BEAUFORT SEA GEOTECHNICAL AND GEOPHYSICAL DATABASES

Prepared for:

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1991 March



ABSTRACT

In 1988, EBA Engineering Consultants Ltd. (EBA) compiled a geotechnical report catalogue and a database of 1288 borehole logs completed in the Canadian Beaufort Sea between 1973 and 1987. In 1989 the database was expanded to include 1051 surficial sediment corehole logs completed prior to 1988, and 46 borehole logs completed in 1988. This report summarizes 1991 efforts to expand the geotechnical database compiled by EBA, and a geophysical database compiled in 1988 by McElhanney Geosurveys Ltd. Logs compiled in 1991 include 71 relatively deep boreholes or coreholes, and 332 surficial sediment samples. The present assignment was carried out under a contract with Supply and Services Canada on behalf of Indian and Northern Affairs Canada.

Amoco Canada Petroleum Ltd., ESSO Resources Canada Ltd., Gulf Canada Resources Ltd., the Geological Survey of Canada (GSC), and the Canadian Hydrographic Service (CHS) provided valuable data for the database expansion. Although the database now includes over 2700 log entries, it is not yet complete. Five borehole logs from the GSC database which were incomplete were not included in the database. Also, there are estimated to be several hundred more shallow corehole logs available at GSC from the 1970 and 1971 M.V. Hudson Surveys which should be included in future additions to the database. Several geophysical reports were not obtained; one from Gulf (1990 program) and the remaining reports from ESSO. The now-defunct organizations Arctic Petroleum Operators Association and Beaufort-Delta Oil Project Ltd. also have numerous reports which thus far have not been obtained or checked for relevant information.



TABLE OF CONTENTS

																												P	ag	e
	ABSTR	ACT	•	•		•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	i
1.0	INTRO	DUC	TIO	ł		•	•	•		•	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	1
2.0	PROJE	CT	0UTI	LIN	Ε	•	•	•	•	•	•		•	•	•				•	•	•	•	•		•	•	•	•	•	1
2.1 2.2 2.3 2.4 2.5	Objec Metho Deliv Data Proje	dol era Pre	ogy ble: sen:	s tat	ion	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	3
3.0	CATAL GEOPH												EP()R1	ſS))	•	•	•	•	•	•	•	•	•		•		•	5
4.0	DATAB	ASE	DE:	SCR	IP1	10	N	•		•		•			•	•	•	•	•	•		•	•		•	•	•			6
4.1 4.2 4.3 4.4 4.5 4.6 4.7	Study Coreh Refer Sampl Soil Soil Groun	enc e T Des Cla	e to ype cri ssi	o S pti fic	ea on ati	Le	vel • Da	ata		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	.]	9 0 0 0 1
5.0	CLOSU	IRE	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	1	2
TABLES																														
FIGURES																														
APPENDIX	(A:	Rep	ort	Cá	ıta'	log	ue	Da	at	a I	Di	ct	io	na	ry															
APPENDI	(В:	Rep	ort	Cá	ta	log	ue	Eı	nt	ri	es	-												Ну	/dı	rog	jra	ıpł	iic	:
APPENDI)	(C:	Bor Rep	reho ort	le, s	'Co	reh	olo	e/:	Su	rf	ic	i a	1 S	ed	im	en	it I	Lo	g/	Ge	opl	hys	sio	cal	D	at	a S	δοι	ırc	:е
APPENDI)	(D:	Add	liti	ona	1 1	Ref	er	en	ce	S																				



1.0 INTRODUCTION

In 1988, EBA Engineering Consultants Ltd. (EBA) compiled a geotechnical report catalogue and a database of 1288 borehole logs completed in the Canadian Beaufort Sea between 1973 and 1987. To expand this database, in 1989, 1051 (pre-1988) surficial sediment corehole logs and 46 (1988) borehole logs were added. In 1991, Indian and Northern Affairs Canada (INAC) retained EBA through Supply and Services Canada (DSS) to expand the geotechnical report catalogue and borehole databases prepared previously by EBA, and to expand the geophysical report catalogue prepared in 1988 by McElhanney Geosurveys Ltd. (McElhanney). Logs compiled in 1991 include 71 relatively deep boreholes and coreholes, and 332 surficial sediment samples. This report provides a summary of the information collected and activities undertaken to complete the contract.

The project was conducted under DSS Contract No. A7134-0-0037/01-ST dated 1991 January 31, amended 1991 March, and authorized by Mr. P. Dixon, Science Contracting Officer. The terms of reference are documented in EBA's letters of 1991 January 17 and 1991 March 19 and in the Statement of Work appended to DSS's Contract Documents. INAC's technical authority for the project was Mr. R.J. Gowan, P.Geol.

2.0 PROJECT OUTLINE

2.1 Objectives

The primary objective of the study was to continue compilation of, in a standardized (ESEBase) format, a database of surficial sediment core and deep borehole data from the Canadian Beaufort Sea. The database is intended for use in the evaluation of granular resources for construction materials. The database logs are intended to be accurate stratigraphic and textural



interpretations of the originals; however, some detailed engineering (for example: strength, consolidation, etc.) data has been omitted. Existing geotechnical and geophysical report catalogues (compiled in 1988 by EBA and McElhanney, respectively) were to be updated to reflect additions made to the data base in 1989 and 1991. Computer routines for data handling were to be modified. The computer routines are addressed under separate cover.

Some of the major tasks that were required to complete the database included:

- a) Confirm the availability of and acquire copies of the geotechnical and geophysical reports including borehole/corehole/surficial sample data from Federal government departments and the major Beaufort Sea petroleum operators.
- b) Update the existing geotechnical and geophysical report catalogues.
- c) Interpret and standardize, in ESEBase format, the stratigraphic, index test (moisture content, Atterberg Limits, gradation analyses) and permafrost data for each log.
- d) Review and edit the final report catalogue entries and logs as required.
- e) Prepare floppy disk and paper copies of the report catalogue entries and logs.
- f) Prepare this final report.



2.2 Methodology

The listing of geotechnical and geophysical reports developed for the 1988 contract was redistributed to the major Beaufort Sea operators (Amoco Canada Petroleum Company Ltd. (Amoco), ESSO Resources Canada Ltd. (ESSO), and Gulf Canada Resources Ltd. (Gulf) to help identify missing or newly acquired data. Permission to use their data was also obtained. The Canadian Hydrographic Service (CHS) provided several hydrographic field reports. A Geological Survey of Canada (GSC) database file of available data obtained in 1989 was also used. The data which has been compiled comprises the following:

Amoco: 99 surficial sediment logs

ESSO : 13 borehole logs

Gulf : 235 surficial sediment logs and 2 borehole logs

GSC : 65 corehole logs

The GSC database also contained 5 borehole logs which were considered to contain insufficient data to be included.

GSC is known to have several hundred additional logs (Hudson cores). Although these were obtained in the early 1970's, they were not included in the database because of time limitations and because they would require extensive revision to convert from detailed geological logs to compatible engineering logs.

Gulf has 2 boreholes and 6 gravity cores (1988), which have not been released for use in this project.

Some 12 boreholes done for Amoco (Canadian Marine Drilling Ltd.) in 1979 and 1980 have not been included due to time constraints.



A report catalogue data dictionary is presented in Appendix A. Appendix B contains report catalogue database entries. A listing of reports identified as containing Beaufort Sea borehole/corehole/surficial sediment/geophysical data is provided in Appendix C. Appendix D lists other reference reports.

2.3 Deliverables

Final deliverables required under this contract are listed below:

- a) Report catalogue databases for geotechnical, geophysical, and hydrographic reports for the Beaufort Sea in two copies of floppy disks.
- b) Borehole/corehole/surficial sediment ESEBase database for the Beaufort Sea in two copies on floppy disks and two bound paper copies.
- c) This final report (fifteen copies) describing the work undertaken and summarizing significant aspects of the database.
- d) Revised data handling routines, source code and documentation (to be presented under separate cover).

2.4 Data Presentation

The report catalogue compiled in 1988 has been updated to include report titles and job numbers, and is presented on a disk in a database called 'GPGT88'. The 1991 updates to the 1988 database are presented on disk: databases called 'GP91' and 'GT91' for geophysical and geotechnical reports, respectively.



In total, 403 logs are included in this update of the database.

All logs are stored on disk in one database called 'BEAU1991'. Using ESEBase, the database can be combined with the databases compiled in 1988 and 1989.

The printed logs are presented under separate cover in two volumes titled "Beaufort Sea Database, 1991: Surficial Sediment, Corehole and Borehole Log Data".

A location map for the project is presented as Figure 1.

2.5 Project Participants

Personnel from EBA's Calgary office were primarily involved in this project, compiling the logs and report catalogue entries, and reporting. EBA Edmonton staff also participated by providing reports, field data, and some ESEBase format logs.

Liaison with the Beaufort Sea operators, the Geological Survey of Canada, and the Canadian Hydrographic Service was conducted by EBA Calgary staff. The following organizations and people should be acknowledged for their assistance:

- Amoco Canada Petroleum Company Ltd.
 - Mr. Kevin Hewitt (geotechnical)
 - Mr. Rocque Goh (geophysical)
- ESSO Resources Canada Ltd.
 - Mr. Jeff Weaver, Ph.D (geotechnical)
 - Mr. Rick Lowe (geophysical)
 - Mr. Don Hersak (geophysical)



- Geological Survey of Canada
 - Mr. Steve Blasco (Bedford Institute)
 - Mr. Bob Harmes (Atlantic GeoScience Centre)
 - Mr. John McIsaac (Institute of Petroleum and Sedimentary Geology)
 - Mr. Mike Woods and Mr. Dan Dobson (Canadian Hydrographic Service)
- Gulf Canada Resources Ltd.
 - Mr. Chris Graham

3.0 CATALOGUE OF GEOTECHNICAL AND GEOPHYSICAL FIELD ACTIVITIES

Geotechnical and geophysical information for the databases was obtained from 44 reports. Some reports cover large geographic areas; therefore, in order to facilitate searching for this data, the catalogue of field activities includes 50 entries with separate entries for 'sub-projects' from smaller geographic zones.

The catalogue includes these entries, in dBase III + format, standardized according to the Data Dictionary presented in Appendix A. Appendix B contains the report entries. As some new borehole logs were compiled from several reports catalogued in 1988, these report entries are also presented. Appendix C provides a listing of all reports that contain Beaufort Sea borehole logs. These have been organized by Proprietor/Year/Month and Consultant/Contractor who obtained the data.

As noted previously, the database is as complete as possible with the exception of un-released and unidentified data. Inevitably, there may be some reports or logs that have been overlooked. It would be appreciated by the authors that anyone identifying missing data, bring it to our attention. Reports that contain borehole data which is not included in the database are also listed in the catalogue and uniquely identified.



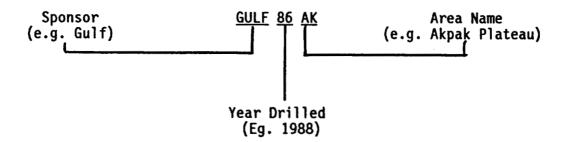
4.0 DATABASE DESCRIPTION

The Beaufort Sea Database was prepared with ESEBase, Version 3.0. The original format, numbering system, datum, etc., are not consistent for the raw borehole data received. The following sub-sections describe some of the modifications required to standardize the logs to ESEBase format for inclusion in the present database.

Figure 2 presents a typical borehole log, as produced by the ESEBase program.

4.1 Study Number

The study number identifies the report from which borehole information is obtained, and is used as a link to other databases. This field is 10 characters long, with the first 4 characters identifying the sponsor, the following 2 characters the year of the field work, and up to 4 characters to identify the area or site name, as follows:



It should be noted that reports catalogued in 1988 do not yet follow this study number format; these study numbers should be revised.

ebo

4.2 Corehole/Borehole/Surficial Sediment Sample Number

To accommodate similar corehole or borehole numbers from logs acquired in different areas, some renaming and renumbering has been done. This renumbering follows a similar format to the 1988 and 1989 work. Gravity cores, piston cores, and grab samples were also distinguished from boreholes where possible. ESEBase allows eight characters for a borehole name. Some examples of revised identification format are presented herein. For reports compiled in 1991, all logs had sample numbers of two digits or less, thus, the year of sampling was included in the borehole name, for example:

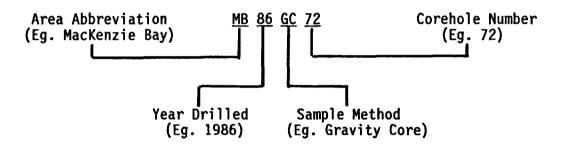
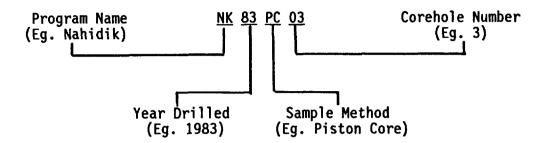


Table 1 summarizes the area abbreviations used for each block in the database. For blocks included in previous work the same abbreviation was used where possible. Some new blocks have been added.

In previous work, gravity cores from the Ukalerk area were bisected into North and South as the South section is considered to belong to the Erksak region. Renaming consisted of replacing the "UB" prefix with the appropriate prefix "NU" or "SU" but the actual corehole number remained the same. For the 1991 work, gravity cores and boreholes compiled were from the South Ukalerk area.

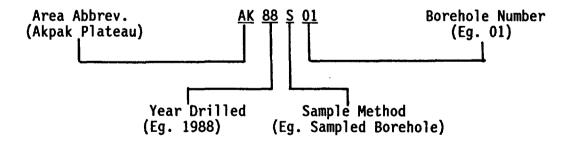
In 1989, many coreholes from the GSC database were identified by the program name rather than a geographic region name as an identifying prefix. the corehole name format was otherwise consistent with the other renamed boreholes or coreholes. For instance:





In 1991, the remaining coreholes from GSC (with the exception of five boreholes from the Arctic Kiggiak program which had insufficient information to compile) were located on a base map, and named according to region. the coreholes compiled previously have also been located, however corehole names have not yet been updated to reflect the geographic region.

In 1989, boreholes obtained from EBA job numbers 0101-4809 and 0101-4912 were renamed to reflect the job number, as the original borehole names did not necessarily reflect geographical regions, but rather location on a proposed pipeline route - for example, centreline or transverse line or alternate line. These borehole names should be changed to reflect geographical regions. For example, borehole 4809-01 (originally P588501 - for "sampled borehole on pipeline centreline") would be renamed as follows:



The original corehole or borehole numbers (i.e. from the original logs) are identified in the top centre block of the printout logs and in "note_3" or "xref 3" of the database index page, if these have been changed.



Page 10

The study number identifying the report source of the borehole is recorded in the "xref_1" field of the database index page. In future, a granular source number will be recorded in the "xref 2" field.

4.3 Reference To Sea-Level

To facilitate searching capabilities with respect to sea level or seabed, all coreholes/boreholes/surficial sediment samples have been referenced to a seabed at zero metres elevation. To allow ESEBase to provide seabed profiles, a negative water depth was entered in the "top/hole" field of the database index page for each corehole log.

4.4 Sample Type

Table 2 presents a list of sample types and corresponding abbreviations used for the database. For gravity cores having no recovery where the depth of penetration is unknown, the sample type is not described under sample data, but only under soil description.

4.5 Soil Description

The stratigraphic information on the logs includes the following components where available.

- principal component (e.g. Clay, Sand, Silt, etc.)
- Unified Soil Classification (USC)
- principal component modifier(s) (e.g. silty, some sand, etc.)
- particle shape
- structure
- moisture
- consistency
- plasticity
- colour
- ground ice description



It should be noted that many gravity core entries are the composite of several trials at the same location (for instance A, B and C). Where change in soil type does not occur at the same depth, an average depth was calculated. However, the actual depth of a particular sample (generally the most descriptive sample was input) was plotted. For this reason, occasionally the range of a particular soil sample does not match exactly to the soil description.

Many gravity core logs gave no indication of the depth of penetration. In these cases, an arbitrary value of 0.5 m was assigned.

4.6 Soil Classification Data

Moisture content, Atterberg Limits, limited grain size analyses and Unified Soil Classification (USC) data have been included in the database.

All moisture contents from original logs have been included, except where several moisture contents were preformed on subsamples of a single sample. If the moisture contents were similar for the subsamples then only one moisture content value was recorded; however, moisture contents which varied significantly from one subsample to the next (e.g. sand and clay layers within a sample) were included.

Atterberg Limits and grain size analyses were used to check and provide Unified Soil Classification System (USC) classifications. Stratigraphy entered in the 'soil description' section of ESEBase have USC classifications in upper and lower case characters. Uppercase characters (e.g. CL) imply that there is soil test data to confirm the classification, while lower case USC classifications (e.g. cl) implies that there is only an estimate of the USC classification. On occasion there is soil test data which is



insufficient to fully determine the classification, for example if a grain size analysis has been done but silt and clay contents have not been distinguished and no Atterberg Limits are available. Thus if a soil description is incomplete, for instance for a sand with a high fines content, it would be difficult to say whether the sand should be classed as "SM" or "SC". In these cases lower case USC classifications are used, particularly if the logger made no attempt at classification. All USC classifications have been entered in upper case characters in the 'Basic Soil Characteristics Data' file where test data is available.

All available grain size data has been included in the database. 'D50' data was not available for the logs and was not calculated due to time constraints. This data would be a valuable addition to the logs. Silt and clay contents are presented in separate fields in the 'Basic Soil Characteristics Data' file.

4.7 Ground Ice Description and Sample Temperature

The ground ice description standard used for this database follows the guidelines established by NRC. Where available and readily interpreted, ground ice information has been stored in the 'Ground Ice Description' field of the 'Scientific', 'Permafrost' and 'Rock Data' file. Soil sample temperature has been entered in the 'Temp' field of the 'Scientific', 'Permafrost' and 'Rock Data' file. This field is presented on the borehole log for logs where temperature data is available.

5.0 CLOSURE

In total, 412 corehole, borehole, and surficial sediment logs from the Beaufort Sea have been summarized in a database intended to allow interpretation of the distribution of granular resources and restrictions on their development. These logs provide a valuable addition to the database completed in 1988, and updated in 1989.



In the future, the 5 GSC logs and GSC Hudson core data not yet included in the database could be added.

Regular maintenance of the database by updating annually with new borehole data will provide a reliable source of data on Beaufort Sea granular resources.

Respectfully submitted,

EBA ENGINEERING CONSULTANTS LTD.

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Reviewed by:



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RIO:JDL:vjs

PERMIT TO PRACTICE EBA ENGINEERING CONSULTANTS LTD.
Signature Sell Envell For
PERANT NUMBER: P 245
The Assirtation of Professional Engineers, Geologists and Geophysicists of Alberta



LIST OF TABLES

TABLE 1 EXPLORATION BLOCK NAMES AND ABBREVIATIONS

TABLE 2 SAMPLE TYPES AND ABBREVIATIONS



TABLE 1

EXPLORATION BLOCK NAMES AND ABBREVIATIONS (includes 1988, 1989 and 1991 work)

BLOCK NAME	ABBREVIATION
Aagnerk	AA
Adlartok	AD
Amauligak	AE, AW, AF, AM
Akpak	AK
Alerk	AL
Angasak	AN
Aok	AOK
Arnak	AR
Amerk	AS
Baillie Island	BI
Nerlerk (Borrow)	BNR
Blow River	BR
Tingmiark (Borrow)	BTN
Tarsiut (Borrow)	BTAR
East Amauligak	EA
Arksak Borrow	EK
Ernerk	ERK
Irkaluk (Foundation)	FIRK
Natiak (Foundation)	FNAT
Nerlerk (Foundation)	FNR
Garry Island	G, GI
Herschel (borrow)	НВ
Herschel Island	HI
Hooper/Pelly Region	НР
Isserk (Borrow)	IB
Isserk (I-15)	IR, 1SRK
Issigak (Borrow)	IBS, IK, ISGK
Immerark	IE
Igaluk	IG



TABLE 1

(Continued)

EXPLORATION BLOCK NAMES AND ABBREVIATIONS (includes 1988, 1989 and 1991 work)

BLOCK NAME	<u>ABBREVIATION</u>
Igiloliroak	IGK
Amauligak I-06	IM
Irkaluk	IRK
Issigak	IS, II
Issungnak South	IS
Itiyok	IT
Inukpak	IU
Kakoluk	KA
Kogyuk	KB, KI, KY
Kadluk	KD
Kugdjuk	KG
Kaubvik	КН
Kaglulik	KK
Kugmallit Bay	KM
Kaglulik South	KS
Kilannak	KL
Kingark	KN
King Point	КО .
Kopanoar	KP
Kringalik	KR
Kaslutut	KT
Kugmallit Trough	KU
MacKenzie Bay	MB
Minuk (Borrow)	MI
Minuk	MK
Miterk	MT
MacKenzie Trough West	MTW
Nayak	NA
Nektoralik	NE



TABLE 1

(Continued)

EXPLORATION BLOCK NAMES AND ABBREVIATIONS (includes 1988, 1989 and 1991 work)

BLOCK NAME	<u>ABBREVIATION</u>
Nipterk	NP
Nipterk South (Borrow)	NS
Nipterk West (borrow)	NW
North Ukalerk	NU
Omat (Borrow)	OBS
0rksok	OK
Pullen Island	PLN
Sauvrak	PI, SK
Pelly Island	PY
Roland Bay	RB
Russel Inlet	RI
South Adlartok	SA
Sartok	SR
South Immerark	SI
South Orksok	SO
South Tarsiut	ST
South Ukalerk	SU
South Kogyuk	SY
Thetis Bay	ТВ
Tarsiut	TD, TW
Tiregluit	TG
Tuktoyaktuk Harbour	TH
Tent Island	TI
Unark	UK
West Tingmiark	WT
Nahidik (Program name used on 1989 where block name not available)	NK



TABLE 2 SAMPLE TYPES AND ABBREVIATIONS (Includes 1988, 1989, 1991 work)

	SAMPLE TYPE	ABBREVIATION
1)	Grab Sample	Grab, G, GS, SH
2)	Thin-Wall Tube	TWT, TT
3)	Shelby Tube	T, TT
4)	Heavy-Wall Tube	HWT, HT
5)	Split-spoon	SS
6)	Core	С
7)	Gravity Core	GC
8)	Liner	L
9)	Piston Sample/Core	PIST, PC
10)	Bibrocore	VIB
11)	Drop Core	DC
12)	No Recovery	NR



LIST OF FIGURES

FIGURE 1 AREA MAP OF THE BEAUFORT SEA

FIGURE 2 TYPICAL ESEBASE BOREHOLE LOG



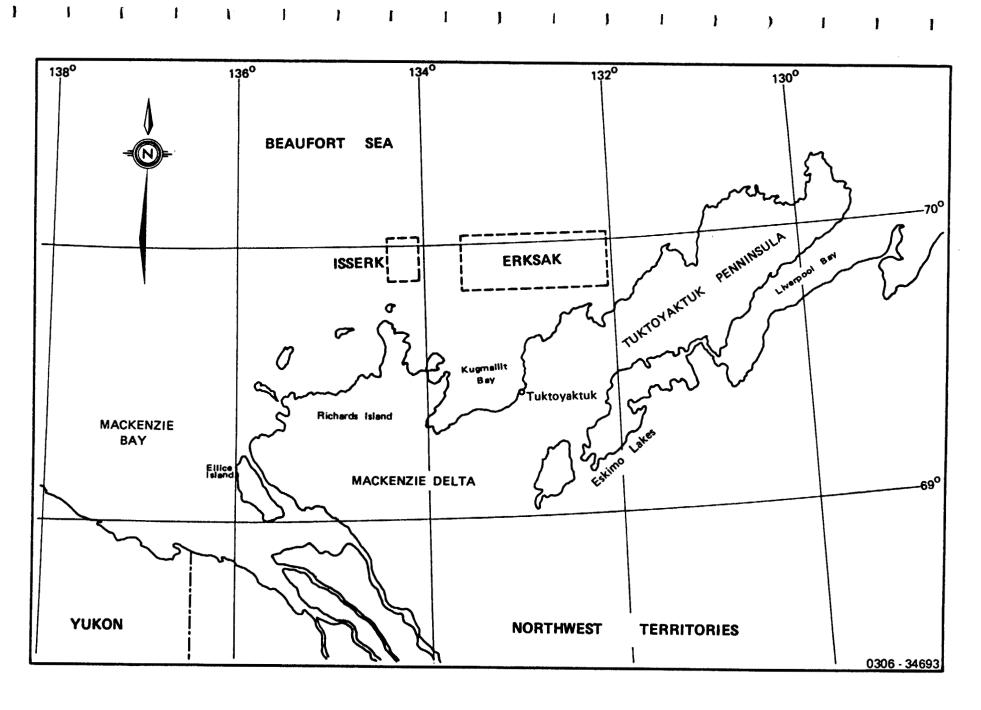


FIGURE 1 AREA MAP OF THE BEAUFORT SEA

AKPAK	Pl	LATEA	U, PIPELINE ROUTE DE	PTHS ARE R	EFEREN	CED TO	SEAB	ED		BOREH	OLE No.	AK	88G(201		
SUL (TER DEPTH						Project No: EBA 0101-4912B						
				M ZONE: 8						ELEVATION 0.00 (m)						
SAMPL	E	TYPE	SHELBY TUBE NO RECOVERY	⊠ SPL/T	SPOON CORE					SHIPEK G	RAB	WITY (ORE			
DEРТН (m)	SAMPLE TYPE	SAMPLE NO	SOIL DESCRIPTION		PLASTIC I	40	M.C. ◆ 60	LIQUID 80					USC	ОЕРТН (#)		
0.0			SAND (sw) — fine to medium grained, clean, alive overlying SILT (ml) — clayey, laminae (thin horizantal), low plastic, alive grey END OF HOLE										SW	-1.0		
														-2.0		
1.0	F	EBA	Engineering Consultan	ıts Ltd.		СОМ	PLETION	I DEPTH 0	.2 m		COMPLE	TE 88,	/08/	-3.0		
			Calgary, Alberta			LOGO	SED BY	KWJ WVG		DWG N	Ю.В-112			1 of 1		

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APPENDIX A REPORT CATALOGUE DATA DICTIONARY



CATALOGUE OF GRANULAR RESOURCES - RELATED INFORMATION

DATA DICTIONARY - REPORT CATALOGUE

PART A: STUDY REFERENCE AND LOCATION

AA - STUDY NUMBER:

A unique study identifier number which serves as a link to other databases (e.g. Source Database, ESEBase Borehole Database).

AB - YEAR:

The calendar year in which the majority of the field work on the study was complete. (e.g. 1983)

ABI - MONTH:

The month in which the majority of the field work was completed (e.g. 07)

AC - SPONSOR:

The name of the company, department, agency or organization sponsoring the study. (e.g. Indian and Norther Affairs Canada, Yukon Transportation Engineering, Public Works Canada)

AC1 - SPONSOR JOB/FILE NUMBER:

AD - SPONSOR CONTACT NAME:

The name of the person within the sponsoring organization who might be contacted to obtain additional information on the study and/or authorization for its use.

AE - CONTRACTOR:

The name of the prime contractor, consultants or group contracted by the sponsor to undertake the study (e.g. EBA Engineering Consultants Ltd., Northern Engineering Services Company Ltd.)

AE1 - CONTRACTOR JOB/FILE NUMBER:

The contractor's file number



AE2 - CONTRACTOR CONTACT NAME

AE3 - REPORT TITLE:

The title of the original report

AF1 - MINIMUM ZONE:

The UTM zone in which the southwestern corner of the enclosing block occurs. (e.g. 07)

AF2 - MINIMUM EASTING:

The UTM grid line of the western extremity of the enclosing block. (e.g. 381987)

AF3 - MINIMUM NORTHING:

The UTM grid line of the southern extremity of the enclosing block. (e.g. 7548335)

AG1 - MINIMUM LATITUDE:

The latitude in decimal degrees of the southern extremity of the enclosing block (e.g. 69.72345)

AG2 - MINIMUM LONGITUDE:

The longitude in decimal degrees of the eastern extremity of the enclosing block (e.g. 135.03926)

AH1 - CENTRE LATITUDE:

The latitude in decimal degrees of the centre of the enclosing block (e.g. 70.72345)

AH2 - CENTRE LONGITUDE:

The longitude in decimal degrees of the centre of the enclosing block (e.g. 135.53926)

AI1 - CENTRE ZONE:

The UTM zone of the centre of the enclosing block (e.g. 08)



A12 - CENTRE EASTING:

The UTM grid line of the centre of the enclosing block (e.g. 476321)

AI3 - CENTRE NORTHING:

The UTM grid line of the centre of the enclosing block (e.g. 7602500)

AJ1 - MAXIMUM ZONE:

The UTM zone in which the northeastern corner of the enclosing block occurs (e.g. 08)

AJ2 - MAXIMUM EASTING:

The UTM grid line of the western extremity of the enclosing block. (e.g. 567428)

AJ3 - MAXIMUM NORTHING:

The UTM grid line of the northern extremity of the enclosing block (e.g. 7661560)

AK1 - MAXIMUM LATITUDE:

The latitude in decimal degrees of the northern extremity of the enclosing block (e.g. 70.72345)

AK2 - MAXIMUM LONGITUDE:

The longitude in decimal degrees of the western extremity of the enclosing block (e.g. 136.03926)

AL - GENERAL LOCATION - AREA NAME

-regional or local name in location map/ plan

AM - LOCATION MAP NUMBER:

The map or plan number of any small scale accompanying regional map or trackplot which indicates the location of the study area, or series of separate detailed study/borrow sites or regional survey lines.



AN - LOCATION MAP FORMAT:

The format or type of data containing the location of the study area, or series of separate detailed study/borrow sites or regional survey lines (e.g. paper copy; mylar original, folded blueline).

AO - LOCATION MAP SCALE:

The scale, expressed in terms of the representative fraction (e.g. 1:250,000) of any small scale accompanying regional map or trackplot which indicates the location of the study area, or series of separate detailed study/borrow sites or regional survey lines. The denominator only of the representative fraction is given since the numerator is consistently "1" (e.g. 250000)

AP - LOCATION MAP DIGITIZER NUMBER:

A unique five digit identifier number, to be assigned by INAC, which identifies a data set of points, lines, or polygons to be digitized from the location plan. This number links the report catalogue database to INAC's spatial database system.

AQ - LOCATION MAP ARCHIVING:

The general availability and where appropriate, specific location of storage of any map or plan number of any small scale accompanying regional map or trackplot which indicates the location of the study area, or series of separate detailed study/borrow sites or regional survey lines (e.g. sponsor/ contractor in-house, private/public repository, government agencies, etc.)

AR - SITE PLAN/SITE NAME:

Site or block name in site plans

AS - SITE PLAN NUMBER:

The map or plan number(s) of up to six larger scale accompanying local maps, site plans or trackplots which indicate the location of individual detailed study/borrow sites, boreholes/testpits/grab samples or detailed survey grids for separate study/borrow sites within the main study area.



AT - SITE PLAN FORMAT:

The format(s) or type(s) of up to six larger scale accompanying local maps, site plans or trackplots which indicate the location of individual detailed study/borrow sites, boreholes/testpits/grab samples or detailed survey grids for separate study/borrow site within the main study area (e.g. paper copy; mylar original, folded blueline).

AU - SITE PLAN SCALE:

The scale(s), expressed in terms of the representative fraction(s) (e.g. 1:50,000, 1:10,000) of up to six larger scale accompanying local maps, site plans or trackplots which indicate the location of individual detailed study/borrow sites, boreholes/testpits/grab samples or detailed survey grids for separate study/borrow sites within the main study area. The denominator only of the representative fraction is given since the numerator is consistently "1" (e.g. 5000)

AV - SITE PLAN DIGITIZER NUMBER:

A unique five digit identifier number or series of numbers, to be assigned by INAC, which identifies a data set of points, lines or polygons to be digitized from the site plans. This number links the report catalogue database to INAC's spatial database system.

AW - SITE PLAN ARCHIVING:

The general availability and, where appropriate, specific location of storage of up to six larger scale accompanying local maps, site plans or trackplots which indicate the location of individual detailed study/borrow sites, boreholes/testpits/grab samples or detailed survey grids for separate study/borrow sites within the main study area (e.g. sponsor/contractor in-house, private/public repository, government agencies).

AX - SOURCE NUMBERS:

A cross-reference field (to the source catalogue, when prepared) which lists the source numbers of the sources included in the report.

AY - SURVEY LINE NUMBERS/LOCATION DETAILS:

Description of geophysical or hydrographic survey line numbers or locations, or further location details of geotechnical studies.



PART B: STUDY DETAILS

BB - STUDY TYPE:

The type of data collected during the study or sub-study (e.g. hydrographic, geophysical, seabed sampling, geotechnical, dredging)

BC - STUDY SCOPE:

The areal scope of the study or sub-study (e.g. regional, site specific single site, many sites)

BD - STUDY SIZE:

The extent of size of the study in terms of number of potential borrow sites identified, number of testpits or boreholes, or total number of line kilometres of geophysical data. (e.g. 21 sites; 55 BH's; 145 km)

BE - SURVEY LEVEL:

The general purpose or level of detail of the study (e.g. airphoto interpretation, reconnaissance, exploration, delineation, production)

BF - SURVEY PATTERN:

The pattern in which the individual borrow sites within the study area occur, or in which boreholes or survey lines within specific detailed study sites were laid out. (e.g. random, corridor, line, grid)

BG - SURVEY SPACING:

The relative (e.g. random, wide) or actual (range and/or average) spacing of the survey data or study site. (e.g. 250 m E-W, 500 m N-S; 10 - 15 km)

BH - PROGRAM LENGTH/SURVEY LENGTH:

The length of the field data collection or survey program, in days or showing specific dates.

BI - SEASON:

The season of the year in which the field data collection or survey program was conducted. (e.g. late summer, winter)



BJ - EQUIPMENT TYPE:

The type(s) of equipment used to collect data or obtain samples. (e.g. hand-excavated testpits; D8 cat; sonic drill; CME 750 Auger drill, etc.)

BK - PENETRATION:

The average penetration of drilling or soil sampling equipment, (e.g. 5, 7.5, 10), directly related to the equipment type.

BL - RESOLUTION:

The suitability of the data for distinguishing variations in subsurface stratigraphy, expressed in relative (e.g. poor, variable, unknown) or actual (e.g. range and/or average in tenths of metres) terms. (e.g. 0.5)

BM - SAMPLING/RECORDING RATE:

The relative (e.g. continuous, intermittent, slow) and/or actual rate of sampling or recording. (e.g. samples at 1 m intervals; chart speed)

BN - SAMPLE/RECORDING QUALITY:

A description of the relative overall quality or range in quality of the data, samples or records with regard to its use for determining subsurface stratigraphy and/or borrow quality. (e.g. poor-fair, good, disturbed, etc.)

BO - SAMPLE/RECORDING TYPE(S):

Additional details on the type(s) of samples (e.g. 75 mm diam. CRREL core, 1-2 kg grab samples, 100 mm sonic casing) or records obtained with the indicated types of equipment.

BP - SAMPLE/RECORDING SIZE:

The total number(s) of samples obtained during the study, where appropriate, and related to the Sample/Recording type(s) (e.g. 75 grabs, 15 CRREL core)



BQ - INTERPRETATION/TESTING LEVEL:

The extent of laboratory testing of samples (e.g. routine classification testing only, concrete aggregate suitability testing); or the level of detail of the interpretation of geophysical records (e.g. field, preliminary, detailed) or geotechnical data (e.g. pit plans for 3 sources), as appropriate.

BR - REPORT LEVEL:

The type or level of detail of any report(s) resulting from the study. (e.g. annotated records, field logs/report only, summary/data compilation report, formal geophysical interpretation/geotechnical evaluation report)

BS - REPORT DISTRIBUTION:

The extent of distribution and/or general availability of any reports resulting from the study. (e.g. internal, sponsor/contractor only, specific government department/agencies/libraries, published)

BT - DATA ARCHIVING:

The general availability and, where appropriate, specific location of storage of raw data obtained during the study. (e.g. sponsor/contractor in-house, private/public repository, government agencies).

BU - OTHER REPORTS:

Related to present report or sources covered in present report.

BY1 - COMPILER:

Record compiled by (company/name).

BY2 - COMPILE DATE:

Date record compiled.

BY3 - DATA COMPILATION PROJECT NUMBER:



BZ1 - UPDATER:

Record updated by (Company/Name).

BZ2 - UPDATE DATE:

Date record updated (most recent).

BZ3 - DATA UPDATE PROJECT NUMBER:



APPENDIX B

REPORT CATALOGUE ENTRIES

B.1 - Geotechnical B.2 - Geophysical and Hydrographic



APPENDIX B.1 GEOTECHNICAL



CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: AMOC79TK MONTH: 7 YEAR: 1979

SPONSOR : AMOCO CANADA PETROLEUM COMPANY LTD. (CANMAR)

CONTACT: JOR NO

CONTRACTOR : EBA (FOR ALBERTA, PULLERITS, DICKSON AND ASSOC. LTD.)

: 0302-0610 CONTACT: MR. NEIL MACLEOD JOB NO

REPORT TITLE: GEOTECHNICAL DESIGN PARAMETERS FOR PROPOSED CANMAR BASE CAMP DOCK IN TUKTOYAKTUK

HARBOUR, NWT

COORDINATES : MINIMUM **CENTRE** MAXIMUM UTM: ZONE: 0 8 n EASTING: 0 0 0 0 0 0 NORTHING: 69.42976 OR: LATITUDE: 0.00000 0.00000 0.00000 LONGITUDE: 132.98476 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : TUKTOYAKTUK HARBOUR

NUMBER:

SCALE : 1:0 1:

FORMAT: ARCHIV: DIG NO:

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL SCOPE: ONE SITE

LEVEL: PRELIMINARY EXPLORATION

SIZE :

3 BHs SURVEY PATTERN: IRREGULAR

SURVEY SPACING: IRREGULAR

SEASON: SUMMER PROGRAM LENGTH: NA

EQUIPMENT : NA

PENETRATION: 5.2M-35.1M-55.22M (SAND, CLAY, SILT)

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : NA QUALITY: NA TYPE : NA SIZE : NA

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL STRATIGRAPHY

REPORT : NA

DISTRIB: SPONSOR/CONTRACTOR

OTHER : EBA 30-1469, 0301-34227, 101-2995, 101-2843.2, 101-2968 (10BHs)

ARCHIVING OF INFORMATION:

REPORT : SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/19 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

BEAUFORT SEA INDIAN AND HORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

YEAR: 1961

STUDY NUMBER: D-81-002

: AMOCO CAMADA PETROLEUM CO LTD. (DOME) SPONSOR

CONTACT: MR. KEVIN HEWITT JOB NO

CONTRACTOR : EBA Engineering Consultants Ltd. and McClelland Engineers, Inc.

MONTH: 7

: 101-3210 CONTACT: MR. KEVIN JONES JOB NO

REPORT TITLE: 1981 OFFSHORE GEOTECHNICAL SITE INVESTIGATION, SOUTH TARSIUT BORROW AREA, BEAUFORT

SEA

MINIMUM COORDINATES : CENTRE MAXINUM UTM: ZONE: 0 EASTING: 462000 466500 Ω NORTHING: 7736500 0 7739500 0.00000 OR: LATITUDE: 0.00000 0.00000 0.00000 LONGITUDE: 0.00000

LOCATION: NAME :

GENERAL LOCATION

SITE PLAN

Tarsiut South Borrow Area

NUMBER: 1

SCALE : 1:2272727

1:2272727

FORMAT: ARCHIV: DIG NO:

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : geotechnical SCOPE: 1 site LEVEL: delineation

SIZE :

25 BHs, 22 clamshells

SURVEY PATTERN: random SURVEY SPACING:

random

SEASON: summer

PROGRAM LENGTH:

EQUIPMENT : Failing 1500 rotary drill, Zenkowitch vibrocore

PENETRATION: BH: 0.3-1.2-3.7m

RESOLUTION : good

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1.0-3.0m intervals

QUALITY: disturbed - stratigraphy intact

TYPE : clam-shell, vibrocore, grab, thin-walled tubes SIZE : 20 clamshell, 21 core, 2 grab, 7 tubes

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : soil classification

REPORT : formal geotechnical evaluation

DISTRIB: sponsor/contractors

OTHER :

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR DATA : sponsor/contractors

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

: 88/03 COMPILATION PROJECT NO.: 0306-34413 DATE

UPDATED BY : EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/27

UPDATE PROJECT NO.: 0306-34693

BEAUFORT SEA INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: D-82-002 MONTH: 7 YEAR: 1982

SPONSOR : AMOCO CANADA PETROLEUM CO LTD. (DOME, CANMAR)

IOB NO : CONTACT: K. Hewitt

CONTRACTOR : EBA Engineering Consultants Ltd. and McClelland Engineers, Inc.

JOB NO : 101-3605 CONTACT: MR. KEVIN JONES

REPORT TITLE: 1982 OFFSHORE GEOTECHNICAL SITE INVESTIGATION, BAILLIE ISLAND GRAVEL SEARCH,

BEAUFORT SEA

CENTRE MAXIMUM COORDINATES : MINIMUM UTM: ZONE: 584090 EASTING: 512180 0 NORTHING: 7765050 0 7885520 0.00000 0.00000 OR: LATITUDE: 0.00000 0.00000 0.00000 LONGITUDE:

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : Baillie Island

NUMBER: 1,A.1,A.2 1,A.1,A.2

SCALE: 1:2272727 1:2272727,270270,675

FORMAT: ARCHIV: DIG NO:

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : dredging SCOPE: 1 site

LEVEL: stratigraphy, delineation

SIZE: 22 clam-shell samples

SURVEY PATTERN: random

SURVEY SPACING: random

SEASON: SUMMER PROGRAM LENGTH:

EQUIPMENT : clam-shell sampler, bucket dredge sampler

PENETRATION: seabed surface

RESOLUTION : good

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : N.A. QUALITY: disturbed

TYPE : clam-shell samples

SIZE : 22 grab

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : grain distribution

REPORT : summary/data compilation report

DISTRIB: sponsor/contractors

OTHER :

ARCHIVING OF INFORMATION:

REPORT :

DATA : sponsor/contractors

DATA COMPILATION AND UPDATING:

COMPILED BY:

DATE : 88/03 COMPILATION PROJECT NO.: UPDATED BY : EBA ENGINEERING CONSULTANTS LTD.

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: APOA70SBFT MONTH: 0 YEAR: 1970

SPONSOR : ARCTIC PETROLEUM OPERATORS ASSOCIATION

JOB NO : APOA #3 CONTACT:
CONTRACTOR : GOLDER BRAWNER & ASSOCIATES
JOB NO : CONTACT:

REPORT TITLE: 1970 BOTTOM SAMPLING PROGRAM, SOUTH COAST OF BEAUFORT SEA - MACKENZIE BAY TO

LIVERPOOL BAY, NWT

COORDINATES : MINIMUM CENTRE MAXIMUM ZONE: UTM: 0 0 0 EASTING: 0 0 0 NORTHING: 0 0 0 OR: LATITUDE: 0.00000 0.00000 0.00000 LONGITUDE: 0.00000 0.00000 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : SOUTH COAST OF BEAUFORT SEA MACKENZIE BAY TO LIVERPOOL BAY

NUMBER:

SCALE : 1:0 1:

FORMAT:
ARCHIV: SPONSOR/CONTRACTOR

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL SCOPE: REGIONAL LEVEL: BOTTOM SAMPLING

SIZE: 11 BHs, 36 INSITU TESTS (SPT, VANE)

SURVEY PATTERN: NA SURVEY SPACING: NA

SEASON: NA PROGRAM LENGTH: NA

EQUIPMENT : NA

PENETRATION: 2.7M-12.2M-18M-30M (SILT, SILT-SAND, SAND)

RESOLUTION : NA

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : NA QUALITY: NA TYPE : NA SIZE : NA

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL CLASSIFICATION, PROPERTIES, STRENGTH, PERMAFROST

REPORT : NA

DISTRIB: SPONSOR/CONTRACTOR OTHER : EBA #3-0150, 3-0177

ARCHIVING OF INFORMATION:
REPORT: SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/08 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

BEAUFORT SEA Indian and Northern Affairs Canada

CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: BDOP75BFT MONTH: 0 YEAR: 1975

SPONSOR: BEAUFORT-DELTA OIL PROJECT LTD.

JOB NO: 39 (NO. 6) CONTACT:

CONTRACTOR: EBA ENGINEERING CONSULTANTS LTD.

JOB NO : 3-0177 CONTACT: MR. DON HAYLEY

REPORT TITLE: MACKENZIE BAY - A CRITICAL REVIEW OF THE AVAILABLE SEA BOTTOM AND SUBSURFACE

INFORMATION, 1976 MAY

CENTRE MAX I MUM COORDINATES : MINIMUM UTM: ZONE: 8 8 EASTING: 460000 0 552000 NORTHING: 7710000 0 7760000 0.00000 0.00000 0.00000 OR: LATITUDE: LONGITUDE: 0.00000 0.00000 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : MACKENZIE BAY TO KUGMALLIT BAY

NUMBER: 3-0,3-1,4-0

SCALE: 1:800000 1 FORMAT: PAPER COPY

ARCHIV: SPONSOR/CONTRACTOR

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: UNKNOWN

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOPHYSICAL, GEOTECHNICAL

SCOPE: MANY SITES

LEVEL: REVIEW OF EXISTING DATA, SEISMIC AND SOIL DATA COLLECTION (UNDER EBA #965.2)

SIZE: 80000 SQ KM

SURVEY PATTERN: NA SURVEY SPACING: N/A

SEASON: N/A PROGRAM LENGTH: N/A

EQUIPMENT : NA

PENETRATION: 150M+ (SILT, SAND, CLAY)

RESOLUTION : GENERALLY GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : NA QUALITY: NA TYPE : NA SIZE : N/A

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL STRATIGRAPHY REPORT : GEOTECHNICAL REVIEW DISTRIB: SPONSOR/CONTRACTOR

OTHER : EBA #E-965.2,3-0150,3-0090

ARCHIVING OF INFORMATION:
REPORT : SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/08 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: BDOP76BFT1 MONTH: 2 YEAR: 1976

SPONSOR : BEAUFORT-DELTA OIL PROJECT LTD.

JOB NO : 39 (NO. 6) CONTACT: MR. P.E. BOISSEAU

CONTRACTOR : EBA ENGINEERING CONSULTANTS LTD.

JOB NO : 3-0090 CONTACT: MR. DON HAYLEY

REPORT TITLE: GEOTECHNICAL REVIEW OF ARCTIC PETROLEUM OPERATORS ASSOCIATION REPORT NO. 39 (MAJOR

TASK NO. 06)

COORDINATES : MINIMUM CENTRE MAX I MUM UTM: ZONE: R 8 EASTING: 460000 0 552000 7710000 0 7760000 NORTHING: 0.00000 0.00000 0.00000 OR: LATITUDE: 0.00000 0.00000 0.00000 LONGITUDE:

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : MACKENZIE BAY TO KUGMALLIT BAY PIPELINE ROUTE-INFERRED STRAT.

PROFILE

NUMBER: N/A 3-90-A1
SCALE : 1:0 1:200000
FORMAT: NA BLUELINE

ARCHIV: NA SPONSOR/CONTRACTOR

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: N/A

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL SCOPE: PIPELINE ALIGNMENT

LEVEL: REVIEW OF FINDINGS OF ARCTIC PETROLEUM OPERATORS ASSOCIATION RPT 39

SIZE: 56 KM SURVEY PATTERN: NA SURVEY SPACING: N/A

SEASON: N/A PROGRAM LENGTH: N/A

EQUIPMENT : NA

PENETRATION: 150M (SILT, CLAY, SAND)

RESOLUTION : APPEARS GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : NA QUALITY: NA TYPE : NA SIZE : N/A

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL STRATIGRAPHY, ICE MOVEMENTS, PERMAFROST

REPORT : GEOTECHNICAL REVIEW DISTRIB: SPONSOR/CONTRACTOR

OTHER : EBA #E-660(1974),E-965(1975),PEMCAN-RESULTS OF SHALLOW PROFILES PROGRAM,NORTH OF

RICHARDS ISLAND

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/08 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

CNINCOSC OF GRANDCAR RESCORDE RECEIVED INFORMATION

STUDY NUMBER: BOOP76BFT2 MONTH: 5 YEAR: 1976

SPONSOR : BEAUFORT-DELTA OIL PROJECT LTD.

JOB NO : 39 (NO. 6) CONTACT: MR. P.E. BOISSEAU

CONTRACTOR : EBA ENGINEERING CONSULTANTS LTD.

JOB NO : 3-0150 CONTACT: MR. DON HAYLEY

REPORT TITLE: MACKENZIE BAY GEOTECHNICAL INFORMATION, A REVIEW FOR MARINE PIPELINE STUDIES, 1976

MAY

COORDINATES : CENTRE MINIMUM MAXIMUM UTM: ZONE: 8 EASTING: 460000 0 552000 7760000 7710000 NORTHING: n OR: LATITUDE: 0.00000 0.00000 0.00000 0.00000 0.00000 LONGITUDE: 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : MACKENZIE BAY TO KUGMALLIT BAY

NUMBER: 3-1,3-1,3-2,4-0

SCALE: 1:800000 1:

FORMAT: BLUELINE

ARCHIV: SPONSOR/CONTRACTOR

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: N/A

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL REVIEW SCOPE: PIPELINE ALIGNMENT

LEVEL: REVIEW OF AVAILABLE INFORMATION FOR AREA

SIZE: 8000 KM SURVEY PATTERN: NA

SURVEY SPACING: N/A

SEASON: N/A PROGRAM LENGTH: N/A

EQUIPMENT : NA

PENETRATION: 150M+, (SILT, SAND, CLAY)

RESOLUTION : GENERALLY GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : NA QUALITY: NA TYPE : NA SIZE : N/A

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL STRATIGRAPHY REPORT : GEOTECHNICAL REVIEW DISTRIB: SPONSOR/CONTRACTOR

OTHER : EBA #E-660,E-965.2,COOK,PICKERING & DOYLA(1972,1973)GOLDER 1970,

HUNTEC(1974), PEMCON(1972), EBA 3-

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/08 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

MONTH: 0 YEAR: 1976 STUDY NUMBER: BDOP76BFT3

: BEAUFORT-DELTA OIL PROJECT LTD. SPONSOR JOB NO : 39 (NO. 6) CONTACT: CONTRACTOR : EBA ENGINEERING CONSULTANTS LTD.

JOB NO : 3-0177 CONTACT: MR. DON HAYLEY
REPORT TITLE: OFFSHORE PIPELINE ACTIVITIES, 1975-1976 PART 1-BACKGROUND REPORTS (1 VOL), PART 2,

SOME GEOTECHNICAL, GEOPHYSICAL, GEOTHERMAL AND ENVIRONMENTAL ASPECTS OF THE SOUTHERN

COORDINATES : BS (3 VOLS)

UTM: ZONE: MINIMUM CENTRE MAXIMUM EASTING: 8 NORTHING: 455000 0 650000 0 OR: LATITUDE: 7696000 7774000 0.00000 0.00000 0.00000 LONGITUDE: 0.00000 0.00000 0.00000

LOCATION: GENERAL LOCATION SITE PLAN

NAME : MACKENZIE BAY TO KUGMALLIT BAY

NUMBER: M1, M2, M3

SCALE : 1:100000 1:

FORMAT: BLUELINE ARCHIV: SPONSOR/CONTRACTOR

NA DIG NO: NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: N/A

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL, GEOPHYSICAL, GEOTHERMAL, ENVIRONMENTAL

SCOPE: REGIONAL

LEVEL: REVIEW OF EXISTING INFORMATION

SIZE : NA SURVEY PATTERN: NA SURVEY SPACING:

SEASON: NA PROGRAM LENGTH: NA

EQUIPMENT : NA PENETRATION: NA RESOLUTION : NA

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : NA QUALITY: NA TYPE : NA SIZE : NA

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL STRATIGRAPHY, GEOTHERMAL, ENVIRONMENTAL ASPECTS

REPORT : FORMAL REVIEW DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

: 91/03/11 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

UPDATE PROJECT NO .: DATE

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: ESSO72MKDL MONTH: 0 YEAR: 1972

SPONSOR : ESSO RESOURCES CANADA LTD.

JOB NO : CONTACT: JEFF WEAVER, PHD

CONTRACTOR : COOK, PICKERING & DOYLE

JOB NO : CONTACT:

REPORT TITLE: SOIL DRILLING PROGRAM - MACKENZIE DELTA, 1972

MINIMUM CENTRE COORDINATES : MAXIMUM UTM: ZONE: ٥ 0 EASTING: 0 0 0 NORTHING: 0 U n OR: LATITUDE: 0.00000 0.00000 0.00000 0.00000 0.00000 LONGITUDE: 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : MACKENZIE DELTA SOUTH OF HOOPER & PELLY ISLANDS

NUMBER:

SCALE : 1:0 1

FORMAT: ARCHIV: SPONSOR/CONTRACTOR

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL SCOPE: REGIONAL

LEVEL: SOIL STRATIGRAPHY

SIZE: 205 SQ KM,46 CHs(121 IN-SITU TESTS-SPT)

SURVEY PATTERN: NA SURVEY SPACING: NA

SEASON: NA PROGRAM LENGTH: NA

EQUIPMENT : NA

PENETRATION: 2.7M-12.2M, MAX 33.3M, (CLAY, CLAY-SILT, SILT-SAND, SAND)

RESOLUTION : NA

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : NA QUALITY: NA TYPE : NA SIZE : NA

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL CLASSIFICATION, PROPERTIES, STRENGTH, PERMAFROST

REPORT : NA

DISTRIB: SPONSOR/CONTRACTOR

OTHER : EBA #3-0150,ESSO 2739-04 (MAY 1972),3-0177

ARCHIVING OF INFORMATION:
REPORT: SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/08 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: ESSO72RI MONTH: 0 YEAR: 1972

: ESSO RESOURCES CANADA LTD. SPONSOR

CONTACT: JEFF WEAVER, PHD

: PEMCAN SERVICES LTD. CONTRACTOR

CONTACT: JOB NO

REPORT TITLE: RESULTS OF SHALLOW PROFILING PROGRAM CONDUCTED TO THE NORTH OF RICHARDS ISLAND

1972

COORDINATES : MINIMUM **CENTRE** MAXIMUM UTM: ZONE: EASTING: 0 0 0 NORTHING: n O 0 OR: LATITUDE: 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 LONGITUDE:

LOCATION:

GENERAL LOCATION SITE PLAN NAME : NORTH OF RICHARDS ISLAND NORTH OF RICHARDS ISLAND

NUMBER:

SCALE: 1:0 1:

FORMAT:

ARCHIV: SPONSOR/CONTRACTOR

MA DIG NO: NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOPHYSICAL, GEOTECHNICAL

SCOPE: 4 SITES

LEVEL: SOIL CLASSIFICATION, DELINEATE BORROW

5 CHs SIZE : SURVEY PATTERN: SURVEY SPACING: NA NA

SEASON: NA PROGRAM LENGTH: NA

EQUIPMENT : NA PENETRATION: 2.7M RESOLUTION : NA

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : NA QUALITY: NA TYPE : NA SIZE : NA SIZE

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL CLASSIFICATION, BORROW

REPORT : NA

DISTRIB: SPONSOR/CONTRACTOR OTHER : EBA 3-0090,3-0150,3-0177

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/08 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

MONTH: 0 YEAR: 1973 STUDY NUMBER: ESSO73RI

: ESSO RESOURCES CANADA LTD.

CONTACT: JEFF WEAVER, PHD JOB NO

CONTRACTOR : COOK, PICKERING & DOYLE

JOB NO CONTACT:

REPORT TITLE: SOIL ENGINEERING REPORT-BEAUFORT SEA-NORTHWEST OF RICHARDS ISLAND, 1973

COORDINATES : MINIMUM CENTRE MAXIMUM UTM: ZONE: 0 0 0 EASTING: Λ 0 n n NORTHING: 0.00000 0.00000 0.00000 OR: LATITUDE: 0.00000 LONGITUDE: 0.00000 0,00000

LOCATION:

SITE PLAN GENERAL LOCATION

NAME : NORTHWEST OF RICHARDS ISLAND WEST OF PELLY ISLAND TO KUGMALLIT

BAY

NUMBER:

1: SCALE : 1:0

FORMAT:

ARCHIV: SPONSOR/CONTRACTOR

NA DIG NO: NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL SCOPE: ONE SITE

LEVEL: SOIL CLASSIFICATION

10 BHs, (12 IN-SITU TESTS-SPT) SIZE :

SURVEY PATTERN: NA SURVEY SPACING: NA

PROGRAM LENGTH: NA SEASON: NA

EQUIPMENT : NA

PENETRATION: 6M-12M(CLAY-SILT, SILT, SILT-SAND, SAND)

RESOLUTION : NA

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : NA QUALITY: NA TYPE : NA SIZE : NA

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL CLASSIFICATION, PROPERTIES, STRENGTH

REPORT : NA

DISTRIB: SPONSOR/CONTRACTOR OTHER : EBA #3-0150,3-0177

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

: 91/03/08 COMPILATION PROJECT NO.: 0306-34693 DATE

UPDATED BY :

UPDATE PROJECT NO.: DATE

BEAUFORT SEA INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: ESSO78IS MONTH: 5 YEAR: 1978

SPONSOR : ESSO RESOURCES CANADA LTD.

JOB NO : CONTACT: JEFF WEAVER, PHD

CONTRACTOR : EBA ENGINEERING CONSULTANTS LTD.

JOB NO : 36-0334 CONTACT: MR. NEIL MACLEOD

REPORT TITLE: SEISMIC INTERPRETATION OF ISSUNGNAK/ISSERK NORTH, 1978 MAY 03

COORDINATES : MINIMUM **CENTRE** MAXIMUM UTM: ZONE: 0 O O EASTING: Ω 0 0 NORTHING: 0 0 0 0.00000 0.00000 0.00000 OR: LATITUDE: LONGITUDE: 0.00000 0.00000 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : ISSUNGAK

NUMBER: 1

SCALE : 1:400000 1:

FORMAT: PAPER COPY

ARCHIV: SPONSOR/CONTRACTOR

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: N/A

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOPHYSICAL, GEOTECHNICAL

SCOPE: ONE SITE

LEVEL: INTERPRETATION OF EXISTING DATA FOR PLANNING OF 1978 BORROW INVESTIGATION

SIZE: N/A SURVEY PATTERN: NA SURVEY SPACING: NA

SEASON: NA PROGRAM LENGTH: NA

EQUIPMENT : NA
PENETRATION: N/A
RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : NA QUALITY: NA TYPE : NA SIZE : NA

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL STRATIGRAPHY

REPORT : LETTER

DISTRIB: SPONSOR/CONTRACTOR

OTHER : GSC 1977 NAHIDIK(PULLEN 30-67), HUNTEC LINES 14000, 15588, 17300, 18800

KENTING,844-849,854-865,887,888

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/08 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

REALIFORT SEA INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

MONTH: 7 YEAR: 1983

STUDY NUMBER: E-83-001

: ESSO RESOURCES CANADA LTD.

CONTACT: JEFF WEAVER, PHD JOR NO

CONTRACTOR : EBA Engineering Consultants Ltd.

: 101-3868 CONTACT: MR. KEVIN JONES JOR NO

REPORT TITLE: 1983 OFFSHORE GEOTECHNICAL SITE INVESTIGATION, ISSIGAK BORROW SITE, BEAUFORT SEA

COORDINATES : CENTRE MINIMUM MAXIMUM ZONE: UTM: 466300 EASTING: 458600 0 7739000 7730000 NORTHING: n OR: LATITUDE: 0.00000 0.00000 0.00000 0.00000 0.00000 LONGITUDE:

LOCATION:

GENERAL LOCATION SITE PLAN

Issigak NAME :

NUMBER: A

1:37000 SCALE: 1:37000

FORMAT: ARCHIV: DIG NO:

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : geotechnical SCOPE: 10 sites LEVEL: delineation

460 GCs, 125 BHs SIZE : SURVEY PATTERN: GC: Line, BH: random

SURVEY SPACING: random

PROGRAM I FNGTH: SEASON: Summer

EQUIPMENT : Simco 5000 WS (wireline)

PENETRATION: BH: 0.3-2.2-10.6m, GC: 1.0m

RESOLUTION : good

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : BH: 0.6-2m intervals

QUALITY: disturbed but stratigraphy intact TYPE : 63mm heavy-walled tubes, SPT SIZE : 370 grab

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : soil classification

REPORT: formal geotechnical evaluation

DISTRIB: sponsor/contractor

OTHER :

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR DATA : sponsor/contractor

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 88/03 COMPILATION PROJECT NO.: 0306-34413 UPDATED BY : EBA ENGINEERING CONSULTANTS LTD.

BEAUFORT SEA INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: ESSO87AN MONTH: 1 YEAR: 1987

SPONSOR : ESSO RESOURCES CANADA LTD.

JOB NO : CONTACT: JEFF WEAVER, PHD

CONTRACTOR : GOLDER ASSOCIATES LTD.

JOB NO : 862-2072 CONTACT: MR. KEN BEEN

REPORT TITLE: VERIFICATION TESTING AND INSTRUMENT INSTALLATIONS, ANGASAK EO3 SPRAY ICE

ISLAND, 1987 JULY

COORDINATES : MINIMUM CENTRE **MAXIMUM** UTM: ZONE: EASTING: 0 0 NORTHING: 0 0 n 0.00000 OR: LATITUDE: 70.21225 0.00000 LONGITUDE: 0.00000 129.54723 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : ANGASAK L-03 ANGASAK L-03

NUMBER: 1

FORMAT: PAPER COPY PAPER COPY

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: N/A

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL SCOPE: ONE SITE

LEVEL: SOIL CLASSIFICATION, STRATIGRAPHY

SIZE: 5 BHs,3 SONDEX/SI,3IPI,3 POREWATER,14CPT

SURVEY PATTERN: IRREGULAR GRID

SURVEY SPACING: IRREGULAR, GENERALLY LESS THAN 50M

SEASON: WINTER PROGRAM LENGTH: 9 DAYS, JAN 22-FEB 4

EQUIPMENT : CME 750 DRILL WITH HOLLOW STEM AUGER, MUD ROTARY, NO WIRELINE CORE BARREL

PENETRATION: 12.8M-14.9M SPRAY ICE/SEABED BHs,56.3 GSC BH(SILTY SAND,SANDY SILT,SAND,ORGANIC

LAYERS)

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1.5M BHs, CONTINOUS FOR CORE AND CPT

QUALITY: GOOD

TYPE : CORE IN ICE, SPLIT SPOON IN SOIL, POREWATER

SIZE : 23 SPLIT SPOON, 19 TWT

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL CLASSIFICATION, STRATIGRAPHY REPORT : GEOTECHNICAL DATA, FORMAL REPORT

DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION:

REPORT : SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/04 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: ESSO9ONP MONTH: 1 YEAR: 1989

SPONSOR : ESSO RESOURCES CANADA LTD.

CONTACT: JEFF WEAVER, PHD JOB NO

CONTRACTOR : GOLDER ASSOCIATES LTD.

: 882-2105 CONTACT: MR. KEN BEEN JOB NO

REPORT TITLE: VERIFICATION TESTING AND INSTRUMENT INSTALLATIONS, NIPTERK P-32 SPRAY ICE

ISLAND, BEAUFORT SEA, NORTHWEST TERRITORIES, 1990 APRIL

COORDINATES : MINIMUM <u>MAXTH</u>ÚM CENTRE UTM: ZONE: 0 0 EASTING: 0 0 0 NORTHING: 0 0 0 0.00000 69.69410 0.00000 OR: LATITUDE: 0.00000 LONGITUDE: 135.37899 0.00000

LOCATION:

NIPTERK P-32 GENERAL LOCATION

NAME : NIPTERK P-32

NUMBER: 1

SCALE : 1:0 1:2000 FORMAT: PAPER COPY PAPER COPY

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR

DIG NO: NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: N/A

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL SCOPE: ONE SITE

LEVEL: SOIL CLASSIFICATION AND STRATIGRAPHY

8 BHs,5 CHs,13 CPTs

SURVEY PATTERN: IRREGULAR

SURVEY SPACING: IRREGULAR

SEASON: WINTER PROGRAM LENGTH: JAN 3-15

EQUIPMENT : CME 750 DRILL WITH HOLLOW STEM AUGER AND ROTARY IN SOIL, CORING IN ICE

PENETRATION: 14.3M TO 21.6M (CLAY, SAND AND PEA GRAVEL AT 20.8M)

RESOLUTION : SOIL - GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : SELECTED DEPTHS

QUALITY: POOR FOR ICE, GOOD FOR SOIL

TYPE : CORE IN ICE, SPLIT SPOON AND TT IN SOIL, PORE WATER

SIZE : 2 CORE, 9 TT, 12 SPLIT SPOON

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL CLASSIFICATION AND STRATIGRAPHY REPORT : GEOTECHNICAL DATA, FORMAL REPORT

DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION REPORT : SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/04 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

UPDATE PROJECT NO .: DATE

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: GSC74KB MONTH: 0 YEAR: 1974

SPONSOR : GEOLOGICAL SURVEY OF CANADA

JOB NO : CONTACT: MR. STEVE BLASCO

CONTRACTOR : GEOLOGICAL SURVEY OF CANADA

JOB NO : TR #22 CONTACT: MR. STEVE BLASCO

REPORT TITLE: THE OCCURRENCE OF PERMAFROST AND FROZEN SUB-SEA BOTTOM MATERIALS IN THE SOUTHERN

BEAUFORT SEA, BEAUFORT SEA PROJECT TR #22, GSC/EPB, 1975

COORDINATES : MINIMUM CENTRE MAXIMUM UTM: ZONE: Û 0 EASTING: 0 0 0 NORTHING: 0 0 0 0.00000 0.00000 OR: LATITUDE: 0.00000 LONGITUDE: 0.00000 0.00000 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : KUGMALLIT BAY

NUMBER:

SCALE : 1:0 1:

FORMAT: ARCHIV:

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: N/A

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL

SCOPE: NA

LEVEL: SOIL CLASSIFICATION, PERMAFROST, GROUND TRUTHING

SIZE: 4 CHs (IN-SITU TEMPERATURES)

SURVEY PATTERN: NA

SURVEY SPACING: NA

SEASON: WINTER PROGRAM LENGTH: NA

EQUIPMENT : NA

PENETRATION: 12.2M-36.5M-67.0M

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : NA QUALITY: NA TYPE : NA SIZE : NA

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP: PERMAFROST REPORT: FORMAL PAPER DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION:
REPORT : SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/11 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

REALIFORT SEA

INDIAN AND NORTHERN AFFAIRS CANADA

CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: GSC75SBFT MONTH: 0 YEAR: 1975

: GEOLOGICAL SURVEY OF CANADA

CONTACT: MR. STEVE BLASCO

CONTRACTOR : GEOLOGICAL SURVEY OF CANADA

CONTACT: MR. STEVE BLASCO

REPORT TITLE: SEDIMENT DISPERSAL IN THE SOUTHERN BEAUFORT SEA, BEAUFORT SEA TECHNICAL REPORT

#25A, 1975 DECEMBER

COORDINATES : MINIMUM CENTRE MAXIMUM UTM: ZONE: n 0 EASTING: 0 0 0 NORTHING: 0 0 0 0.00000 0.00000 OR: LATITUDE: 0.00000 LONGITUDE: 0.00000 0.00000 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : SOUTHERN BEAUFORT SEA

NUMBER:

SCALE : 1:0 1:

FORMAT:

ARCHIV:

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: N/A

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL, GEOLOGICAL

SCOPE: REGIONAL LEVEL: NA

28 GRAB AND GC SIZE :

SURVEY PATTERN: NA SURVEY SPACING: NA

SEASON: NA PROGRAM LENGTH: NA

EQUIPMENT : NA PENETRATION: NA RESOLUTION : NA

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : NA QUALITY: NA TYPE : GRAB,GC SIZE : NA

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL CLASSIFICATION REPORT : TECHNICAL REPORT DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

: 91/03/11 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

CHINCOUL OF UNNOUNCE RECEIVED INFORMATION

STUDY NUMBER: GSC82BFT MONTH: 0 YEAR: 1982

SPONSOR : GEOLOGICAL SURVEY OF CANADA

JOB NO : CONTACT: MR. STEVE BLASCO

CONTRACTOR : GEOLOGICAL SURVEY OF CANADA

JOB NO : CONTACT: MR. BOB HARMES

REPORT TITLE: GEOLOGICAL SURVEY OF CANADA GEOTECHNICAL BOREHOLE COMPUTER DATABASE (1982)

COORDINATES : CENTRE MINIMUM MAXIMUM ZONE: 0 0 UTM: Ω EASTING: 0 0 0 NORTHING: 0 0 0 0.00000 0.00000 0.00000 OR: LATITUDE: LONG! TUDE: 0.00000 0.00000 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : BEAUFORT SEA (SEE LOCATION DET

NUMBER:

SCALE : 1:0 1:

FORMAT:

ARCHIV:

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: UNARK (BELUGA BAY), KING POINT,

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL SCOPE: REGIONAL LEVEL: NA

SIZE: NA SURVEY PATTERN: NA SURVEY SPACING: NA

SEASON: NA PROGRAM LENGTH: NA

EQUIPMENT : NA
PENETRATION: NA
RESOLUTION : NA

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : NA QUALITY: NA TYPE : NA SIZE : NA

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL STRATIGRAPHY, PROPERTIES

REPORT : GEOTECHNICAL BOREHOLE DATABASE (DISK COPY)

DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION:

REPORT : SC, EBA

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/11 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: GSC84BFT MONTH: 0 YEAR: 1984

; GEOLOGICAL SURVEY OF CANADA SPONSOR

JOB NO : MR NO 38 CONTACT: CONTRACTOR : GEOLOGICAL SURVEY OF CANADA CONTACT: MR. STEVE BLASCO

JOB NO : MISC. RPT NO. 38 CONTACT: MR. STEVE BLASCO

REPORT TITLE: MARINE SCIENCE ATLAS OF THE BEAUFORT SEA, SEDIMENT MISC REPORT NO. 38

COORDINATES : MINIMUM CENTRE MAXIMUM UTM: ZONE: O 0 0 EASTING: 0 0 0 NORTHING: 0 0 0 0.00000 0.00000 0.00000 OR: LATITUDE: LONGITUDE: 0.00000 0.00000 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : BEAUFORT SEA

NUMBER:

SCALE : 1:0 1:

FORMAT: ARCHIV:

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: N/A

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOLOGICAL SCOPE: REGIONAL LEVEL: NA

SIZE : NA SURVEY PATTERN: MA SURVEY SPACING: NA

SEASON: NA PROGRAM LENGTH: NA

EQUIPMENT : NA PENETRATION: NA RESOLUTION : NA

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : NA QUALITY: NA TYPE : NA SIZE : NA

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL TYPE DISTRIBUTION, CHARACTERISTICS

REPORT : FORMAL OVERVIEW REPORT DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/11 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: GSC87KP MONTH: 0 YEAR: 1987

SPONSOR: GEOLOGICAL SURVEY OF CANADA

JOB NO: OF1770 CONTACT:
CONTRACTOR: KEITH PHILPOTT CONSULTING LTD 1987

JOB NO : CONTACT: K. PHILPOTT

REPORT TITLE: BEAUFORT SEA COASTAL SEDIMENT STUDY, EVALUATION OF INSHORE WAVE CLIMATE & COASTAL

SITE PLAN

SEDIMENT TRANSPORT TECHNIQUE AT KING POINT, YUKON OCT. 1987

NA

CENTRE COORDINATES : MINIMUM MAXIMUM 7 UTM: ZONE: R 384125 380000 EASTING: 0 7670000 NORTHING: 7667000 0 0.00000 0.00000 0.00000 OR: LATITUDE: 0.00000 0.00000 0.00000 LONGITUDE:

LOCATION:

GENERAL LOCATION

NAME : BEAUFORT SEA KING POINT, YK

NUMBER: 1.1 1.6 SCALE : 1:2632000 1:37500 FORMAT: PAPER COPY PAPER COPY

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR

DIG NO: NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL SCOPE: REGIONAL

LEVEL: FIELD PROGRAM, COMPUTER MODELLING

SIZE: 17 PROFILE LINES ALONG BEACH

SURVEY PATTERN: RADIAL FROM KING POINT

SURVEY SPACING: IRREGULAR

SEASON: SUMMER PROGRAM LENGTH: NA

EQUIPMENT : HAND COLLECTED

PENETRATION: LIKELY <0.3M RESOLUTION: UNKNOWN

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : SURFICIAL SAMPLES

QUALITY: UNKNOWN-POOR

TYPE : SUSPENDED SEDIMENT, BOTTOM SEDIMENT (BEACH & NEAR SHORE)

SIZE : 16 S.S.

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : EVALUATE INSHORE WAVE CLIMATE, COASTAL SEDIMENT TRANSPORT MODELLING

REPORT : FORMAL GEOTECHNICAL DISTRIB: SPONSOR/CONTRACTOR

OTHER : GSC OF1259

ARCHIVING OF INFORMATION:

REPORT : SPONSOR/CONTRACTOR/GSC

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/04 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

MONTH: 0 YEAR: 1986 STUDY NUMBER: GSC87SBFT

: GEOLOGICAL SURVEY OF CANADA SPONSOR JOB NO : OF1826 CONTRACTOR : DOBROCKY SATECH LTD. CONTACT:

JOB NO : 1-1155-1 CONTACT: RICHARD GILLIE REPORT TITLE: BEAUFORT SEA COASTAL MORPHOLOGY STUDY MARCH 1987

COORDINATES : MINIMUM CENTRE MAXIMUM UTM: ZONE: 0 n ٥ EASTING: n 0 O NORTHING: 0 OR: LATITUDE: 69.00000 0.00000 70.25000 LONGITUDE: 128.00000 0.00000 142.00000

LOCATION:

GENERAL LOCATION SITE PLAN

1:

NAME : BEAUFORT SEA COAST

NUMBER: 2.1

SCALE : 1:2128000

FORMAT: PAPER COPY ARCHIV: SPONSOR/CONTRACTOR

DIG NO: NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOLOGICAL SCOPE: 22 SITES LEVEL: DELINEATION

SIZE : 40 BEACH PROFILES, 10 SITES

SURVEY PATTERN: NA SURVEY SPACING: NA

SEASON: SUMMER PROGRAM LENGTH: JULY 13-27, 1986

EQUIPMENT : SURVEY LEVEL, TAPE & ROD, BRUNTON COMPASS

PENETRATION: N/A

RESOLUTION : GOOD +1.5M MSL

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : N/A QUALITY: NA TYPE : NA SIZE : N/A

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING: INTERP: CHANGES IN COASTAL POSITION/EROSION-PROFILES

REPORT : FORMAL GEOTECHNICAL DISTRIB: SPONSOR/CONTRACTOR

OTHER : OF1770

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR

DATA : FIELD SURVEY NOTES, BEACH PROFILE DATA AT AGC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

: 91/03/14 COMPILATION PROJECT NO.: 0306-34693 DATE

UPDATED BY :

UPDATE PROJECT NO .: DATE

BEAUFORT SEA INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: G-82-004 MONTH: 8 YEAR: 1982

SPONSOR : GULF CANADA RESOURCES LTD.

CONTACT: MR. CHRIS GRAHAM JOB NO

CONTRACTOR : EBA Engineering Consultants Ltd.

JOB NO : 101-3659 CONTACT: MR. KEVIN JONES

REPORT TITLE: 1982 OFFSHORE GEOTECHNICAL SITE INVESTIGATION, NORTH UKALERK

COORDINATES : MINIMUM CENTRE **HAXIMUM** UTM: ZONE: EASTING: 563900 0 584000 NORTHING: 7773000 7788100 a OR: LATITUDE: 0.00000 0.00000 LONGITUDE: 0.00000 0.00000 0.00000

LOCATION:

GENERAL LOCATION

SITE PLAN NAME : Ukalerk

NUMBER: 1.2

SCALE : 1:2000000 1:2000000,100000

FORMAT: ARCHIV: DIG NO:

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : geotechnical SCOPE: regional LEVEL: delineation

SIZE : 27 BHs SURVEY PATTERN: random SURVEY SPACING: random

PROGRAM LENGTH: SEASON: summer

EQUIPMENT : Simco 5000 WS (wireline) and Vibrocore

PENETRATION: 1.2-6.9-9.7m RESOLUTION : fair to good

INFORMATION ON SAMPLES OR SURVEY RECORDS: RATE : 1.0m intermittent and continuous

QUALITY: disturbed - stratigraphy intact
TYPE : sonic casing 10.0m long, thin-walled tubes, SPT
SIZE : 36 tubes, 171 vibrocore

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : soil classification REPORT: formal borrow evaluation DISTRIB: sponsor/contractor

OTHER :

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR DATA : sponsor/contractor

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 88/03 COMPILATION PROJECT NO.: 0306-34413

UPDATED BY : EBA ENGINEERING CONSULTANTS LTD.

: 91/03/27 UPDATE PROJECT NO.: 0306-34693 DATE

INDIAN AND NORTHERN AFFAIRS CANADA

CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

MONTH: 9 YEAR: 1982 STUDY NUMBER: G-82-006

SPONSOR 1 GULF CANADA RESOURCES LTD.

CONTACT: MR. CHRIS GRAHAM

CONTRACTOR : EBA Engineering Consultants Ltd.

CONTACT: MR. KEVIN JONES : 101-3686 JOB NO

REPORT TITLE: 1982 OFFSHORE GEOTECHNICAL SITE INVESTIGATION, ISSERK BORROW

CENTRE MAXIMUM COORDINATES : MINIMUM ZONE: UTM: 527500 EASTING: 526500 0 7762000 7759500 n NORTHING: 0.00000 OR: LATITUDE: 0.00000 0.00000 0.00000 0.00000 LONGITUDE:

LOCATION:

SITE PLAN GENERAL LOCATION

Isserk NAME :

NUMBER: 1,2

1:2272727,10000 SCALE : 1:2272727

FORMAT: ARCHIV: DIG NO:

SOURCE NUMBER(\$):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : geotechnical SCOPE: 1 site LEVEL: delineation

SIZE : 3 BHe SURVEY PATTERN: random SURVEY SPACING: random

PROGRAM LENGTH: SEASON: fall

EQUIPMENT : Sonic 5000 drill PENETRATION: 6.7-9.2-11.0m

RESOLUTION : good

INFORMATION ON SAMPLES OR SURVEY RECORDS: RATE : 1.0-1.5m intervals

QUALITY: disturbed - stratigraphy intact

TYPE : 63mm thin-walled tubes

SIZE : 20 tubes

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : soil classification

REPORT: formal geotechnical report

DISTRIB: sponsor/contractor

OTHER :

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR DATA : sponsor/contractor

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 88/03 COMPILATION PROJECT NO.: 0306-34413

UPDATED BY : EBA ENGINEERING CONSULTANTS LTD.

: 91/03/27 UPDATE PROJECT NO.: 0306-34693 DATE

REALIFORT SEA

INDIAN AND WORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: G-82-009 MONTH: 9 YEAR: 1982

: GULF CANADA RESOURCES LTD.

CONTACT: MR. CHRIS GRAHAM JOB NO

: EBA Engineering Consultants Ltd. and McClelland Engineers, Inc. CONTRACTOR

: 101-3662 CONTACT: MR. KEVIN JONES JOB NO

REPORT TITLE: 1982 OFFSHORE GEOTECHNICAL SITE INVESTIGATION, HERSCHEL BORROM SITE, BEAUFORT SEA

CENTRE COORDINATES : MINIMUM MAXIMUM UTM: ZONE: EASTING: 562100 596300 0 7729800 NORTHING: 7710000 ۵ 0.00000 0.00000 OR: LATITUDE: 0.00000 0.00000 0.00000 LONGITUDE:

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : Herschel Island

NUMBER: 1,2,5 1,2,5

SCALE : 1:2272727 1:2272727,200000,N.A.

FORMAT: ARCHIV: DIG NO:

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : geotechnical SCOPE: 1 site LEVEL: geophysical

12 BHs, 1 G.C. SIZE :

SURVEY PATTERN: random SURVEY SPACING: random

PROGRAM LENGTH: SEASON: fall

EQUIPMENT : Simco 5000 WS (wireline)

PENETRATION: 0.3-8.2-15.5m

RESOLUTION : good

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1.5m intervals

QUALITY: disturbed but stratigraphy intact TYPE : thin-walled tubes, SPT, core casing SIZE : 65 tubes, 8 SPT, 31 cores

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP: soil classification, strength REPORT: formal geotechnical evaluation

DISTRIB: sponsor/contractors

OTHER :

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR DATA : sponsor/contractors

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 88/03 COMPILATION PROJECT NO.: 0306-34413

UPDATED BY : EBA ENGINEERING CONSULTANTS LTD.

CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: G-82-010 MONTH: 9 YEAR: 1982

: GULF CANADA RESOURCES LTD. SPONSOR

JOB NO CONTACT: MR. CHRIS GRAHAM

CONTRACTOR : EBA Engineering Consultants Ltd. and McClelland Engineers, Inc.

: 101-3658 CONTACT: MR. KEVIN JONES TOR NO

REPORT TITLE: 1982 OFFSHORE GEOTECHNICAL SITE INVESTIGATION, KRINGALIK

COORDINATES : MINIMUM CENTRE MAXIMUM ZONE: UTM: 443100 FASTING: n 444450 NORTHING: 7769100 0 7769200 0.00000 0.00000 OR: LATITUDE: 0.00000 0.00000 0.00000 LONGITUDE:

LOCATION:

GENERAL LOCATION

SITE PLAN

NAME :

Kringalik

NUMBER: 1,2

SCALE : 1:2272727

1:2272727,250

FORMAT: ARCHIV: DIG NO:

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : geotechnical SCOPE: 1 site

LEVEL: foundation parameters, geologic hazards

1 BH, 6 in-situ testholes SIZE :

SURVEY PATTERN: random

SURVEY SPACING: random

SEASON . SIMMER PROGRAM LENGTH:

EQUIPMENT : Simco 5000 WS (wireline)

PENETRATION: BH:31.0m, PH:7.0-33.0-71.0m

RESOLUTION : good

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1.5m intervals

QUALITY: disturbed - stratigraphy intact

TYPE : 63mm and 76mm thin-walled tubes, piston, SPT SIZE : 17 tubes, 2 piston, 3 SPT

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP: soil classification, strength and consolidation

REPORT: formal geotechnical evaluation

DISTRIB: sponsor/contractors

OTHER :

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR DATA : sponsor/contractors

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 88/03 COMPILATION PROJECT NO.: 0306-34413

UPDATED BY : EBA ENGINEERING CONSULTANTS LTD.

CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: GULF88AK1 MONTH: 4 YEAR: 1988

SPONSOR : GULF CANADA RESOURCES LTD.

JOB NO : CONTACT: MR. BRIAN ROGERS

CONTRACTOR : EBA ENGINEERING CONSULTANTS LTD.

JOB NO : 0101-4809 CONTACT: MR. KEVIN JONES

REPORT TITLE: 1988 OFFSHORE GEOTECHNICAL SITE INVESTIGATION, PROPOSED NORTH POINT PIPELINE

ROUTE, BEAUFORT SEA, 1988 JUNE

COORDINATES : MINIMUM MAXIMUM UTM: ZONE: 8 EASTING: 524692 528819 532946 7737779 MORTHING: 7729598 7745959 OR: LATITUDE: 0.00000 0.00000 0.00000 LONGITUDE: 0.00000 0.00000 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : AKPAK PLATEAU AMAULIGAK TO NORTH POINT

NUMBER: 1 2

SCALE: 1:2205900 1:88810 FORMAT: PAPER COPY PAPER COPY

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL

SCOPE: SITE SPECIFIC, PROPOSED PIPELINE ALIGNMENT LEVEL: SOIL CLASSIFICATION, SHALLOW GROLOGICAL HAZARDS

SIZE: 18 BHS,42 CPTS,APPROXIMATELY 26 KM
SURVEY PATTERN: LINE,(MAIN,ALT, LATERAL PROPOSED ROUTES)
SURVEY SPACING: 760M TO 2840M FOR BHS,750M FOR CPTS

SEASON: SPRING PROGRAM LENGTH: 14 DAYS.APRIL 5-19

EQUIPMENT : CPT PROBE, FOUNDEX HT700 TOP DRIVE ROTARY DRILL, WIRELINE HQ TRIPLE-TUBE CORE BARREL

PENETRATION: MAIN 35.2M, ALTERNATE 18.6M, LATERALS 16.8M: SILT, CLAY, SAND (UNITS 1,11 111)

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1.5M TO 10M DEPTH, THEN 3M FOR BHS; CONTINOUS FOR CORE

QUALITY: GOOD

TYPE : THIN & HEAVY WALLED TUBES, SPLIT SPOON, CORE, POREWATER, SEAWATER

SIZE : 197 DISTURBED, 18 TUBE, 70 GAS, 55 CORE

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL CLASSIFICATION, STRATIGRAPHY, PROPERTIES, PERMAFROST

REPORT : PRELIMINARY GEOTECHNICAL DATA, FORMAL REPORT

DISTRIB: SPONSOR/CONTRACTOR

OTHER : EBA #0101-4912B, EBA 0101-4724, 0101-4912D, MCGREGOR 88-27(P03/507)

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 89/03 COMPILATION PROJECT NO.: 0305-34475

UPDATED BY : EBA ENGINEERING CONSULTANTS LTD.

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: GULF88AK2 MONTH: 8 YEAR: 1988

SPONSOR : GULF CANADA RESOURCES LTD.

JOB NO : CONTACT: MR. CHRIS GRAHAM

CONTRACTOR : EBA ENGINEERING CONSULTANTS LTD.

JOB NO : 0101-4912E CONTACT: MR. KEVIN JONES

REPORT TITLE: SUMMER 1988 OFFSHORE GEOTECHNICAL SITE INVESTIGATION, ISSIGAK, MINUK, AKPAK PLATEAU

AND NIPTERK BORROW SITES, BEAUFORT SEA 1989 FEBRUARY

COORDINATES : MINIMUM CENTRE **MAXIMUM** ZONE: 8 UTM: 8 534003 539690 545378 FASTING: 7758649 NORTHING: 7748163 7769134 OR: LATITUDE: 0.00000 0.00000 0.00000 LONGITUDE: 0.00000 0.00000 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : AKPAK PLATEAU (PIPELINE ROUTE) AKPAK PLATEAU

NUMBER: 1

SCALE: 1:2239000 1:2027000 FORMAT: PAPER COPY PAPER COPY

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL SCOPE: ONE SITE

LEVEL: DELINEATION, SOIL CLASSIFICATION

SIZE: 57 GCs SURVEY PATTERN: LINE SURVEY SPACING: IRREGULAR

SEASON: SUMMER PROGRAM LENGTH: 2 DAYS, AUG 8,20

EQUIPMENT : SINCO 5000 WS TOP DRIVE ROTARY DRILL, WIRELINE

PENETRATION: 0.4M(CLAY, SAND, CLAY); UNITS I, II, III

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : SURFICIAL SAMPLES

QUALITY: NA TYPE : GCs SIZE : 57 GCs

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL CLASSIFICATION

REPORT : GEOTECHNICAL DATA, FORMAL REPORT

DISTRIB: SPONSOR/CONTRACTOR

OTHER : EBA 0101-49128(DESCRIPTION & REPORTING FOR SITE INVESTIGATION COVERED IN REPORT)

ARCHIVING OF INFORMATION:
REPORT: SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE: 89/03 COMPILATION PROJECT NO.: 0305-34475

UPDATED BY : EBA ENGINEERING CONSULTANTS LTD.

CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: GULF88AK3 MONTH: 8 YEAR: 1988

SPONSOR : GULF CANADA RESOURCES LTD.

JOB NO : CONTACT: MR. BRIAN ROGERS

CONTRACTOR : EBA ENGINEERING CONSULTANTS LTD.

JOB NO : 0101-4912B CONTACT: MR. KEVIN JONES

REPORT TITLE: 1988 OFFSHORE GEOTECHNICAL SITE INVESTIGATION, PROPOSED PIPELINE ROUTE, BEAUFORT

SEA, 1989 JANUARY

COORDINATES : MINIMUM CENTRE MAXIMUM ZONE: 534003 539690 545378 EASTING: 7758649 7748163 7769134 NORTHING: OR: LATITUDE: 0.00000 0.00000 0.00000 LONGITUDE: 0.00000 0.00000 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : AKPAK PLATEAU, KUGMALLIT TROUGH AMAULIGAK TO NORTH POINT

NUMBER: 1 2

SCALE: 1:2205900 1:152000 FORMAT: PAPER COPY PAPER COPY

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL

SCOPE: 12 SITES ALONG PROPOSED ALIGNMENT

LEVEL: DELINEATION, SOIL PROPERTIES, GROUND TRUTHING, GEOLOGICAL HAZARDS

SIZE: 15 BHs, 16 CPTs, 57 GCs, APPROXIMATELY 24KM

SURVEY PATTERN: LINE SURVEY SPACING: IRREGULAR

SEASON: SUMMER PROGRAM LENGTH: 11 DAYS, AUG 6-SEPT 1

EQUIPMENT : CPT PROBE, SIMCO 5000 WS TOP DRIVE ROTARY DRILL, WIRELINE

PENETRATION: 4.8M TO 40.0M BELOW SEABED FOR BHS & CPTS,UP TO 0.4M FOR GCs (10M CLAY, 30M

SAND, CLAY, UNITS I, II, III)

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1.5M TO 10M DEPTH, THEN 3M FOR BHs, CONTINOUS FOR CORE

QUALITY: GOOD

TYPE : THIN & HEAVY WALLED TUBES, TEMPERATURE, POREWATER SIZE : 49 THIN WALLED TUBES, 110 HEAVY WALLED TUBES

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL CLASSIFICATION, STRATIGRAPHY, SOIL PROPERTIES, PERMAFROST

REPORT : GEOTECHNICAL DATA, FORMAL REPORT

DISTRIB: SPONSOR/CONTRACTOR

OTHER : EBA 0101-4724,0101-4809,0101-4912D,0101-4912E,MCGREGOR 88-27(P03/507)

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 89/03 COMPILATION PROJECT NO.: 0305-34475

UPDATED BY : EBA ENGINEERING CONSULTANTS LTD.

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: GULF88AMLK MONTH: 8 YEAR: 1988

: GULF CANADA RESOURCES LTD. SPONSOR

JOB NO CONTACT: MR. MIKE HARDY

CONTRACTOR : EBA ENGINEERING CONSULTANTS LTD.

JOB NO : 0101-4912D CONTACT: MR. KEVIN JONES

REPORT TITLE: 1988 OFFSHORE GEOTECHNICAL SITE INVESTIGATION, AMAULIGAK B-46 & D-32, BEAUFORT

SEA, CANADA, 1989 JANUARY

COORDINATES : MINIMUM **MAXIMUM** UTM: ZONE: 8 8 548783 549295 549806 EASTING: 7768397 7772109 NORTHING: 7775822 0.00000 OR: LATITUDE: 0.00000 0.00000 LONGITUDE: 0.00000 0.00000 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

AMAULIGAK B-46 & D-32 NAME : AMAULIGAK B-46 & D-32

NUMBER: 1

SCALE : 1:2205900 1:250 FORMAT: PAPER COPY PAPER COPY

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL SCOPE: 2 SITES

LEVEL: SOIL STRATIGRAPHY, CLASSIFICATION, PROPERTIES, SHALLOW GEOLOGIC HAZARDS

2 BHs,2 CPTs,2 PMTs SIZE :

SURVEY PATTERN: IRREGULAR

SURVEY SPACING: WITHIN APPROXIMATELY 12M BTWN BHS AT EACH SITE SEASON: SUMMER PROGRAM LENGTH: 4 DAYS, AUG 14-17

EQUIPMENT : CPT PROBE, SINCO 5000 WS TOP DRIVE ROTARY DRILL, WIRELINE

PENETRATION: 46.4M TO 60.2M FOR BHs, 14.3M TO 54.5M FOR CPTs, 10M TO 42.3M FOR

PMTs(CLAY, SAND, CLAY-UNITS I, II, II)

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1.5M TO 10M DEPTH, THEN 3M FOR BHS, CONTINOUS FOR CPTS

QUALITY: GOOD

TYPE : THIN & HEAVY WALLED TUBES, POREWATER

SIZE : 28 TT,18 HT,10 POREWATER

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING: INTERP : SOIL CLASSIFICATION, PROPERTIES, STRATIGRAPHY

REPORT : GEOTECHNICAL DATA, FORMAL REPORT

DISTRIB: SPONSOR/CONTRACTOR

OTHER : EBA 0101-4724,0101-4809,49128,3685,3862,0101C-4141,4118,4417,4416, GOLDER 1981

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

: 89/03 DATE COMPILATION PROJECT NO.: 0305-34475

UPDATED BY : EBA ENGINEERING CONSULTANTS LTD.

: 91/03/04 DATE UPDATE PROJECT NO.: 0306-34693

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: GULF88EK MONTH: 9 YEAR: 1988

SPONSOR : GULF CANADA RESOURCES LTD.

JOB NO : CONTACT: MR. BRIAN ROGERS

CONTRACTOR: EBA ENGINEERING CONSULTANTS LTD.

JOB NO : 0101-4912E CONTACT: MR. KEVIN JONES

REPORT TITLE: SUMMER 1988 OFFSHORE GEOTECHNICAL SITE INVESTIGATION, ISSIGAK, MINUK, AKPAK PLATEAU

AND NIPTERK BORROW SITES, BEAUFORT SEA, 1989 FEBRUARY

COORDINATES : MINIMUM MAX I MUM CENTRE ZONE: 0 0 **EASTING:** 0 0 0 NORTHING: Ω Ω n OR: LATITUDE: 0.00000 0.00000 0.00000 0.00000 0.00000 LONGITUDE: 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : ERKSAK

NUMBER: 2

SCALE: 1:2239000 1:

FORMAT: PAPER COPY

ARCHIV: SPONSOR/CONTRACTOR

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL SCOPE: ONE SITE

LEVEL: TRY NEW CLAMSHELL SAMPLER

SIZE: 3 CSs SURVEY PATTERN: UNKNOWN SURVEY SPACING: UNKNOWN

SEASON: FALL PROGRAM LENGTH: 1 DAY, SEPT 1

EQUIPMENT : SIMCO 5000 WS TOP DRIVE ROTARY DRILL, WIRELINE

PENETRATION: UNKNOWN
RESOLUTION: UNKNOWN

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : SURFICIAL SAMPLES

QUALITY: GOOD

TYPE : CLAM SHELL

SIZE : 3 CLAM SHELL (CS)

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP: SOIL CLASSIFICATION REPORT: GEOTECHNICAL DATA DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION:
REPORT: SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE: 89/03 COMPILATION PROJECT NO.: 0305-34475

UPDATED BY : EBA ENGINEERING CONSULTANTS LTD.

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: GULF88FNR MONTH: 8 YEAR: 1988

SPONSOR : GULF CANADA RESOURCES LTD.

JOB NO : CONTACT: MR. MIKE HARDY

CONTRACTOR : EBA ENGINEERING CONSULTANTS LTD.

JOB NO : 0101-4912C CONTACT: MR. KEVIN JONES

REPORT TITLE: 1988 OFFSHORE GEOTECHNICAL SITE INVESTIGATION, NERLERK BERM B-67, BEAUFORT SEA,

CANADA 1989 JANUARY

COORDINATES : MINIMUM CENTRE MAXIMUM UTM: ZONE: R EASTING: 562509 562623 562737 NORTHING: 7814108 7814539 7814969 OR: LATITUDE: 0.00000 0.00000 0.00000 LONGITUDE: 0.00000 0.00000 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : NERLERK 8-67 NERLERK 8-67

MIMRER: 1 2

SCALE: 1:2205900 1:5000 FORMAT: PAPER COPY PAPER COPY

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL SCOPE: ONE SITE

LEVEL: DELINEATION, SOIL CLASSIFICATION

SIZE: 17 CPTs,3 PMTs,8 BHs SURVEY PATTERN: IRREGULAR GRID AND LINE

SURVEY SPACING: IRREGULAR

SEASON: SUMMER PROGRAM LENGTH: 8 DAYS, AUG 17-25

EQUIPMENT : CPT PROBE, SIMCO 5000 WS TOP DRIVE ROTARY DRILL, WIRELINE

PENETRATION: 1.8M TO 23.0M FOR CPTs,3.7M TO 16.0M FOR PMTs,1.4M TO 28.2M FOR BHS

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1.5M TO 3.0M FOR BHS, CONTINOUS FOR CPTs

QUALITY: GOOD

TYPE : THIN & HEAVY WALLED TUBES

SIZE : 1

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL CLASSIFICATION, STRATIGRAPHY, SOIL PROPERTIES

REPORT : GEOTECHNICAL DATA, FORMAL REPORT

DISTRIB: SPONSOR/CONTRACTOR

OTHER : BEEN ET AL, 1987 CAN. GT JRNL 24, P170-8, SLADEN ET AL, 1985&87CAN GT JRNL 22, P579-88 & 24

P179-85

ARCHIVING OF INFORMATION:
REPORT: SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE: 89/03 COMPILATION PROJECT NO.: 0305-34475

UPDATED BY : EBA ENGINEERING CONSULTANTS LTD.

INDIAN AND NORTHERN AFFAIRS CANADA

CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: GULF88HB MONTH: 8 YEAR: 1988

SPONSOR : GULF CANADA RESOURCES LTD.

CONTACT: MR. CHRIS GRAHAM JOB NO

CONTRACTOR : EBA ENGINEERING CONSULTANTS LTD.

JOB NO : 0101-4912A CONTACT: MR. KEVIN JONES
REPORT TITLE: SUMMER 1988 OFFSHORE SITE INVESTIGATION PROPOSED MOLIKPAG SET DOWN LOCATION

HERSCHEL BASIN, BEAUFORT SEA, 1988 NOVEMBER

MINIMUM COORDINATES : CENTRE MAXIMUM ZONE: <u>_</u> n EASTING: 0 0 0 NORTHING: n Λ n OR: LATITUDE: 69.41250 0.00000 69.56333 0.00000 LONGITUDE: 139.89000 138.16500

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : HERSCHEL BASIN HERSCHEL BASIN

NUMBER: 1

1:204100 SCALE: 1:2205900 PAPER COPY FORMAT: PAPER COPY

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR

DIG NO. NA MA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: GCS OBTAINED ALONG 10M WATER DEPTH CONTOUR WHILE SAILING FROM

SIMPSON PT TO ROLAND BAY AND AT ROLAND BAY (18 GCS)

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL SCOPE: MANY SITES

LEVEL: SOIL CLASSIFICATION, STRATIGRAPHY

1 BH,34 GCS,3 CPTS SIZE :

SURVEY PATTERN: LINE SURVEY SPACING: UNKNOWN

SEASON: SUMMER/FALL PROGRAM LENGTH: 2 DAYS, AUG 28, 29

EQUIPMENT : CPT PROBE, SIMCO 5000WS TOP DRIVE ROTARY DRILL, DRAG BITS, CORE BARREL,

WIRELINE, PILICON HAND VANE

PENETRATION: 9.7M FOR BHs, 10M TO 13M FOR CPTs, .30M TO .87M FOR GCs

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1.0M TO 1.5M

QUALITY: GOOD

TYPE : THIN & HEAVY WALLED TUBES, HEAVY WALL GC SIZE : 6 THIN WALLED TUBES, 29 GCs, 4 HEAVY WALL TUBES

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING: INTERP : SOIL CLASSIFICATION, PROPERTIES, STRATIGRAPHY

REPORT : GEOTECHNICAL DATA, FORMAL REPORT

DISTRIB: SPONSOR/CONTRACTOR

OTHER : BATH SURVEY

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 89/03 COMPILATION PROJECT NO.: 0305-34475

UPDATED BY : EBA ENGINEERING CONSULTANTS LTD.

: 91/03/04 DATE UPDATE PROJECT NO.: 0306-34693

INDIAN AND NORTHERN AFFAIRS CANADA

CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: GULF881SGK MONTH: 8 YEAR: 1988

: GULF CANADA RESOURCES LTD. SPONSOR

JOB NO CONTACT: MR. CHRIS GRAHAM

CONTRACTOR : EBA ENGINEERING CONSULTANTS LTD.

JOB NO : 0101-4912E CONTACT: MR. KEVIN JONES

REPORT TITLE: SUMMER 1988 OFFSHORE GEOTECHNICAL SITE INVESTIGATION, ISSIGAK, MINUK, AKPAK PLATEAU

AND NIPTERK BORROW SITES, BEAUFORT SEA, 1989 FEBRUARY

COORDINATES : MINIMUM CENTRE MAXINUM ZONE: UTM: 459903 EASTING: 459453 460354 NORTHING: 7732154 7732733 7733312 OR: LATITUDE: 69.69611 0.00000 69.70661 LONGITUDE: 136.02418 0.00000 136.00471

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : ISSIGAK ISSIGAK

NUMBER: 1 SCALE : 1:2239000 1:7500 FORMAT: PAPER COPY PAPER COPY

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR/CANADIAN ENGINEE

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: GC LINE FROM SW TO NE, BHS CLOSE TO SW END

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL SCOPE: ONE SITE

LEVEL: DELINEATION, SOIL CLASSIFICATION

SIZE : 5 BHs,30 GCs (NO RECOVERY)

SURVEY PATTERN: IRREGULAR LINE FOR GC, IRREGULAR GRID BH

SURVEY SPACING: IRREGULAR GENERALLY <150M

SEASON: FALL PROGRAM LENGTH: 1 DAY, AUG 26

EQUIPMENT : SIMCO 5000 WS TOP DRIVE ROTARY DRILL, WIRELINE

PENETRATION: 3.7M TO 4.3M (GRAVEL & SAND, CLAY) IN BHS

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1M IN BHS

QUALITY: GOOD FOR BHS, POOR (NO RECOVERY) FOR GCs

TYPE : HT SIZE : 24 TUBES

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL CLASSIFICATION

REPORT : GEOTECHNICAL DATA, FORMAL REPORT

DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION:

REPORT : SPONSOR/CONTRACTOR

DATA : SC/CANADIAN ENGINEERING SERVICES LTD. (LOCATIONS)

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

: 89/03 COMPILATION PROJECT NO.: 0305-34475

UPDATED BY : EBA ENGINEERING CONSULTANTS LTD.

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: GULF88MK MONTH: 8 YEAR: 1988

SPONSOR : GULF CANADA RESOURCES LTD.

JOB NO : CONTACT: MR. CHRIS GRAHAM

CONTRACTOR : EBA ENGINEERING CONSULTANTS LTD.

JOB NO : 0101-4912E CONTACT: MR. KEVIN JONES

REPORT TITLE: SUMMER 1988 OFFSHORE GEOTECHNICAL SITE INVESTIGATION, ISSIGAK, MINUK, AKPAK PLATEAU

AND NIPTERK BORROW SITES, BEAUFORT SEA, 1989 FEBRUARY

COORDINATES : MINIMUM CENTRE MAXIMUM ZONE: EASTING: 451803 453398 454992 7736762 7735248 7738275 MORTHING: OR: LATITUDE: 69.72311 0.00000 69.74969 LONGITUDE: 136.16369 0.00000 136.24772

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : MINUK

MINUK

NUMBER: 1 E-3
SCALE : 1:2239000 1:15000
FORMAT: PAPER COPY PAPER COPY

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR/CANADIAN ENGINEE

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: GC LINE FROM SE TO NW

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL SCOPE: ONE SITE

LEVEL: DELINEATION, SOIL CLASSIFICATION

SIZE: 45 GCs SURVEY PATTERN: LINE

SURVEY SPACING: 100M APPROX

SEASON: FALL PROGRAM LENGTH: 1 DAY, AUG 27

EQUIPMENT : SIMCO 5000 WS TOP DRIVE ROTARY DRILL, WIRELINE

PENETRATION: 0.48M TO 0.94M (CLAY)

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : SURFICIAL SAMPLE
QUALITY: GOOD WHEN RECOVERED

TYPE : GCs SIZE : 35 GCs

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL CLASSIFICATION

REPORT : GEOTECHNICAL DATA, FORMAL REPORT

DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION:
REPORT: SPONSOR/CONTRACTOR

DATA : SC/CANADIAN ENGINEERING SERVICES LTD. (LOCATIONS)

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 89/03 COMPILATION PROJECT NO.: 0305-34475

UPDATED BY : EBA ENGINEERING CONSULTANTS LTD.

BEAUFORT SEA INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: GULF88NW MONTH: 8 YEAR: 1988

: GULF CANADA RESOURCES LTD. SPONSOR

CONTACT: MR. CHRIS GRAHAM

CONTRACTOR : EBA ENGINEERING CONSULTANTS LTD.

JOB NO : 0101-4912E CONTACT: MR. KEVIN JONES

REPORT TITLE: SUMMER 1988 OFFSHORE GEOTECHNICAL SITE INVESTIGATION, ISSIGAK, MINUK, AKPAK PLATEAU

AND NIPTERK BORROW SITES, BEAUFORT SEA, 1988 FEBRUARY

COORDINATES : CENTRE MINIMUM ZONE: UTM: 8 465038 EASTING: 466491 0 NORTHING: 7740033 0 7742964 OR: LATITUDE: 69.76773 0.00000 69.79382 LONGITUDE: 135.86819 0.00000 135.90696

LOCATION:

SITE PLAN GENERAL LOCATION

NAME : NIPTERK NIPTERK WEST

NUMBER: 1 E-4 SCALE : 1:2239000 1:13000 FORMAT: PAPER COPY PAPER COPY

SPONSOR/CONTRACTOR/CANADIAN ENGINEE ARCHIV: SPONSOR/CONTRACTOR

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: GC FROM SE TO NW, BHS IN SOUTH HALF

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL SCOPE: ONE SITE

LEVEL: DELINEATION, SOIL CLASSIFICATION

3 BHs,35 GCs SIZE : SURVEY PATTERN: LINE SURVEY SPACING: <150M APPROX

SEASON: FALL PROGRAM LENGTH: 1 DAY, AUG 26

EQUIPMENT : SIMCO 5000 WS TOP DRIVE ROTARY DRILL, WIRELINE

PENETRATION: 2.4M TO 4.8M IN BHs, 0.12M TO 0.51M IN GCs(CLAY, SILT, SAND, GRAVEL)

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : SURFICIAL SAMPLE QUALITY: GOOD WHEN RECOVERED

TYPE : HT SIZE : 15 TUBES,22 GC

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL CLASSIFICATION

REPORT : GEOTECHNICAL DATA, FORMAL REPORT

DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR

DATA : SC/CANADIAN ENGINEERING SERVICES LTD. (LOCATIONS)

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

: 89/03 COMPILATION PROJECT NO.: 0305-34475

UPDATED BY : EBA ENGINEERING CONSULTANTS LTD.

BEAUFORT SEA INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: GULF88NS MONTH: 8 YEAR: 1988

SPONSOR : GULF CANADA RESOURCES LTD.

JOB NO : CONTACT: MR. CHRIS GRAHAM

CONTRACTOR : EBA ENGINEERING CONSULTANTS LTD.

JOB NO : 0101-4912E CONTACT: MR. KEVIN JONES

REPORT TITLE: SUMMER 1988 OFFSHORE GEOTECHNICAL SITE INVESTIGATION, ISSIGAK, MINUK, AKPAK PLATEAU

AND NIPTERK BORROW SITES, BEAUFORT SEA 1988 FEBRUARY

COORDINATES : MINIMUM CENTRE MAXINUM UTM: ZONE: 8 8 463990 464697 **EASTING:** n 7738304 0 7739510 NORTHING: 69.75189 0.00000 OR: LATITUDE: 69.76446 LONGITUDE: 135.91446 0.00000 135,93230

LOCATION:

GENERAL LOCATION

SITE PLAN

NAME : NIPTERK

NIPTERK SOUTH

NUMBER: 1 SCALE : 1:2239000 E-2 1:8500 PAPER COPY

FORMAT: PAPER COPY ARCHIV: SPONSOR/CONTRACTOR

SPONSOR/CONTRACTOR/CANADIAN ENGINEE

DIG NO: NA

NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: GC LINE FROM SW TO NE

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL SCOPE: ONE SITE

LEVEL: DELINEATION, SOIL CLASSIFICATION

SIZE :

15 GCs LINE

SURVEY PATTERN: SURVEY SPACING:

100M APPROX

SEASON: FALL

PROGRAM LENGTH: 1 DAY, AUG 27

EQUIPMENT : SIMCO 5000 WS TOP DRIVE ROTARY DRILL, WIRELINE

PENETRATION: 0.18M TO TO 0.40M FOR GCs (LOGS 37-49) (CLAY, SAND, CLAY)

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : SURFICIAL SAMPLE
QUALITY: GOOD WHEN RECOVERED

TYPE : GC SIZE : 7 GCs

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL CLASSIFICATION

REPORT : GEOTECHNICAL DATA, FORMAL REPORT

DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION:

REPORT : SPONSOR/CONTRACTOR

DATA : SC/CANADIAN ENGINEERING SERVICES LTD. (LOCATIONS)

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 89/03 COMPILATION PROJECT NO.: 0305-34475

UPDATED BY : EBA ENGINEERING CONSULTANTS LTD.

BEAUFORT SEA INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: GULF891SRK MONTH: 9 YEAR: 1989

: GULF CANADA RESOURCES LTD. SPONSOR

CONTACT: MR. CHRIS GRAHAM JOB NO

CONTRACTOR : GOLDER ASSOCIATES LTD.

JOB NO : 892-2069B CONTACT: MR. KEN BEEN

REPORT TITLE: SITE INVESTIGATION FOR ISSERK I-15 SITE, AKPAK PLATEAU, BEAUFORT SEA, 1990 JANUARY

COORDINATES : MINIMUM CENTRE MAXIMUM UTM: ZONE: EASTING: 526840 526867 526897 7756054 7756087 7756118 NORTHING: OR: LATITUDE: 0.00000 69.91245 0.00000 LONGITUDE: 0.00000 134.29910 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

ISSERK I-15 NAME : ISSERK

NUMBER: 1 SCALE : 1:2400000 1:500 PAPER COPY FORMAT: PAPER COPY

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: USED ERKSAK SAND FILL FOR ISLAND

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL SCOPE: ONE SITE

LEVEL: DELINEATION, SOIL PROPERTIES, CLASSIFICATION

SIZE : 7 CPTs,3 BHs,7 GCs

SURVEY PATTERN: IRREGULAR SURVEY SPACING: IRREGULAR

PROGRAM LENGTH: 10 DAYS, SEPT 23-OCT 3 SEASON: FALL

EQUIPMENT : MODULAR DRILL RIG, DRAG BIT WITH WIRELINE, CPT PROBE, PILICON VANE, FALL VANE

PENETRATION: 11.1M TO 40M FOR BHs.5.5M TO 10.0M FOR CPTs.UP TO .23M FOR GC

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS: RATE : 1.5M TO 3M FOR BHs, CONTINOUS FOR CPTs

QUALITY: GENERALLY GOOD TYPE : TT, GRAVITY CORES SIZE : 26 TT, 7 GCs

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING: INTERP : SOIL PROPERTIES, CLASSIFICATION, STRATIGRAPHY

REPORT : FORMAL GEOTECHNICAL DISTRIB: SPONSOR/CONTRACTOR/ESSO

OTHER : GOLDER 892-2069A

ARCHIVING OF INFORMATION:

REPORT : SPONSOR/CONTRACTOR/ESSO

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

: 91/03/04 COMPILATION PROJECT NO.: 0306-34693 DATE

UPDATED BY :

INDIAN AND NORTHERN AFFAIRS CANADA

CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: GULF89SU MONTH: 8 YEAR: 1989

SPONSOR : GULF CANADA RESOURCES LTD.

JOB NO : CONTACT: MR. MIKE HARDY

CONTRACTOR : EBA ENGINEERING CONSULTANTS LTD.

JOB NO : 0101-10168 CONTACT: MR. KEVIN JONES

REPORT TITLE: 1989 OFFSHORE GEOTECHNICAL SITE INVESTIGATION, SOUTH UKALERK, BEAUFORT SEA

MINIMUM CENTRE COORDINATES : MAXIMUM ZONE: 578531 578608 578684 EASTING: 7777891 NORTHING: 7777750 7778032 OR: LATITUDE: 0.00000 0.00000 0.00000 0.00000 LONGITUDE: 0.00000 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : SOUTH UKALERK SOUTH UKALERK

NUMBER: 1 2,3 SCALE: 1:0 1:

FORMAT: PAPER COPY PAPER COPY

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOTECHNICAL SCOPE: TWO SITES

LEVEL: SOIL CLASSIFICATION, STRATIGRAPHY, PROPERTIES

SIZE: 2 BHs,9 CPTs FOR UKALERK,9 GC FOR ISSERK

SURVEY PATTERN: 1RREGULAR GRID SURVEY SPACING: 1RREGULAR

SEASON: SUMMER PROGRAM LENGTH: 6 DAYS, AUG 7-12

EQUIPMENT : CPT PROBE, SINCO 5000 WS TOP DRIVE ROTARY DRILL, WIRELINE

PENETRATION: 32.8M TO 59.1M FOR BHs,8.2M TO 58.5M FOR CPT,.4M TO .9M FOR GCs,

CLAY, SAND, CLAY, SILT & CLAY, UNITS 1, 11, 111, IV, CLAY

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 3H QUALITY: GOOD

TYPE : TT,HT,POREWATER,GC S1ZE : TT,23 HT,18 POREWATER

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING: INTERP: SOIL CLASSIFICATION, PROPERTIES, STRATIGRAPHY

REPORT : GEOTECHNICAL DATA, FORMAL REPORT

DISTRIB: SPONSOR/CONTRACTOR

OTHER : EBA #0101-3867, GEOTERREX 1983

ARCHIVING OF INFORMATION:
REPORT: SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/04 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY : EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/04 UPDATE PROJECT NO.: 0306-34693

BEAUFORT SEA INDIAN AND NORTHERN AFFAIRS CANADA

CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: INAC87IBS MONTH: 4 YEAR: 1987

SPONSOR : INDIAN AND NORTHERN AFFAIRS CANADA

JOB NO : NOGAP A4:A4-6 CONTACT: MR. ROBERT GOWAN

CONTRACTOR : EBA ENGINEERING CONSULTANTS LTD.

JOB NO : 0301-34241 CONTACT: MR. NEIL MACLEOD
REPORT TITLE: SYNTHESIS AND INTERPRETATION OF BATHYMETRIC GEOPHYSICAL AND GEOTECHNICAL DATA FROM

ISSIGAK BORROW BLOCK, 1987 APRIL

COORDINATES : MINIMUM CENTRE MAXIMUM UTM: ZONE: 454900 462000 467000 EASTING: NORTHING: 7732000 7737000 7740000 OR: LATITUDE: 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 LONGITUDE:

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : ISSIGAK BORROW BLOCK ISSIGAK DEPOSIT

NUMBER: 1.1 2.1,2.2 SCALE: 1:1000000 1:250000 FORMAT: PAPER COPY PAPER COPY

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOPHYSICAL, GEOTECHNICAL, BATHYMETRIC

SCOPE: ONE SITE

LEVEL: REVIEW AND SYNTHESIS OF EXISTING DATA

SIZE: N/A SURVEY PATTERN: NA

SURVEY SPACING: N/A

SEASON: N/A PROGRAM LENGTH: N/A

EQUIPMENT : NA

PENETRATION: 6M TO PENETRATE DEPOSIT

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : NA QUALITY: NA TYPE : NA SIZE : N/A

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL STRATIGRAPHY, BORROW QUANTITIES

REPORT : FORMAL REVIEW DISTRIB: SPONSOR/CONTRACTOR

OTHER : EBA#E-660,E-965.2,101-2968,101-3097,101-3808,101-3883,101-3897,101-3210,GEOTERREX93-41,

93-28, HARDY

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR

DATA : SC

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/08 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

APPENDIX B.2 GEOPHYSICAL AND HYDROGRAPHIC



INDIAN AND NORTHERN AFFAIRS CANADA

CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: AMOC85AD MONTH: 7 YEAR: 1985

SPONSOR : AMOCO CANADA PETROLEUM CO LTD (DOME PETROLEUM LTD)

OB NO : CONTACT: MR. ROCQUE GOH

CONTRACTOR : McGREGOR GEOSCIENCES LTD.

JOB NO : 85-45.1(P14/297) CONTACT: MR. TONY LAPIERRE

REPORT TITLE: WELLSITE SEABED SURVEY, ADLARTOK SITE, MACKENZIE TROUGH, 1986 JUNE (1 VOL.)

COORDINATES : MINIMUM CENTRE **MAXIMUM** UTM: ZONE: 8 EASTING: 385000 0 401300 NORTHING: 7721700 Λ 7736200 OR: LATITUDE: 0.00000 69.64778 0.00000 LONGITUDE: 0.00000 137.75778 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : ADLARTOK P-09 ADLARTOK P-09

NUMBER: FIG. 1 FIG.2 (ENCLOSURE 1)

SCALE: 1:1852000 1:10000 FORMAT: PAPER COPY BLUELINE

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR/MCELHANNEY

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: 11 NW-SE LINES, 11 NE-SW LINES; NUMEROUS PORTIONS OF LINES AND

E-W, N-S LINES IN CENTER PORTION OF SITE (THROUGH AND NEAR

P-09)

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOPHYSICAL SCOPE: ONE SITE

LEVEL: SOIL/ROCK STRATIGRAPHY, ANOMALIES, FAULTS, GAS

SIZE: 192KM

SURVEY PATTERN: IRREGULAR GRID SURVEY SPACING: IRREGULAR

SEASON: SUMMER PROGRAM LENGTH: 23 DAYS, JULY 10 - AUG 11

EQUIPMENT : 24 CHANNEL SEISMIC, SURFACE-TOWED BOOMER, SUB-BOTTOM PROFILER, SIDESCAN SONAR,

ECHOSOUNDER

PENETRATION: 1400M (E2-12.5M SOFT TO VERY SOFT CLAY, E1-CLAY/SOME SAND INTERBEDS TO 109M)

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1MS, CONTINOUS, CONTINUOUS, CONTINOUS, CHARTSPEED

QUALITY: POOR TO GOOD, DEPENDING ON WEATHER

TYPE : DIGITAL/ANALOG, ANALOG, ANALOG, ANALOG

SIZE : NA,NA,NA,NA,NA

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL/ROCK STRATIGRAPHY, BATHYMETRY, FAULTS

REPORT : FORMAL GEOPHYSICAL DISTRIB: SPONSOR/CONTRACTOR OTHER : EBA #0101C-4400

ARCHIVING OF INFORMATION:

REPORT : SPONSOR/CONTRACTOR/COGLA 9426-D3-2E

DATA : SPONSOR/CONTRACTOR

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/05 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: AMOC88AA MONTH: 7 YEAR: 1988

SPONSOR : AMOCO CANADA PETROLEUM CO LTD

JOB NO : 889032 CONTACT: MR. ROCQUE GOH

CONTRACTOR : McGREGOR GEOSCIENCES LTD.

JOB NO : 88-11.1(PO2/500) CONTACT: MR. TONY LAPIERRE

REPORT TITLE: WELLSITE SURVEY REPORT, AAGNERK SITE, MACKENZIE TROUGH, BEAUFORT SEA, 1989 APRIL

CENTRE MAXIMUM COORDINATES : MINIMUM ZONE: 8 415400 424400 EASTING: 0 7734700 7746500 NORTHING: n OR: LATITUDE: 0.00000 69.74815 0.00000 LONGITUDE: 0.00000 137.02253 0.00000

LOCATION:

GENERAL LOCATION

SITE PLAN

NAME : AAGNERK

AAGNERK

NUMBER: FIG. 1

FIG. 2,5 (ENCLOSURE 1,3)

SCALE: 1:588200 FORMAT: PAPER COPY 1:10000 BLUELINE

FORMAT: PAPER COPY
ARCHIV: SPONSOR/CONTRACTOR

SPONSOR/CONTRACTOR/CHALLENGER

DIG NO: NA

NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: 11 NW-SE LINES, 23 NE-SW LINES, 2 TIE-LINES

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOPHYSICAL SCOPE: ONE SITE

LEVEL: SOIL/ROCK STRATIGRAPHY, ANOMALIES

SIZE :

36 LINES, 235 KM

SURVEY PATTERN: SURVEY SPACING: IRREGULAR GRID

SEASON: SUMMER

PROGRAM LENGTH: 6 DAYS, JULY 25-29, AUG 17-20

EQUIPMENT : MULTI CHANNEL SEISMIC, SURFACE-TOWED BOOMER, SIDESCAN SONAR, SUB-BOTTOM PROFILER,

ECHOSOUNDER, GRAB SAMPLER, GRAVITY CORER, SEA FLOOR CAMERA

PENETRATION: 860M (MT1A 0-47M-CLAY & SILT, 35-36M-SANDY INTERBED, MT1B-SANDY SILT/SILT/SILT & CLAY

TO 91M

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1MS, CONTINOUS, CONTINOUS, CONTINOUS, CHARTSPEED, SURFICIAL SAMPL

QUALITY: POOR TO GOOD DEPENDING ON WEATHER

TYPE : DIGITAL/ANALOG, ANALOG, ANALOG, ANALOG, GRAB, GC, PHOTO

SIZE : NA,NA,NA,NA,7 GRAB,2 GC

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL/ROCK STRATIGRAPHY, BATHYMETRY, GAS, PERMAFROST, FAULTS

REPORT : FORMAL GEOPHYSICAL DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION:

REPORT : SPONSOR/CONTRACTOR/COGLA 9426-A4-2E

DATA : SPONSOR/CONTRACTOR

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/05

COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

DATE :

UPDATE PROJECT NO .:

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: AMOC88KN MONTH: 7 YEAR: 1988

SPONSOR : AMOCO CANADA PETROLEUM CO LTD

JOB NO : 889032 CONTACT: MR. ROCQUE GON

CONTRACTOR : McGREGOR GEOSCIENCES LTD.

JOB NO : 88-11.2(P02/502) CONTACT: MR. TONY LAPIERRE

REPORT TITLE: WELLSITE SURVEY REPORT, KINGARK SITE, MACKENZIE TROUGH, BEAUFORT SEA, APRIL 1989

COORDINATES : MINIMUM CENTRE **MAXIMUM** UTM: ZONE: 8 FASTING: 403000 409400 0 NORTHING: 7731900 a 7739500 OR: LATITUDE: 0.00000 69.72896 0.00000 LONGITUDE: 0.00000 137,47086 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : KINGARK KINGARK

NUMBER: FIG. 1 FIG.5 (ENCLOSURE 1,3)

SCALE: 1:588200 1:10000 FORMAT: PAPER COPY BLUELINE

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR/CHALLENGER

DIG NO: NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: 9 NW-SE LINES, 15 NE-SW LINES, 3 TIE-LINES

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOPHYSICAL SCOPE: ONE SITE

LEVEL: SOIL/ROCK STRATIGRAPHY, GAS, FAULTS, SHALLOW ANOMALIES

SIZE: 27 LINES, 126 KM SURVEY PATTERN: IRREGULAR GRID

SURVEY SPACING: IRREGULAR

SEASON: SUMMER PROGRAM LENGTH: 7 DAYS, JULY 29-31, A 8,11,22,23

EQUIPMENT : MULTI CHANNEL SEISMIC, SURFACE-TOWED BOOMER, SIDESCAN SONAR, SUB-BOTTOM PROFILER,

ECHOSOUNDER, GRAB SAMPLER, GRAVITY CORER, SEA FLOOR CAMERA

PENETRATION: 1280M (UNIT NT1A 0-7M CLAY, 7-16.5M CLAY, 16.5-22M CLAY & SILT, UNIT MT1B -22-26M

SILT & SAND, 26-103M SILT AND CLAY

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1MS, CONTINOUS, CONTINOUS, CONTINOUS, CHARTSPEED, SURFICIAL SAMPL

QUALITY: GENERALLY GOOD

TYPE : DIGITAL/ANALOG, ANALOG, ANALOG, ANALOG, GRAB, GC, PHOTOS

SIZE : NA,NA,NA,NA,7 GRAB,2 GC

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL/ROCK STRATIGRAPHY, BATHYMETRY, PERMAFROST FAULTS, GAS

REPORT : FORMAL GEOPHYSICAL DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION:

REPORT : SPONSOR/CONTRACTOR/COGLA 9426-A4-2E

DATA : SPONSOR/CONTRACTOR

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/05 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: AMOC880K MONTH: 8 YEAR: 1988

SPONSOR : AMOCO CANADA PETROLEUM CO LTD

JOB NO : 889032 CONTACT: MR. ROCQUE GOH

CONTRACTOR : McGREGOR GEOSCIENCES LTD.

JOB NO : 88-11.3(P02/503) CONTACT: MR. TONY LAPIERRE

REPORT TITLE: WELLSITE SURVEY REPORT, ORKSOK SITE, MACKENZIE TROUGH, BEAUFORT SEA, 1989 JUNE (2

VOLS)

COORDINATES : MINIMUM CENTRE MAXIMUM UTM: ZONE: **EASTING:** 402200 0 412600 NORTHING: 7717000 Ω 7727000 0.00000 69.60592 0.00000 OR: LATITUDE: LONG! TUDE: 0.00000 0.00000 137.45804

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : ORKSOK (MACKENZIE BAY) ORKSOK

NUMBER: FIG. 1 FIG. 2,3 (ENCLOSURE 1,2)

SCALE: 1:250000 1:10000 FORMAT: PAPER COPY BLUELINE

ARCHIV: SPONSOR/CONTRACTOR/CHALLENGER SPONSOR/CONTRACTOR/CHALLENGER

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: 11 DIP LINES, 21 STRIKE LINES, 4 OTHER LINES (TIE-LINES)

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOPHYSICAL SCOPE: ONE SITE

LEVEL: SOIL & ROCK STRATIGRAPHY, DETECTION OF SEISMIC ANOMALIES, HAZARDS, FAULTING

SIZE: 35 LINES, 235 KM SURVEY PATTERN: IRREGULAR GRID SURVEY SPACING: IRREGULAR

SEASON: SUMMER PROGRAM LENGTH: 9 DAYS, JULY 31-AUG 8,1988

EQUIPMENT : MULTI CHANNEL SEISMIC, SURFACE-TOWED BOOMER, SIDESCAN SONAR, SUB-BOTTOM PROFILER,

ECHOSOUNDER, GRAB SAMPLER, GRAVITY CORER, SEA FLOOR CAMERA

PENETRATION: 571M (UNIT MT1A TO 24.5M-CLAY, CLAY & SILT, UNIT MT1B-SILT & SAND TO 29.5M, SILT &

CLAY TO 103M)

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1MS, CONTINOUS, CONTINOUS, CONTINOUS, CHARTSPEED, SURFICIAL SAMPL

QUALITY: POOR TO GOOD DEPENDING ON WEATHER, FINAL DATA APPEARS GENERALLY GOOD

TYPE : DIGITAL/ANALOG, ANALOG, ANALOG, ANALOG, GRAB, GC, PHOTOS

SIZE : NA,NA,NA,NA,7 GRAB,2 GC

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL & ROCK STRATIGRAPHY, FAULTS, GAS, CORRELATION TO EXISTING BHS (EBA)

REPORT : FORMAL GEOPHYSICAL DISTRIB: SPONSOR/CONTRACTOR OTHER : EBA #0101-4422,0101-4418

ARCHIVING OF INFORMATION:

REPORT : SPONSOR/CONTRACTOR/COGLA 9426-A4-2E

DATA : SPONSOR/CONTRACTOR

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/05 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: AMOC88SA MONTH: 8 YEAR: 1988

: AMOCO CANADA PETROLEUM CO LTD SPONSOR

: 889032 CONTACT: MR. ROCQUE GON JOB NO

CONTRACTOR : McGREGOR GEOSCIENCES LTD.

: 88-11.4(P02/518) CONTACT: MR. TONY LAPIERRE JOB NO

REPORT TITLE: WELLSITE SURVEY REPORT, SOUTH ADLAROK SITE, MACKENZIE TROUGH, BEAUFORT SEA, 1989 JUNE

COORDINATES : MINIMUM CENTRE **MAXIMUM** UTM: ZONE: 8 EASTING: 391200 0 401000 MORTHING: 7721500 n 7729400 OR: LATITUDE: 0.00000 69.61667 0.00000 LONGITUDE: 0.00000 137,65000 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : SOUTH ADLARTOK SOUTH ADLARTOK

FIG. 2,5 (ENCLOSURE 1,2) NUMBER: FIG. 1

SCALE : 1:250000 1:1000 FORMAT: PAPER COPY BLUELINE

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR/CHALLENGER

DIG NO: NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: 13 NW-SE LINES, 14 NE-SW LINES, 3 TIE-LINES

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOPHYSICAL

SCOPE: ONE SITE

LEVEL: SOIL/ROCK STRATIGRAPHY, ANOMALIES

30 LINES, 156 KM SIZE : SURVEY PATTERN: IRREGULAR GIRD

SURVEY SPACING: IRRGULAR

SEASON: SUMMER PROGRAM LENGTH: 7 DAYS, AUG 6-11, 23-25

EQUIPMENT : MULTI CHANNEL SEISMIC, SURFACE-TOWED BOOMER, SIDESCAN SONAR, SUB-BOTTOM PROFILER,

ECHOSOUNDER, GRAB SAMPLER, GRAVITY CORER, SEA FLOOR CAMERA

PENETRATION: 1059M (MT1A-0-15M-CLAY, 15-22M-CLAY & SILT, MT1B-SILT TO 112M)

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1MS, CONTINOUS, CONTINOUS, CONTINOUS, CHARTSPEED, SURFICIAL SAMPL

QUALITY: POOR TO GOOD DEPENDING ON THE WEATHER

: DIGITAL/ANALOG, ANALOG, ANALOG, ANALOG, GRAB, GC, PHOTO TYPE

SIZE : NA,NA,NA,NA,NA,7 GRAB,2 GC

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL/ROCK STRATIGRAPHY, BATHYMETRY, GAS, FAULTS, PERMAFROST

REPORT : FORMAL GEOPHYSICAL DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION:

REPORT : SPONSOR/CONTRACTOR/COGLA 9426-A4-2E

: SPONSOR/CONTRACTOR

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/05 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: AMOC881E MONTH: 8 YEAR: 1988

SPONSOR : AMOCO CANADA PETROLEUM CO LTD

JOB NO : 889032 CONTACT: MR. ROCQUE GOH

CONTRACTOR : McGREGOR GEOSCIENCES LTD.

JOB NO : 88-11.5(PO3/520) CONTACT: MR. TONY LAPIERRE

REPORT TITLE: WELLSITE SURVEY REPORT, IMMERARK SITE, MACKENZIE TROUGH, BEAUFORT SEA, 1989 JUNE (2

VOLUMES)

COORDINATES : MINIMUM CENTRE MAXIMUM ZONE: UTM: 402700 EASTING: 391200 0 NORTHING: 7707800 0 7718600 OR: LATITUDE: 0.00000 69.52694 0.00000 0.00000 LONGITUDE: 0.00000 137.58333

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : IMMERARK IMMERARK

NUMBER: FIG. 1 FIG. 2,6 (ENCLOSURE 1,3)

SCALE: 1:250000 1:10000 FORMAT: PAPER COPY BLUELINE

ARCHIV: SPONSOR/CONTRACTOR/CHALLENGER SPONSOR/CONTRACTOR/CHALLENGER

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: 12 NW-SE LINES, 10 NE-SW LINES, 4 OTHER LINES

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOPHYSICAL

SCOPE: ONE SITE

LEVEL: SOIL/ROCK STRATIGRAPHY, ANOMALIES

SIZE: 26 LINES, 168 KM BOOMER

SURVEY PATTERN: IRREGULAR GRID

SURVEY SPACING: IRREGULAR

SEASON: SUMMER PROGRAM LENGTH: 9 DAYS, AUG 12-14, 21-26

EQUIPMENT : 24 CHANNEL SEISMIC, SURFACE-TOWED BOOMER, SIDESCAN SONAR, ECHOSOUNDER, GRAB

SAMPLER, GRAVITY CORER, SEA FLOOR CAMERA

PENETRATION: 1077M (UNIT MT1A-0-18M CLAY, 18-24M-CLAY & SILT, UNIT MT1B-SILT TO 105M)

RESOLUTION : GOOD TO 120M

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1MS, CONTINOUS, CONTINOUS, CHARTSPEED, SURFICIAL SAMPLES

QUALITY: GENERALLY GOOD

TYPE : DIGITAL/ANALOG, ANALOG, ANALOG, GRAB, GC, PHOTO

SIZE : NA,NA,NA,9 GRAB,2 GC

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL/ROCK STRATIGRAPHY, BATHYMETRY, GAS, CORRELATION TO EXISTING BHS

REPORT : FORMAL GEOPHYSICAL DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION:

REPORT : SPONSOR/CONTRACTOR/COGLA 9426-A4-2E

DATA : SPONSOR/CONTRACTOR

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/05 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: AMOCSBIU MONTH: 8 YEAR: 1988

SPONSOR : AMOCO CANADA PETROLEUM CO LTD

JOB NO : 889032 CONTACT: MR. ROCQUE GON

CONTRACTOR : McGREGOR GEOSCIENCES LTD.

JOB NO : 88-11.5(PO3/520) CONTACT: MR. TONY LAPIERRE

REPORT TITLE: WELLSITE SURVEY REPORT, IMMERARK SITE, MACKENZIE TROUGH, BEAUFORT SEA, 1989 JUNE (2

VOLUMES)

COORDINATES : MINIMUM CENTRE MAXIMUM UTM: ZONE: 8 EASTING: 386300 0 392100 NORTHING: 7712400 0 7713800 OR: LATITUDE: 0.00000 69.50000 0.00000 0.00000 LONGITUDE: 0.00000 137.83333

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : INUKPAK INUKPAK

NUMBER: FIG. 1 FIG. 3 (ENCLOSURE 2)

SCALE: 1:250000 1:10000 FORMAT: PAPER COPY BLUELINE

ARCHIV: SPONSOR/CONTRACTOR/CHALLENGER SPONSOR/CONTRACTOR/CHALLENGER

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: 1 LINE E-W.TIES INTO IMMERARK

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOPHYSICAL

SCOPE: ONE SITE

LEVEL: SOIL/ROCK STRATIGRAPHY, ANOMALIES

SIZE: 1 LINE, 17.5 DIG/AN

SURVEY PATTERN: LINE SURVEY SPACING: N/A

SEASON: SUMMER PROGRAM LENGTH: 1 DAY

EQUIPMENT : 24 CHANNEL SEISMIC, SURFACE-TOWED BOOMER, SIDESCAN SONAR, ECHOSOUNDER, GRAB

SAMPLER, GRAVITY CORER, SEA FLOOR CAMERA

PENETRATION: 1077M (UNIT MT1A-0-18M CLAY, 18-24M CLAY & SILT, MT1B-SILT 105M)

RESOLUTION : GOOD TO 120M

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1MS, CONTINOUS, CONTINOUS, CHARTSPEED, SURFICIAL SAMPLES

QUALITY: GENERALLY GOOD

TYPE : DIGITAL/ANALOG, ANALOG, ANALOG, GRAB, GC, PHOTOS

SIZE : NA,NA,NA,NA,9 GRAB,2 GC

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL/ROCK STRATIGRAPHY, BATHYMETRY, GAS, CORRELATION TO EXISTING BHS

REPORT : FORMAL GEOPHYSICAL DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION:

REPORT : SPONSOR/CONTRACTOR/COGLA 9426-A4-2E

DATA : SPONSOR/CONTRACTOR

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/05 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

BEAUFORT SEA INDIAN AND NORTHERN AFFAIRS CANADA

CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: AMOC89TG MONTH: 8 YEAR: 1989

SPONSOR ; AMOCO CANADA PETROLEUM CO LTD

JOB NO : 899046 CONTACT: MR. ROCQUE GOH

CONTRACTOR : MCGREGOR GEOSCIENCES LTD.

JOB NO : 89-14.1(PO3/533) CONTACT: MR. TONY LAPIERRE

REPORT TITLE: WELLSITE SURVEY REPORT, TIREGLUIT SITE, YUKON SHELF/MACKENZIE TROUGH, BEAUFORT

SEA, 1989 DECEMBER (2 VOLUMES)

CENTRE MAXINUM COORDINATES : MINIMUM ZONE: 8 UTM: 569100 528600 n EASTING: NORTHING: 7737600 0 7749500 0.00000 69.77944 0.00000 OR: LATITUDE: LONGITUDE: 0.00000 139.06611 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : TIREGLUIT TIREGLUIT

NUMBER: FIG. 1 FIG. 2,3 (ENCLOSURE 1,2)

SCALE: 1:909100 1:10000 FORMAT: PAPER COPY BLUELINE

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR/MCELHANNEY

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: 10 NW-SE LINES, 23 NE-SW LINES, 1 TIE-IN LINE

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOPHYSICAL SCOPE: ONE SITE

LEVEL: SOIL/ROCK STRATIGRAPHY, ANOMALIES, FAULTING

SIZE: 34 LINES, 231 KM SURVEY PATTERN: IRREGULAR GRID SURVEY SPACING: IRREGULAR

SEASON: SUMMER PROGRAM LENGTH: 8 DAYS, AUG 9, 10, 21-26

EQUIPMENT : MULTI CHANNEL SEISMIC, SURFACE-TOWED BOOMER, SIDESCAN SONAR, SUB-BOTTOM PROFILER,

ECHOSOUNDER, GRAB SAMPLER, GRAVITY CORER, SEA FLOOR CAMERA

PENETRATION: 1088M (UNIT NP1-0-2M CLAY-SANDY, GRAVELLY; 2-21.5M CLAY; NP2-21.6M GRAVEL TO 48.0M

CLAY)

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1MS, CONTINOUS, CONTINOUS, CONTINOUS, CHARTSPEED, SURFICIAL SAMPL

QUALITY: POOR TO GOOD DEPENDING ON WEATHER, GENERALLY GOOD TYPE : DIGITAL/ANALOG, ANALOG, ANAL

SIZE : NA, NA, NA, NA, 8 GRAB

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL/ROCK STRATIGRAPHY, BATHYMETRY, GAS, FAULTS, CORRELATION TO EXISTING BHS

REPORT : FORMAL GEOPHYSICAL DISTRIB: SPONSOR/CONTRACTOR OTHER : EBA #0101-4277

ARCHIVING OF INFORMATION:

REPORT : SPONSOR/CONTRACTOR/COGLA 9426-A4-3E

DATA : SPONSOR/CONTRACTOR

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/05 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: AMOC89SR MONTH: 8 YEAR: 1989

SPONSOR : AMOCO CANADA PETROLEUM CO LTD

: 899046 CONTACT: MR. ROCQUE GOH

: McGREGOR GEOSCIENCES LTD. CONTRACTOR

JOB NO : 89-14.2(P02/545) CONTACT: MR. TONY LAPIERRE

REPORT TITLE: WELLSITE SURVEY REPORT, SARTOK SITE, MACKENZIE TROUGH, BEAUFORT SEA, 1990 JULY (2

VOLUMES)

COORDINATES : MINIMUM CENTRE MAXIMUM ZONE: HTM: R 388100 395700 EASTING: 0 7742100 NORTHING: O 7750000 OR: LATITUDE: 0.00000 0.00000 69.80000 LONGITUDE: 0.00000 137.79111 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : SARTOK SARTOK

NUMBER: FIG. 1 FIG. 2,3 (ENCLOSURE 1,2)

SCALE : 1:1000000 1:10000 FORMAT: PAPER COPY BLUELINE

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR/MCELHANNEY

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: 10 NW-SE LINES, 16 NE-SW LINES, 2 OTHER LINES INCLUDING TIE-IN

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOPHYSICAL

SCOPE: ONE SITE

LEVEL: SOIL/ROCK STRATIGRAPHY, ANOMALIES, FAULTING

28 LINES, 172 KM SIZE : SURVEY PATTERN: IRREGULAR GRID

SURVEY SPACING: IRREGULAR

SEASON: SUMMER PROGRAM LENGTH: 10 DAYS, AUG 5-12, 15, 16

: MULTI CHANNEL SEISMIC, SURFACE-TOWED BOOMER, SIDESCAN SONAR, SUB-BOTTOM PROFILER, ECHOSOUNDER, GRAB SAMPLER, GRAVITY CORER, SEA FLOOR CAMERA

PENETRATION: 680M (UNIT MT1-0-100M-CLAY)

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

: 1MS, CONTINOUS, CONTINOUS, CONTINOUS, CHARTSPEED, SURFICIAL (.8M)

QUALITY: GENERALLY GOOD

: DIGITAL/ANALOG, ANALOG, ANALOG, ANALOG, GRAB, GC, PHOTOS

SIZE : NA,NA,NA,NA,7 GRAB,2 GC

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL/ROCK STRATIGRAPHY, BATHYMETRY, GAS, FAULTS, CORRELATION TO EXISTING BHS

REPORT : FORMAL GEOPHYSICAL DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION:

REPORT : SPONSOR/CONTRACTOR/COGLA 9426-A4-3E

DATA : SPONSOR/CONTRACTOR

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/05 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

BEAUFORT SEA INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: AMOC89SY MONTH: 8 YEAR: 1989

SPONSOR : AMOCO CANADA PETROLEUM CO LTD

JOB NO : 899046 CONTACT: MR. ROCQUE GOH

CONTRACTOR : McGREGOR GEOSCIENCES LTD.

JOB NO : 89-14.3(P02/537) CONTACT: MR. TONY LAPIERRE

REPORT TITLE: WELLSITE SURVEY REPORT, SOUTH KOGYUK SITE, TINGMIARK PLAIN, BEAUFORT SEA

COORDINATES : MINIMUM MAXIMUM CENTRE ZONE: UTM: R EASTING: 567500 0 576200 7770500 MORTHING: n 7778100 OR: LATITUDE: 0.00000 70.06053 0.00000 LONGITUDE: 0.00000 133.19178 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : SOUTH KOGYUK L-34 SOUTH KOGYUK L-34

NUMBER: FIG. 1 FIG. 2,4 (ENCLOSURE 1,2)

SCALE: 1:500000 1:10000 FORMAT: PAPER COPY BLUELINE

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR/MCELHANNEY

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: 18 NW-SE LINES, 10 NE-SW LINES, 2 TIE-LINES

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOPHYSICAL

SCOPE: ONE SITE

LEVEL: SOIL/ROCK STRATIGRAPHY, ANOMALIES, GEOHAZARDS

SIZE : 30 LINES, 159 KM (+ 46 KM TIE/TEST LINES)

SURVEY PATTERN: IRREGULAR GRID

SURVEY SPACING: IRREGULAR

SEASON: SUMMER PROGRAM LENGTH: 7 DAYS, JULY 30-AUG 1,27-30

EQUIPMENT : MULTI CHANNEL SEISMIC, SURFACE-TOWED BOOMER, SIDESCAN SONAR, SUB-BOTTOM PROFILER,

ECHOSOUNDER, GRAB SAMPLER, GRAVITY CORER, SEA FLOOR CAMERA

PENETRATION: 595M (SEQUENCE 1:0-1M CLAY, 1-45M SAND, 45-69M SILT(TARSIUT SILT), 69-595M SAND

LAYERS(FROZEN))

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1MS, CONTINOUS, CONTINOUS, CONTINOUS, CHARTSPEED, SURFICIAL SAMPL

QUALITY: POR TO GOOD DEPENDING ON WEATHER

TYPE : DIGITAL/ANALOG,ANALOG,ANALOG,ANALOG,GRAB,PHOTO

SIZE : NA, NA, NA, NA, GRAB

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL STRATIGRAPHY, BATHYMETRY, PERMAFROST, GAS

REPORT : FORMAL GEOPHYSICAL DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION:

REPORT : SPONSOR/CONTRACTOR/COGLA 9426-A4-3E

DATA : SPONSOR/CONTRACTOR

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/05 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: AMOC89 MONTH: 8 YEAR: 1989

SPONSOR : AMOCO CANADA PETROLEUM CO LTD

JOB NO : 899046 CONTACT: MR. ROCQUE GOH

CONTRACTOR : McGREGOR GEOSCIENCES LTD.

JOB NO : 89-14.4(PO2/542) CONTACT: MR. TONY LAPIERRE

REPORT TITLE: WELLSITE SURVEY REPORT, SOUTH IMMERARK SITE, MACKENZIE TROUGH, BEAUFORT SEA

COORDINATES : MINIMUM **CENTRE** MAXIMUM ZONE: UTM: EASTING: 396000 400300 0 NORTHING: 7701900 0 7709600 69.72500 OR: LATITUDE: 0.00000 0.00000 LONGITUDE: 0.00000 0.00000 138.01389

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : SOUTH IMMERARK SOUTH IMMERARK

NUMBER: FIG. 1 FIG. 2,5 (ENCLOSURE 1,2)

SCALE: 1:909100 1:10000

FORMAT: PAPER COPY BLUELINE

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR/MCELHANNEY

DIG NO: NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: 15 LINES NW-SE, 13 LINES NE-SW, 1 TIE-LINE

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOPHYSICAL SCOPE: ONE SITE

LEVEL: SOIL/ROCK STRATIGRAPHY, ANOMALIES, FAULTING

SIZE: 19 LINES, 140 KM SURVEY PATTERN: IRREGULAR GRID

SURVEY SPACING: IRREGULAR

SEASON: SUMMER PROGRAM LENGTH: 4 DAYS, AUG 8, 13-15

EQUIPMENT : MULTI CHANNEL SEISMIC, SURFACE-TOWED BOOMER, SIDESCAN SONAR, SUB-BOTTOM PROFILER,

ECHOSOUNDER, GRAB SAMPLER, GRAVITY CORER, SEA FLOOR CAMERA

PENETRATION: 419M (MT1A-0-18M CLAY, 18-25M CLAY/SILT, MT1B-SILT TO 96M)

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1MS, CONTINOUS, CONTINOUS, CONTINOUS, CHARTSPEED, SURFICIAL SAMPL

QUALITY: GENERALLY GOOD

TYPE : DIGITAL/ANALOG, ANALOG, ANALOG, ANALOG, GRAB, GC, PHOTOS

SIZE : NA, NA, NA, NA, NA, 8 GRAB, 2 GC

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL/ROCK STRATIGRAPHY, BATHYMETRY, GAS, FAULTING, PERMAFROST

REPORT : FORMAL GEOPHYSICAL DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION:

REPORT : SPONSOR/CONTRACTOR/COGLA 9426-A4-3E

DATA : SPONSOR/CONTRACTOR

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/05 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

BEAUFORT SEA Indian and Northern Affairs Canada

CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: AMOC89SO MONTH: 8 YEAR: 1989

SPONSOR : AMOCO CANADA PETROLEUM CO LTD

JOB NO : 899046 CONTACT: MR. ROCQUE GOH

CONTRACTOR : McGREGOR GEOSCIENCES LTD.

JOB NO : 89-14.5(PO3/540) CONTACT: MR. TONY LAPIERRE

REPORT TITLE: WELLSITE SURVEY REPORT, SOUTH ORKSOK SITE, MACKENZIE TROUGH, BEAUFORT SEA, 1990

MARCH, (2 VOLS)

COORDINATES : MINIMUM CENTRE MAXIMUM ZONE: 8 EASTING: 407300 0 412800 NORTHING: 7712000 0 7717500 69.52333 OR: LATITUDE: 0.00000 0.00000 LONGITUDE: 0.00000 137,30958 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : SOUTH ORKSOK SOUTH ORKSOK

NUMBER: FIG. 1 FIG. 2,3(ENCLOSURE 1,2)

SCALE: 1:1923100 1:10000 FORMAT: PAPER COPY BLUELINE

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR/MCELHANNEY

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: 10 E-W LINES, 10 N-S LINES(INCLUDING A TIE-LINE)

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOPHYSICAL SCOPE: ONE SITE

LEVEL: SOIL/ROCK STRATIGRAPHY, ANOMALIES, GAS

SIZE: 20 LINES,130 KM SURVEY PATTERN: IRREGULAR GRID

SURVEY SPACING: IRREGULAR

SEASON: SUMMER PROGRAM LENGTH: 6 DAYS, AUG 1-7 1989

EQUIPMENT : MULTI CHANNEL SEISMIC, SURFACE-TOWED BOOMER, SIDESCAN SONAR, SUB-BOTTOM PROFILER,

ECHOSOUNDER, GRAB SAMPLER, GRAVITY CORER, SEA FLOOR CAMERA

PENETRATION: 249M, (UNIT MT1A-CLAY, CLAY, CLAY & SILT-28.75M, UNIT MT18-SILT & SAND 38.5M, SILT &

CLAY-102M

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : 1MS, CONTINOUS, CONTINOUS, CONTINOUS, CHARTSPEED, SURFICIAL SAMPL

QUALITY: GENERALLY GOOD

TYPE : DIGITAL/ANALOG, ANALOG, ANALOG, ANALOG, GRAB, GC, PHOTOS

SIZE : NA,NA,NA,NA,S GRAB,2 GC

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : SOIL/ROCK STRATIGRAPHY, GAS, CORRELATION TO EXISTING BHS(EBA)

REPORT : FORMAL GEOPHYSICAL
DISTRIB: SPONSOR/CONTRACTOR

OTHER : EBA #0101C-4422,0101C-4418

ARCHIVING OF INFORMATION:

REPORT : SPONSOR/CONTRACTOR/COGLA 9426-A4-3E

DATA : SPONSOR/CONTRACTOR

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/05 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: GULF83SU MONTH: 8 YEAR: 1983

; GULF CANADA RESOURCES LTD. SPONSOR

CONTACT: MR. CHRIS GRAHAM JOB NO : 1970-018

CONTRACTOR : GEOTERREX LTD.

: 031 CONTACT: MR. BERNARD LAROCHE JOB NO

REPORT TITLE: OFFSHORE GEOPHYSICAL SITE INVESTIGATION, SOUTH UKALERK SITE, BEAUFORT SEA,

COMPILATION REPORT 1983, MARINE AND SUBBOTTOM SURVEY, 1985 OCTOBER

COORDINATES : MINIMUM CENTRE MAXIMUM UTM: ZONE: 572250 576215 580380 EASTING: NORTHING: 7772570 7777499 7780830 OR: LATITUDE: 0.00000 70.09444 0.00000 LONGITUDE: 0.00000 132.99444 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

SOUTH UKALERK NAME : SOUTH UKALERK

NUMBER: FIG. 2 PLATE II SCALE : 1:1176500 1:10000 FORMAT: PAPER COPY PAPER COPY

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: 13 NE-SW 7 KM LINES AT 250M SPACING, 7 NW-SE LINES AT VARIABLE

SPACING

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOPHYSICAL

SCOPE: ONE SITE

LEVEL: SURFICIAL GEOLOGY, ANOMALOUS/STRUCTURAL FEATURES, GEOHAZARDS

SIZE : 20 LINES, 108.1 KM

SURVEY PATTERN: IRREGULAR GRID

SURVEY SPACING: 7 KM LINES AT 250M APART, TIE LINES VARIABLE SEASON: SUMMER PROGRAM LENGTH: 3 DAYS, AUG 12-14

EQUIPMENT : ECHOSOUNDER, SIDESCAN SONAR, SUB-BOTTOM PROFILER, SURFACE-TOWED BOOMER, AIR GUN

ARRAY

PENETRATION: 200M + (SILTY CLAY, SAND, CLAY, SANDY SILT, SAND) UPPER 40M SAND, SAND RIDGES

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : CHARTSPEED, CONTINOUS, CONTINOUS, CONTINOUS, 1MS (12.5M/TRACE)

QUALITY: GOOD TO 80M

TYPE : ANALOG, ANALOG, ANALOG, ANALOG

SIZE : NA,NA,NA,NA,NA

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : BATHYMETRY, MORPHOLOGY, SEDIMENT THICKNESS, ISOPACHS, UNCONFORMITIES, GAS, PERMAFROST

REPORT : FORMAL GEOPHYSICAL DISTRIB: SPONSOR/CONTRACTOR

OTHER : EBA #0101-3867, GEOTERREX 93-31, 93-28 (2 VOLS)

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR : SPONSOR/CONTRACTOR

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/04 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

BEAUFORT SEA INDIAN AND NORTHERN AFFAIRS CANADA

CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: GULF88AK3 MONTH: 9 YEAR: 1988

SPONSOR : GULF CANADA RESOURCES LTD.

JOB NO : 1970-023 CONTACT: MR. BRIAN ROGERS

CONTRACTOR : McGREGOR GEOSCIENCES LTD.

TOB NO : 88-27(P03/507) CONTACT: MR. TONY LAPIERRE

REPORT TITLE: AMAULIGAK TO NORTH POINT PIPELINE CORRIDER GEOPHYSICAL SURVEY, BEAUFORT SEA, 1989

APRIL

COORDINATES : MINIMUM CENTRE MAXIMUM UTM: ZONE: R R EASTING: 525500 538750 552000 NORTHING: 7741500 7760400 7779300 OR: LATITUDE: 0.00000 0.00000 0.00000 LONGITUDE: 0.00000 0.00000 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN NAME : AKPAK PLATEAU AND KUGMALLIT TR AMAULIGAK TO NORTH POINT

NUMBER: FIG. 1 FIG. 2,6 (ENCLOSURE 1,2)

SCALE : 1:1562500 1:100000 FORMAT: PAPER COPY BLUELINE

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR/CHALLENGER

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: 7 DIP LINES ALONG 4 KM WIDE CORRIDER, 9 STRIKE LINES

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : GEOPHYSICAL

SCOPE: PROPOSED PIPELINE ROUTE

LEVEL: REVISION AND UPDATE OF HIGH RES GEOPHYSICAL, BOREHOLE AND GEOTECH DATA (1983-88)

SIZE : 16 LINES, 440 LINE-KM SURVEY PATTERN: LINE, GRID NEAR SOUTH END SURVEY SPACING: 600M BETWEEN DIP LINES

SEASON: FALL PROGRAM LENGTH: 8 DAYS AUG 28-SEPT 5

EQUIPMENT : SIDESCAN SONAR, SURFACE-TOWED BOOMER, SUB-BOTTOM PROFILER, ECHOSOUNDER

PENETRATION: 65M+ (CLAY, SILTS, SANDS, SAND/SILT/CLAY-VARIOUS UNITS)

RESOLUTION : POOR TO GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : CONTINOUS, CONTINOUS, CONTINOUS, CHARTSPEED QUALITY: POOR TO GOOD DEPENDING ON WATER DEPTH

TYPE : ANALOG, ANALOG, ANALOG SIZE : NA,NA,NA

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP: INTERPRET SEISMIC DATA, CORRELATE WITH GT DATA, SOIL/ROCK STRATIGRAPHY, MAP PERMAFROST, SHA

REPORT : FORMAL GEOPHYSICAL DISTRIB: SPONSOR/CONTRACTOR

OTHER : EBA #0101-4724B,EBA #0101-4809,EBA #0101-4912B,GEOTERREX #107, MCGREGOR #85-76.2

ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR DATA : SPONSOR/CONTRACTOR

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/04 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: CHS86BFT MONTH: 8 YEAR: 1986

SPONSOR : DEPT OF FISHERIES & OCEANS, CHS

JOB NO : FP941-0-6-0327 CONTACT: MR. GEORGE EATON

CONTRACTOR : TERRA SURVEYS LTD.

JOB NO : CONTACT: J.A. VOSBURGH

REPORT TITLE: FINAL FIELD REPORT, 1986 LARSEN LIDER SURVEY, SIMPSON STRAIT AND REQUISITE CHANNEL

COORDINATES : MINIMUM CENTRE **MAXIMUM** UTM: ZONE: ō 0 ō EASTING: 0 0 0 NORTHING: ٨ n Λ OR: LATITUDE: 0.00000 0.00000 0.00000 LONGITUDE: 0.00000 0.00000 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : SIMPSON STRAIT REQUISITE CHANNEL

NUMBER: 1

SCALE : 1:250000 1:250000 FORMAT: PAPER COPY PAPER COPY

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS:

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : HYDROGRAPHIC

SCOPE: REGIONAL

LEVEL: AIR COVERAGE OF SIMPSON STRAIT STARTED 1985, NEW FOR REQUISITE CHANNEL

SIZE : NA

SURVEY PATTERN: IRREGULAR GRID

SURVEY SPACING: IRREGULAR

SEASON: SUMMER/FALL PROGRAM LENGTH: JULY 23 - SEPT 13

EQUIPMENT : AIR LIDAR, TRANSPONDERS, TIDE GAUGE, GPS

PENETRATION: BATHMETRY - SURFACE

RESOLUTION : GENERALLY GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : NA

QUALITY: VARIABLE, DEPENDING ON WEATHER

TYPE : NA SIZE : NA

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP: BATHYMETRY
REPORT: FIELD REPORT
DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION:
REPORT: SPONSOR/CONTRACTOR
DATA: SPONSOR/CONTRACTOR

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/26 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

MONTH: 8 YEAR: 1988 STUDY NUMBER: CHS88BFT

; DEPT OF FISHERIES & OCEANS, CHS SPONSOR

JOB NO CONTACT: MR. GEORGE EATON

CONTRACTOR : DEPT OF FISHERIES & OCEANS, CANADIAN HYDROGRAPHIC SERVICE

CONTACT: MR. GEORGE EATON 7710-88 JOR NO.

REPORT TITLE: 1988 FINAL FIELD REPORT, WESTERN ARCTIC SURVEYS, PACIFIC REGION, BEAUFORT SEA

CENTRE COORDINATES : MINIMUM MAXIMUM UTM: ZONE: **EASTING:** 0 0 0 NORTHING: 0 0 0 OR: LATITUDE: 0.00000 0.00000 0.00000 0.00000 0.00000 LONGITUDE: 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : BS

NUMBER: PLATE 1 WA 10184, WA10184/1-10 (PLATE 4,5)(1

SCALE : 1:16150000 FORMAT: PAPER COPY 1:100000 MYLAR ARCHIV: SPONSOR SPONSOR DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: SURVEY BLOCK BOUNDED ON NORTH BY 1983 SHIPPING CORRIDER SURVEY

ON THE EAST BY 1986 SURVEY AND SOUTH BY 1985 SURVEY

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE: HYDROGRAPHIC, GEOPHYSICAL SCOPE: REGIONAL, NAVIGATION CHART

LEVEL: CONTINUATION OF SURVEYS CONDUCTED IN 1985, 1986 TO DETECT SHOALS, HAZARDS

24390 LINE-KM, 1472.8 KM, 6 SHOALS

SURVEY PATTERN: N-S LINES SURVEY SPACING: 100M

SEASON: SUMMER/FALL PROGRAM LENGTH: 36 DAYS, JULY 11-SEPT 25

EQUIPMENT : ECHOSOUNDER, RAYTHEON, DSF-600+PTR, 5 SIMRAD

SKIPPER, MEYERS; NAVIG: ARGO/TRISPONDER, SYLEDIS; GEOPH: KLEIN SIDESCAN SONAR, SUB-BOTTOM

PENETRATION: PROFILER

BATHYMETRIC DATA-SURFACE, GP

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : CHARTSPEED FOR SOUNDERS, CONTINOUS FOR NAVIG

QUALITY: GENERALLY GOOD DEPENDING ON WEATHER

: DIGITAL, ANALOG TYPE

SIZE : NA

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : BATHYMETRIC CONTOURS, ICE SCOURS

REPORT : SEASON FIELD REPORT

DISTRIB: SPONSOR

OTHER : 1983,85,86,89 REPORTS FOR ADJOINING REGIONS (CHS),1988 AGS/GSC REPORT OF ICE SCOURS

HERSCHEL

ARCHIVING OF INFORMATION:

REPORT : SPONSOR : SPONSOR

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

COMPILATION PROJECT NO.: 0306-34693 DATE : 91/03/06

UPDATED BY :

UPDATE PROJECT NO.: DATE

INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

0.00000

MONTH: 8 YEAR: 1989 STUDY NUMBER: CHS89BFT

SPONSOR : DEPT OF FISHERIES & OCEANS, CHS

CONTACT: MR. GEORGE EATON

CONTRACTOR : DEPT OF FISHERIES & OCEANS, CANADIAN HYDROGRAPHIC SERVICE

: 7710-89 CONTACT: MR. GEORGE EATON REPORT TITLE: FINAL FIELD REPORT 1989, SURVEYS IN THE BEAUFORT SEA

COORDINATES : MINIMUM **CENTRE** MAXIMUM UTM: ZONE: 8 8 8 **EASTING:** 0 0 0 NORTHING: 7748000 0 0 0.00000 0.00000 OR: LATITUDE: 69.91667 135.91667 0.00000

LOCATION:

LONGITUDE:

GENERAL LOCATION SITE PLAN

BS,1:200000 SOUNDING SHEET SCHEME NAME : BS

NUMBER: FIG. 1 FIG. 2 SCALE: 1:657500

FORMAT: PAPER COPY PAPER COPY ARCHIV: SPONSOR SPONSOR DIG NO: NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: SURVEY BLOCK BOUNDED ON NORTH BY 1983 SHIPPING CORRIDER SURVEY.

ON EAST BY 1988 SURVEY AND PART OF SOUTH BY 1985 SURVEY

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : HYDROGRAPHIC

SCOPE: REGIONAL, NAVIGATION CHART

LEVEL: CONTINUATION OF SURVEYS CONDUCTED IN 1985,86,88 FOR DETECTION OF SHOALS, HAZARDS

29,039 LINE-KM,2750 SQKM ,27 SHOALS SIZE :

SURVEY PATTERN: N-S LINES

SURVEY SPACING: 100M LINE SPACING

PROGRAM LENGTH: JULY 10-SEPT 29 SEASON: SUMMER/FALL

EQUIPMENT : ECHOSOUNDER, RAYTHEON DSF-6000, RAYTHEON PTR, 5 SIMRAD SKIPPER, NAVIG: ARGO/TRISPONDER

PENETRATION: BATHYMETRIC DATA-SURFACE

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : CHARTSPEED FOR SOUNDERS, CONTINOUS FOR NAVIG

QUALITY: GENERALLY GOOD DEPENDING ON WEATHER

TYPE : DIGITAL, ANALOG

: NA SIZE

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : BATHYMETRIC CONTOURS FROM RAW DATA

REPORT : SEASON FIELD REPORT

DISTRIB: SPONSOR

OTHER: 1983,1985,1986 & 1988 REPORTS FOR ADJOINING SHIPPING CORRIDOR AND REGIONS (CHS)

ARCHIVING OF INFORMATION:

REPORT : SPONSOR : SPONSOR DATA

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

: 91/03/06 COMPILATION PROJECT NO.: 0306-34693 DATE

UPDATED BY :

BEAUFORT SEA INDIAN AND NORTHERN AFFAIRS CANADA CATALOGUE OF GRANULAR RESOURCE-RELATED INFORMATION

STUDY NUMBER: CHS90BFT MONTH: 8 YEAR: 1990

SPONSOR : DEPT OF FISHERIES & OCEANS, CHS

JOB NO : CONTACT: MR. GEORGE EATON

CONTRACTOR : TERRA SURVEYS LTD.

JOB NO : CONTACT: J.A.VOSBURGH

REPORT TITLE: FINAL PROJECT REPORT, 1990 LIDAR SURVEY, DOLPHIN AND UNION STRAIT WESTERN ARCTIC

COORDINATES : MINIMUM **CENTRE** MAXIMUM ZONE: Ō ō UTM: EASTING: 0 0 Ω NORTHING: 0 0 0.00000 0.00000 OR: LATITUDE: 0.00000 0.00000 LONGITUDE: 0.00000 0.00000

LOCATION:

GENERAL LOCATION SITE PLAN

NAME : DOLPHIN & UNION STRAIT DOLPHIN & UNION STRAIT,

NUMBER: 1,2,3 FS1-FS10 (FS=FIELD SHEET)

SCALE: 1:350000 1:20000 FORMAT: PAPER COPY PAPER COPY

ARCHIV: SPONSOR/CONTRACTOR SPONSOR/CONTRACTOR

DIG NO: NA NA

SOURCE NUMBER(S):

SURVEY LINES / LOCATION DETAILS: 16 PHOTO FLIGHTLINES

DESCRIPTION OF STUDY AND SURVEY DETAILS:

TYPE : HYDROGRAPHIC

SCOPE: REGIONAL

LEVEL: AIR PHOTO RECONNAISSANCE, GROUND TRUTHING

SIZE: 16 LINES, NA SURVEY PATTERN: PARALLEL LINES

SURVEY SPACING: 3000M

SEASON: SUMMER PROGRAM LENGTH: AUGUST

EQUIPMENT : AIR LIDAR, PHOTOGRAMMETRY, GPS

PENETRATION: BATHMETRY - SURFACE

RESOLUTION : GOOD

INFORMATION ON SAMPLES OR SURVEY RECORDS:

RATE : NA

QUALITY: GENERALLY GOOD

TYPE : NA SIZE : NA

LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING:

INTERP : BATHYMETRY, GEOMORPHOLOGY

REPORT : FIELD REPORT DISTRIB: SPONSOR/CONTRACTOR

OTHER :

ARCHIVING OF INFORMATION:
REPORT : SPONSOR/CONTRACTOR
DATA : SPONSOR/CONTRACTOR

DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD.

DATE : 91/03/26 COMPILATION PROJECT NO.: 0306-34693

UPDATED BY :

APPENDIX C BOREHOLE/COREHOLE/SURFICIAL SEDIMENT LOG SOURCE REPORTS



BEAUFORT SEA PROJECTS FOR ARCTIC PETROLEUM OPERATORS ASSOCIATION (APOA)

DATE (YR/MO)	REPORT TITLE	CONSULTANT NAME	CONSULTANT JOB NO.
70-?	1970 Bottom Sampling Program, South Coast of Beaufort Sea - MacKenzie Bay to Liverpool Bay, NWT	Golder*	
?	Ocean Floor Sampling	ESS0	APOA #3
?	Survey of Gravel - MacKenzie Delta	ESS0	APOA #42
76-03	Gravel Testing Program - Ya Ya Lake (proposed)	ESS0	APOA #88

^{*} Golder, Brawner and Associates

BEAUFORT SEA PROJECTS FOR AMOCO PETROLEUM CANADA COMPANY LTD.

DATE (YR/MO)	REPORT TITLE	CONSULTANT NAME	CONSULTANT JOB NO.
79-07	Geotechnical Design Parameters for proposed Canmar Base Camp Rock in Tuktoyaktuk Harbour NWT.	EBA	0302-0610
81-07	1981 Offshore Geotechnical Site Investigation South Tarsiut Borrow Area, Beaufort Sea	EBA & McClelland	0101-3210•
82-07	1982 Offshore Geotechnical Site Investigation Baillie Island Gravel Search, Beaufort Sea	EBA	0101-3605•
85-07	Wellsite Seabed Survey, Adlarktok Site, MacKenzie Trough, 1986 June, (1 vol.)	McGregor*	85-45.1 (P14/297)
88-07	Wellsite Survey Report, Aagnerk Site, MacKenzie Trough, Beaufort Sea, 1989 April (2 vols.)	McGregor	88-11.1 (P02/500)
88-07	Wellsite Survey Report, Kingark Site, MacKenzie Trough, Beaufort Sea, 1989 April (2 vols.)	McGregor	88-11.2 (P02/502)
88-08	Wellsite Survey Report, Orksok Site, MacKenzie Trough, Beaufort Sea, 1989 June, (2 vols.)	McGregor	88-11.3 (P02/503)
88-08	Wellsite Survey Report, South Adlartok Site, MacKenzie Trough, Beaufort Sea, 1989 June (2 vols.)	McGregor	88-11.4 (P02/518)



^{*} McGregor Geosciences Ltd.
• Logs included 1989

0306-34693 Page 2

BEAUFORT SEA PROJECTS FOR AMOCO PETROLEUM CANADA COMPANY LTD.

DATE (YR/MO)	REPORT TITLE	CONSULTANT NAME	CONSULTANT JOB NO.
88-08	Wellsite Survey Report, Immerark Site, MacKenzie Trough, Beaufort Sea, 1989 June (2 vols.) (also includes Inukpak Site)	McGregor	88-11.5 (P03/520)
89-08	Wellsite Survey Report, Tiregluit Site, Yukon Shelf, MacKenzie Trough, Beaufort Sea, 1989 December (2 vols.)	McGregor	89-11.1 (P03/533)
89-08	Wellsite Survey Report, Sartok Site, MacKenzie Trough, Beaufort Sea, 1990 July (2 vols.)	McGregor	89-11.2 (P02/545)
89-08	Wellsite Survey Report, South Kogyuk Site, Tingmiark Plain, Beaufort Sea, (2 vols.)	McGregor	89-11.3 (P02/537)
89-08	Wellsite Survey Report, South Immerark Site, MacKenzie Trough, Beaufort Sea (2 vols.)	McGregor	89-14.4 (P02/542)
89-08	Wellsite Survey Report, South Orksok Site, MacKenzie Trough, Beaufort Sea, 1990 March (2 vols.)	McGregor	89-14.5 (P03/540)

BEAUFORT SEA PROJECTS FOR ESSO RESOURCES CANADA LTD. / IMPERIAL OIL LTD.

DATE (YR/MO)	REPORT TITLE	CONSULTANT NAME	CONSULTANT JOB NO.
72-?	Soil Drilling Program-MacKenzie Delta, 1972	Cook*	
72-05	1972 Soil Drilling Program, Delta of MacKenzie River, NWT	ESS0	2739-04
72-?	Results of Shallow Profiling Program Conducted to the North of Richards Island, 1972	Pemcan ^a	
73-	Soil Engineering Report-Beaufort Sea-Northwest of Richards Island, 1973	Cook*	
83-07	1983 Offshore Geotechnical Site Investigation Issigak Borrow Site, Beaufort Sea	EBA	0101-3868
83-?	1983 Offshore Borrow Quality Monitoring, Issigak	EBA	0101-3897
84-?	1984 Borrow Investigation - Johnson, Gordon	ESS0	M-1025-704
87-01	Verification Testing and Instrument Installations, Angasak L-03 Spray, Ice Island, 1987 July	Golder*	862-2072
89-01	Verification Testing and Instrument Installations, Nipterk P-32 Spray, Ice Island, Beaufort Sea, NWT, 1990 April	Golder*	882-2105

^{*} Cook, Pickering & Doyle
* Pemcan Services Ltd.
* Golder Associates
• Logs included in 1989



BEAUFORT SEA PROJECTS FOR **GULF CANADA RESOURCES LTD.**

DATE (YR/MO)	REPORT TITLE	CONSULTANT NAME	CONSULTANT JOB NO.
82-09	1982 Offshore Geotechnical site Investigation, Herschel Borrow Site, Beaufor Sea	ЕВА	0101-3662•
82-09	1982 Offshore Geotechnical Site Investigation, Kringalik Site, Beaufort Sea	EBA	0101-3658*
82-08	1982 Offshore Geotechnical Site Investigation, Ukalerk Borrow Site, Beaufor Sea	EBA	0101-3659•
82-09	1982 Offshore Geotechnical Site Investigation, Isserk Borrow Site, Beaufort Sea	EBA	0101-3686•
83-08	Offshore Geophysical Site Investigation, South Ukalerk Site, Beaufort Sea, Compilation Report 1983, Marine and Subbottom Survey, 1985 October	Geoterrex	031
88-04	1988 Offshore Geotechnical Site Investigation, Proposed North Point Pipeline Route, Beaufort Sea, 1988 June	EBA	0101-4809
88-08	1988 Offshore Geotechnical Site Investigation, Proposed Pipeline Route, Beaufort Sea, 1989 January	EBA	0101-4912B
88-08	1988 Offshore Geotechnical Site Investigation, Nerlerk Berm B-67 Beaufort Sea, Canada, 1989 January	EBA	0101-4912C ⁺



^{*}Golder Associates

† Indicates reports for which logs are not included in the database

Logs included in 1989

BEAUFORT SEA PROJECTS FOR GULF CANADA RESOURCES LTD.

DATE (YR/MO)	REPORT TITLE	CONSULTANT NAME	CONSULTANT JOB NO.
88-08	Summer 1988 Offshore Site Investigation, Proposed Molikpaq Set Down Location, Herschel Basin, Beaufort Sea, 1988 November	EBA	0101-4912A
88-08	1988 Offshore Geotechnical Site Investigation, Amauligak B-46, and D-32, Beaufort Sea, Canada, 1989 January	EBA	0101-4912D
88-08	Summer 1988 Offshore Geotechnical Site Investigation, Issigak, Minuk, Akpak Plateau, and Nipterk Borrow Sites, Beaufort Sea, February	EBA	0101-4912E
88-09	Amauligak to North Point Pipeline Corridor Geophysical Survey, Beaufort Sea, 1989 April	McGregor⁴	88-27 (P03/507)
89-08	1989 Offshore Geotechnical Site Investigation, South Ukalerk, Beaufort Sea	EBA	0101-10168
89-09	Site Investigation for Isserk I-15 Site, Akpak Plateau, Beaufort Sea, 1990 January (for Gulf and Esso)	Golder*	892-2069B

^{*} McGregor Geosciences Ltd.



BEAUFORT SEA PROJECTS FOR GEOLOGICAL SURVEY OF CANADA (GSC)

DATE (YR/MO)	REPORT TITLE	CONSULTANT NAME	CONSULTANT JOB NO.
70-04	Surficial Deposits, Herschel Island, Yukon Territory	GSC	71-01A+
71-04	Geological Structure of the Mackenzie Canyon Area of the Beaufort Sea - J.M. Shearer	GSC	72-01A*
72-04	Surficial Geology and Geomorphology, Mackenzie Bay - Continental Shelf - J.M. Shearer	GSC	73-01A+
74-?	The occurrence of permafrost and frozen subsea bottom materials in the Southern Beaufort Sea, 1976	GSC/EPB	TR#22+
75-12	Sediment Dispersal in the Southern Beaufort Sea, 1975 December	GSC	TR#25a+
82-?	Computer Database of Borehole Logs, Beaufort Sea; Arctic Kiggiak, Beaufort 1984, Kingpoint 1985, Nahidik 1982, Nahidik 1983, Nahidik 1985, Nahidik 1986	GSC	-!
83-?	Development of a Proposed Model to Account for the Surficial Geology of the Southern Beaufort Sea	MJ O'Connor	GSC 00954*
84-?	Marine Science Atlas of the Beaufort Sea, Sediments-B.R. Pelletier	GSC	Misc. Report #38
86-?	Coastal Video Survey: Canadian Beaufort Sea Coast	GSC	01256*

[!] Not all logs in GSC database have been included in EBA database * No logs included in database



BEAUFORT SEA PROJECTS FOR GEOLOGICAL SURVEY OF CANADA (GSC)

DATE (YR/MO)	REPORT TITLE	CONSULTANT NAME	CONSULTANT JOB NO.
87-?	Marine Science Atlas of the Beaufort Sea, Geology and Geophysics - B.R. Belletier	GSC	Misc. * Report #40
87-10	Beaufort Sea Coastal Sediment Study Evaluation of Inshore Climate and Coastal Sediment Transport Techniques at King Point, Yukon	KPC*	
90-?	Beach Morphodynamics and Sediment Transport at Tibjak Beach, Canadian Beaufort Sea Coast - Hequette et al	GSC	02280*



^{*} No logs included in database * Keith Philpott Consulting Ltd. 1987

BEAUFORT SEA PROJECTS FOR CANADIAN HYDROGRAPHIC SERVICE

DATE (YR/MO)	REPORT TITLE	CONSULTANT NAME	CONSULTANT JOB NO.
86-08	Final Field Report, 1986 Larsen Lidar Survey, Simpson Strait and Requisite Channel	Terra Surveys	
88-08	1988 Final Field Report, Western Arctic Surveys, Pacific Region, Beaufort Sea	CHS	7710-88
89-08	Final Field Report, 1989, Surveys in the Beaufort Sea	CHS	7710-89
90-08	Final Project Report, 1990 Lidar Survey, Dolphin and Union Strait, Western Arctic	Terra Surveys	

APPENDIX D ADDITIONAL REFERENCES



BEAUFORT SEA PROJECTS FOR ARCTIC PETROLEUM OPERATORS ASSOCIATION (APOA)

DATE (YR/MO)	REPORT TITLE	CONSULTANT NAME	CONSULTANT JOB NO.
?	Geological Analysis of Ocean Floor Samples	Gulf	APOA #4
?	Submarine Pipeline Study Offshore Mackenzie Delta	ESS0	APOA #39
71-05	Investigation of Seabed Scouring in the Beaufort Sea	APOA	#19
?	Soil Strength of Beaufort Sea Samples by GSC	Gulf	APOA #23

BEAUFORT SEA PROJECTS FOR BEAUFORT-DELTA OIL PROJECT LTD. (GULF, ESSO, SHELL, IPL, TRANS MOUNTAIN PL)

DATE (YR/MO)	REPORT TITLE	CONSULTANT NAME	CONSULTANT JOB NO.
76-02	Geotechnical Review of Arctic Petroleum Operators Association Report No. 39, (Major Task No. 06)	EBA	3-0090
76-	Offshore Pipeline Activities, 1975-1976 Part 1 - Background Reports (1 vol.), Part 2 - Some Geotechnical, Geophysical, Geothermal, and Environmental Aspects of the Southern Beaufort Sea (3 vols.)	EBA	3-0177
76-05	MacKenzie Bay Geotechnical Information, A Review for Marine Pipeline Studies, 1976 May	EBA	<u>3-0150</u> 3-0177



BEAUFORT SEA PROJECTS FOR ESSO RESOURCES CANADA LTD. / IMPERIAL OIL LTD.

DATE	REPORT TITLE	CONSULTANT	CONSULTANT
(YR/MO)		NAME	JOB NO.
78-05	Seismic Interpretation of Issungnak/Isserk North, 1978 May 03	ЕВА	36-0334



BEAUFORT SEA PROJECTS FOR GEOLOGICAL SURVEY OF CANADA (GSC)

DATE	REPORT TITLE	CONSULTANT	CONSULTANT
(YR/MO)		NAME	JOB NO.
86-07	Beaufort Sea Coastal Morphology Study	DSL*	1-1155-1

^{*} Dobrocky Seatech Ltd.

BEAUFORT SEA PROJECTS FOR INDIAN AND NORTHERN AFFAIRS CANADA

DATE	REPORT TITLE	CONSULTANT	CONSULTANT
(YR/MO)		NAME	JOB NO.
87-04	Synthesis and Interpretation of Bathymetric, Geophysical, and Geotechnical Data from Issigak Borrow Block, 1987 April	EBA	0301-34241