

# KER, PRIESTMAN & ASSOCIATES LTD.

*consulting engineers*

300 - 2659 Douglas Street, Victoria, B.C. V8T 4M3  
Telephone (604) 388-6616

LWMC - 44DC 16/08  
**OFFICE OF THE CONTROLLER  
NORTHWEST TERRITORIES  
WATER BOARD**

**AUG 5 1980**

**YELLOWKNIFE N.W.T.**

*Principals*

W. Allan Ker  
B.A.Sc., P. Eng.

D.J. Pennington  
B.Sc., P. Eng.

*Associates*

H.G. Harris  
M.Sc., P. Eng.

A.A. Day  
M.Sc., P. Eng.

W.B. German  
B.A.Sc., P. Eng.

N.I. Guild  
B.Sc., P. Eng.

G.S. Prince  
B.A.Sc., P. Eng.

*Consultant*

A.B. Sanderson  
B.A.Sc., P. Eng.

43+1

30 July, 1980

Our File: 1561

**N3L3 0932**

Department of Indian and  
Northern Affairs  
P. O. Box 1500  
Yellowknife, N.W.T.  
X1A 2R3

Attention: Mr. A. J. Cullen, P. Eng.  
Controller, Inland Waters,  
Water Resources

Dear Sirs:

Application for Water Licence  
Cadillac Explorations Limited  
Prairie Creek, N.W.T.

We are pleased to submit, on behalf of Cadillac Explorations Limited, a water licence application relative to the extraction of water from Prairie Creek and/or groundwater for domestic and industrial usage. It will be noted that certain information (including the Mining Questionnaire) has been omitted from the application; this information will be supplied as soon as it becomes available.

We are also enclosing an authorization form designating Ker, Priestman & Associates Ltd. as agents for Cadillac Explorations Limited concerning the application. Therefore, we would be obliged if all correspondence could be sent to K.P.A., with copies, as necessary, to Cadillac Explorations Limited.

Yours very truly,

KER, PRIESTMAN & ASSOCIATES LTD.

N. I. Guild, P. Eng.  
Manager, Water Resources & Mining  
Development Division

NIG/b1

cc: L. C. Morrisroe, Cadillac Explorations Limited  
H. Beattie, P. Eng., Kilborn Engineering Ltd.  
H. Brodie Hicks, P. Eng., Brodie Hicks Engineering Ltd.

**Schedule II**

 **Department of Indian and Northern Affairs**  
**WATER, FORESTS AND LAND DIVISION**

**Application for Licence, Amendment of Licence or Renewal of Licence**

No. <b>OFFICE OF THE CONTROLLER                  NORTHWEST TERRITORIES                  WATER BOARD</b>  <b>AUG 5 1980</b>
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NOTE: if insufficient space, attach sheets

**YELLOWKNIFE, N.W.T.**

<b>1. Name &amp; Mailing Address</b> Cadillac Explorations Limited Suite 920, Lancaster Building 304 - 8th Avenue S. W. Calgary, Alberta T2P 1C2	<b>2. Address of Head Office in Canada if incorporated</b>  Not Applicable. <div style="text-align: right; font-size: 1.2em; font-weight: bold;">'N3L3 0932</div>
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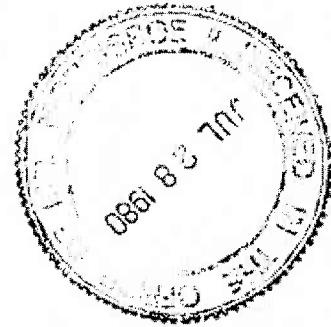
**3. LOCATION OF UNDERTAKING** — describe and attach map naming river, creek, lake, spring or ground water reservoir  
 Lat. 61°33'N., Long. 124°48'W. (approx.) on the east bank of Prairie Creek, 27 miles upstream from its confluence with the South Nahanni River, N.W.T. (See attached Fig. 1 and 2.)

**4. NATURE OF UNDERTAKING** — describe and attach plans  
 Extraction of water from Prairie Creek and/or groundwater for use in a mine, camp and flotation mill processing lead, zinc, copper, silver ore. Domestic wastewater will be treated in a secondary sewage treatment plant and process wastewater will be discharged to a tailings impoundment with supernatant recycle. Plans to follow when available. (See attached Fig. 3)

<b>5. PURPOSE OF UNDERTAKING</b> a) To obtain water <input checked="" type="checkbox"/> b) To divert water <input type="checkbox"/> c) To store water <input type="checkbox"/> d) To alter the flow of water <input type="checkbox"/> e) To return the flow of water <input type="checkbox"/> f) Other (specify) <input type="checkbox"/>	<b>6. WATER USE CLASSIFICATION</b> a) Agriculture <input type="checkbox"/> b) Conservation <input type="checkbox"/> c) Industrial <input checked="" type="checkbox"/> d) Municipal <input type="checkbox"/> e) Power <input type="checkbox"/> f) Water Engineering <input type="checkbox"/> g) Storage <input type="checkbox"/> h) Recreation <input type="checkbox"/>
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<b>7. QUANTITY OF WATER INVOLVED</b> — (cubic feet per second, gallons per day, acre feet per year)	<b>8. QUALITY OF RETURNED WATER</b> a) Unaltered b) Altered (specify)  - details to follow when available
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Dept. of Indian and Northern Affairs  
P. O. Box 1500  
Yellowknife, N.W.T.  
X1A 2R3



Attention: Mr. A. J. Cullen, P. Eng.  
Controller  
Inland Waters, Water Resources

Dear Sirs:

Application for Water Licence  
Cadillac Explorations Limited  
Prairie Creek, N.W.T.

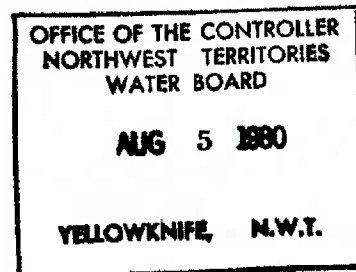
Please be advised that the firm of Ker, Priestman & Associates Ltd., has been retained by Cadillac Explorations Limited to act on its behalf with respect to the subject application.

Yours very truly,

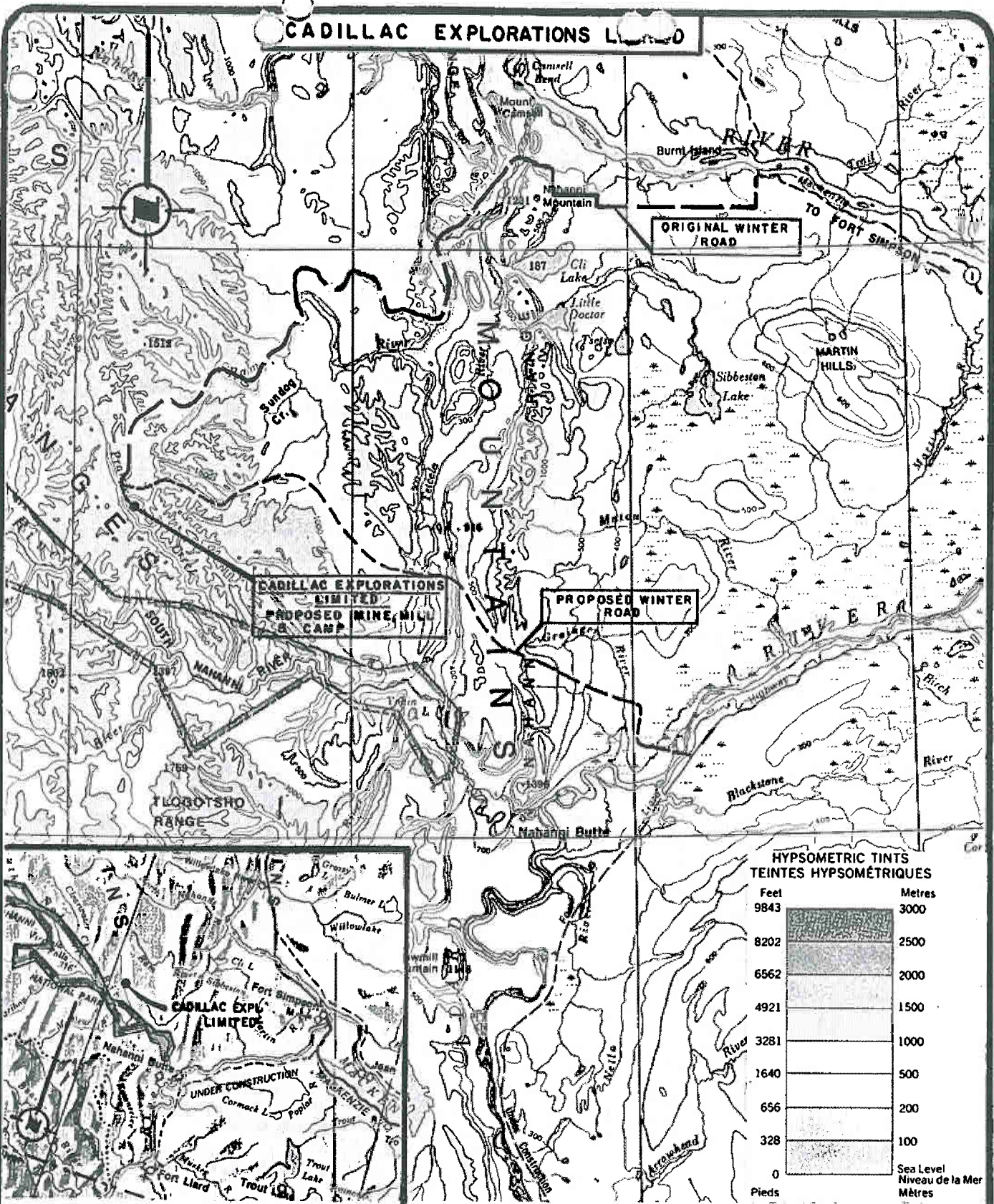
July 28-1980  
Date

L. C. Morrisroe  
L. C. Morrisroe  
President  
Cadillac Explorations Limited

N3L3 0932



# CADILLAC EXPLORATIONS LIMITED



**HYPSONETRIC TINTS**  
**TEINTES HYPSONETRIQUES**

Feet	Metres
9843	3000
8202	2500
6562	2000
4921	1500
3281	1000
1640	500
656	200
328	100
0	Sea Level Niveau de la Mer
Pieds	Mètres

0 50 100 Miles

0 10 20 30 Miles

(CONTOURS IN METRES)

**KEY**

OFFICE OF THE CONTROLLER  
NORTHWEST TERRITORIES  
WATER BOARD

**LOCATION PLAN**

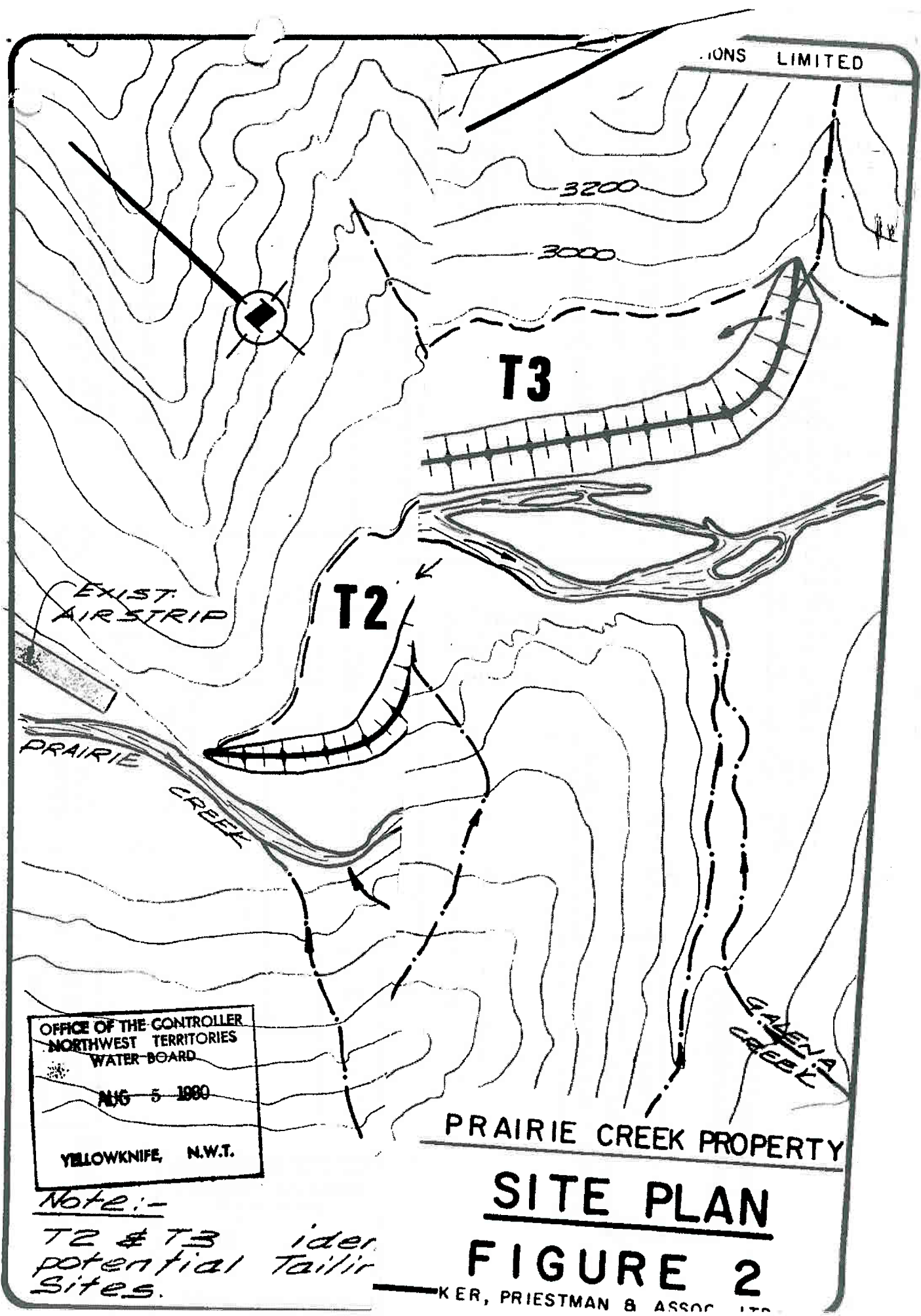
AUG 5 1960  
INSL 3

0932

**FIGURE 1**

VANICAL - 25988

KOR, ORIENTMAN & ASSOCIATES LTD



OFFICE OF THE CONTROLLER  
 NORTHWEST TERRITORIES  
 WATER BOARD  
 AUG 5 1980  
 YELLOWKNIFE, N.W.T.

*Note:-*  
 T2 & T3 *potential Tailing Sites.*

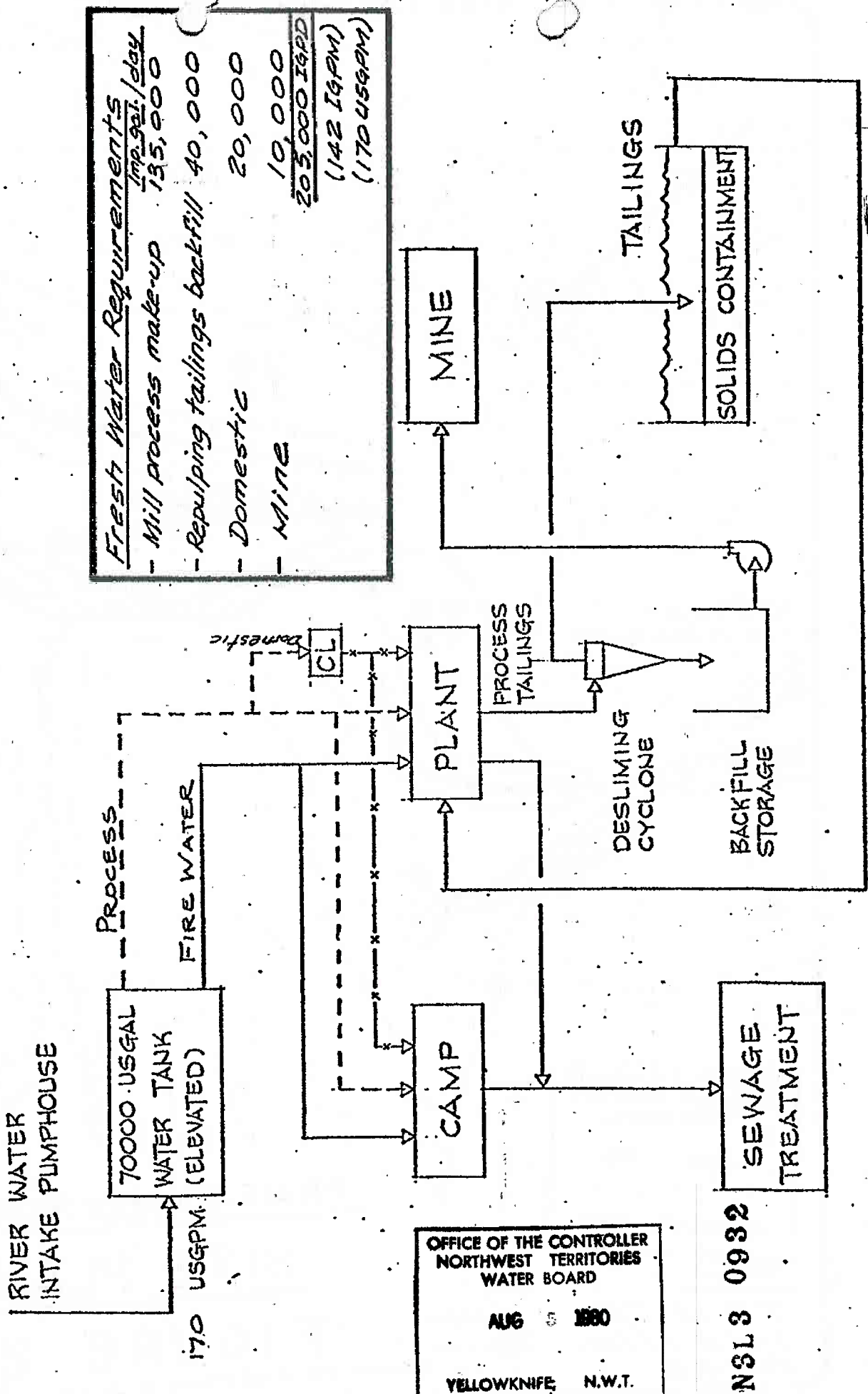
PRAIRIE CREEK PROPERTY

**SITE PLAN**

**FIGURE 2**

# CADILLAC EXPLORATIONS LIMITED

## WATER SUPPLY & DISTRIBUTION



OFFICE OF THE CONTROLLER  
NORTHWEST TERRITORIES  
WATER BOARD

AUG 6 1980

YELLOWKNIFE, N.W.T.

NSL 3 0932

FIGURE 3

CZN-12/108

0930

43-2

AC  
NE  
D. Sten  
W. Board  
S. M. V.  
J. Harper  
J. Hoff  
(2) T. P.  
file

### CADILLAC EXPLORATIONS LIMITED

920-304-8th Avenue S.W., Calgary, Alberta T2P 1C2 Telephone (403) 264-5392 Telex 03-821084

November 21, 1981

Department of Indian and Northern Affairs  
Controller of Water Rights  
P.O. Box 1500  
Yellowknife, N.W.T.  
X1A 2R3

Department of Indian &  
Northern Affairs  
Northern Operations Branch  
NOV 27 1981  
WATER MANAGEMENT  
YELLOWKNIFE, N.W.T.

Attention: A. J. Cullen

Dear Sir:

Cadillac request Land Use Permits to make their operations function properly in an ordinary way at Prairie Creek, find enclosed maps 1-10,000 as requested plus reports.

- (a) UP grade road, so it can be used year round from camp at Prairie Creek, north & east over pass for a distance of twenty five miles to Sun Day Flats, point of proposed Airport outlined on enclosed report and maps.
- (b) Build new Airstrip 5500 to 6000 feet long on Sun Day Flats as outlined on enclosed report and maps.
- (c) Put in two permanent bridges over Prairie Creek, and build road two miles south of camp on the east side of Prairie Creek.

The purpose of this road and bridges are to be used for further exploration work on zone 6,7,8,9,10,11,and 12 and in the future this road will be used to haul ore from these zones to the mill and crushing plant which is now being erected at zone 3.

we would appreciate the said permits as soon as possible in 1982, so materials such as Culberts, Bridge materials etc. can be brought in on the winter road. At this time we all know the importance of safety of a new airport and proper road to transport people back and forth. I will dwell on this subject further as this is outlined in the enclosed report.

Yours truly,

CADILLAC EXPLORATIONS LIMITED

*Lawrence C. Morrisroe*  
Lawrence C. Morrisroe  
Chairman of the Board

Enclosed

copy on file



Indian and Northern Affairs

Affaires indiennes et du Nord

P.O. Box 1500  
Yellowknife, N.W.T.  
X1A 2R3

*file*  
*0872/3*

April 14, 1980

*To File*  
*APC*

Cadillac Explorations Limited,  
Suite 920,  
Lancaster Building,  
304 - 8th Avenue, S.W.,  
CALGARY, Alberta  
T2P 1C2

Your file *Voire référence*

Our file *Notre référence* N80D248

ATTENTION: L.C. Morrisroe  
President

Dear Sir:

Enclosed is your Land Use Permit N80D248 for your proposed Mining exploration and development project at Prairie Creek as requested in your application dated March 4, 1980.

Yours truly,

A.E. Ganske  
Regional Manager,  
Land Resources

cc: Dist. Manager - Ft. Simpson  
R.M.O. - Fort Liard  
L.U.A.C.  
David H. Searle  
H. Brodie Hicks

CORMIER/ad

*same*

*re 0872/3*

Department of Indian &  
Northern Affairs  
Northern Operations Branch  
APR 16 1980  
WATER MANAGEMENT  
YELLOWKNIFE, N.W.T.





Indian and Northern  
Affairs Canada

Affaires indiennes  
et du Nord Canada

CZN - Dec 12/08  
INA - Dec 16/08  
RFR 43-3

Northern Affairs Program,  
P.O. Box 150,  
Fort Simpson, N.W.T.  
XOE ONO

Your file    Votre référence

Our file    Notre référence

N3L3-0932

September 30, 1992

J.E. Marshall,  
Nanisivik Project Manager,  
Procan Exploration Co. Ltd.,  
c/o Strathcona Mineral Services Ltd.,  
12th Floor, 20 Toronto Street,  
Toronto, Ont. M5C 2B8

Re: Inspection of Prairie Creek Minesite June 30, 1992

Please find enclosed an Inspection Report carried out on the above noted site by Mr. Murray Swyripa. Mr. Swyripa was accompanied by Messrs. Davidson and Madson, as well as your representatives Mr. and Mrs. Potvin. Kindly accept my apologies for the tardiness of this report.

We sincerely appreciate your prompt response to the items that required your action as a result of last year's inspection and note that all were carried out to the Inspector's satisfaction. You will note the high zinc reading on the laboratory result from the water samples taken at the 2850 portal discharge. This situation will be monitored very closely as we are unable to determine the reason for these high numbers. The Inspector has again made reference to the discoloration on the east bank of Prairie Creek just upstream of Harrison Creek. Samples taken indicate that this is the result of a fuel spill sometime in the past. The results of these analyses will be carefully reviewed and recommendations will be forthcoming.

If you have any information to assist us in determining why the high zinc numbers at the lower portal and details of the spill near Harrison Creek, we would be grateful.

I would like, on behalf of our Department, to take this opportunity to thank your Mr. and Mrs. Potvin for their kind hospitality and assistance in providing our Inspectors with transportation and information. Mr. Potvin has done a lot of work on our behalf and this is appreciated very much. I'm sorry I missed you in Fort Simpson last week, and I thank you very kindly for dropping in to our office. Hopefully we can co-ordinate something, someday soon as to the situation of the tanks near the Grainger Pass and the floodplain.

...../2

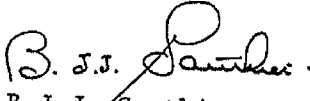
Canada

N3L3-0932  
Inspection - June 30/92

...../2

Next year, we hope to have original photos for your copy of the Report; in the interim, please accept my apologies for the xeroxed copies.

Yours truly,

  
B.J.J. Gauthier,  
District Manager

encls:

cc: F.N. Adlem, c/w encls.  
M. Swyripa  
~~Eric Madson, c/w encls.~~  
Eric Madson, c/w encls.  
Supt., NNP, c/w encls.

BJJG/fcm

*INSPECTION REPORT  
ON  
THE PRAIRIE CREEK MINESITE  
PRAIRIE CREEK, N.W.T.*

*by*

*MURRAY W. SWYRIPA  
WATER RESOURCE OFFICER*

*NORTHERN AFFAIRS PROGRAM  
INDIAN AND NORTHERN AFFAIRS CANADA  
FORT SIMPSON, N.W.T.*

*DATE: JUNE 30, 1992  
WATER REGISTER: EXPIRED*

*PRAIRIE CREEK MINESITE  
UNLICENSED WATER INSPECTION  
JUNE 30, 1992*

**INTRODUCTION**

An inspection of the Prairie Creek minesite's water supply, waste disposal and fuel and chemical storage facilities was conducted on June 30, 1992 by Murray W. Swyripa, Water Resource Officer and Scott Davidson, Resource Management Officer for the Department of Indian and Northern Affairs in Fort Simpson, and Eric Madsen, Industrial Co-ordinator for the Water Resources Division in Yellowknife. Mr Roger Potvin, property caretaker, assisted the inspectors and provided pertinent information regarding the minesite and its facilities.

Cadillac Exploration initially received a Water Licence ( N3L3-0932 expired June 30, 1986 ) for industrial use in mining and milling process on July 01, 1982, shortly there after Procan Exploration Company took over as operator of the property. The mine has been inactive since 1983; effective November 01, 1990, Procan Exploration Company became a wholly owned subsidiary of Nanisivik Mines with Strathcona Mineral Services Ltd. acting as managers.

**INSPECTION**

***A. Water Supply***

Since there is currently no active mining being performed on site, the only water currently being used is strictly for domestic purposes. This consists of water being pumped straight from Prairie Creek to supply one residence (2-3 people), this water is not treated, nor is amount used metered ( Mr. Potvin estimates approximately 500 gallons per week).

*B. Sewage Discharge*

Camp trailers and buildings are no longer in use due to the mine shut down, as mentioned, the caretakers is the only residence operational at this time. All sewage and greywater is discharged via underground pipe and deposited into the tailings pond, this material is not metered nor treated. It should be noted that at the time of inspection a small drilling program was in progress with approximatley 4-8 men staying on site.

*C. Solid Waste Disposal*

All solid waste generated is separated and combustible material is firstly burnt in a incinerator, then deposited into the garbage dump (south end of the minesite). Non-combustible waste is hauled to the garbage dump and backfilled when required, this site was in satisfactory condition at the time of inspection. Previous inpection (1991) had made note of various amounts of non-combustibles strewn about a small drainage below the 3170' portole, this material has now been cleaned with the material stacked in a satisfactory condition

*D. Fuel Storage*

All fuel storage facilities were well bermed and enclosed in impermeable dykes; there was no evidence of spills or leakage at any of the sites, although there was a small amount of ponded water within the berm (see photo two). Other fuels, including lubricating oils and propane , are all stored in a satisfactory manner.

*E. Chemicals / Hazardous Material Storage*

Reagent storage and powder magazine areas are fully satisfactory with the method of storage, protection and location satisfactory (see photo one). All materials are stored in locations as noted on surface plan and quantities as listed (Schedule A - list of Class A Materials). The one exception to this is the acid storage building, this storage building contains various amounts of acids and other compounds (Hydrochloric Acid, Ammonium Hydroxide, Hydrofluoric Acid, Phosphoric Acid, Hydrogen Nitrate, Potassium Iodide). This is a metal enclosed building and is reasonably secure, with previously spilled material cleaned up and in satisfactory condition.

*F. Tailings Containment*

The tailings pond appears to be stable with no apparent leaks or breaches. There are signs of slumping around the pond, the Hypalon liner has become separated with the southern bank of the tailings pond being the worst area. The pond has over 2.5 meters of freeboard.

The dyke between the minesite and Prairie Creek has experienced little or no damage from run off or slumping. All mine water discharge and surface drainage is directed into the settlement ponds.

*G. Ore Storage*

The ore storage area has been in place since 1983 with what appears to be no visible disturbance. It should be noted that a slight brown discoloration on the banks of Prairie Creek was observed just upstream from the former SNP site #932-6 (see photo three) , this is adjacent to the ore storage area.

#### *H. Sampling Sites*

The following water samples were taken at points established from the old Surveillance Network Program;

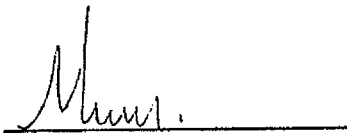
- i) 932-4 - Final discharge point from tailings pond.
- ii) 932-6 - Prairie Creek at the confluence of Galena Creek.
- iii) 932-7 - Prairie Creek upstream of the airstrip.
- iv) 932-9 - Discharge from 2850' portal (photo four).

See attached laboratory results and note extremely high zinc content from sample 932-9.


#### **CONCLUSION**

The Prairie Creek mine site because of its status, that of being stagnant, operations remain unchanged and all berms and dykes continuing to be stable and reliable. The operator is to be thanked for their efforts in dealing with the previous years outstanding issues. The Inspector would also like to make note of the high zinc reading (15,000 ug/l) in the sample taken from the discharge from portal 2850' and suggest further monitoring of this situation.

The Inspector(s) would like to thank Mr. Potvin and his wife for their assistance and hospitality during the inspection.



Murray W. Swyripa  
Inspector Under the  
Northern Inland Waters Act



PRAIRIE CREEK MINESITE  
UNLICENSED MINE INSPECTION  
AUGUST 07, 1991

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***APPENDIX I***  
***PHOTOGRAPHS***



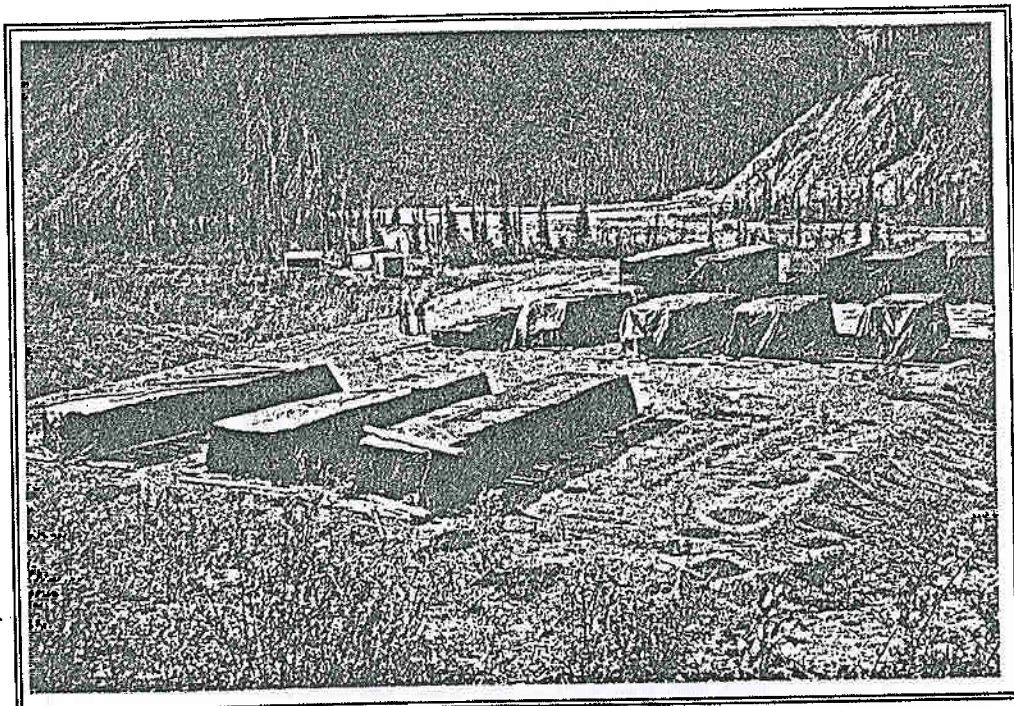


Photo one: Chemical and Reagent Storage Facility

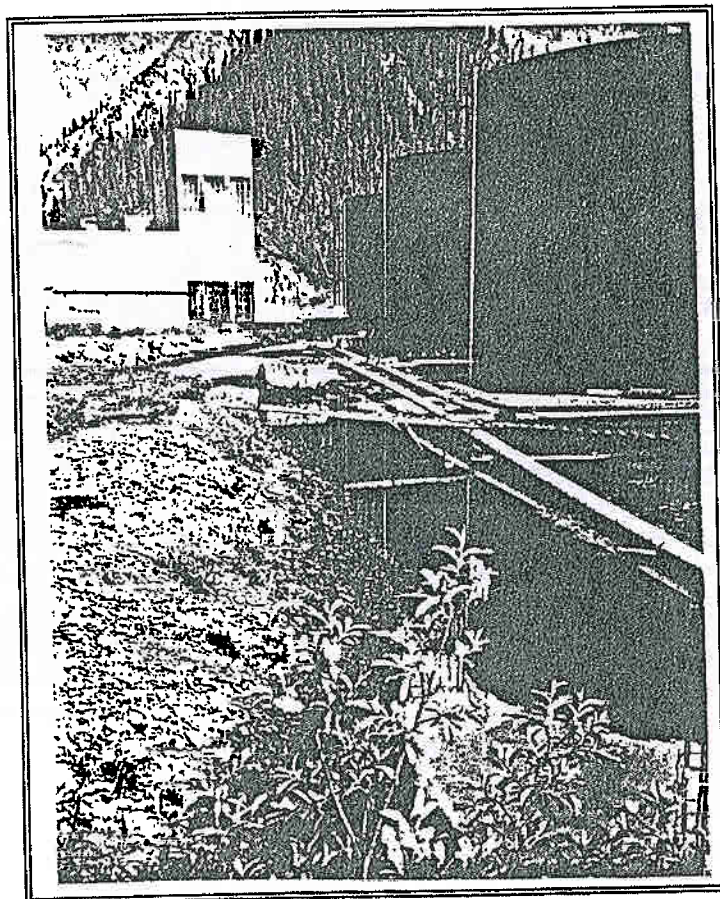


Photo two: Prairie Creek Fuel Storage

\* note ponded water

Photos taken July 20, 1991  
by M.W. Swyripa

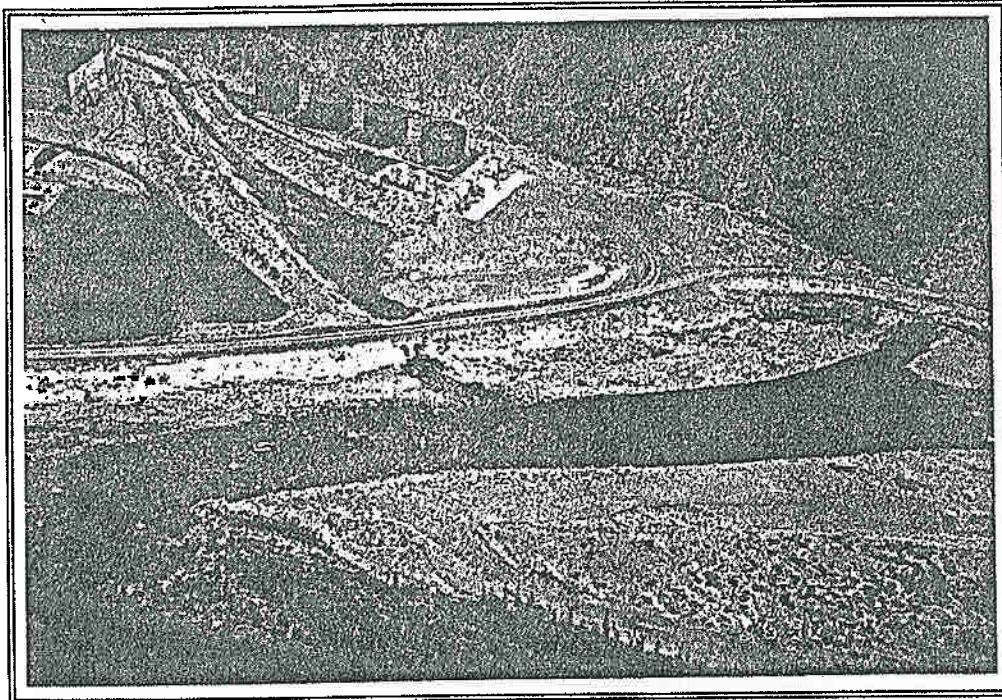


Photo three: Brown Discoloration on Banks of Prairie Creek

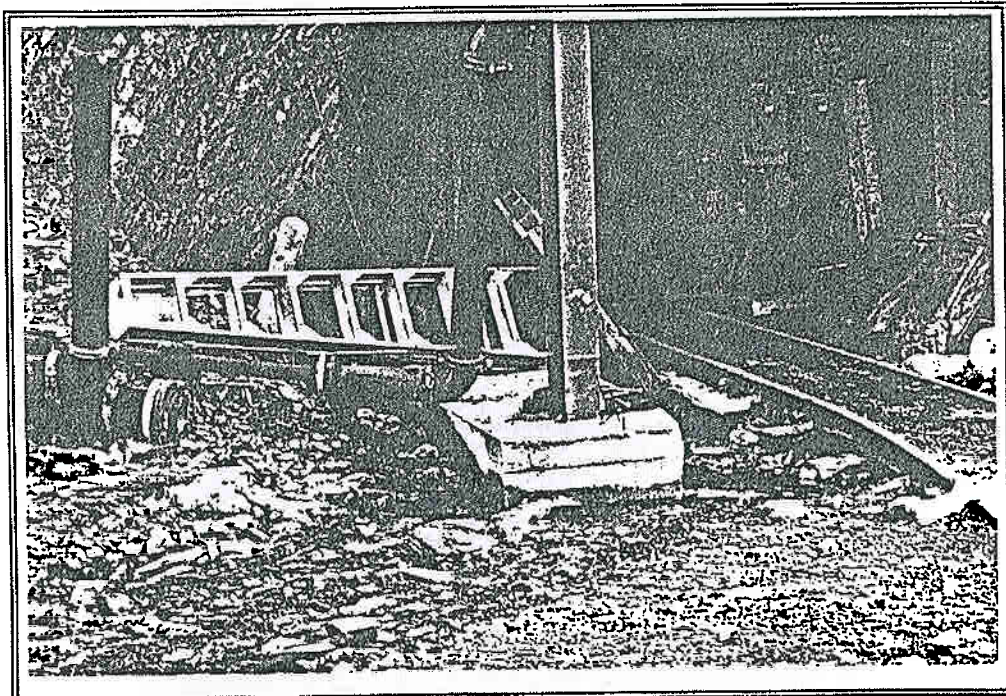


Photo four: Discharge From Portal 2850'

Photos taken June 30, 1992  
by M.W. Swyripa

PRAIRIE CREEK MINESITE  
UNLICENSED MINE INSPECTION  
AUGUST 07, 1991

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***APPENDIX II***

***LIST OF CLASS "A" MATERIALS***

***LIST OF CLASS "A" MATERIALS LOCATED ON THE PRAIRIE CREEK MINESITE***

CHEMICALS

QUANTITY

Copper Sulphate	196 pallets
Sodium Isopropyl Xanthate	84 pallets
M.I.B.C.	4 pallets
Dowfroth	4 pallets
Sodium Cyanide	94 pallets
Contaminated Gravel	6-45 gallon drums
Methanol	1 pallet

PETROLEUM PRODUCTS

Diesel Fuel	bulk
Lubricating Oil	bulk, drums and pails
Gasoline	bulk
Aviation Fuel	drums
Jet B	drums
Used Lube Oil	bulk and drums
Grease	pails
Propane	bulk

EXPLOSIVES

Cilgel

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PRAIRIE CREEK MINESITE  
UNLICENSED MINE INSPECTION  
AUGUST 07, 1991

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***APPENDIX III***  
***LABORATORY RESULTS***

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT  
 WATER RESOURCES DIVISION, YELLOWKNIFE, NORTHWEST TERRITORIES  
 RESULTS OF LABORATORY ANALYSIS

LICENCE PROJECT	Cadillac Exploration				LICENCE NUMBER	Expired June 1986 NIL3-0932		LOCATION	Prairie Creek	
DATE SAMPLED	June 30/92				DATE RECEIVED	July 2/92		DATE COMPLETED	August	
STATION NUMBER	932-4	932-6	932-7	932-9	OL	SEPP.				
LABORATORY NUMBER	920493	920494	920495	920496	920497					
ANALYSIS REQUIRED										
pH (units)	8.34	7.96	8.06	7.86	July 2/92	ML				
Conductivity (umho/cm)	850	560	360	950	July 2/92	ML				
Dissolved Oxygen										
Turbidity (NTU)										
Colour (colour U.)										
Suspended Solids	13	13	3	13	July 6/92	ML				
TDS, Residue	226	393	222	730	July 6/92	ML				
Calcium	30.6	68.3	47.8	12.7						
Magnesium	17.2	35.3	18.7	58.3	July 14/92	ML				
Tot. Hardness (CaCO <sub>3</sub> )	147	316	196	557						
Tot. Alkalinity (CaCO <sub>3</sub> )	117	192	165	248	July 14/92	ML				
Sodium										
Potassium										
Chloride										
Sulphate										
Total Coliform (count)										
Fecal Coli. (100)										
Fecal Strep. (ml)										
Std. Plate Cnt (cnt/ml)										
BOD <sub>5</sub>										
COD										
Carbon, IC										
Carbon, TOC										
Ammonia Nitrogen (as Nitrate + Nitrite)										
Total Kjeldahl N (N)										
Phosphorus O-P (as Phosphorus Tot. P)										
Silica Reac. (as SiO <sub>2</sub> )										
Total Cyanide										
Available Cyanide (WAD)										
Sulphide										
Oil & Grease										
Phenols										
Arsenic	T (ug/L)	10.2	0.5	10.2	0.8	July 21/92		ML		
	D (ug/L)									
Cadmium	T (ug/L)	10.2	0.2	10.2	75					
	D (ug/L)									
Copper	T (ug/L)	4	3	2	98					
	D (ug/L)									
Iron	T (ug/L)	73	23	37	48					
	D (ug/L)									
Lead	T (ug/L)	11	7	11	27					
	D (ug/L)									
Mercury	T (ug/L)									
	D (ug/L)									
Nickel	T (ug/L)	1	1	1	17					
	D (ug/L)									
Zinc	T (ug/L)	20	167	6	15,200	July 21/92		ML		
	D (ug/L)									
Chromium	T (ug/L)	2	1	2	10					
	D (ug/L)									
Cobalt	T (ug/L)	5	8	5	110					
	D (ug/L)									

DEPT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT  
 WATER RESOURCES DIVISION  
 YELLOWKNIFE  
 SEP 2 1992