



December 2, 2010

Northwest Territories Water Board
5114 – 49 Street, CJCD Building
P.O. Box 1326
Yellowknife, NT X1A 2N9

Attention: Executive Director

**Submission of Water License Application
2011 Unipkat I-22 Project**

IEG Consultants Ltd. (IEG) is please to submit on behalf of Shell Canada Energy (Shell) a Water License Application and Project Description for the proposed 2011 Unipkat I-22 Sump Remediation.

The following documents are attached for your review:

- Water license application – Schedule III
- Water license application fee and first year fee payment, cheque in the amount of \$60.00
- Project Description for the proposed Unipkat I-22 Sump Remediation

Please find with this cover letter, seven printed copies and one CD copy of Shell Canada's submission to the NWT Water Board.

If you have any questions please feel free to contact me at (403) 990-1382 or at sbird@ieg.ca.

Yours truly,

IEG CONSULTANTS LTD.


Sam Bird B.Sc.

c.c. Randall Warren – Shell Canada Energy

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File: A04025A02

SCHEDULE III
(Subsection 6 (1))

APPLICATION FOR LICENSE, AMENDMENT OF LICENSE OR RENEWAL OF LICENSE

	APPLICATION/LICENSE NO. (amendment or renewal only)
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1. NAME AND MAILING ADDRESS OF APPLICANT

Shell Canada Energy
400 – 4th Avenue SW
PO Box 100, Station M
Calgary, AB T2P 2H5
Telephone: 403-691-2521
Fax: 403-269-7948
Attn: Randall Warren

2. ADDRESS OF HEAD OFFICE

Same as previous

3. LOCATION OF UNDERTAKING (describe and attach a map, indicating watercourses and locations of any proposed waste deposits)

Unipkat I-22 is located within the Inuvialuit Settlement Region along the eastern bank of Arvoknar Channel in the Mackenzie Delta, Northwest Territories. The site is located approximately 115 km northwest of Inuvik, 108 km north of Aklavik, 95 km south west of Tuktoyaktuk. All activities associated with the project are located on federal Crown land. Location coordinates are:

- Latitude 69°11'36.07"N Longitude 135°20'33.88"W
- UTM: 0486531.5 E, 7675777.0 N NAD 83 (zone 8)

Figure 4-1 and 4-2 in the attached Project Description shows the site location.

4. DESCRIPTION OF UNDERTAKING (describe attach plans)

The water use permit application is in reference to the Project Description submitted to the Environmental Impact Screening Committee on November 12, 2010 for the proposed Unipkat I-22 Sump Remediation. Shell has conducted Phase II ESA activities at this site on two occasions (2007 and 2010) to locate the drilling sump, delineate constituents and their concentrations at specific locations. The site is being eroded by a rate of approximately 1 meter per year. Based on Shell's risk based remedial action plan, this site is classified as medium priority due to the potential of the channel eroding the drilling sump. Metal debris visible along the riverbank is proposed to be removed as part of this project.

The primary goal of the planned remedial program is to excavate and remove the historical main drilling sump and any residual petroleum hydrocarbon affected soils around the sump from the site. The sump and surrounding area is at risk of erosion over the next 30 years and the proposed program would reduce or eliminate that risk. To access the site approximately 50 km of ice roads and some ice pads on site are to be constructed for the proposed activities. Please refer to the attached submitted Project Description for additional details.

The proposed project also includes a component that proposes to excavate historical debris from the eroding riverbank to allow for remedial activities at two riverbank locations. The debris in the bank is residual waste from the old camp sump and from the historical flarepit. It is proposed that excavation activities would not be done into free

standing water. The modification of the riverbank and bed is to allow for proper disposal of the waste (soil and debris) and would not disrupt large areas. Attached is figure 1 showing locations of the proposed riverbank modification.

5. TYPE OF UNDERTAKING

- | | | |
|---|----------------------|-----------------------|
| 1. Industrial <input checked="" type="checkbox"/> | 4. Power _____ | 6. Conservation _____ |
| 2. Mining and milling _____ | 5. Agriculture _____ | 7. Recreation _____ |
| 3. Municipal _____ | | |
8. Miscellaneous (describe) _____
-

6. WATER USE

- | | | | |
|--|-------------------------------------|--------------------------------------|-------|
| To obtain water | <input checked="" type="checkbox"/> | Flood control | _____ |
| To cross watercourse | _____ | To divert water | _____ |
| To modify the bed or bank of watercourse | <input checked="" type="checkbox"/> | To alter the flow or, or store water | _____ |

Water will be used for the construction of ice roads to the site, for ice pads for the establishment of the camp, and associated infrastructure. Water will not be used for camp activities, potable water will be tanked and brought in from Inuvik, see section 5.7 Drinking water requirements in the attached Project Description for additional details.

Location of the proposed ice road can be viewed on figures 9-1 and 9-2 on the attached project description. The ice road location is along one reach of the channel and does not cross any overland section.

7. QUANTITY OF WATER INVOLVED (liters per second, liters per day, or cubic meters per year, including both quantity to be used and quality to be returned to source)

The water used for the construction of the ice road and camp ice pads will be obtained from Arvoknar Channel and/or Middle Channel of the MacKenzie River. The proposed water extraction locations will be based on the progression of ice road construction and will be in accordance with NWT Water Board license conditions and DFO guidelines. It is estimated that a volumetric water use withdrawal amount of up to 350 m³/day may be required. Daily volumes may vary depending upon thickness of naturally formed ice at the time of program initiation as well as withdrawal locations.

8. WATER DEPOSITED (quantity, quality, treatment and disposal)

The water used for the project will be naturally returned to the ecosystem during spring thaw. No additional water effluent will be discharged as part of the project. Section 5.8 - Waste Management and Wastewater Treatment and Disposal of the project description details the plans for all collected waters from camp activities.

9. OTHER PERSONS OR PROPERTIES AFFECTED BY THIS UNDERTAKING (giving name, mailing address and location; attach list if necessary)

N/A

10. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION

The proposed use of mitigation measures, which includes the completion of the project under winter conditions (snow cover, frozen ground) will result in no significant residual impacts. Section 12 Proposed Mitigation and Anticipated Environmental Impacts and Section 13 Cumulative Effects of the project description has additional details. Methods of riverbank and bed modification discussed in Section 12 of the Project Description have been developed with the input of Department of Fisheries and Oceans (DFO).

11. CONTRACTOR AND SUB-CONTRACTORS (names, addresses and function)

Hazco Environmental Services – Prime Contractor
#103, 3055 114th Avenue SE
Calgary, AB T2Z 0K7

IEG Consultants Ltd – Environmental Consultants
500 -2618 Hopewell Place NE
Calgary, AB T1Y 7J7

Further sub-consultants will be determined via competitive bids, and will be awarded at a later date.

12. STUDIES UNDERTAKEN TO DATE (attach list if necessary)

Hrudey et al. (1976) Industry/Government Working Group in Disposal of Waste Fluids from Petroleum Exploratory Drilling in the Canadian North.

Kokelj and GeoNorth (2002). Drilling mud sumps in the Mackenzie Delta region: Construction, abandonment and past performance. Department of Indian Affairs and Northern Development. Yellowknife, NT.

Inuvialuit Environmental and Geotechnical and Komex International Ltd. (2002) Mackenzie Delta Geophysical Survey at the Reclaimed Drilling Sump Sites Unipkat I-22 and N-12, dated October 29, 2002.

IEG Environmental and Komex International Ltd. (2005). 2004 Drilling Waste Sump Inventory Study in the Inuvialuit Settlement Region, dated March 2005.

IEG Consultants Ltd., (2009) Unipkat I-22 2007 Phase II Environmental Site Assessment, dated December 2009.

IEG Consultants Ltd., (2010) Unipkat I-22 2010 Supplementary Delineation Program, unpublished.

13. PROPOSED TIME SCHEDULE

Start date: January 2011 Completion date: March 2011

Randall Warren Manager Reclamation & Drilling Waste
NAME (Print) TITLE (Print)

Sam Bird Dec. 2, 2010
SIGNATURE DATE
*Sam Bird
on behalf of
Randall Warren*

FOR WB OFFICE USE ONLY

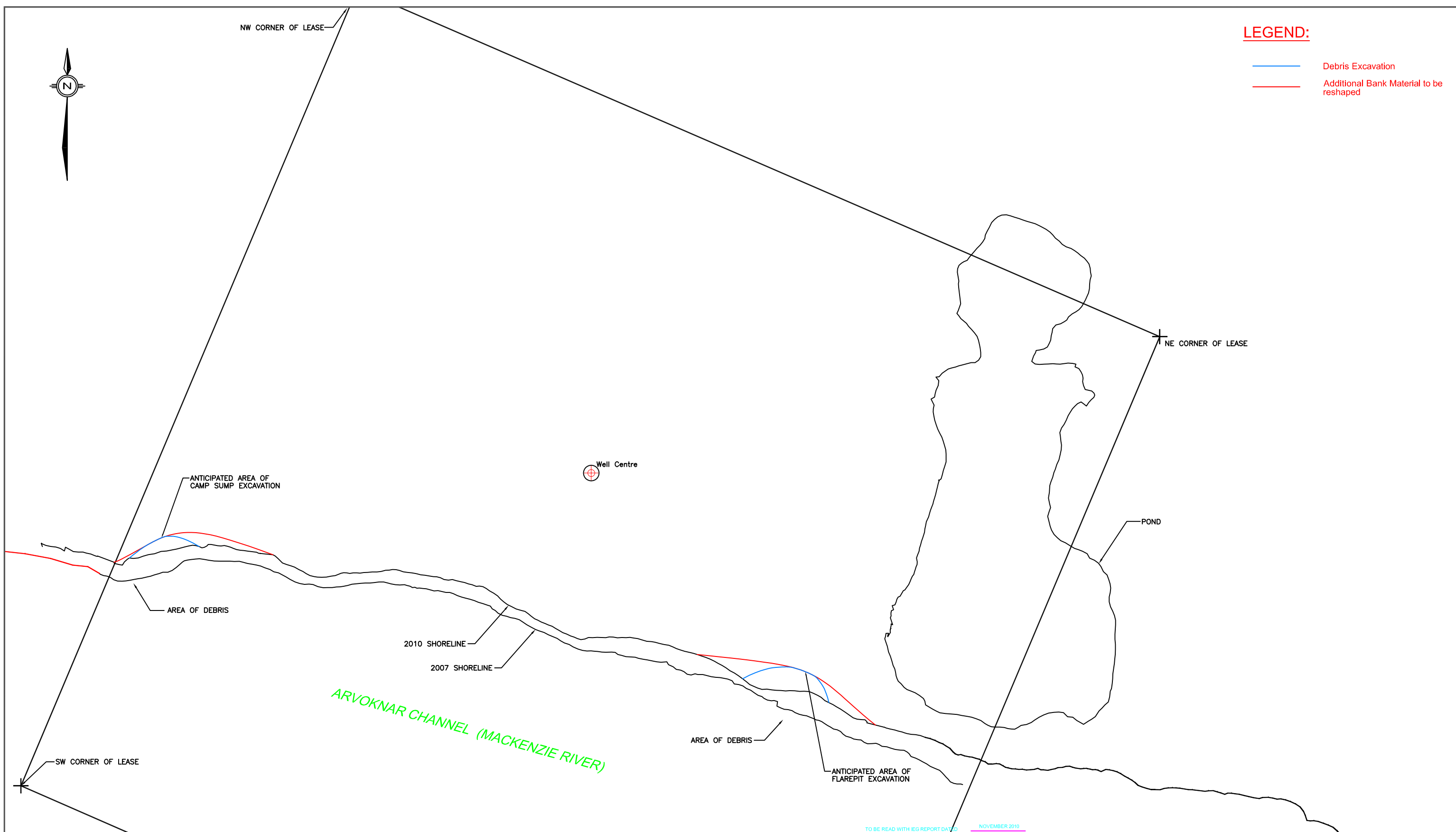
APPLICATION FEE	Amount: \$ 30.00	Receipt No.: _____
WATER USE DEPOSIT	Amount: \$ 30.00	Receipt No.: _____



NW CORNER OF LEASE

LEGEND:

- Debris Excavation
- Additional Bank Material to be reshaped



ARVOKNAR CHANNEL (MACKENZIE RIVER)

Well Centre

POND

ANTICIPATED AREA OF CAMP SUMP EXCAVATION

AREA OF DEBRIS

2010 SHORELINE

2007 SHORELINE

AREA OF DEBRIS

ANTICIPATED AREA OF FLAREPIT EXCAVATION

SW CORNER OF LEASE

NE CORNER OF LEASE

NOTES:

1. 2007 SHORELINE SURVEY CONDUCTED BY INUKSUK GEOMATICS
- 2010 SHORELINE SURVEY CONDUCTED BY IEG AND HAS 1 METRE ACCURACY.



TO BE READ WITH IEG REPORT DATED NOVEMBER 2010

CLIENT

Shell Canada Energy



PROJECT

UNIPKAT I-22 WATER LICENSE APPLICATION

TITLE

SITE PLAN WITH SHORELINE AREAS

PROJECT No.

A04025A01.02

FIG. No.

FIGURE 1

A04025A01.FIG-1.dwg

K002-FB-M