTION	<ul style="list-style-type: none"> DO NOT INDUCE VOMITING; if victim is conscious; give milk or water to drink. If vomiting begins, keep victim's head below hips to prevent aspiration. Get prompt medical attention.

851791 NWT Ltd.

o/a Rowe's Construction

Km 518 Hwy #1 Quarry Site **Environmental Information Report**

Rowe's Construction

Box 347

Fort Simpson, NT X0E 0N0

Ph: 867-695-3243 Fax: 867-695-2818



Environmental Information Report

Km 518, Highway #1

Gravel Quarry Site

**Presented to: The Mackenzie Valley Land and Water Board
Yellowknife, NT**

**Submitted by: 851791 NWT Ltd. o/a Rowe's Construction
Fort Simpson, NT**

October 2016

TABLE OF CONTENTS

	Page
1.0 INTRODUCTION.....	3
2.0 SITE DESCRIPTION.....	3
2.1 Location.....	3
2.2 Description of the Biological Environment.....	4
2.2.1 Vegetation.....	4
2.2.2 Wildlife and fish.....	4
3.0 PROPOSED PIT DEVELOPMENT.....	4
3.1 Rationale.....	4
3.2 Description of Km 518 Hwy #1 Quarry Site.....	4
3.3 Description of Undertakings.....	5
4.0 POTENTIAL IMPACTS AND MITIGATION MEASURES.....	5
4.1 Physical and Chemical Environmental.....	5
4.1.1 Ground and Surface Water.....	6
4.1.2 Noise.....	6
4.1.3 Air/climate/atmosphere.....	6
4.1.4 Non Renewable Natural Resources.....	6
4.1.5 Biological Environmental.....	6
4.1.6.1 Flora.....	6
4.1.6.2 Fauna.....	7
4.2 Habitats and Communities.....	7
4.2.1 Social and Economic.....	7
4.2.2 Cultural and Heritage.....	7
5.0 SUMMMATIONS.....	7

Figures:

See Appendix for maps, schematics and additional information

1. INTRODUCTION

851791 NWT Ltd. o/a Rowe's Construction is a contracting firm based out of Fort Simpson and Hay River, NT. The company resources consist of heavy equipment and personnel, and previous experience involves many contracts in the heavy construction field for Oil and Gas activities, winter road/ice bridge construction and maintenance for the Department of Transportation, community maintenance/ equipment rentals, truck hauling, gravel crushing, camp catering, etc.....

The Km 518 Highway #1 site is an existing gravel quarry development and sets out a goal to supply quarry materials for the demands for industry, government or others who may need this product. This report outlines environmental information on the planned quarry operation 50 kilometres north/west of the community of Fort Simpson, NWT

The information in this package follows the requirement of the Mackenzie Valley Resource Management Act (MVRMA) Screening Report form and the Mackenzie Valley Land and Water Board (MVLWB) Land Use Permit Application. This document will be submitted to the MVLWB and to the Government of the NWT Lands Division in support of Land Use and Quarry Permit Applications described herein.

2.0 SITE DESCRIPTION

2.1 Location:

The Km 518 Hwy #1 gravel quarry site lies within the Taiga Plains Ecozone and is located on GNWT Territorial land. The Taiga Ecozone is an area of low-lying plains centered in Canada's largest river, the Mackenzie River and its many tributaries. The plains are mainly located in the southwesterly corner of the Northwest Territories; however, they also extend into the northeastern British Columbia and the upper margin of Alberta. The climate is semi arid and cold. Annual precipitation ranges between 400 mm in the south and 200 mm in the north. The mean daily January temperature ranges between minus 22' C to -35' C, while the mean daily temperature ranges from 10' C to 15' C.

Dwarf birch, Labrador tea, willows, bearberry, mosses and sedges are associated with the arctic tundra environment. Upland foothill areas and southerly locals are better drained and warmer. The mixed wood forest is characterized white and black spruce, tamarack, white birch, trembling Aspen, balsam poplar and lodge-pole pine. Characteristic mammals of the Taiga Ecozone include moose, woodland caribou, bison, wolf, black bear, marten and lynx. The southern/eastern portion is the home to the largest Wood Bison herd. Some representative bird species include the red-throated loon, northern shrike and the common redpoll. (Environment Canada 2005)

The overland access route from the Department of Transportation's (DoT) highway road (Mackenzie Valley Hwy. #1) to the quarry site is shown on the attached map. The coordinates for the site at center line of the quarry are:

Longitude N 62° 02' 36.2"

Latitude W 122° 01' 43.4"

2.2 Description of the Biological Environment

2.2.1 Vegetation

The boreal plain in all directions from the site is vegetated by succession of growth shrubs, mostly Jack-pine, aspen and birch, populations typical to regeneration following a forest fire in this region. Along certain cut lines that will be used to gain access to the site, small willows are well established. Records indicate that forest fires swept the area in the mid 80's. Forests in this region are dominated by white and black stands of spruce, mixed with birch and poplar. At maturity these trees can stand in heights of 10 to 15 metres.

2.2.2 Wild life and fish

There are no known critical wildlife areas within the immediate vicinity of the site; however the area is within the broad migratory pathway of the various birds: Northern Goshawk, Great Horned Owl, Snowy White Owl, Northern Hawk Owl, Boreal Owl and Rock Ptarmigan during Spring and Fall. Terrestrial mammals include marten, fox, wolves, black bear, moose, caribou, hare and squirrels. There are no streams, lakes or drainage courses near the site. Fish habitat will not be a factor during the life of the project.

3.0 PROPOSED DEVELOPMENT DESCRIPTION

3.1 Rationale

The purpose for the development of this quarry is to provide granular embankment materials as needed by industry, government, the community needs and the private sector. This will be primarily supplied to the region Fort Simpson.

3.2 Description of the Km 518 Hwy #1 site:

The project/scope of work will be to develop an existing quarry pit located 50 kilometres northwest of Fort Simpson, NT. Mapping, GPS readings, topical and schematic drawings, etc. are provided in the appendix attachments of this permit application.

The proposed quarry area runs parallel to the DoT winter road approximately 2,000 metres south of Hwy #1 center line. The quarry site is located on a ridge approximately 30 metres in height. The proposed area will be 360 metres in length and 50 metres in width with a combined area of 1.8 hectares.

3.3 Description of the Undertakings:

The grubbing/stripping excavated materials have been stock-piled adjacent the perimeters of the outside edges for future pit restoration upon completion of the quarrying operation.

A 15 to 20 man camp will be utilized periodically for the duration of the permit. Any residual domestic garbage will be accumulated in garbage disposal bins/containers and trucked back to the Fort Simpson dump site. (see Waste Management Plan and Summary of Operations)

4.0 POTENTIAL IMPACTS AND MITIGATION MEASURES

There will be no disruption to any drainage courses, as none exist in the vicinity of the quarry itself or along the access route to the site. Noise levels of the heavy equipment to be used for the undertaking of the quarry development will disturb wildlife at a minimal level. These disturbances will be temporary and cannot be avoided. The period of activities will be year round with breaks in the Spring and Fall when road bans are in effect.

Negative impacts from the equipment and vehicle traffic during the quarrying activities will be mitigated with regular vehicle maintenance. Emissions from heavy equipment will not significantly alter the ambient air quality.

There will be a 15-20 man camp positioned on site periodically and materials/domestic waste products will be stored on site and will be dealt with according to the Waste Management Plan and Summary of Operations generated for this project. All such materials will be kept contained in the project. Domestic waste such as lunch bags, refuse, will be removed daily.

4.1 Physical and Chemical Environment

There are two potential impacts to the soil from the work at this quarry site. One is from erosion due to heavy equipment movement. The second is from contamination from spills of fuel or equipment fluids.

The risk of erosion at the site will be extremely low since the quarry is comprised of gravel and a free draining material with no drainage courses within the make-up of the quarry.

Potential impacts to the soil may also occur if there is a spill, in particular a fuel spill. Fuel transfer will be carried out with a double walled slip tank with a noted electric fuel pump. The 500 litre size slip in fuel tank will remain in the truck and is a mobile truck container to fuel up each piece of the equipment. When refueling at the quarry site, a drip tray will be utilized during refueling events. Fuel spills could occur with steps in place to minimize the effects:

To mitigate the potential risk for a fuel spill, fueling activities and storage will be restricted to the staging area located at the quarry site. The use of fuel and lubricants will be subject to the Spill Contingency Plan (SCP). All staff associated with this project will be versed with the SCP and a copy, along with spill kits will be positioned at the work site at all times.

4.1.1 Ground and Surface Water

Quarrying operations will occur during the summer and winter months, but pose a minimal risk to ground and surface water. The quarry access road does not have any drainage courses along its entire route. The work will be carried out year round; it is possible quarrying activities represent a potential risk should there be a spill or an equipment malfunction. An Emergency Response and Spill Response Plan will be available to workers onsite throughout the duration of the operation. The plans identify actions to be taken in the event of a spill.

4.1.2 Noise

The quarry activity will generate a fair disposition of noise from the heavy equipment. The heavy equipment is required to extract the quarry materials to the designated sites. The closest community to the quarry site is Fort Simpson at a distance of 50 kilometres southeast. Noise levels generated at the site will not have any auditory impact on the surrounding communities. Site workers will wear ear protection when necessary when working with heavy equipment.

Noise levels may potentially be a nuisance to local wildlife populations during the quarrying operations. However, these impacts are minor and transient since the project is seasonal.

4.1.3 Air/Climate/Atmosphere

The use of heavy equipment and refueling vehicles will have temporary, non-measurable and unavoidable impacts on air quality. Heavy equipment vehicles using fossil fuels contribute to air pollution and global warming. The cumulative effect of these activities, while unfortunate, is unavoidable impact to the atmosphere. Because of the short term duration of the quarrying activity, localized effects will be temporary and short in duration.

4.1.4 Non Renewable Natural Resources

The non-renewable resources that will be impacted in the area are the quarrying material that is to be extracted and used. The quarry application volume to be applied for the term of five years with a two year extension will be 12,000 cubic metres of materials. In the preceding years, the quarry materials required is unknown at this time but application must be made and finalized on a yearly basis. The demand for the material is what will drive the requirements and a 'needs assessment' would be impossible to forecast at this time.

4.1.5 Biological Environmental

4.1.6.1 Flora

The quarrying operation at the Km 518, Hwy #1 site will have minimal impact on the vegetation of the area. Additionally, since the access route is existing, the ground disturbances will be minimal.

4.1.6.2 Fauna

Impacts to mammals, birds and fish in the vicinity of the Km 518 quarry site is expected to be minimal, of a short duration and localized.

Noise levels produced by the heavy equipment will inevitably impact some local species. These noise levels that occur will be of a short duration during the hauling operations.

Hunting, feeding or general contact with wildlife is strictly prohibited to all Rowe's Construction personnel. All employees will be versed in the conditions/restrictions to this policy prior to deployment.

4.2 Habitats and Communities:

There should be no permanent negative impacts on the habitat and the communities in the areas. The quarrying activities will be scheduled seasonally between January through December through of each year for the duration of the permit. The quarrying operation offers the opportunity for Rowes Construction for short term seasonal employment and business to local suppliers from the community of Fort Simpson.

4.2.1 Social and Economic:

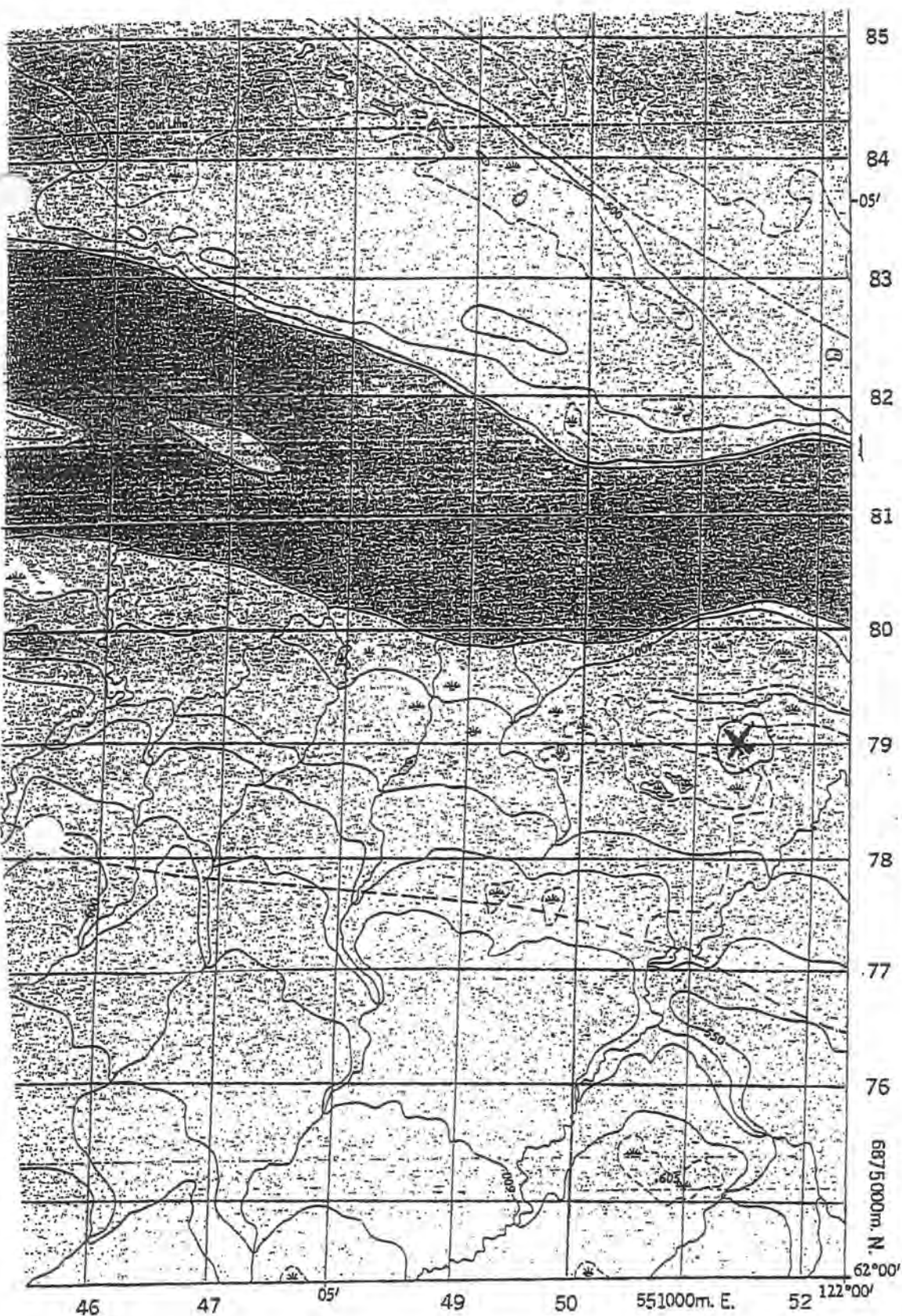
Based on an independent review, the quarrying operation should have a positive socio-economic impact on the communities through the seasonal short term employment, equipment rentals, acquisition of materials/supplies, etc.

4.2.2 Cultural Heritage:

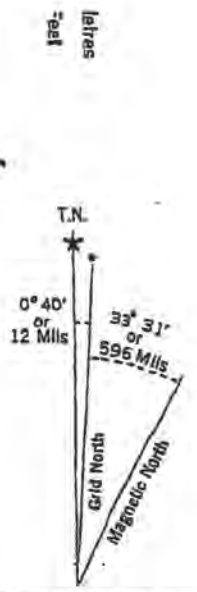
Based on other Public consultations and interviews with people knowledgeable of the area, there will be no negative impacts on the heritage or cultural resources. No historical resources have been identified as existing within the impact range of this project.

5.0 Summation:

The proposed quarry site will have no significant adverse impacts on the surrounding environment. Potentially minor adverse impacts can be readily avoided by sound quarry management practices particularly related to spill and incident management. Additional mitigation of potential impacts to wildlife will be addressed using standard avoidance techniques and by keeping the quarry site free of attractants.



X-P.T

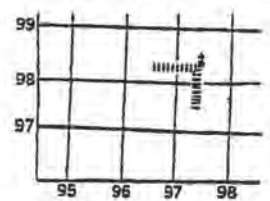


Use diagram only to obtain numerical value of
APPROXIMATE MEAN DECLINATION
FOR CENTRE OF MAP
Annual change decreasing 5.7'

ONE THOUSAND METRE
UNIVERSAL TRANSVERSE MERCATOR

GRID ZONE DESIGNATION	100,000 M. SQUARE IDENT
	E E E D
10 V	

EXAMPLE OF METHOD USED
TO GIVE A REFERENCE TO NEAREST 100 M
THE FOLLOWING GRID REFERENCE IS A SAMPLE ONLY
AND DOES NOT REFER TO A POINT ON THIS MAP



REFERENCE POINT	CHURCH	(as above)
EASTING: Read number on grid line immediately to left of point		97
Estimate tenths of a square from this line eastward to point		97
NORTHING: Read number on grid line immediately below point		98
Estimate tenths of a square from this line northward to point		98
EXAMPLE MILITARY GRID REFERENCE 97598		
Nearest similar grid reference 100,000 metres (about 63)		

ZONE 10

TOUR INTERVAL 50 FEET
is in Feet above Mean Sea Level
1927 American Datum 1927
Universal Transverse Mercator Projection

is on this map are not yet official.
or additions are invited by the
1 M. Branch.

Final Map is equivalent to a standard
accuracy of content.

ÉQUIDISTANCE DES COURBES 50 PIEDS
Élévations en pieds au-dessus du niveau moyen de la mer
Niveau de référence nord-américain 1927
Projection transverse de Mercator

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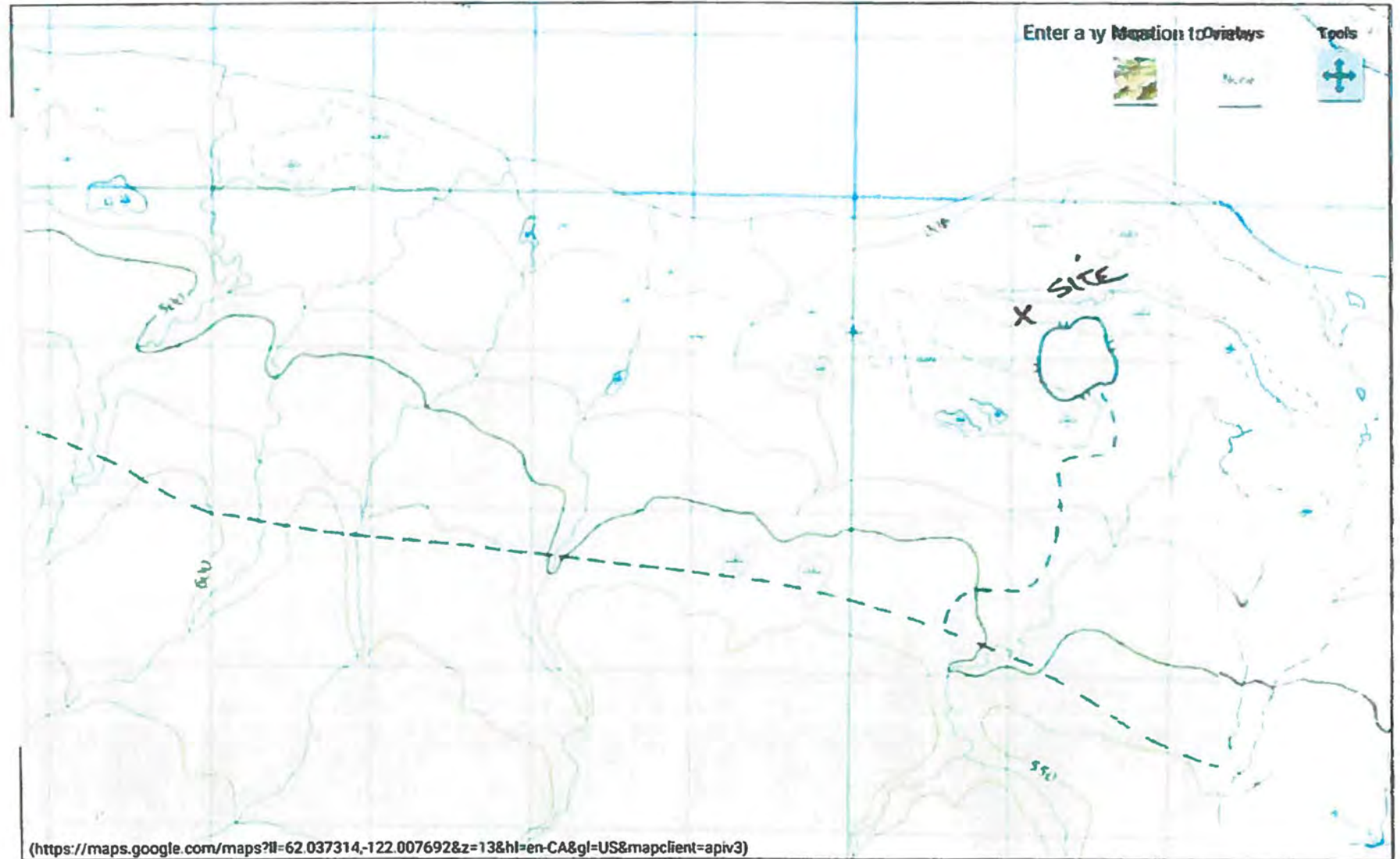
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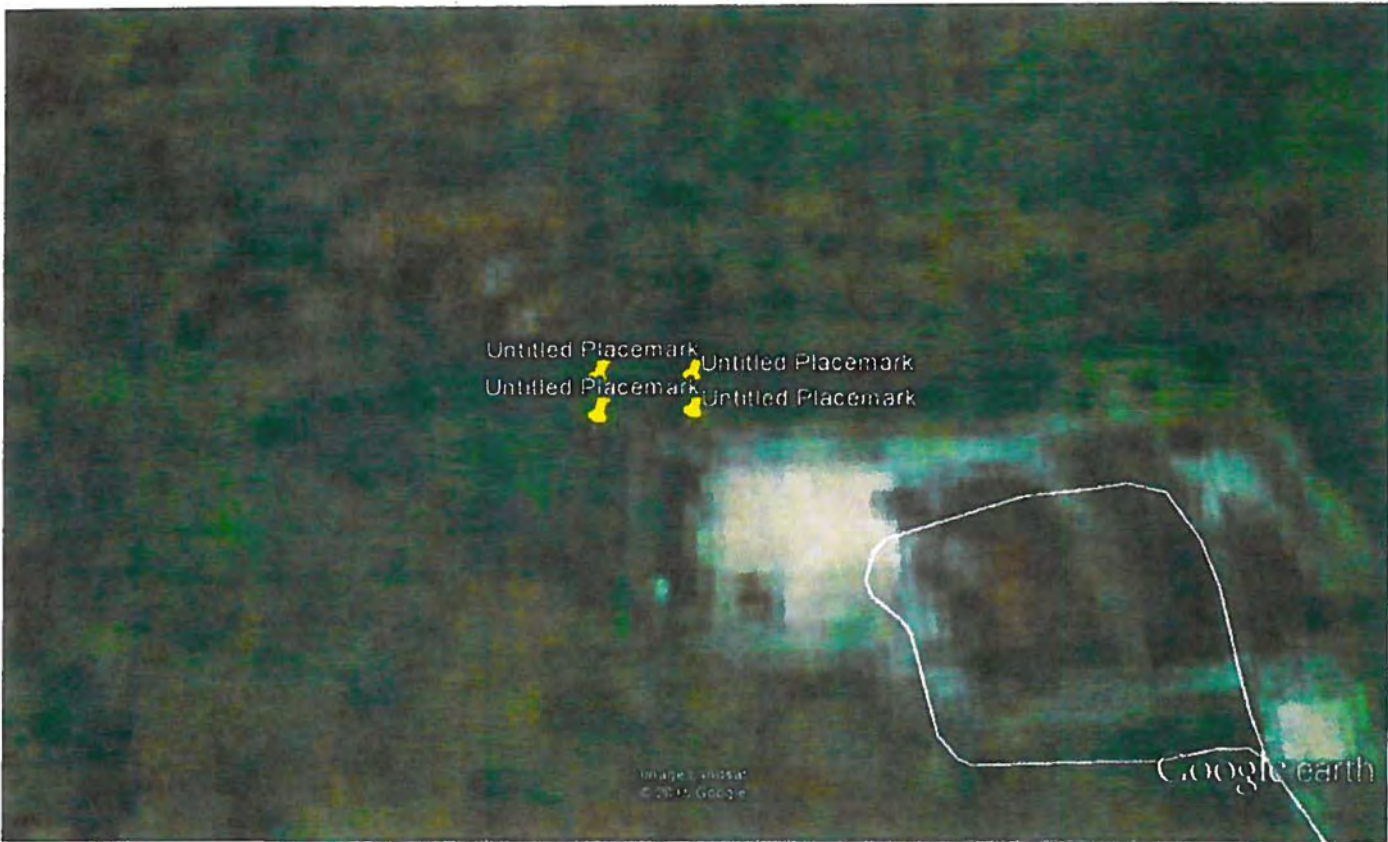


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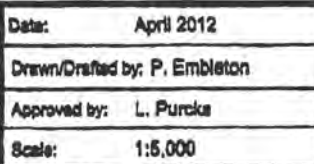


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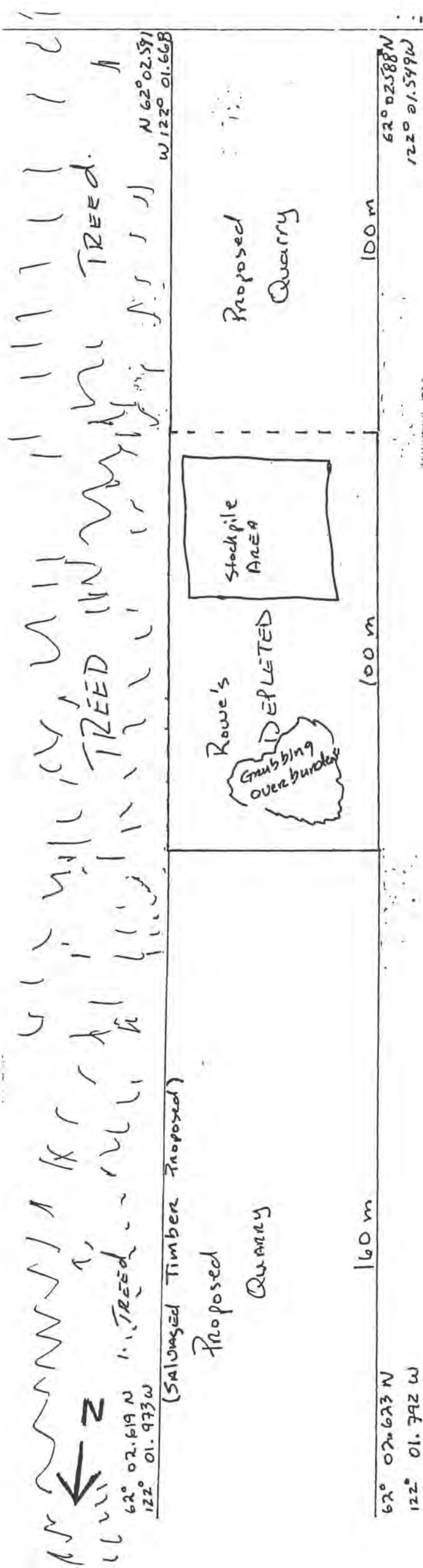
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meters 600



Km 518, Hwy #1 Gravel Source



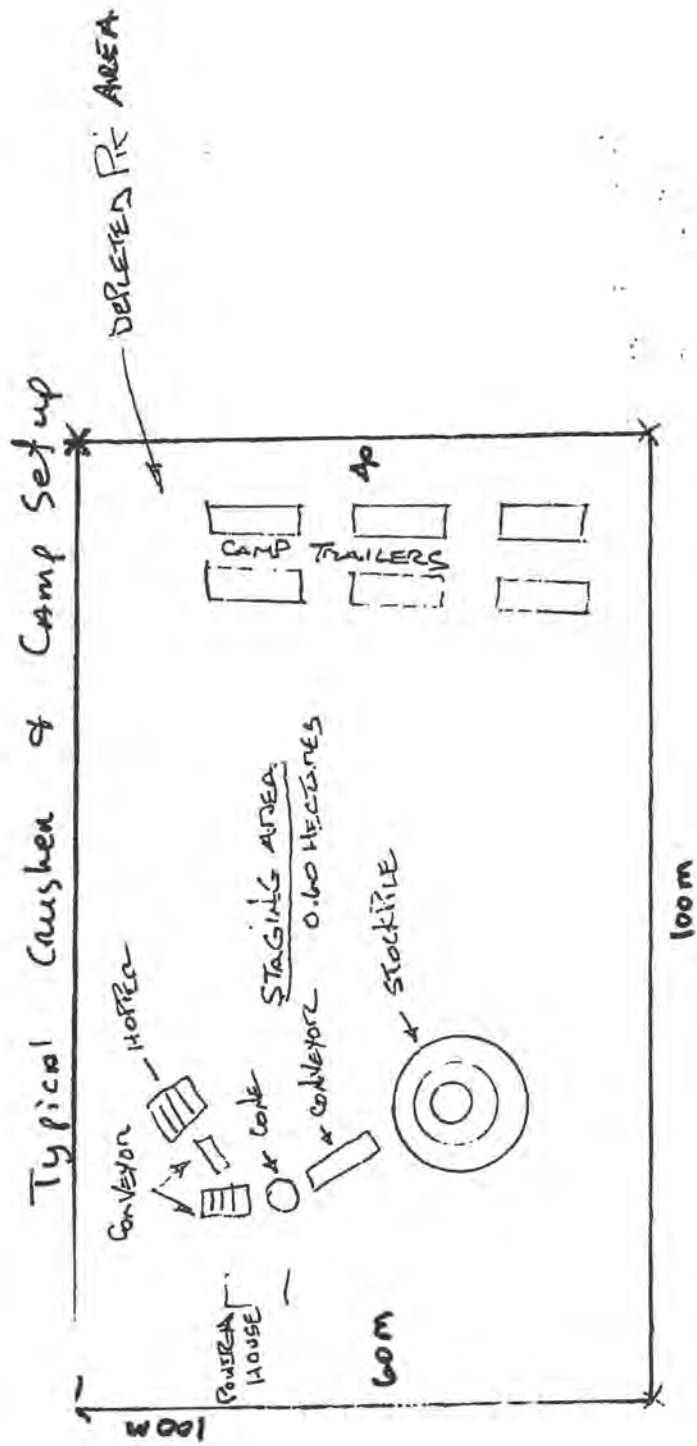
Contract No.	Drawing No. 1 of 1
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Scale 1:1000

Pit Area

Active



851791 NWT Ltd.
o/a Rowe's Construction
Km 518 Hwy #1 Quarry Site

Waste Management Plan

Rowe's Construction

Box 347
Fort Simpson, NT X0E 0N0
Ph: 867-695-3243 Fax: 867-695-2818



Waste Management Plan

Km 518, Highway #1 Quarry Site

Submitted by: 851791 NWT Ltd. o/a Rowe's Construction
Fort Simpson, NT

October 2016

TABLE OF CONTENTS

SECTION	PAGE
1.0 INTRODUCTION	3
1.1 Background.....	3
1.2 Legislation and Guidelines.....	4
1.2.1 Hazardous Waste.....	4
1.2.2 Empty Container.....	5
1.2.3 Small Quantity.....	5
2.0 WASTE MANAGEMENT PRINCIPLES.....	5
2.1 Responsibilities.....	5
2.2 Waste Storage.....	5
2.3 Waste Reduction	5
3.0 WASTE MANAGEMENT FACILITIES	6
4.0 PROCEDURES FOR MANAGING SPECIFIC WASTES.....	6
4.1 Waste Oil.....	6
4.2 Used Oil Filters	6
4.3 Petrochemical Products Containers	7
4.4 Waste Antifreeze	7
4.5 Waste Solvents.....	7
4.6 Waste Batteries	7
4.7 Tires.....	7
4.8 Hydrocarbon Contaminated Absorbents	7
4.9 Polychlorinated Biphenyl s (PCB's)	7
4.10 Radioactive Materials	8
4.11 Explosives	8
4.12 Medical Wastes	8
4.13 Animal Carcasses.....	8
4.14 Asbestos.....	8
4.15 Potable Water and Sewage	8
4.16 Other Unacceptable Wastes.....	8

1.0 INTRODUCTION

The project/scope of work will be to develop a gravel quarry pit located at Km 518, Hwy #1, approximately 50.0 kilometres northwest of Fort Simpson, NT. The gravel quarry is an existing quarry and is a multi-user pit. Referenced mapping, GPS readings, typical and schematic drawings, etc. are provided in the appendix attachments of the LUP Land Use Application to the Mackenzie Valley Land and Water Board.

The proposed quarry area from the DoT highway easement is approximately 2,000 metres along an existing access road south east of center line. The quarry site is located on a ridge approximately 30 metres in height. The proposed area will be 360 metres in length and 50 metres in width with a combined area of 1.8 hectares. The site has been cleared previously. The grubbing/stripping excavated materials will be stock piled adjacent the perimeters of the outside edges for future pit restoration upon completion of the quarrying operation.

A 15-20 man camp and fuel storage tanks will be utilized for the duration of the permit. Refueling of the heavy equipment on site i.e. Loaders, Crawler Cats, etc. will be carried out by Rowe's staff utilizing pickup trucks equipped with tidy tanks (500 lt capacity). A spill plan and an emergency plan have been generated for this project and will be implemented when it commences.

This Waste Management Plan deals specifically with procedures and policies for the safe and responsible handling, storage and disposal of hazardous waste materials which have served their original purpose and are scheduled for disposal as per the Final Closure and Reclamation Plan for Rowe's Construction. It provides detailed background information on the handling of hazardous wastes. It details the operational requirements to ensure that the facility is maintained in an environmentally responsible manner, and outlines the environmental monitoring and reporting required by the regulatory agencies. This document is submitted to the Mackenzie Valley Land and Water Board as a requirement of the LUP licence permit.

1.1 Background

The Kilometre 518 Quarry site development is a typical quarry development and is a multi-user site. Nogha Enterprises Ltd. of Fort Simpson has an existing LUP permit and Quarry permit adjacent the site Rowe's Construction is applying for.

1.2 Legislation and Guidelines

The Km 518 quarry site and access road will be under a Land Use permit with a term of 5 years and a further 2 year extension if applicable.

The principal applicable legislation, dealing with specific issues related to hazardous waste management and the environment, is the NWT Environmental Protection Act (EPA). Other relevant legislation includes the federal Northwest Territories Waters Act, Fisheries Act and the Transportation of Dangerous Goods Act and Regulation (TDGR).

The management of specific hazardous materials is addressed by the federal Canadian Environmental Protection Act for Polychlorinated Biphenyl's (PCB's), by The Explosives Act and by the Atomic Energy Control Board (AECB) for the safe use and storage of radioactive materials.

The management of hazardous materials is subject to legislation intended to protect the health and safety of workers and the public, such as the NWT Safety Act, Occupational Health and Safety Regulations, the Work Site Hazardous Materials Information System Regulations (WHMIS), the National Fire Code and the NWT Public Health Act.

Under the authority of the Environmental Protection Act, the NWT Department of Environment and Natural Resources (ENR) has produced a series of 'Environmental Guidelines' for the management of specific hazardous wastes commonly produced by NWT industries. The Environmental Guidelines for the management of waste solvents, batteries, antifreeze, asbestos, paint and ozone depleting substances have been referred to during the preparation of this plan. These guidelines form the basis of management programs developed at several similar sites in the NWT. The Environmental Guideline for the General Management of Hazardous Waste in the NWT provides definitions of terms used in the EPA and Environmental Guidelines, and describes the principles of acceptable waste management practice. The following definitions are particularly important to this document.

1.2.1 Hazardous Waste

A contaminant which is a dangerous goods* that is no longer used for its original purpose and is intended for recycling, treatment, disposal or storage.

A 'hazardous waste' does not include a contaminant that is:

- a) household in origin;
- b) included in class 1 (explosives) or class 7 (radioactive materials) of the TDGR;
- c) exempted as a small quantity;

- d) an empty container; or,
 - e) intended for disposal in a sewage system or by land filling that meets the applicable standards set out in Schedules I, III or IV of the Guideline for Industrial Waste Discharges in the NWT.
- (* 'dangerous goods' as defined in the TDGR).

1.2.2 Empty Container

A container that has been emptied, to the greatest extent possible, using regular handling procedures, but its contents shall not exceed 1% of the container's original capacity or 2 litres, whichever is less. This does not include containers which previously contained mercury, or Class 2.3, 5.1 or 6.1 materials of the TDGR.

1.2.3 Small Quantity

Hazardous waste that is generated in an amount that is less than 5 kilograms per month if a solid, or 5 litres per month if a liquid; and where the total quantity accumulated at any one time does not exceed 5 kilograms or 5 litres. This does not apply to wastes that are mercury or in Classes 2.3, 5.1 or 6.1 of the TDGR. These wastes must be generated in an amount less than 1 kilogram per month if a solid or 1 litre per month if a liquid; and where the total quantity accumulated at any one time does not exceed 1 kilogram or 1 litre.

2.0 WASTE MANAGEMENT PRINCIPLES

The Environmental Guideline for the General Management of Hazardous Waste in the NWT describes the responsibilities of hazardous waste generators and states principles for the storage and management of these wastes. The following principles will be incorporated into the quarry's hazardous waste management programs.

2.1 Responsibilities

The responsibility for proper waste management rests with the generator and should be considered part of the cost of doing business.

2.2 Waste Storage

The storage of hazardous waste is not an acceptable long term waste management solution.

2.3 Waste Reduction

"Minimizing or avoiding the creation of pollutants and waste can be more effective in protecting the environment than treating them, or cleaning them up after they have been

created". (Statement of Canadian Council of Ministers of the Environment). The waste management program will attempt to minimize hazardous waste production by applying the increasingly recognized principles of **Reducing** the use of hazardous materials, **Reusing** materials whenever possible, **Recycling** materials and **Recovering** value from used materials (the "four R's").

Hazardous wastes will never be used for the purpose of this quarry project. However, opportunities to recycle hazardous materials have become more widely available in recent years as new regulations have been developed, and customers have demanded such services from product suppliers and independent service industries. New recycling opportunities for hazardous waste will continue to be investigated.

3.0 WASTE MANAGEMENT FACILITIES

No waste materials will be stored at the Quarry site including waste oil, oil containers, oiled rags, drums, etc. rather, consumables and empty containers will be taken to site and from site on a daily basis.

4.0 PROCEDURES FOR MANAGING SPECIFIC WASTES

This section of the plan describes the general procedures and principles that are followed by personnel in handling and storing hazardous wastes. These general procedures are supported by the advice of the mine Environmental and Reclamation Manager and the other supervisors. Programs for management of emergencies involving specific wastes have been developed as part of the Emergency Response Plan and Spill Contingency Procedures for Rowe's Construction.

Programs for handling, disposal or recycling of other hazardous wastes will be developed as needed. The sub-sections listed below deal with specific hazardous wastes that may be encountered during the operational phase of this project.

4.1 Waste Oil

Waste oil products are stored in "Lube Cubes" provided by the petrochemical products supplier and stationed at Rowes mechanical shop located in Fort Simpson. Waste material is removed from the cubes by the supplier, as required. Other waste types, such as antifreeze or solvents will not be stored in the same container as waste oils.

4.2 Used Oil Filters

Used oil filters are drained and deposited at the non-hazardous waste disposal container and hauled back to Rowe's main mechanical shop in Fort Simpson. The facility has the required frame work to deal with this bi-product.

4.3 Petrochemical Products Containers

Used containers, typically 12 or 25 litre plastic pails, are drained, washed, flattened and deposited at the non-hazardous waste disposal site. Containers larger than 20 litres are removed from site and sent to an approved recycling facility for disposal.

4.4 Waste Antifreeze

Waste antifreeze is placed into empty containers and hauled back to Rowe's mechanical shop facility in Fort Simpson who deals with this bi-product in waste containers and dispose of it accordingly to the regulatory requirements.

4.5 Waste Solvents

Solvents such as Varsol are used to remove grease and oil from engine components and other machinery. Waste solvents are temporarily stored in steel or plastic drums, fitted with stoppers. Waste solvents are placed into empty containers and hauled back to Rowe's mechanical shop facility in Fort Simpson who deal with this bi-product in waste containers and dispose of it accordingly to the regulatory requirements.

4.6 Waste Batteries

Deposition of waste batteries is not applicable to the quarrying operations and no bi-products will be encountered.

4.7 Tires

The work site at the quarry is not equipped to change tires on site. This type of work is handled by Rowe's mechanical facility in Fort Simpson. For the purposes of this project, used tires are not a waste that is generated on site.

4.8 Hydrocarbon Contaminated Absorbents

Oily rags from the maintenance shops, and used spill response materials, such as fiber pads or granular absorbents ('Floor Dry') are placed in steel drums and temporarily stored at the Hydrocarbon Storage Site. Accumulated contaminated absorbents are sent to an approved recycling facility for disposal.

4.9 Polychlorinated Biphenyls (PCB's)

No PCB's will be encountered for the purpose of this project.

4.10 Radioactive Materials

There will be no radioactive substances on site and there is no reason to believe that any will be encountered during the full disposition of this project.

4.11 Explosives

No explosive products will be used for the duration of this project.

4.12 Medical Wastes

Deposition of medical wastes is not applicable to the quarrying operations and no bi-products will be encountered.

4.13 Animal Carcasses

Deposition of animal carcasses or any portion thereof; if a dead animal or a carcass is encountered, the process involves notifying ENR at the community level to deal with it.

4.14 Asbestos

Deposition of asbestos wastes is not applicable to the quarrying operations and no bi-products will be encountered.

4.15 Potable Water and Sewage

Potable water for the proposed 15-20 man camp will be trucked in from the water treatment facility from the Village of Fort Simpson. The camp will be equipped with washroom facilities, fresh water and sewage storage tanks.

It is expected that a camp will be utilized on an as needed basis. Sewage or 'gray water' will be stored in appropriate holding tanks and trucked to the sewage treatment plant located in the Village of Fort Simpson.

4.16 Other Unacceptable Wastes

Deposition of the following wastes in either the hazardous waste disposal site or the non-hazardous waste disposal site at quarry site is prohibited:

- Car and truck bodies
- Empty fuel drums
- Oily wastes or wastes with hydrocarbon odors
- Vacuum truck wastes