

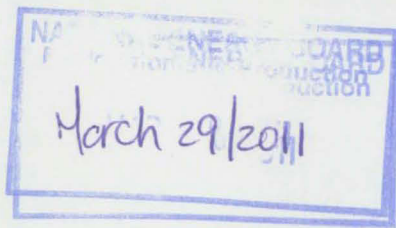


Para et al Cameron E-52  
60°10'117°15'

Approval to Alter the Condition of a  
Well Application

Cameron Hills - Winter 2011

Prepared by:  
Brad Scott  
March 2011



NEB COPY

## FILE COPY

1

**Approval to Alter the  
Condition of a Well  
Application Form**

2

**Wellbore Diagram**

3

**Well Operations Program**

4

**Land Use Permit**

5

**Water License**





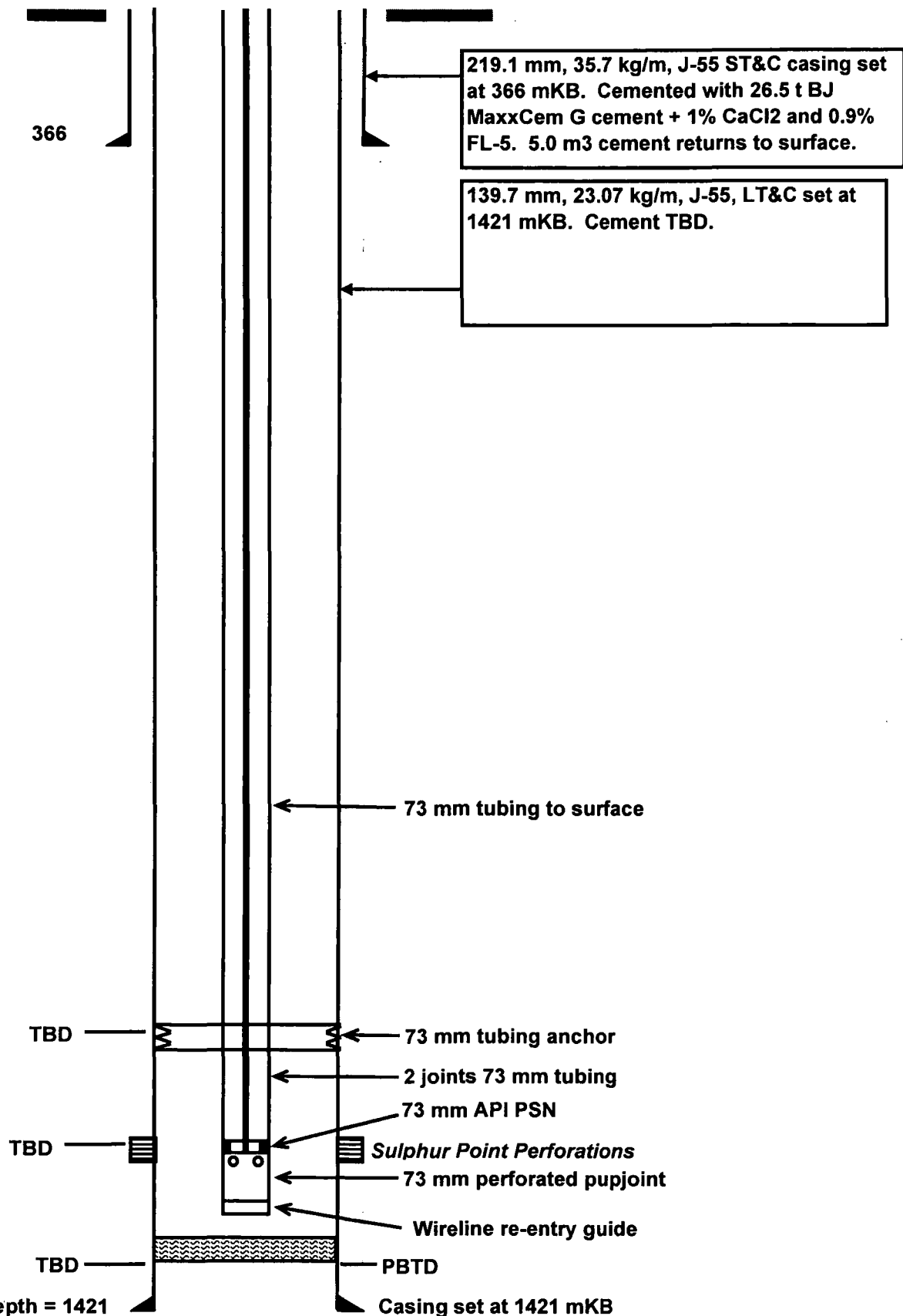
# PARAMOUNT ET AL CAMERON E-52

60° 10' N, 117° 15' W

WID: 2074

Bottom Hole Diagram (Proposed Completion, March 2011)

KB: 748.76 m  
GL: 744.16 m







# **COMPLETION PROGRAM**

**PARA et al CAMERON E-52**

**AREA 60<sup>0</sup> 10' 117<sup>0</sup> 15'**

**WID:**

**2074**

**UWI:**

**300E526010117150**

**Prepared By: Brad Scott**

**March 25, 2011**

## WELL INFORMATION:

Well Name: Para et al Cameron E-52  
Area: 60° 10' N, 117° 15' W  
Location: Surface: Latitude: 60° 01' 26.0"  
Longitude: 117° 25' 53.3"  
Bottomhole: Latitude: 60° 01' 26.0"  
Longitude: 117° 25' 53.3"  
UWI: 300E526010117151  
WID: 2074  
ADW Received: Jan. 20, 2011  
Spud Date: Feb. 6, 2011  
Rig Release Date: TBD  
Well Status: Currently being drilled

KB Elevation: 748.76 m  
Ground Elevation: 744.16 m  
PBD: TBD  
TD: 1421 mKB

Surface Hole: 311 mm to 368 mKB  
Surface Casing: 219.1 mm, 35.7 kg/m, J-55, ST&C set at 366.7 mKB. Cemented with 26.5 t BJ MaxxCem G cement plus 1% CaCl<sub>2</sub> and 0.9% FL-5. 5 m<sup>3</sup> cement returns to surface.

Main Hole: 200 mm to 1421 mKB  
Production Casing: TBD

Cores: None

DST's: None.

**Proposed Perfs: Sulphur Point Dolomite: TBD from logs**

Estimated BHP: Approximately 9800 kPa  
H<sub>2</sub>S Content: Maximum 3.4%.



**PROJECT OVERVIEW:**

Add Sulphur Point perforations and stimulate with selective acid treatment, swab and evaluate.

**SAFETY: REFER TO THE AREA “EMERGENCY RESPONSE PLAN”**

All operations are to be carried out in accordance with government regulations and recognized safety procedures. Operations are to be conducted in a manner that results in the greatest degree of protection possible for the public, on-site personnel and the environment.

Service Rig Manager and Wellsite Supervisor are to have valid Enform “Well Service Blowout Prevention” and “H2S alive” certificate on site.

***THIS WELL IS EXPECTED TO ENCOUNTER H<sub>2</sub>S.*****BOP EQUIPMENT:**

Use a 179 mm 21 MPa sour service BOP complete with blind rams, pipe rams, and annular to meet NEB requirements. Function test and pressure test BOP's to 14 MPa and 1500 kPa. The maximum allowable 15 minute pressure decline is 700 kPa for the 14 MPa test and 75 kPa for the 1500 kPa test.

Ensure rams will close on 73 mm tubing.

**RECORD KEEPING:**

Show on daily reports a complete inventory of all fluids hauled to and away from wellsite including manifest and ticket numbers for all fluid hauling. Keep a detailed record of all load fluid on the daily reports. Fill out material transfer forms for all equipment transferred to and from the lease.

## COMPLETION PROCEDURE

1. Move in and RUSR c/w pump and clean tank. Rig up safety equipment. Rig up P-tank, flow line, and flare system for flow back of gas and liquids.
2. Rig in pump and lines, pressure test to 14MPa, stump test BOPs to 1.4MPa and 14MPa for 10min each.
3. Remove the wellhead and install function and pressure tested BOPs.
4. Move on e-line, make up and run in hole with 120mm gauge ring to PBTD, tag and record, pull out of hole.
5. Make up and run in hole with 3.5m 101.6mm ERHSC, 36gr, 17spm, 60deg. Log into position and perforate Sulphur Point from TBD by logs, pull to surface.
6. Make up and run in hole with 3.5m 101.6mm ERHSC, 36gr, 17spm, 60deg. Log into position and perforate Sulphur Point from TBD by logs, pull to surface. Monitor for pressure gain or fluid loss during perf operations.
7. Make up and run in hole with selective acid tool string on 73mm tubing c/w wash valve, 2.0m cup spacing and swab packer. Land wash valve below perforations.
8. Perform acid wash, squeeze as per ----- proposal # ----- (wash interval with 0.5m<sup>3</sup> followed by 1.0m<sup>3</sup> per 2m of interval).
9. Pull tubing and set swab packer with intake above all perforations.
10. Swab and evaluate to P-tank. Confirm with Calgary the duration of test and flow rate limitations, choke size to remain constant during test.
11. Once satisfactory results have been obtained, kill well, pull and retrieve selective acid tools and swab packer.
12. Run final tubing configuration.
13. Remove BOPs and install pumping style wellhead and pressure test, rig in rod handling equipment.
14. Run BHP and rod string, once seated, pressure test to 5MPa. Install horsehead and bridle, clamp polish rod 13" off tap.
15. Rig out service rig, clean location of all surplus material and garbage prior to move.
16. Turn well over to production operations.

**PERSONNEL & EMERGENCY CONTACTS**

	<b>OFFICE</b>	<b>CELLULAR</b>	<b>RESIDENCE</b>	<b>BUS. FAX</b>
<b>COMPLETION</b>				
Lionel Larson	290-3626	358-4526		
Andre Poitras	206-3895	863-9796	217-6703	266-6032
<b>GEOLOGIST</b>				
Llew Williams	206-3837	870-8949		290-3614
<b>COMPLETION SUPERVISOR</b>				
Milo Christie		(403) 952-9163		
<b>AREA COO</b>				
Lloyd Doyle	290-3673	620-8303	254-8334	266-6032
<b>LAND OCCUPANT</b>				
<b>CROWN</b>				



## NEB Contacts for COGO Act-regulated Work or Activities

### **INCIDENT PHONE NUMBERS**

\* Hazardous occurrences (under Part XVI of the *Canada Oil and Gas Occupational Safety and Health Regulations*) and incidents requiring medical evacuation are to be reported to the NEB immediately.

**NEB 24-hour Incident Cell: (403) 807-9473**

**NWT/Nunavut Spill Line Phone: (867) 920-8130**

**NWT/Nunavut Spill Line Fax: (867) 873-6924**

**Transportation Safety Board Hotline: (819) 997-7887**

<b>NEB Operations Staff</b>	<b>Internet</b>	<b>Telephone Numbers</b>
<b>Karen Duckworth</b> Operations Specialist Safety & Conservation Officer	<a href="mailto:karen.duckworth@neb-one.gc.ca">karen.duckworth@neb-one.gc.ca</a>	Work: (403) 299-3669 Cell: (403) 710-8254
<b>Rick Turner</b> Operations Specialist Safety & Conservation Officer	<a href="mailto:rick.turner@neb-one.gc.ca">rick.turner@neb-one.gc.ca</a>	Work: (403) 299-3868 Cell: (403) 540-3754
<b>Gary Woo</b> Acting Team Leader Conservation of Resources	<a href="mailto:gary.woo@neb-one.gc.ca">gary.woo@neb-one.gc.ca</a>	Work: (403) 299-3143 Cell: (403) 629-6148
<b>Environment and Spill Reporting</b>	<b>Internet</b>	<b>Telephone Numbers</b>
<b>John Korec</b> Environmental Specialist Conservation Officer	<a href="mailto:john.korec@neb-one.gc.ca">john.korec@neb-one.gc.ca</a>	Work: (403) 292-6614 Cell: (403) 818-2403
<b>Christy Wickenheiser</b> Environmental Specialist	<a href="mailto:christy.wickenheiser@neb-one.gc.ca">christy.wickenheiser@neb-one.gc.ca</a>	Work: (403) 299-3869 Cell: (403) 809-9352
<b>Chief Conservation &amp; Safety Officers</b>	<b>Internet</b>	<b>Telephone Numbers</b>
<b>John McCarthy</b> Business Leader, Strategy and Analysis Chief Conservation Officer	<a href="mailto:john.mccarthy@neb-one.gc.ca">john.mccarthy@neb-one.gc.ca</a>	Work: (403) 299-3646 Cell: (403) 560-9443
<b>Brian Nesbitt</b> Technical Leader, Engineering Chief Safety Officer	<a href="mailto:brian.nesbitt@neb-one.gc.ca">brian.nesbitt@neb-one.gc.ca</a>	Work: (403) 299-2771 Cell: (403) 629-6362
<b>NEB OPERATIONS PHONE NUMBERS</b>	Main Office: <b>Operations Fax:</b> Alternate Fax:	(403) 292-4800 <b>(403) 292-5876</b> (403) 292-5875

**INDIAN AND NORTHERN AFFAIRS (INAC)**

Norm McCowan Hay River Office (867) 874-6994 - cell (867) 874-1271

**EMERGENCY PHONE NUMBERS**

**RCMP:** (867) 874-1111 Hay River, N.W.T.  
(780) 926-2226 High Level, Alberta

**HOSPITAL:** (867) 874-7100 Hay River, N.W.T.  
(780) 926-3791 High Level, Alberta

**AMBULANCE:** (867) 874-9333 Hay River, N.W.T.  
(780) 926-2545 High level, Alberta

**AIR AMBULANCE:** 1-800-661-3822 Northern Dispatch  
If airstrip is serviceable, call Northern Dispatch and they will dispatch  
the appropriate Air Ambulance.  
Airstrip Coordinates: 60° 08' N, 117° 34' W  
Airstrip Length: 1100 m (approximately)

**HELICOPTER:** Remote Helicopters Hay River (867) 874-6999  
Delta Helicopters High Level (780) 926-3848  
Canadian Helicopters High Level (780) 821-3259  
Highland Helicopters High Level (780) 926-3441

**FIRE DEPARTMENT:** (867) 874-2222 Hay River, N.W.T.  
(780) 926-3141 High Level, Alberta

**NAV CANADA :** 1-800-463-6377 (Edmonton Flight Service Center)  
Contact NAV Canada immediately in the event of a plane crash.

**NWT FOREST FIRE LINE:** 1-877-698-3473

**ALBERTA FOREST FIRE REPORTING:** (780) 310-FIRE (3473)

**POISON CENTER:** 1-800-332-1414

**AREA 'A' SPILL CO-OP Rainbow-Zama:** (780) 956-3852

**NWT 24 HOUR SPILL LINE:** (867) 920-8130

**SPILL REPORTING**

**Minor Spills:** Spills under 100 liters must be documented and e-mailed to John Korec of the NEB ([john.korec@neb-one.gc.ca](mailto:john.korec@neb-one.gc.ca)) and reported as a "near miss". Spills over 100 liters must be reported to the NWT 24 hour spill reporting line at (867) 920-8130.

**Major Spills:** Contact Area 'A' Spill Co-op Rainbow-Zama at (780) 956-3852 for assistance with containment and cleanup of any major spill.

## **GENERAL**

Full co-operation by field personnel is to be maintained with the NEB and other government agencies.

Under no circumstances will the possession and use of alcoholic beverages or illegal drugs be permitted on the wellsite or campsite.

Any accidents involving personnel are to be reported immediately to the Calgary Drilling Department. Access to the lease is to be restricted to authorized personnel only.

Safety meetings to discuss program are to be held prior to commencing well completion, perforating, stimulation and testing.

Material Transfers **MUST** be filled out on all tangible materials such as tubing. Note on the daily report when movement occurs. Tallies should be with "threads on" for inventory purposes.

Purchase order numbers are not used by Paramount.

Field tickets are to be completed in detail with the **Well Name and Number, A.F.E. No., and AFE Sub Item Number (i.e.: 9080-266 for Stimulation)** and details of the service work. Tickets are to be signed by the company representative and entered on daily cost log. (Note: Do not include GST on cost log)

All field tickets and copies of rental sheets must be submitted to the Calgary office weekly

**Invoices are to be mailed to:**

PARAMOUNT RESOURCES LIMITED  
#4700, 888-3<sup>rd</sup> Street S.W.  
Calgary, Alberta  
T2P 5C5

**ATTENTION: ACCOUNTS PAYABLE**







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

FILE NUMBER: MV2010A0051

Date: December 23, 2010  
To: Mr. Terence Hughes  
Organization: Paramount Resources Ltd.  
Fax: Sent Via email  
Copied To: Scott Stewart, A/District Manager, South Mackenzie District, INAC  
Distribution List  
From: Amanda for Willard Hagen, Chair

Number of pages including cover 14

**Remarks:**

Issuance – Type A Land Use Permit

If you have any questions please contact our office at  
(867) 669-0506 or email [permits@mv/wb.com](mailto:permits@mv/wb.com).

Thanks,

- ☒ Enclosures
- ☐ As requested
- ☐ For your information
- ☒ For your comment
- ☐ For your approval

**Delivered by** **Date**

☐ Courier \_\_\_\_\_  
☐ Hand \_\_\_\_\_  
☐ Delivered \_\_\_\_\_

☒ Email/Fax Dec. 23, 2010

Sent by AG

**Note:** The document accompanying this transmission contains confidential information intended for a specific individual and purpose. The information is private, and is legally protected by law. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution, or the taking of any action in reference to the contents of this telecopied information is strictly prohibited. If you have received this communication in error, please notify the above person immediately by telephone and return the original to by regular mail to address above.



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

December 22, 2010

File: MV2010A0051

Mr. Terence Hughes  
Paramount Resources Ltd.  
4700 Bankers Hall West, 888 3rd St. SW  
CALGARY AB T2P 5C5

Fax: (403) 262-7992

Dear Mr. Hughes:

**Issuance of Type A Land Use Permit  
Oil and Gas Exploration, Cameron Hills, NT**

Attached is Land Use Permit MV2010A0051 granted by the Mackenzie Valley Land and Water Board (MVLWB) in accordance with the *Mackenzie Valley Resource Management Act*. The MVLWB has approved this Permit for a period of 5 years commencing December 22, 2010 and expiring December 21, 2015.

Please read all conditions carefully making particular note of Land Use Permit condition 54 regarding the posting of a security deposit. Pursuant to section 32 of the Mackenzie Valley Land Use Regulations, this deposit, **payable to the Receiver General for Canada** in the amount of \$40,000, shall be posted with Indian and Northern Affairs Canada, #16 Yellowknife Airport, Yellowknife, NT, X1A 3T2. Attention: Charlene Coe. Please copy to the MVLWB office prior to the start of your operation.

A copy of all related correspondence and documents has been filed on the Public Registry at the office of the MVLWB. Please be advised that this letter, its attached procedures, inspection reports, and related correspondence is part of the Public Registry and is intended to keep all interested parties informed of the manner in which the Permit's requirements are being met. All Public Registry material will be considered if an amendment to the Permit is requested.

The full cooperation of Paramount Resources Ltd. is anticipated and appreciated. If you have any questions or concerns, please telephone (867) 669-0506 or email [permits@mvlwb.com](mailto:permits@mvlwb.com).

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Willard Hagen', with a stylized, cursive-like script.

Willard Hagen  
Chair

Copied to: Scott Stewart, A/District Manager, South Mackenzie District, INAC  
Distribution List;  
Shannon Hayden, Regulatory Officer, MVLWB

Attachments



## Land Use Permit

Permit Class	Permit No	Amendment No
A	MV2010A0051	

Subject to the Mackenzie Valley Land Use Regulations and the terms and conditions in this Permit, authority is hereby granted to:

**Paramount Resources Ltd.**

Permittee

to proceed with the land use operation described in the application of:

Signature <b>Mr. Terence Hughes</b>	Date <b>October 26, 2010</b>
Type of Land Use Operation <b>Oil and Gas Exploration</b>	
Location <b>Well Site E-52, Cameron Hills, NT</b>	

This Permit may be assigned, extended, discontinued, suspended, or cancelled pursuant to the Mackenzie Valley Land Use Regulations.

Dated at Yellowknife this 22<sup>nd</sup> day of December, 2010

Signature Chair

A handwritten signature, likely of the Chair, written over a horizontal line.

Signature Witness

A handwritten signature, likely of the witness, written over a horizontal line.

Commencement Date

December 22, 2010

Expiry Date

December 21, 2015

### ATTENTION

It is a condition of this Permit that the Permittee comply with the provisions of the *Mackenzie Valley Resource Management Act* and Regulations and the terms and conditions set out herein. A failure to comply may result in suspension or cancellation of this Permit.

## **Conditions Annexed to and Forming Part of Land Use Permit # MV2010A0051**

### **Part A: Scope of Permit**

1. This Permit entitles Paramount Resources Ltd. to conduct of the following activities:

- a) construction including access road, well site, and pipeline right-of-way, if necessary;
- b) drilling, testing, maintenance, and production activities;
- c) completion/re-completion; and
- d) abandonment and reclamation

of well site E-52 located at 60°1'26.18" N and 117°25'53.52" W.

2. The Permit is issued subject to the conditions contained herein with respect to the use of land for the activities and area identified in Part A, item 1 of this Permit.
3. Compliance with the terms and conditions of this Permit does not absolve the Permittee from the responsibility for compliance with the requirements of all applicable federal, territorial, and municipal legislation.

### **Part B: Definitions**

**"Act"** means the *Mackenzie Valley Resource Management Act*.

**"Board"** means the Mackenzie Valley Land and Water Board established under Part 4 of the *Mackenzie Valley Resource Management Act*.

**"Drill Cuttings"** means the solid materials, fragments of rock and other materials brought to the surface during the drilling process.

**"Drill Waste"** means all materials or chemicals, solid or liquid, associated with the drilling of boreholes and includes borehole cuttings.

**"Greywater"** means all liquid Wastes from showers, baths, sinks, kitchens, and domestic washing facilities but does not include Toilet Wastes.

**"Inspector"** means an Inspector designated by the Minister under the *Mackenzie Valley Resource Management Act*.

**"Permeability"** means the capacity to transmit water through a medium.

**"Sewage"** means all toilet wastes and Greywater.

**"Sewage Disposal Facilities"** means Sump(s) and/or Sewage collection tank(s) designed to hold Sewage.

**"Sump"** means a man-made pit, or natural hollow or cavity in the earth's surface used for the purpose of depositing waste material therein.

**Part C: Conditions Applying to All Activities**

**26(1)(a) Location and area**

- |    |  |                   |
|----|--|-------------------|
| 1. | The Permittee shall not conduct this land use operation on any lands not designated in the accepted application.   | PLANS             |
| 2. | The Permittee shall use an existing campsite.  | CAMP LOCATION     |
| 3. | The Permittee shall, accompanied by an Inspector, conduct a joint inspection of the well site, remote Sump(s), and campsite(s) prior to any clearing or other use of the site takes place. | INSPECT LOCATIONS |

**26(1)(b) Time**

- |     |  |                        |
|-----|--|------------------------|
| 4.  | The Permittee shall advise an Inspector at least ten days prior to the completion of the land use operation of:<br><br>a) The plan for removal or storage of equipment and materials; and<br>b) When final clean-up and restoration of the land used will be completed.  | REPORTS BEFORE REMOVAL |
| 5.  | The Permittee's Field Supervisor shall contact an Inspector at (867) 874-6995 at least 48 hours prior to the commencement of this land use operation and shall provide in writing the following information:<br><br>a) Name(s) of the person(s) in charge of the field operation to whom notices, orders, and reports may be served;<br>b) Alternates; and<br>c) All methods for contacting the above person(s). | IDENTIFY AGENT         |
| 6.  | The Permittee shall submit a progress report to the Board and the Inspector every 7 days during this land use operation.   | PROGRESS               |
| 7.  | The Permittee shall, prior to spring break-up, complete all clean-up, camp closures, snow fill removals, ice bridge removals, brush and timber disposals, erosion control activities, and all other restoration required by the conditions of this permit or as ordered by an Inspector.   | RESTORATION            |
| 8.  | The Permittee shall not conduct any overland movement of equipment and vehicles after 0800 hours local time on March 31 unless otherwise authorized in writing by an Inspector.  | SHUT-DOWN DATE         |
| 9.  | The Board, for the purpose of this operation, designates March 31 as spring break-up, or as otherwise approved by an Inspector.  | SPRING BREAK-UP        |
| 10. | The Board and/or Inspector reserve the right to impose closure of any area to the Permittee in periods when dangers to natural resources are severe.   | CLOSURE                |

**26(1)(c) Type and size of equipment**

- |     |  |                               |
|-----|--|-------------------------------|
| 11. | The Permittee shall not use any equipment except of the type, size, and number that is listed in the accepted application. | ONLY<br>APPROVED<br>EQUIPMENT |
|-----|--|-------------------------------|

**26(1)(d) Methods and techniques**

- |     |  |  |
|-----|--|--|
| 12. | The Licensee shall construct winter snow roads in accordance of the methodology and guidelines identified in the <i>Environmental Guidelines for the Construction and Maintenance and Closure of Winter Roads in the Northwest Territories for the Department of Transportation, Government of the Northwest Territories, 1993</i> , and any subsequent revisions. | SNOW ROADS/<br>ICE ROADS                   |
| 13. | The Permittee shall not clear areas larger than identified in the accepted application. Where possible, the Permittee will utilize existing components to minimize additional clearing.  | MINIMIZE AREA<br>CLEARED                   |
| 14. | The Permittee shall remove or cut off and seal all drill casings at ground level immediately upon abandonment.   | REMOVAL AND<br>SEALING OF<br>DRILL CASINGS |

**26(1)(e) Type, location, capacity, and operation of all facilities**

- |     |   |  |
|-----|---|--|
| 15. | The Permittee shall remove all temporary construction buildings and equipment prior to spring break-up of each year.                        | REMOVAL OF<br>TEMPORARY<br>STRUCTURES        |
| 16. | The Permittee shall restrict its activities to designated right-of-ways, approved extra workspaces, existing roads and appropriate detours. | RESTRICTION<br>OF<br>CONSTRUCTION<br>TRAFFIC |
| 17. | The Permittee shall ensure that the land use area is kept clean at all times.   | CLEAN WORK<br>AREA                           |
| 18. | The Permittee shall place rig matting under all heat lines and stationary heat generating equipment.  | RIG MATTING                                  |
| 19. | The Permittee shall avoid disturbance to the organic layer and degradation of permafrost by constructing a snow pad for the well site.      | SNOW PAD                                     |

**26(1)(f) Control or prevention of ponding of water, flooding, erosion, slides, and subsidence of land**

- |     |  |                                     |
|-----|--|-------------------------------------|
| 20. | The land use operation shall not cause obstruction to any natural drainage.                  | NATURAL<br>DRAINAGE                 |
| 21. | The Permittee shall install erosion control structures as the land use operation progresses. | PROGRESS-<br>IVE EROSION<br>CONTROL |



22.	The Permittee shall construct dykes and diversion ditches as authorized in writing by an Inspector.	DYKES/ DIVERSION
23.	The Permittee shall not use any material other than snow in the construction of snow fills.	SNOW FILLS
24.	The Permittee shall prepare the site in such a manner as to prevent rutting of the ground surface.	PREVENTION OF RUTTING
25.	The Permittee shall suspend overland travel of equipment or vehicles at the first sign of rutting.	SUSPEND OVERLAND TRAVEL
26.	The Permittee shall not move any equipment or vehicles unless the ground surface is in a state capable of fully supporting the equipment or vehicles without rutting or gouging.	VEHICLE MOVEMENT FREEZE-UP
27.	The Permittee shall initiate a pre-construction permafrost assessment by conducting active layer surveys and boreholes investigations if the well is to be tied-in and a trench excavated. A report of the results shall be submitted to the Board immediately upon completion.	PERMAFROST ASSESSMENT
28.	All areas affected by construction or removal activities shall be stabilized and landscaped to pre-construction profiles or as approved by an Inspector.	PRE- CONSTRUCTION PROFILES
	<b>26(1)(g) Use, storage, handling, and ultimate disposal of any chemical or toxic material</b>	
29.	The Permittee shall not use chemicals in connection with the land use operation that were not identified in the accepted application.	APPROVAL OF CHEMICALS
30.	The Permittee shall remove all Drill Waste containing poisonous, toxic, or persistent chemical additives to an approved disposal facility, or as approved in writing by an Inspector.	DRILL WASTE DISPOSAL
31.	The Permittee shall deposit all non-toxic Drill Cuttings into a permitted and licenced Sump.	DRILL WASTE
32.	The Permittee shall remove all Drill Waste from ice surfaces.	DRILL WASTE DISPOSAL
33.	The Permittee shall not allow any Drill Waste to spread to the surrounding lands.	DRILL WASTE CONTAINMENT
34.	The Permittee shall supply to the Board and the Inspector, prior to rig removal, a list of mud components used during the drilling operation.	MUD COMPONENTS
35.	The Permittee shall dispose of all combustible waste petroleum products by incineration or removal.	WASTE PETROLEUM DISPOSAL

- |     |  |  |
|-----|--|--|
| 36. | The Permittee shall report spills immediately to the 24-hour Spill Report Line, (867) 920-8130, in accordance with instructions contained in the "NT-NU Spill Report" form N.W.T 17/52/0593. | REPORT<br>CHEMICAL AND<br>PETRO-LEUM<br>SPILLS |
| 37. | The Permittee shall report spills to potentially affected communities.   | REPORT SPILLS                                  |
| 38. | The Permittee shall not construct any Sumps under this land use permit.  | NO SUMP  |

**26(1)(h) Wildlife and fish habitat**

- |     |  |                                |
|-----|--|--------------------------------|
| 39. | The Permittee shall minimize damage to wildlife and fish habitat in conducting this land use operation.  | HABITAT<br>DAMAGE              |
| 40. | The Permittee shall use food handling and garbage disposal procedures that do not attract wildlife.  | WILDLIFE/<br>HUMAN<br>CONFLICT |
| 41. | The Water intake hose used on the Water pumps shall be equipped with a screen with a mesh size and screen design sufficient to ensure no entrainment or impingement of fish as outlined in Fisheries and Oceans Canada's "Freshwater Intake End-of-Pipe Fish Screen Guidelines" (1995) or subsequent approved additions. | PREVENT<br>ENTRAINMENT         |

**26(1)(i) Storage, handling, and disposal of refuse or Sewage**

- |     |  |                             |
|-----|--|-----------------------------|
| 42. | The Permittee shall dispose of all Sewage and Greywater as proposed in the accepted application.   | SEWAGE<br>DISPOSAL          |
| 43. | The Permittee shall remove all non-combustible garbage and debris, including plastics, from the land use area to a disposal site as specified in the accepted application. | REMOVE<br>GARBAGE           |
| 44. | The Permittee shall use a forced-air, fuel-fired incinerator to burn all combustible garbage except plastics.  | INCINERATORS                |
| 45. | The Permittee shall keep all garbage and debris in a covered metal container of sufficient size on site until disposal.  | GARBAGE<br>CONTAINER        |
| 46. | The Permittee shall remove all scrap metal, discarded machinery, parts, barrels, kegs, plastics, and building materials as specified in the accepted application.          | REMOVE<br>WASTE<br>MATERIAL |

**26(1)(j) Protection of historical, archaeological, and burial sites**

- |     |   |                    |
|-----|---|--------------------|
| 47. | The Permittee shall not operate any vehicle within 100 metres of a known or suspected archaeological site unless otherwise approved by the Inspector. | OPERATE<br>VEHICLE |
|-----|---|--------------------|

48.	The Permittee shall not knowingly remove, disturb, or displace any archaeological specimen or site.	DISTURBANCE OF SITE
49.	The Permittee shall immediately cease any activity which disturbs an archaeological, historical, and/or burial site and contact the Mackenzie Valley Land and Water Board at (867) 669-0506 should an archaeological site or specimen be encountered or disturbed by any land use activity.	CONTACTS
50.	The Permittee shall ensure that all persons working under authority of the Permit are aware of these conditions concerning land use activities around archaeological sites.	NOTIFICATION TO EMPLOYEES
<b>26(1)(k) Objects and places of recreational, scenic, and ecological value.</b>		
<i>Intentionally left blank</i>		
<b>26(1)(l) Security deposit</b>		
51.	The Permittee shall deposit, with the Minister, a security deposit in the amount of \$40,000 pursuant to section 32 of the Mackenzie Valley Land Use Regulations.	SECURITY DEPOSIT
52.	The Permittee shall be liable for any costs of damage over and above the amount of the security deposit.	LIABILITY FOR DAMAGE
53.	The security deposit must be posted prior to the commencement of the land use operation.	SECURITY DEPOSIT TIMING
<b>26(1)(m) Fuel storage</b>		
54.	The Permittee shall not place any fuel storage containers within 100 metres of the normal high water mark of any water body, unless otherwise authorized in writing by an Inspector.	FUEL BY STREAM
55.	The Permittee shall not allow petroleum products to spread to surrounding lands or into water bodies.	FUEL CONTAINMENT
56.	The Permittee shall construct an impermeable dyke around each stationary fuel container or group of stationary fuel containers, including those which contain hydrocarbons and associated water, where any one container has a capacity exceeding 4,000 litres.	DYKE FUEL CONTAINERS
57.	The volume of the dyked area shall be 10 percent greater than the capacity of the largest fuel container placed therein.	CAPACITY
58.	A certified double-walled tank will be deemed to satisfy requirements of an impermeable dyke.	DOUBLE- WALLED TANK

59.	The Permittee shall ensure that adequate contingency plans and spill kits are in place, prior to commencement of operations, to respond to any potential spills.	SPILL RESPONSE
<b>26(1)(n) Methods and techniques for debris and brush removal</b>		
60.	The Permittee shall dispose of all debris and brush by running heavy machinery over the trees and brush until they are crushed to lie flat on the ground.	WELL SITE BRUSH DISPOSAL
61.	The Permittee shall dispose of all debris and brush cleared from right-of-ways and access roads by: <ul style="list-style-type: none"> <li>a) Windrowing the debris and brush to the side of the line or clearing; and</li> <li>b) Making breaks in the windrow of at least 10 meters wide at intervals of not more than 60 meters;</li> </ul>	RIGHT-OF-WAY AND ACCESS ROAD BRUSH DISPOSAL
62.	The Permittee shall dispose of all debris and brush cleared from trails and lines by: <ul style="list-style-type: none"> <li>a) Pushing or felling the material into the adjacent forest; and</li> <li>b) Cutting the branches from the stems and cutting the stems into lengths so that all parts of the trees felled lie flat on the ground surface.</li> </ul>	TRAILS AND LINES BRUSH DISPOSAL
63.	The Permittee shall not clear any vegetation not identified in the accepted application unless authorized in writing by the Inspector.	NO CLEARING
<b>26(1)(o) Restoration of the lands</b>		
64.	The Permittee shall, prior to submitting a final plan, provide the Board with a phase I environmental site assessment and a detailed site assessment.	DETERMINATION OF RECLAMATION
65.	The Permittee shall establish vegetation on all areas stripped of vegetation during this land use operation to a minimum of 70 percent ground cover.	REVEGETATE STRIPPED AREA
66.	Where seeding is done, the Permittee will use certified Canada #1 seed and the appropriate seed certificates will be made available to the Inspector.	REPLANT DESIGNATED AREAS
67.	Prior to the expiry date of this Permit, the Permittee shall save the organic soil stripped from the excavation area and place the organic soil over the disturbed area.	SAVE AND PLACE ORGANIC SOIL
68.	Spoil material excavated from trenches shall be saved by stockpiling it separately from the organic soil.	SAVE SPOIL MATERIAL

- |     |  |                              |
|-----|--|------------------------------|
| 69. | Spoil material excavated from trenches will be backfilled by compacting and the last lifts will be crowned over the disturbed area prior to re-establishing vegetation.                                    | SPOIL MATERIAL<br>BACKFILLED |
| 70. | The Permittee shall limit surface disturbances, such as grading and vegetation clearing, to the location as described in the accepted application, unless otherwise authorized in writing by an Inspector. | MINIMIZE<br>CLEARING         |
| 71. | The Permittee shall endeavour to carry out Progressive Reclamation of areas which are abandoned prior to closure of operations.  | PROGRESSIVE<br>RECLAMATION   |
| 72. | Prior to the expiry date of this Permit, the Permittee shall complete all clean-up and restoration of the lands used.  | CLEAN-UP                     |

**26(1)(p) Display of permits and permit numbers**

- |     |  |                         |
|-----|--|-------------------------|
| 73. | The Permittee shall display a copy of this Permit in each campsite established to carry out this land use operation. | DISPLAY PERMIT          |
| 74. | The Permittee shall use existing lines or roads to the extent identified in the accepted application.                | EXISTING<br>LINES ROADS |
| 75. | The Permittee shall keep on hand, at all times during this land use operation, a copy of the Permit.                 | COPY OF<br>PERMIT       |

**26(1)(q) Matters not inconsistent with the regulations**

- |     |   |   |
|-----|---|---|
| 76. | The Permittee shall ensure that all persons working under the authority of this Permit are aware of and will adhere to the conditions as stated in this Permit.   | NOTIFICATION<br>TO ALL<br>EMPLOYEES/<br>CONTRACTORS |
| 77. | The Permittee shall, while preparing access routes, make every effort to avoid covering or destroying traps or snares that may be found along these routes.   | TRAPS<br>PROTECTION                                 |
| 78. | The Permittee shall restore any trails used by trappers or hunters along access routes by slashing any and all trees that may fall across these paths or trails and by removing any other obstructions, such as snow piles or debris, that may be pushed across the trails. | TRAILS<br>RESTORATION                               |
| 79. | The Permittee shall display the permit number on all vehicles and equipment.  | DISPLAY PERMIT<br>NUMBER                            |
| 80. | The Permittee shall adhere to the Operating Guidelines for Permafrost as described in Appendix II of EA03-005.  | OPERATING IN<br>PERMAFROST                          |
| 81. | The Permittee shall adhere to the mitigative measures for minimizing disturbances resulting from the construction of the satellite and well sites as described in the Developers Assessment Report for EA03-005 on pages 64 and 65.   | CONSTRUCTION<br>PRINCIPLES                          |

- |     |   |  |
|-----|---|--|
| 82. | The Permittee shall adhere to the mitigation measures for minimizing disturbances for routing as described in the Developers Assessment Report for EA03-005 on pages 65 and 66.   | ROUTING<br>PRINCIPLES  |
| 83. | The Permittee shall construct pipeline crossings using the methods described in the Developers Assessment Report for EA03-005 on pages 66 and 67.   | PIPELINE<br>CROSSINGS  |
| 84. | The Permittee shall adhere to the mitigative measures for minimizing the construction of gathering flowlines and water disposal pipelines using the methods described in the Developers Assessment Report for EA03-005 on pages 70-73.                          | CONSTRUCTION<br>PRINCIPLES FOR<br>FLOWLINES AND<br>WATER DISPOSAL<br>PIPELINES |
| 85. | The Permittee shall adhere to the mitigative measures for construction and operation of temporary campsites as described in the Developers Assessment Report for EA03-005 on pages 75-76.   | TEMPORARY<br>CAMPS   |
| 86. | The Permittee shall adhere to the mitigative measures for the minimizing of ground disturbances as described in the Developers Assessment Report for EA03-005 on pages 83 and 84.   | GROUND<br>DISTURBANCE  |
| 87. | The Permittee shall construct corduroy roads and fords for ATV traffic to the satisfaction of the Inspector.  | CORDUROY<br>ROADS FOR<br>ATV TRAFFIC   |
| 88. | The Permittee shall locate at least 50 percent of all proposed and planned developments in the Cameron Hills Significant Discovery License, as described in the Developer's Assessment Report from EA03-005, on areas currently disturbed (as of July 5, 2005). | DEVELOPMENT<br>LOCATIONS   |
| 89. | In order to prevent significant environmental impacts to boreal caribou, the Permittee shall not disturb an area greater than 1.8 km per km <sup>2</sup> in the areas encompassed by Ecodistrict 250 and 251 in the Northwest Territories. <sup>1</sup>         | LINEAR<br>DISTURBANCE  |

---

<sup>1</sup>As described in *Terrestrial Ecozone, Ecoregions and Ecodistricts of the Northwest Territories, Canada*. Ecological Stratification Working Group. 1995. National Ecological Framework for Canada. Agricultural and Environment Canada, State of the Environment Directorate, Ecozone Analysis Branch, Ottawa/Hull. Report and national map at 1:7,500,000 scale.

## Distribution List by Fax

## Cameron Hills Area – Dehcho

## First Nations/ Aboriginal Organizations

President Paul Herrington	Hay River Métis Government Council		hmc@northwestel.net
President Albert Lafferty	Fort Providence Métis Council #57		867-699-4319
Chief Joachim Bonnetrouge	Deh Gah Go'ie Dene Council		867-699-3134
	West Point First Nation		MAIL ONLY
Chief Roy Fabian	Katlodeeche First Nation		landsnresources@katlodeeche.com
Chief Lloyd Chicot	Ka'a'gee Tu First Nation	21	867-825-2002
Mandell Pinder, Barrister & Solicitors	Legal Counsel - Ka'a'gee Tu First Nation		604-681-0959
Grand Chief Sam Gargan	Dehcho First Nations	35	867-695-2038
President Betty Villebrun	Northwest Territory Métis Nation	45	867-872-2772
Priscilla Canadien	Fort Providence Resource Mgmt Board	27	867-699-3133
Lee Mandeville	Dene Nation		lmandeville@denenation.com
Michael Nadli, CEO	Deh Cho Land Use Planning Committee	41	867-699-3166
Chief James Ahnassay	Dene Tha' First Nation		780-321-3886
Robert Freedman, JFK Law	Legal Counsel - Dene Tha' First Nation		250-381-8567

## Communities

Mayor Kelly Schofield	Town of Hay River	16	867-874-3237
Mayor Tina Gargan	Hamlet of Fort Providence	18	867-699-3360
Mayor Allan Flamand	Enterprise Settlement Corporation		sao_enterprise@airware.ca

## Government - GNWT

Glen Mackay	GNWT - PWNHC		GLEN MCKAY@gov.nt.ca
Patrick Clancy	GNWT - ENR		Patrick.Clancy@gov.nt.ca
ENR	Gnwt_ea@gov.nt.ca		Gnwt_ea@gov.nt.ca
Rhonda Batchelor	GNWT - DOT		Rhonda.Batchelor@gov.nt.ca
Duane Fleming	GNWT - Health		Duane.fleming@gov.nt.ca
Kris Johnson	GNWT - ITI		K.Johnson@gov.nt.ca

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Angela Norris	Mineral & Petroleum Resources Directorate - INAC		norisa@inac.gc.ca
James Lawrence	Manager Aboriginal Territorial Relations - INAC		Consultationsupportunit@inac.gc.ca James.Lawrence@inac.gc.ca
	Intergovernmental Affairs - INAC		intergov@inac.gc.ca 669-2710
	Environment Canada		ec.ea.nwt@ec.gc.ca
Rick Walbourne	DFO		Rick.Walbourne@dfo-mpo.gc.ca
Agnieszka Bandura	Environment Canada		agnieszka.bandura@ic.gc.ca

## Others

Joe Acom	Consultant		joecom@theedge.ca
Administration	CPAWS		nwtadmin@cpaws.org
Vern Christensen	MVEIRB		vchristensen@mveirb.nt.ca
Bharat Dixit	NEB	61	403-292-5503
John Donihee	Barrister and Solicitor		donihee@telusplanet.net
Everett Bunnell	Barrister and Solicitor		403-264-5973
Terence Hughes	Regulatory and Community Affairs		Terence.hughes@paramountres.com

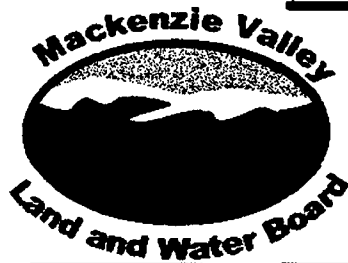
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Murray Cutten	Municipal and Community Affairs	<a href="mailto:murray_cutten@gov.nt.ca">murray_cutten@gov.nt.ca</a>
Kathy Racher	WLWB	<a href="mailto:racherk@wlwb.ca">racherk@wlwb.ca</a>
Sarah Banes	SENES	<a href="mailto:sbaines@senes.ca">sbaines@senes.ca</a>
Zabey Nevitt	MVLWB	<a href="mailto:zabey@mvlwb.com">zabey@mvlwb.com</a>

If there are any errors in this distribution list, please contact our office.





**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

FILE NUMBER: MV2010L1-0013

Date: December 23, 2010

To: Mr. Terence Hughes

Organization: Paramount Resources Ltd.

Fax: Sent Via email

Copied To: Scott Stewart, A/District Manager, South Mackenzie District, INAC  
Robert Jenkins, Water Resources Division, INAC  
Distribution List

From: Amanda for Willard Hagen, Chair

Number of pages including cover

32

**Remarks:**

Issuance – Type B Water Licence

If you have any questions please contact our office at  
(867) 669-0506 or email [permits@mvlwb.com](mailto:permits@mvlwb.com).

Thanks,

- ☒ Enclosures
- ☐ As requested
- ☐ For your information
- ☐ For your comment
- ☐ For your approval

**Delivered by** **Date**

- ☐ Courier \_\_\_\_\_
- ☐ Hand \_\_\_\_\_
- ☐ Delivered \_\_\_\_\_
- ☒ Email/Fax Dec. 23, 2010

Sent by AG

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**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

December 22, 2010

File: MV2010L1-0013

Mr. Terence Hughes  
Paramount Resources Ltd.  
4700 Bankers Hall West, 888 3rd St. SW  
CALGARY AB T2P 5C5

Fax: (403) 262-7992

Dear Mr. Hughes:

**Issuance of Type B Water Licence  
Oil and Gas Exploration, Cameron Hills, NT**

Attached is Water Licence MV2010L1-0013 granted by the Mackenzie Valley Land and Water Board (MVLWB or the Board) in accordance with the *Northwest Territories Waters Act*. A copy of this Licence has been filed on the Public Registry at the MVLWB office. Water Licence MV2010L1-0013 has been approved for a period of 5 years commencing December 22, 2010 and expiring December 21, 2015. Prior to bringing the well online for production, a type A Water Licence must be obtained.

Please read all the conditions carefully and note that in accordance with Water Licence condition B.4, a security deposit in the amount of \$25,000 shall be posted with the Minister and copied to the Board prior to the start of the operation pursuant to section 17 of the *Northwest Territories Waters Act*. Submit payment of the security, made out to the **Receiver General for Canada** to: Indian and Northern Affairs Canada, Box 1500, Yellowknife, NT, X1A 2R3 Attention: Charlene Coe. Please copy to the MVLWB office prior to the start of your operation.

Also attached is a copy of the "General Procedures for the Administration of Licences in the Northwest Territories". Please review these carefully and address any questions to the Board's office. A Reasons for Decision document for these most recent applications from Paramount will be issued in the coming weeks.

This letter, with attached procedures, all inspection reports, and correspondence related thereto, is part of the Public Registry and is intended to keep all interested parties informed of the manner in which the Licence's requirements are being met. All Public Registry material will be considered if an amendment to the Licence is requested.

Your full cooperation is anticipated and appreciated. If you have any questions or concerns, please telephone (867) 669-0506 or email [permits@mvlwb.com](mailto:permits@mvlwb.com).

Yours sincerely,



Willard Hagen  
Chair

Copied to: Robert Jenkins, Water Resources Division, INAC  
Scott Stewart, A/District Manager, South Mackenzie District, INAC  
Shannon Hayden, Regulatory Officer, MVLWB;  
Distribution List

Attachment



Pursuant to the *Mackenzie Valley Resource Management Act* and Regulations, the Mackenzie Valley Land and Water Board, hereinafter referred to as the Board, hereby grants to:

Paramount Resources Ltd.  
(Licensee)

of 4700 Bankers Hall West, 888 3<sup>rd</sup> St. SW, Calgary AB T2P 5C5  
(mailing address)

hereinafter called the Licensee, the right to alter, divert or otherwise use water subject to the restrictions and conditions contained in the *Northwest Territories Waters Act* and Regulations made thereunder and subject to and in accordance with the conditions specified in this Licence.

Licence number:	<u>MV2010L1-0013</u>
Licence type:	<u>B</u>
Water management area:	<u>Northwest Territories 01</u>
Location:	<u>60.023939 N and 117.431533 W</u>
Purpose:	<u>Use of water and disposal of waste</u>
Description:	<u>Oil and Gas exploration, development and associated activities</u>
Quantity of water <u>not to be exceeded</u> :	<u>Water Source 1 - 463,279.3m<sup>3</sup> annually</u> <u>Water Source 2 - &lt;100m<sup>3</sup> annually</u> <u>Water Source 3 - no maximum</u> <u>Water Source 4 - 22,811.0m<sup>3</sup> annually</u>
Effective date of licence:	<u>December 22, 2010</u>
Expiry date of licence:	<u>December 21, 2015</u>

This Licence issued and recorded at Yellowknife includes and is subject to the annexed conditions and schedules.

**Mackenzie Valley Land and Water Board**

A handwritten signature in dark ink, appearing to be "n/p", is written over a horizontal line.

Chair

A handwritten signature in dark ink, appearing to be "Alan Macmillan", is written over a horizontal line.

Witness

## **Part A: Scope and Definitions**

### **Scope**

This Licence entitles Paramount Resources Ltd. to use Water and dispose of Waste for industrial undertakings in oil and gas exploration and development:

- a) located at 60°1'26.18" N and 117°25'53.52" W; and
- b) including the activities and infrastructure, identified below, related to well site E-52:
  - i. Construction of access roads, well site, and pipeline right-of-way, if necessary;
  - ii. Drilling, testing, and maintenance activities;
  - iii. Well completion/re-completion; and
  - iv. Reclamation activities

### **Definitions**

In this Licence: MV2010L1-0013

**"Act"** means the *Northwest Territories Waters Act*.

**"Analyst"** means an Analyst designated by the Minister under subsection 35(1) of the Act.

**"Artesian Aquifer"** means a Water-bearing rock stratum which, when encountered during drilling operations, produces a pressurized flow of groundwater that reaches an elevation above the Water table or above the ground surface.

**"Board"** means the Mackenzie Valley Land and Water Board established under Part 4 of the *Mackenzie Valley Resource Management Act*.

**"Drill Cuttings"** means the solid materials, fragments of rock and other materials brought to the surface during the drilling process.

**"Drilling Fluids"** means any liquid mixture of clay, Water or chemical additives pumped downhole.

**"Drilling Muds"** means Drilling Fluids that use hydrocarbons, saline solutions, or natural solutions such as water as a carrier fluid.

**"Drilling Waste"** means all materials or chemicals, solid or liquid, associated with the drilling process, including Drill Cuttings.

**"EA03-005"** means, for the purposes of this Licence, the totality of the Mackenzie Valley Environmental Impact Review Board (MVEIRB) Public Registry as established under Part 5 of the *Mackenzie Valley Resource Management Act* for this Licence application. This includes everything that was submitted by Paramount Resources Ltd. to the MVEIRB, the scope of which is consistent with the Water Licence Application.



**“Engineer”** means a professional Engineer registered to practice in the Northwest Territories in accordance with the *Engineering and Geoscience Professions Act*, S.N.W.T. 2006, c.16.

**“Hydrocarbon-Based Drilling Muds”** means Drilling Fluids that use hydrocarbons as a carrier fluid.

**“Greywater”** means all liquid Wastes from showers, baths, sinks, kitchens and domestic washing facilities but does not include toilet Wastes.

**“Inspector”** means an Inspector designated by the Minister under subsection 35(1) of the Act.

**“Licensee”** means the holder of this Licence.

**“Minister”** means the Minister of Indian Affairs and Northern Development.

**“Modification(s)”** means an alteration to a physical work that introduces a new structure or eliminates an existing structure but does not alter the purpose or function of the work and does not include an expansion.

**“Progressive Reclamation”** means those activities conducted during the operating period to modify and reclaim the land and Water to the satisfaction of the Board.

**“Project”** means the activities to be carried out at Cameron Hills, NT by Paramount Resources Ltd. as defined in Water License application, MV2010L1-0013.

**“Regulations”** means Regulations proclaimed pursuant to section 33 of the *Northwest Territories Waters Act*.

**“Salt-Based Drilling Muds”** means Drilling Fluids that use saline solutions as a carrier fluid.

**“Sewage”** means all toilet Wastes and Greywater.

**“Sump(s)”** means a man-made pit, trench, hollow or cavity on the earth's surface for the purpose of storing Water and/or Waste.

**“Waste(s)”** means Waste as defined by section 2 of the Act.

**“Waste Disposal Facilities”** means all facilities designated for the disposal of Waste.

**“Wastewater”** means Waste as defined by section 2 of the Act.

**“Waterbody(ies)”** means any area that in a normal year has water flowing or standing above ground to the extent that evidence of an ordinary high water mark is established. Wetlands contiguous to the Waterbody are considered part of the Waterbody.

**"Watercourse"** means any flowing body of Water.

**"Water(s)"** means any Waters as defined by section 2 of the Act.

**"Water Use"** means the use of Water as defined by section 2 of the *Northwest Territories Waters Act* and shall include freshwater from all sources.

**"Water Use Fee"** means a fee for the use of Water as defined by section 33 of the Act.

**Part B: General Conditions**

- B.1 This Licence is issued subject to the conditions contained herein with respect to the taking of Water and the depositing of Waste of any type in any Waters or in any place under any conditions where such Waste or any other Waste that results from the deposits of such Waste may enter any Waters. Whenever new Regulations are made or existing Regulations are amended by the Governor in Council under the *Northwest Territories Waters Act*, or other statutes imposing more stringent conditions relating to the quantity or type of Waste that may be so deposited or under which any such Waste may be so deposited, this Licence shall be deemed, upon promulgation of such Regulations, to be automatically amended to conform to such Regulations.
- B.2 Compliance with the terms and conditions of this Licence does not pardon the Licensee from the responsibility for compliance with the requirements of all applicable federal, territorial, and municipal legislation.
- B.3 The Water Use Fee shall be paid annually on June 30 in conjunction with the Annual Report in accordance with the Regulations.
- B.4 The Licensee, pursuant to subsection 17(1) of the Act and section 12 of the Regulations, shall post within thirty days of licence issuance, and maintain, a security deposit in the amount of \$25,000.00 in a form acceptable to the Minister.
- B.5 The security deposit shall be maintained until such time as it is fully or in part refunded by the Minister pursuant to section 17 of the Act.
- B.6 The Licensee shall file an Annual Report with the Board not later than June 30 which shall contain the information as set out in Schedule 1, item 1, included in this Licence for the one year period ending May 31 of the year being reported.
- B.7 The Licensee shall comply with the Schedules annexed to this Licence, and with any amendments to the Schedules as may be made from time to time, pursuant to the conditions of this Licence and as approved by the Board.
- B.8 The attached Schedules and any compliance dates specified in this Licence may be amended at the discretion of the Board.
- B.9 Meters, devices, or other such methods used for measuring the volumes of Water used and Waste discharged shall be installed, operated, and maintained by the Licensee to the satisfaction of an Inspector.

- B.10 The Licensee shall adhere to mitigative measures 8 and 10 as outlined in Schedule 1, item 2, included in this Licence and as approved by the Responsible Ministers for the Paramount Resources Ltd.'s Cameron Hills Extension Project - EA03-005 and the Water-related developers commitments, as outlined in Schedule 1, item 3, included in this Licence and as described in the Mackenzie Valley Environmental Impact Review Board's "Report of Environmental Assessment and Reasons for Decision on the Paramount Resources Ltd.'s Cameron Hills Extension Project".
- B.11 The Licensee shall ensure a copy of this Licence is maintained at the site of operation at all times.

**Part C: Conditions Applying to Water Use**

- C.1 The Licensee shall obtain all Water for all oil and gas undertakings and associated activities from:
- a) Water Sources 1 through 4 as indentified in Part C, item 2;
  - b) Watercourses, as approved by the Board, in accordance with Part C, item 3 of this Licence;
  - c) the Water well located at the H-03 Central Battery; or
  - d) as otherwise approved by the Board.
- C.2 Total Annual Water Use from Water Sources 1 through 4 shall not exceed the 10% allowable allocation by Water Source as defined in the "DFO Protocol for Winter Water Withdrawal from Ice-covered Waterbodies in the Northwest Territories and Nunavut". The maximum allowable volume for each Water Source are indicated in the table below.

Source	Location	Maximum Annual Allowable Volume (m <sup>3</sup> )
Water Source 1	60.0212 N and - 117.6685 W	463,279.3
Water Source 2	60.1413 N and - 117.5721 W	<100
Water Source 3	60.0460 N and - 117.5369 W	No Maximum
Water Source 4	60.2282 N and - 117.6336 W	22,811.0

- C.3 The quantity of Water used for any purpose from Watercourses shall not exceed 10% of instantaneous flow. The Licensee shall submit to the Board, for approval, at least 30 days prior to the planned Water usage the methods used in determining instantaneous flow rates and the methods used to ensure Water withdrawal does not exceed 10% of this flow.
- C.4 The Licensee shall document and report the volumes and location of all Water Sources used and include in the annual Water usage reporting of the Annual Report.

- C.5 The Water intake hose used on the Water pumps shall be equipped with a screen with a mesh size and screen design sufficient to ensure no entrainment or impingement of fish, as outlined in Fisheries and Oceans Canada's "Freshwater Intake End-of-Pipe Fish Screen Guideline" (1995) or subsequent approved editions.

**Part D: Conditions Applying to Waste Disposal**

- D.1 a) The Licensee shall submit to the Board for approval an updated Waste Management Plan no later than June 30, 2011. This plan shall incorporate the conditions found in Part D, items 5 through 17 and shall contain the information as set out in Schedule 2, item 1, included in this Licence.  
b) Details for Waste sampling and monitoring shall be included in the Site-Wide Monitoring Plan identified in Part F, item 1.
- D.2 If not approved by the Board, the Management Plan referred to in Part D, item 1 shall be revised and resubmitted for approval within three months of receiving notification of the Board's decision.
- D.3 The Licensee shall review the Waste Management Plan annually and modify the plan as necessary, or at the direction of the Board, to reflect changes in operation and technology. Any proposed changes shall be submitted to the Board for approval.
- D.4 a) The Licensee shall provide to the Board for approval a Biotreatment construction and operation plan at least 3 months prior to the construction or use of any proposed onsite Biotreatment technology. The Plan shall include, but not be limited to, the information as set out in Schedule 2, item 2, included in this Licence.  
b) Details for soil and leachate sampling and monitoring shall be included in the Site-Wide Monitoring Plan identified in Part F, item 1.
- D.5 If during operations, an uncontrolled flow of liquids at surface is encountered, including that produced from an Artesian Aquifer, the Licensee shall notify an Inspector and then the Board immediately. The Licensee shall collect and sample water from the flowing source at the point of discharge from the well as directed by the Inspector.
- D.6 Any fluids generated to surface shall be contained and shall not be disposed of without the approval of the Inspector.
- D.7 Waste, including Wastewater, shall not be discharged or decanted to any Waterbody, Watercourse or to the ground surface within 100 metres of the normal high water mark of any Waterbody or Watercourse.
- D.8 Prior to the discharge or decant of Waters or Waste the Licensee shall:  
a) Obtain a representative sample of the Water or Waste using the best methods available and describe in detail the prevailing conditions and how the sample was obtained;

- b) Conduct the analysis in accordance with Part D, items 11 and 12;
- c) Locate all discharge areas to the satisfaction of the Inspector; and
- d) Indicate in writing to the Inspector and the Board;
  - i. The results of the sampling and analysis;
  - ii. The location of decant;
  - iii. The volume of decant;
  - iv. The method of decant;
  - v. The direction of flow;
  - vi. The location of fresh Waterbodies where the decanted effluent may go, if applicable; and
  - vii. The ability of all discharge areas to absorb the decanted Waste under different conditions.

D.9 The Licensee may commence decanting upon receipt of the Inspector's approval.

D.10 Discharge and decant Waters of Sewage directed to land shall meet the following effluent quality criteria:

Parameter	Maximum Criteria Limits
pH	6-9
Total Suspended Solids	300 mg/L
BOD <sub>5</sub>	360 mg/L
Faecal Coliforms	1 x 10 <sup>6</sup> CFU/100ml
Oil and Grease	5 mg/L and Non-visible

D.11 All analyses shall be conducted in accordance with methods prescribed in the current edition of "Standard Methods for the Examination of Water and Wastewater" or by such other methods as may be approved by the Analyst.

D.12 The Licensee shall store Drilling Waste in on-site tanks, and recycle clear fluids prior to disposing of non-toxic Drilling Waste solids into a Sump.

D.13 The Licensee shall deposit all non-toxic Drilling Waste and casing cement in previously permitted and licenced or future permitted and licenced Sumps.

D.14 Hydrocarbon- or Salt-Based Drilling Muds are to be disposed of at an approved off-site Waste Disposal Facility.

D.15 The Licensee shall not construct any new Sumps at this well site.

D.16 The Licensee shall ensure that any unauthorized Wastes do not enter any Waters.

D.17 The Licensee shall collect all Waste from hydrostatically tested flowlines and dispose of as approved of by the Inspector.

**Part E: Conditions Applying to Sediment and Erosion Control**

- E.1 a) The Licensee shall submit to the Board for approval a Sediment and Erosion Control Plan no later than June 30, 2011. This plan shall describe measures taken to prevent and remediate erosion that could lead to the deposit of sediment into Water. This plan shall incorporate the conditions found in Part E, items 4 through 8, consider applicable DFO operational protocols, and include, but not be limited to, the information as set out in Schedule 3, item 1, included in this Licence.
- b) Details for sediment and erosion sampling and monitoring shall be included in the Site-Wide Monitoring Plan identified in Part F, item 1.
- E.2 If not approved by the Board, the Sediment and Erosion Control Plan referred to in Part E, item 1 shall be revised and resubmitted for approval within three months of receiving notification of the Board's decision.
- E.3 The Licensee shall review the Sediment and Erosion Control Plan annually and modify the plan as necessary, or at the direction of the Board, to reflect changes in operation and technology. Any proposed changes shall be submitted to the Board for approval.
- E.4 The Licensee shall not construct any water crossings at this well site.
- E.5 The Licensee shall minimize the disturbance of riparian vegetation within the immediate boundary of any Watercourse crossing to the extent practicable.
- E.6 All areas affected by construction or removal activities shall be stabilized and landscaped to pre-construction profiles or as approved by an Inspector.
- E.7 The Licensee shall not deposit any vegetation, soils, or other materials cleared from the site in any Waterbody. All materials shall be disposed of above the ordinary high Water mark to the satisfaction of an Inspector.
- E.8 The Licensee shall construct winter snow roads in accordance with the methodology and guidelines identified in the *Environmental Guidelines for the Construction and Maintenance and Closure of Winter Roads in the Northwest Territories for the Department of Transportation, Government of the Northwest Territories*, 1993, and any subsequent revisions.

## **Part F: Conditions Applying to Monitoring**

- F.1 The Licensee shall submit to the Board for approval by June 30, 2011 a plan for a Site-Wide Monitoring Program that meets the following objectives and satisfies Schedule 4, item 1.
- a) Describe the procedures used to assess the efficacy of impact mitigation measures that are used to minimize the effects of the Project on Water;
  - b) Assess the efficacy of impact mitigation measures that are used to minimize the effects of the Project on Water;
  - c) Identify the need for additional impact mitigation measures to reduce or eliminate Project-related effects on Water; and
  - d) Identify additional impact mitigation measures to reduce or eliminate Project-related effects on Water.
- F.2 If not approved by the Board, the Site-Wide Monitoring Program referred to in Part F, item 1 shall be revised and resubmitted for approval within three months of receiving notification of the Board's decision.
- F.3 The Site-Wide Monitoring Program shall be implemented as and when approved by the Board.
- F.4 The Licensee shall review annually and update, if necessary or at the direction of the Board, the plan for the Site-Wide Monitoring Program to reflect work planned for the upcoming year and submit the updated plan for approval. Only the updated sections require approval unless otherwise indicated by the Board.
- F.5 The Licensee shall submit to the Board on an annual basis a report summarizing the results of monitoring completed, including but not limited to the information identified in Schedule 4, item 2, included in this Licence.

## **Part G: Conditions Applying to Modifications**

- G.1 The Licensee may, without written approval from the Board, carry out Modifications to the Water Supply and Waste Disposal Facilities provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:
- a) The Licensee has notified the Board in writing of such proposed Modifications at least 60 days prior to beginning the Modifications;
  - b) Such Modifications do not place the Licensee in contravention of either the Licence or the Act;
  - c) The Board has not, during the 60 days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than 60 days; and
  - d) The Board has not rejected the proposed Modifications.

- G.2 Modifications for which all of the conditions referred to in Part G, item 1 have not been met may be carried out only with written approval from the Board.
- G.3 The Licensee shall provide to the Board as-built plans and drawings of the Modifications referred to in this Licence within 90 days of completion of the Modifications.

**Part H: Conditions Applying to Spill Contingency Planning**

- H.1 The Licensee shall, by June 30, 2011, submit to the Board for approval an updated Spill Contingency Plan in accordance with Indian and Northern Affairs Canada's 2007 "Guidelines for Spill Contingency Planning".
- H.2 If not approved by the Board, the Contingency Plan referred to in Part H, item 1 shall be revised and resubmitted for approval within three months of receiving notification of the Board's decision.
- H.3 The Licensee shall review the Contingency Plan annually and modify the plan as necessary, or at the direction of the Board, to reflect changes in operation and technology. Any proposed changes shall be submitted to the Board for approval.
- H.4 If, during the period of this Licence, an unauthorized discharge of Waste occurs, or if such a discharge is foreseeable, the Licensee shall:
  - e) Employ the appropriate contingency plan;
  - f) Report the incident immediately via the 24-hour NWT Spill Report Line where substances and quantities satisfy Schedule 5, item 1. Currently the number is (867) 920-8130; and
  - g) Report in accordance with spill reporting protocols existing in the NWT.
- H.5 Lost circulation of Drilling Muds shall be reported to the Inspector and the Board at the end of drilling.

**Part I: Conditions Applying to Closure and Reclamation**

- I.1
  - a) The Licensee shall, six months prior to the closure of this well site, submit to the Board for approval, a Closure and Reclamation Plan in accordance with Schedule 6, item 1, included in this Licence.
  - b) Details for closure and reclamation sampling and monitoring shall be included in the Site-Wide Monitoring Plan identified in Part F, item 1.
- I.2 The Licensee shall revise the plan referred to in Part I, item 1 if not approved. The revised plan shall be submitted to the Board for approval within three months of receiving notification of the Board's decision.



- 1.3 Notwithstanding the time schedule referred to in the Closure and Reclamation Plan, the Licensee shall endeavour to carry out Progressive Reclamation.
- 1.4 The Licensee shall complete the reclamation work within the time schedule specified in the plan or as subsequently revised and approved by the Board.

**Mackenzie Valley Land and Water Board**



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**Chair**



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**Witness**

## **Schedule 1: General Conditions**

1. The Annual Report referred to in Part B, item 6 shall include, but not be limited to, the following:
  - a) An As-Built map identifying well site E-52 and associated infrastructure, a list of wells drilled during the year, as well as a summary of the operation to date;
  - b) The monthly and annual quantities in cubic metres of fresh Water obtained from each source and an update of the expected amount of Water required from each source for the upcoming season;
  - c) The volume of each Waste generated by source, the disposal location, and for those Wastes disposed of in multiple locations, the volume disposed of in each location;
  - d) A list of all drill additives and products used with a comparison to the PSAC Mud List with an accompanying examination of associated toxicological information;
  - e) Summary of construction, Modifications or maintenance work carried out on pipelines, right-of-ways, the Permanent Camp or Battery Facilities, including all associated structures;
  - f) Identification of any new areas susceptible to erosion;
  - g) Locations of encountered permafrost;
  - h) A description and performance evaluation of each preventative and mitigative measure implemented to address erosion control issues and an assessment of any re-vegetation programs;
  - i) Volume of treated soil removed from the Biotreatment Facility and analytical results for soil chemistry and particle size analysis, if applicable;
  - j) Results of any leachate testing and analysis and how leachate is discharged or stored from the Biotreatment Facility, if applicable;
  - k) Identification or update of all fuel storage locations and containment details;
  - l) A list of any spills and unauthorized discharges;
  - m) An update on commitments outlined in Schedule 1, item 3;
  - n) A description of any new technologies being researched;
  - o) Any updates or revisions to the approved Spill Contingency Plan;
  - p) Any updates or revisions to the approved Waste Management Plan;
  - q) A summary of any closure and reclamation work completed during the year and an outline of any work anticipated for the next year; and
  - r) Any other details on Water Use or Waste disposal requested by the Board by November 1 of the year being reported.

2. Final Mitigation Measures 8 and 10 as Approved by the Responsible Ministers and the National Energy Board for the Paramount Resources Ltd. Cameron Hills Extension Project – EA03-005:

**Measure 8**

The Review Board recommends that Paramount modify its spill reporting procedures for the Paramount Cameron Hills developments to include notice of spill occurrences to potentially affected communities. Spills must be reported according to the Northwest Territories Spill Reporting Procedures.

**Measure 10**

The Review Board recommends that Paramount, in the case of an isolated water crossing, maintain downstream water flow at pre-in-stream work levels. All in-stream work must be completed as expediently as possible to mitigate disruption of fish movements.

3. Developer's Commitments from the Mackenzie Valley Environmental Impact Review Board's Report of Environmental Assessment and Reasons for Decision on the Paramount Cameron Hills Extension Project EA03-005:

DAR p.4	Pipelines crossing the Cameron River and its major tributary, above ground crossings are constructed by hanging the pipe from bridges. Secure crossings-leak detection.
DAR p.58	Paramount prefers to rely on natural encroachment to revegetate disturbed areas. When natural Encroachment is not progressing quickly or in especially erosion prone areas seeding will be undertaken. Only certified Canada #1 seed will be used. The seed mix will be Regreen sheet X wheatgrass 15%, Awned wheatgrass 25%, Fall rye 50%, Slender wheatgrass 10%.
DAR p.58	The local communities will be notified when the published Project updates so that anyone using the area will be aware of construction activities and to ensure appropriate avoidance or precautionary measures can be implemented.
DAR p.59	Paramount's operating guidelines for working in permafrost areas will be adhered to when areas of permafrost are encountered.
DAR p.60	Equipment operators will be careful to avoid gouging or otherwise disturbing banks or lake/stream bottoms.
DAR p.60	At no time shall any waste fluid, treated or otherwise, be discharged to surface waters.
DAR p.62	Water required for winter road construction will be obtained from the preferred water source Lake and/or the drilled water wells.
DAR p.63	Ice bridges as described in the DOT handbook (GNWT 1993) will be constructed over those drainages not frozen to the bottom at the time of access construction. This is expected to be relevant to the crossings of the Cameron River and its major tributaries.
DAR p.63	Special attention will be made to avoid introducing foreign material into the stream.
DAR p.63	Clean snow and ice will be used to construct the ice bridges to the extent feasible. Should any soil or other materials be accidentally introduced onto the ice of the watercourse, it will be removed before spring break-up so that no deleterious materials are allowed into the water. Depending on snow conditions, logs may be placed in the channel to facilitate ice bridge construction to ensure safe vehicle operation. If this method is used, all logs would be removed prior to spring break-up.
DAR p.63	The crossing will either be removed completely, or "V" notched to allow flow during break-up.
DAR p.63	No refuelling of vehicles will be allowed within 100m of any watercourse.
DAR p.63	If banks of a drainage are disturbed during construction, a pre-disturbance bank profile will be re-established which may include using rock riprap, organic cribbing, bundled logs, or other stabilization methods.

DAR p.66-67	Pipeline crossings will be done by one of the following methods: 1. Open Cut; 2. Aerial Crossing; 3. Horizontal Directional Drilling; or 4. Isolated. Details can be found on page 66-67.
DAR p.68	Mitigative measures for minimizing disturbance at water crossings include: 1-10. Details can be found on page 68.
DAR p.69	The flowlines will be hydrostatically tested using methanol.
DAR p.70	Paramount will install heavy-walled pipe where the Inspector identifies permafrost.
DAR p.74-75	Mitigative measures for minimizing disturbances associated with the use of proposed water sources include: 1-7. Details can be found on page 74-75.
DAR p.80	All snow/ice fill will be constructed using clean snow only; no dirt or other material that could adversely affect the watercourse will be used.
DAR p.80	All watercourses will be crossed at a 90-degree angle where the shoreline slope is shallow.
DAR p.81	Vibrators will be used on ice only where lakes are frozen to bottom otherwise they will be stacked on either side of the waterbody.
DAR p.84	Where the disturbance track expands to greater than 2m in width, a temporary log bridge may be placed over the crossing or gravel may be deposited to stabilize the ford.
DAR p.86	Mitigative measures for minimizing disturbances from waste handling include: 1-6. Details can be found on page 86.
DAR p.87	Mitigative measures for minimizing disturbances from Drilling Fluid include: 1-5. Details can be found on page 87.
DAR p.88	Sewage and greywater will be stored in camp sumps and treated with lime, as required.
DAR p.88	Combustible garbage will be burned in a diesel-fired incinerator.
DAR p.88	Non-combustible garbage will be contained in garbage bins and removed to an approved landfill.
DAR p.88	Garbage will be collected and stored properly.
DAR p.88	Sewage sumps will be treated with lime, backfilled and compacted.
DAR p.97	Sumpless drilling techniques will be used for drilling operations at Cameron Hills.
DAR p.193	Crossings of larger waterbodies will also use snow and ice bridges or existing bridges wherever feasible.
DAR p.193	Surface water hydrology is related to increased runoff potential in cleared areas as compared to forested areas. This effect will be minimized by leaving ground vegetation intact.
DAR p.193	Standard mitigation measures such as diversion ditches and berms, silt fence installation and revegetation will be implemented in areas of erosion potential.
DAR p.193	Water will be withdrawn from identified water source lakes to aid in the construction of snow/ice surface layer for wellsites and winter access roads, to provide make-up water for well Drilling Fluid, and for well control.
DAR p.193-194	Drilling Wastes will be stored in on-site tanks, and waste volume will be minimized by re-using clear fluids.

DAR p. 194	Drilling Waste solids will be disposed of by mix-bury-cover methods on-site or at remote pit locations to be determined by suitable soil and groundwater conditions.
DAR p. 194	Waterbody crossings will be located in areas with minimum topographic relief to minimize impacts to banks.
DAR p.194	Should flow be present at the time of crossing, an effective isolation method (dam/pump) or trenchless technique (horizontal directional drill) would be used.
DAR p.194	Waterbody bed material will be replaced in such a manner as to ensure that the substrate replaced onto the trench will not dam water.
DAR p.195	Water withdrawal during the operations phase will be limited to access road maintenance and potential amine make-up water if fuel sweetening is required.
DAR p.195	During open water conditions, large waterbodies, such as the Cameron River and larger tributaries, will be crossed via permanent bridges and small waterbodies will be forded.
DAR p.195	Bridge and plank installation will be used where appropriate and feasible to reduce sediment disturbance and bank deterioration.
DAR p.209	Camp sumps and Drilling Waste remote pits will be installed with low permeability sediments (silts and clays) to minimize potential for vertical migration of pit or sump fluids to any shallow aquifers.
DAR p.209	In the event of accidental surface contamination, Paramount will implement the spill response plan according to steps described on page 209.
DAR p.211	Paramount will take steps to mitigate potential impacts associated with pits including location, low permeability sediments or installation of a liner.
DAR p.211	Chemicals will be stored in accordance with legal and regulatory requirements.
DAR p.256	In order to mitigate impacts best management practices will be used for erosion and sediment control and site reclamation near the waterbody crossing and by the use of temporary or permanent bridge crossings.
DAR p.301	DFO guidelines will be followed to protect the potential fish habitat in water source lakes.
Transcripts Vol. 1 p.62:23-63:1	Paramount will commit to continue to submit on an annual basis water summary reports to the Mackenzie Valley Land and Water Board and also to DFO that summarizes water use per source location.

## **Schedule 2: Conditions Applying to Waste Disposal**

1. The Waste Management Plan referred to in Part D, item 1 shall include, but not be limited to, the following:
  - a) A definition of Waste management goals and objectives including environmental, social and regulatory factors;
  - b) Identification and description of existing and proposed locations for Waste management activities including site physical, surface and subsurface characteristics, drainage patterns, substrate absorption rates, and geotechnical characteristics;
  - c) Identification of all Waste types including a description of Waste characteristics, the source of generation, estimated volume/mass to be produced, and the potential environmental effects;
  - d) Description of how Waste reduction techniques will be considered for each Waste type. That is, source reduction as the most preferred method, followed by reuse, recycle/recovery, treatment, and the least preferred method being disposal;
  - e) A description and rationale for the method(s) that will be employed to manage each Waste type;
  - f) A description of the activities and related infrastructure involved in each Waste type management;
  - g) An engineering design report with any supporting engineered drawings that accounts for all life stages of applicable infrastructure, from construction, operation, to closure and reclamation. Where applicable, the infrastructure design report is to include details of construction specifications and QA/QC requirements, as well as monitoring requirements for each life stage of the infrastructure. The engineering design report for Waste infrastructure must include any pertinent information from studies that support the design and operation with reference to any supporting documents.;
  - h) Details regarding the quality of effluent to be deposited; and
  - i) A description of Sewage generation volumes.

2. The Biotreatment Construction and Operation Plan referred to in Part D, item 4 shall include, but not be limited to, the following:
- a) Details on the location of the Biotreatment facility;
  - b) The expected amounts of contaminated soils and snow to be contained and treated;
  - c) Sources and characteristics of the contaminated soils;
  - d) A contingency plan in case volumes exceed expectations;
  - e) Details for leachate management;
  - f) Any planned usage of treated soils;
  - g) Acceptable soils types;
  - h) Details on treatment processes and soil manipulation processes (frequency and mode of tillage, frequency and extent of additives);
  - i) Remediation standards; and
  - j) Methods and frequency of inspection and maintenance details;



### **Schedule 3: Conditions Applying to Sediment and Erosion Control**

1. The Sediment and Erosion Control Plan referred to in Part E, item 1 shall include, but not be limited to:
  - a) A collection of all existing erosion prevention, control and mitigation designs plans;
  - b) The criteria used to assess areas within the Project site that are sensitive to erosion and/or sedimentation;
  - c) A theoretical discussion on preventative and mitigative measures employed and their related performance evaluations; and
  - d) A discussion of sediment and erosion control contingency plans.

#### **Schedule 4: Conditions Applying to Monitoring**

1. The Site-Wide Monitoring Program referred to in Part F, item 1 shall include, but not be limited to:
  - a) A summary of the potential impacts to Water from Project-related activities including, but not limited to:
    - i. runoff from disturbed land surfaces,
    - ii. contamination of Water due to decant or discharge of Wastewater,
    - iii. erosion, including the degradation of permafrost, at Watercourse crossings, discharge points and other disturbed areas that could lead to the deposition of sediments into Water, and
    - iv. spills.
  - b) A summary of mitigation measures in place to prevent, reduce or manage the potential impacts to Water from Project-related activities;
  - c) A map and attached table or detailed legend illustrating monitoring and sampling locations;
  - d) A description, including a detailed rationale, of the type of monitoring required to achieve the objectives listed in Part F, item 1. This description shall include, but not be limited to, the type of work being carried out, the particular type of infrastructure being monitored, and the particular phase of the work or infrastructure being monitored (e.g. construction, operation, closure, etc);
  - e) Description of monitoring protocols, methodologies, parameters and frequency specific to each monitoring type identified above in Schedule 4, item 1 c);
  - f) A summary of baseline data including:
    - i. baseline data collected to date;
    - ii. identification of baseline data gaps; and
    - iii. description of methods for filling in baseline data gaps or methods for approximating baseline conditions if necessary;
  - g) Description of quality assurance and quality control measures followed for each monitoring type. This may include training provided to on-site staff carrying out specific types of monitoring;
  - h) A description of the adaptive management strategy that will be employed to respond to the results of the Site Wide Monitoring Program;
  - i) Link to Contingency Planning (for spills etc.); and
  - j) Any other items as directed by the Board.

2. The Annual Monitoring Report shall include, but not be limited to, the following information:
- a) A summary of monitoring activities conducted under the Site-Wide Monitoring Program,
  - b) Updated maps illustrating all sampling as carried out;
  - c) Summaries of all data and information generated under the Site-Wide Monitoring Program in an electronic and printed format acceptable to the Board;
  - d) An analysis and interpretation of the results;
  - e) An evaluation of any identified environmental changes relative to baseline conditions that occurred as a result of the Project;
  - f) An evaluation of the overall effectiveness of the Site-Wide Monitoring Program to date;
  - g) Recommendations for refining the Site-Wide Monitoring Program to improve its effectiveness as required;
  - h) Description of any adaptive management measures that will be undertaken to address monitoring results.

## Schedule 5: Conditions Applying to Spill Contingency Planning

1. Spill amounts reportable to the NWT/NU 24-hour Spill Report Line (NWT/NU Spills Working Agreement, April 2008).

TDG Class	Substance	Reportable Quantities for NWT/NU 24-Hour Spill Reports
1.0 2.3 5.2 6.2	Explosives Compressed gas (toxic/corrosive) Infectious substances Sewage and wastewater (unless otherwise authorization)	Any amount
7.0 None	Radioactive materials Unknown substance	
2.1 2.2	Compressed gas (flammable) Compressed gas (non-corrosive, non-flammable)	Any amount of gas from containers with a capacity greater than 100 L
3.0	Flammable liquid	≥ 100 L
4.1 4.2	Flammable solid Substances liable to spontaneously combustible	≥ 25 kg
4.3	Water reactant substances	
5.1	Oxidizing substances	≥ 50 L or 50 kg
5.2 9.0	Organic peroxides Environmental hazardous substances intended for disposal	≥ 1 L or 1 kg
6.1 5.0 9.0	Toxic substances Corrosive substances Miscellaneous Products, Substances or Organisms	≥ 5 L or 5 kg
9.0	PCB mixtures of 5 or more parts per million	≥ 0.5 L or 0.5 kg
None	Other contaminants, e.g., crude oil, drilling fluid, produced water, waste or spent chemicals, used or waste oil, vehicle fluids, wastewater, etc.	≥ 100 L or 100 kg
None	Sour natural gas (i.e., contains H <sub>2</sub> S) Sweet natural gas	Uncontrolled release or sustained flow of 10 minutes or more
3.0 None	Flammable liquid Vehicular fluid	≥ 20 L When released on a frozen water body used as a working surface
Report releases/potential releases of any size that: <ul style="list-style-type: none"> <li>• are near or into an open water body;</li> <li>• are near or into a designated sensitive environment or sensitive habitat;</li> <li>• pose an imminent threat to human health or safety; or</li> <li>• pose an imminent threat to a listed species at risk or its critical habitat.</li> </ul>		

Note: L = litre; kg = kilogram; PCB = polychlorinated biphenyls; ppm = parts per million.

## **Schedule 6: Conditions Applying to Closure and Reclamation**

1. The Closure and Reclamation Plans referred to in Part I, item 1 shall include, but not be limited to, the following:
  - a) Project description;
  - b) Closure and end land use goals, objectives, and criteria;
  - c) Community engagement associated to closure and reclamation planning;
  - d) Identification of the Project environment including natural runoff Waters from the development site, the natural physiography, chemistry, biology and traditional environments and consideration of the impacts of any changes in these environments;
  - e) Requirements for closure and reclamation including but not limited to:
    - i) The restoration of natural drainage and the restoration of stream banks at the operation site(s);
    - ii) The potential for groundwater contamination and any associated remediation plans;
    - iii) The plans for re-vegetation of disturbed sites;
    - iv) Identification of any facilities or areas which may have been affected by development such that potential pollution problems exist and any associated remediation plans;
  - f) A phased approach and implementation schedule for closure and reclamation;
  - g) Maps delineating all disturbed areas, borrow material locations, and site facilities; and
  - h) A proposal identifying measures by which reclamation costs will be financed by the Licensee upon closure.

**Annex A Schedule**

*Supplemental information to be submitted by Licensee as required through Licence Conditions*

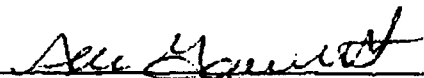
<b>Licence Condition</b>	<b>Report Title/Require Action</b>	<b>Timeline for Submission</b>
<b>B.3</b>	Water Use Fee	June 30 each year
<b>B.4</b>	Security Deposit	Within 30 days of Licence activities
<b>B.6</b> (Schedule 1, item 1)	Annual Report	June 30 each year
<b>C.3</b>	Method for Determining Watercourse Instantaneous Flow Calculations	30 days prior to the use of Water from any Watercourse
<b>D.1</b> (Schedule 2, item 1)	Waste Management Plan	June 30, 2011
<b>D.3</b>	Waste Management Plan Review	Annually
<b>D.4</b> (Schedule 2, item 2)	Biotreatment Construction and Operation Plan	3 months prior to construction
<b>D.5</b>	Uncontrolled flow analysis	Immediately following the flow
<b>D.8</b>	Decant analysis and reporting	As soon as possible
<b>E.1</b> (Schedule 3, item 1)	Sediment and Erosion Control Plan	June 30, 2011

<b>E.3</b>	<b>Sediment and Erosion Control Plan Review</b>	<b>Annually</b>
<b>F.1</b> (Schedule 4, item 1)	<b>Site-Wide Monitoring Program</b>	<b>June 30, 2011</b>
<b>F.4</b>	<b>Site-Wide Monitoring Program Review</b>	<b>Annually, if necessary</b>
<b>F.5</b> (Schedule 4, item 2)	<b>Annual Site-Wide Monitoring Program Report</b>	<b>Annually</b>
<b>G.1</b>	<b>Notification of Modifications</b>	<b>60 days prior to beginning work</b>
<b>G.3</b>	<b>As-built plans and drawings of Modifications</b>	<b>Within 90 days of completion</b>
<b>H.1</b>	<b>Spill Contingency Plan</b>	<b>June 30, 2011</b>
<b>H.3</b>	<b>Spill Contingency Plan Review</b>	<b>Annually</b>
<b>H.5</b>	<b>Loss of circulation Drilling Muds</b>	<b>End of drilling</b>
<b>I.1</b> (Schedule 6, item 1)	<b>Closure and Reclamation Plan</b>	<b>6 months prior to component closures</b>

**Mackenzie Valley Land and Water Board**



**Chair**



**Witness**

**General Procedures for the Administration of Licences  
Issued Under the *Northwest Territories Waters Act*  
in the Northwest Territories**

1. At the time of issuance, a copy of the Licence is placed on the Public Registry in the office of the Mackenzie Valley Land and Water Board (MVLWB or the Board) in Yellowknife and is then available to the public.
2. To enforce the terms and conditions of the Licence, the Minister of Indian Affairs and Northern Development has appointed Inspectors in accordance with subsection 35(1) of the *Northwest Territories Waters Act*. The Inspectors coordinate their activities with staff of the MVLWB. The Inspector responsible for Licence MV2010L1-0013 is located in Fort Smith, NT.
3. To keep the MVLWB and members of the public informed of the Licensee's conformity to the Licence's conditions, the Inspectors prepare reports which detail observations on how each item in the Licence has been met. These reports are forwarded to the Licensee with a covering letter indicating what action, if any, should be taken. The Inspection Reports and Cover Letters are placed on the Public Registry, as are any responses received from the Licensee pertaining to the Inspection Reports. It is therefore of prime importance that you react in all areas of concern regarding all inspection reports so that these concerns may be clarified.
4. It is the responsibility of the Licensee to apply to the MVLWB for a new licence. The past performance of the Licensee, new documentation and information, and points raised during a public hearing, if required, will be used to determine the terms and conditions of any new licence. Please note that if the Licence expires and another has not been issued, then Water and Waste disposal must cease, or you, the Licensee, would be in contravention of the *Northwest Territories Waters Act*. It is suggested that an application for a new licence be made at least eight months in advance of the Licence's expiry date.
5. If, for some reason, Licence # MV2010L1-0013 requires amendment, a public hearing may be required. You are reminded that applications for amendments should be submitted as soon as possible to provide the MVLWB ample time to complete the amendment process. The process may take up to six months or more depending on the scope of the amendment requested.

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6. Specific clauses of your Licence make reference to the Board, Analyst or Inspector. The contact person, address, phone, and fax number of each is:

**Mackenzie Valley Land and Water Board:**

Public Registry Clerk  
Mackenzie Valley Land and Water Board  
7th Floor - 4922 48 Street  
P.O. Box 2130  
YELLOWKNIFE NT XIA 2P6  
Phone (867) 669-0506  
Fax (867) 873-6610

**Analyst:**

Analyst  
Water Laboratory  
Indian and Northern Affairs Canada  
P.O. Box 1500  
4601- 52nd Avenue  
YELLOWKNIFE NT XIA 2R3  
Phone (867) 669-2780  
Fax (867) 669-2718

**Inspector:**

Inspector  
Indian and Northern Affairs Canada  
136 Simpson Street  
PO Box 658  
FORT SMITH NT X0E 0P0  
Phone (867) 872-2558  
Fax (867) 872-3472

## Distribution List by Fax

## Cameron Hills Area – Dehcho

## First Nations/ Aboriginal Organizations

President Paul Herrington	Hay River Métis Government Council		<a href="mailto:hmmc@northwestel.net">hmmc@northwestel.net</a>
President Albert Lafferty	Fort Providence Métis Council #57		867-699-4319
Chief Joachim Bonnetrouge	Deh Gah Got'ie Dene Council		867-699-3134
	West Point First Nation		MAIL ONLY
Chief Roy Fabian	K'atlodeeche First Nation		<a href="mailto:landsnresources@katlodeeche.com">landsnresources@katlodeeche.com</a>
Chief Lloyd Chicot	Ka'a'gee Tu First Nation	21	867-825-2002
Mandell Pinder, Barrister & Solicitors	Legal Counsel - Ka'a'gee Tu First Nation		604-681-0959
Grand Chief Sam Gargan	Dehcho First Nations	35	867-695-2038
President Betty Villebrun	Northwest Territory Métis Nation	45	867-872-2772
Priscilla Canadien	Fort Providence Resource Mgmt Board	27	867-699-3133
Lee Mandeville	Dene Nation		<a href="mailto:lmandeville@denenation.com">lmandeville@denenation.com</a>
Michael Nadli, CEO	Deh Cho Land Use Planning Committee	41	867-699-3166
Chief James Ahnassay	Dene Tha' First Nation		780-321-3886
Robert Freedman, JFK Law	Legal Counsel - Dene Tha' First Nation		250-381-8567

## Communities

Mayor Kelly Schofield	Town of Hay River	16	867-874-3237
Mayor Tina Gargan	Hamlet of Fort Providence	18	867-699-3360
Mayor Allan Flamand	Enterprise Settlement Corporation		<a href="mailto:sao_enterprise@airware.ca">sao_enterprise@airware.ca</a>

## Government - GNWT

Glen Mackay	GNWT - PWNHC		<a href="mailto:GLEN_MCKAY@gov.nt.ca">GLEN_MCKAY@gov.nt.ca</a>
Patrick Clancy	GNWT - ENR		<a href="mailto:Patrick_Clancy@gov.nt.ca">Patrick_Clancy@gov.nt.ca</a>
ENR	<a href="mailto:Gnwt_ea@gov.nt.ca">Gnwt_ea@gov.nt.ca</a>		<a href="mailto:Gnwt_ea@gov.nt.ca">Gnwt_ea@gov.nt.ca</a>
Rhonda Batchelor	GNWT - DOT		<a href="mailto:Rhonda_Batchelor@gov.nt.ca">Rhonda_Batchelor@gov.nt.ca</a>
Duane Fleming	GNWT - Health		<a href="mailto:Duane_fleming@gov.nt.ca">Duane_fleming@gov.nt.ca</a>
Kris Johnson	GNWT - ITI		<a href="mailto:K_Johnson@gov.nt.ca">K_Johnson@gov.nt.ca</a>

## Government - Federal

Scott Stewart	South Mackenzie District Office - INAC		<a href="mailto:Scott_Stewart@inac.gc.ca">Scott_Stewart@inac.gc.ca</a> <a href="mailto:Charlene.Coe@inac-ainc.gc.ca">Charlene.Coe@inac-ainc.gc.ca</a>
Robert Jenkins	Head, Regulatory and Science Advice - Water Resources - INAC		<a href="mailto:Robert.Jenkins@inac.gc.ca">Robert.Jenkins@inac.gc.ca</a>
Angela Norris	Mineral & Petroleum Resources Directorate - INAC		<a href="mailto:norrisa@inac.gc.ca">norrisa@inac.gc.ca</a>
James Lawrance	Manager Aboriginal Territorial Relations - INAC		<a href="mailto:Consultationsupportunit@inac.gc.ca">Consultationsupportunit@inac.gc.ca</a> <a href="mailto:James.lawrance@inac.gc.ca">James.lawrance@inac.gc.ca</a>
	Intergovernmental Affairs - INAC		<a href="mailto:intergov@inac.gc.ca">intergov@inac.gc.ca</a> 669-2710
	Environment Canada		<a href="mailto:ec.ea.nwt@ec.gc.ca">ec.ea.nwt@ec.gc.ca</a>
Rick Walbourne	DFO		<a href="mailto:Rick.Walbourne@dfo-mpo.gc.ca">Rick.Walbourne@dfo-mpo.gc.ca</a>
Agnieszka Bandura	Environment Canada		<a href="mailto:agnieszka.bandura@ic.gc.ca">agnieszka.bandura@ic.gc.ca</a>

## Others

Joe Acom	Consultant		<a href="mailto:joeacom@theedge.ca">joeacom@theedge.ca</a>
Administration	CPAWS		<a href="mailto:nwtadmin@cpaws.org">nwtadmin@cpaws.org</a>
Vern Christensen	MVEIRB		<a href="mailto:vchristensen@mveirb.nt.ca">vchristensen@mveirb.nt.ca</a>
Bharat Dixit	NEB	61	403-292-5503
John Donihee	Barrister and Solicitor		<a href="mailto:donihee@telusplanet.net">donihee@telusplanet.net</a>
Everett Bunnell	Barrister and Solicitor		403-264-5973
Terence Hughes	Regulatory and Community Affairs		<a href="mailto:Terence.hughes@paramountres.com">Terence.hughes@paramountres.com</a>

If there are any errors in this distribution list, please contact our office.

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Sarah Banes	SENES	<a href="mailto:sbaines@senes.ca">sbaines@senes.ca</a>
Zabey Nevitt	MVLWB	<a href="mailto:zabey@mvlwb.com">zabey@mvlwb.com</a>

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