

CANADA LANDS SURVEYS RECORDS
6 9 4 8 4
Date 18 OCT. 1984

PLAN AND FIELD NOTES
OF SURVEY OF

OFFSHORE EXPLORATORY WELL
PANARCTIC ET AL SKATE C-59
IN UNIT C, SECTION 59
GRID AREA 77° 50' 104° 30'
NORTHWEST TERRITORIES

CANADA OIL AND GAS LAND REGULATIONS
EXPLORATION AGREEMENT 138

THIS SURVEY WAS EXECUTED DURING THE PERIOD OF JANUARY 15 & 17 1984
BY T.J. CRAGO C.L.S.
FOR

PANARCTIC OILS LIMITED

LEGEND

POSITIONING WAS DONE BY SIMULTANEOUS DOPPLER SATELLITE OBSERVATIONS USING JMR 4 & JMR 1A RECEIVERS. POSITIONS WERE COMPUTED FROM THE COMBINED DATA FROM BOTH STATIONS USING THE GEODOP PROGRAM FOR WHICH DOCUMENTATION IS AVAILABLE FROM THE GEODETIC SURVEY OF CANADA. OFFSETS OF THE ELECTRICAL CENTERS OF THE DOPPLER ANTENNAS FROM THE CONTROL AND DERIVED STATION MONUMENTS ARE ACCOMMODATED IN THE PROGRAM. AVERAGE METEOROLOGICAL DATA WERE ARBITRARILY ASSUMED. THE DERIVED POSITION DIFFERENCE IS BETWEEN THE IDENTIFIED MONUMENTS. COMPUTER LISTINGS OF THE DOPPLER SOLUTION ARE INCLUDED IN THE SURVEYORS REPORT OF THIS SURVEY (F.B.33383, C.L.S.R.)

DISTANCES SHOWN ARE IN METRES AND DECIMALS THEREOF.

DISTANCES SHOWN ON DETAIL OF SURVEYS ARE ACTUAL MEASURED HORIZONTAL DISTANCES.

BEARINGS SHOWN ON DETAIL OF SURVEY ARE GRID BEARINGS, REFERRED TO THE CENTRAL MERIDIAN, 105°, AND WERE DERIVED FROM THE MEAN OF 2 INDEPENDANT STAR OBSERVATIONS AT THE ANTENNA LOCATION.

BEARINGS AND DISTANCES SHOWN ON THE GRID AREA AND UNIT ARE UTM PLANE, AND THE BEARINGS ARE REFERRED TO THE CENTRAL MERIDIAN OF ZONE 13

FOR THE COMPUTATION OF CO-ORDINATES, MEASURED DISTANCES HAVE BEEN REDUCED TO THE UTM PLANE BY MULTIPLYING THEM BY AN AVERAGE COMBINED FACTOR OF 0.99960

DEPTH OF WATER AT LOCATION IS 361 m

TRAVERSE LINES -----

OFFSHORE EXPLORATORY WELL LOCATION

SURVEY WAS PERFORMED AT TIME OF COMMENCEMENT OF DRILLING

UNDULATIONS WERE DETERMINED FROM GEM 10B USING

X = -15, Y = 165, Z = 175, X₀ = 30

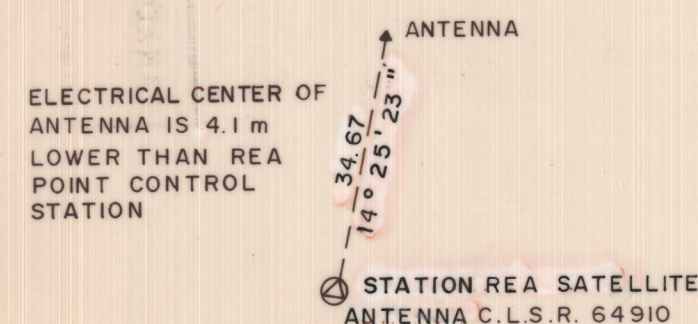
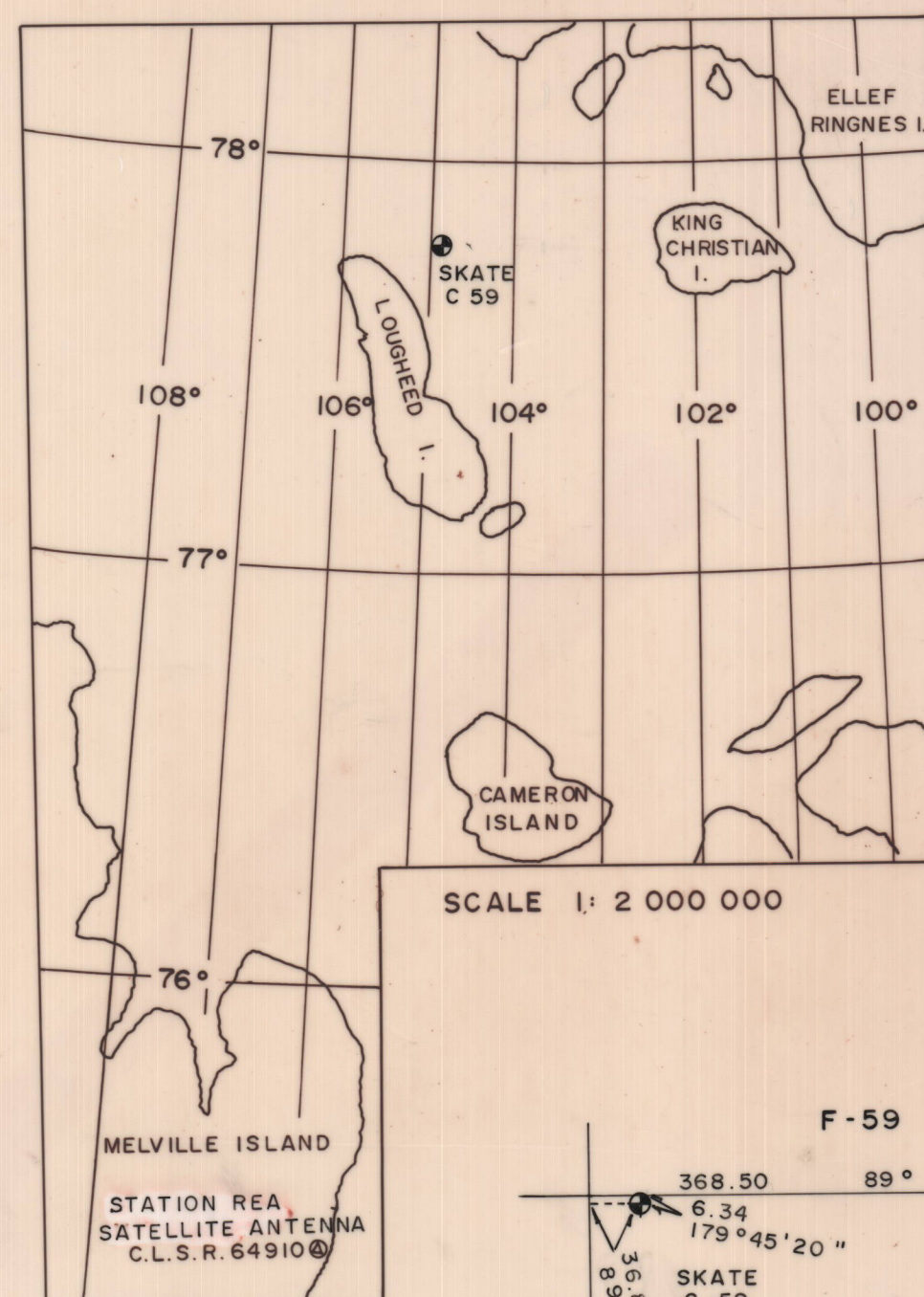
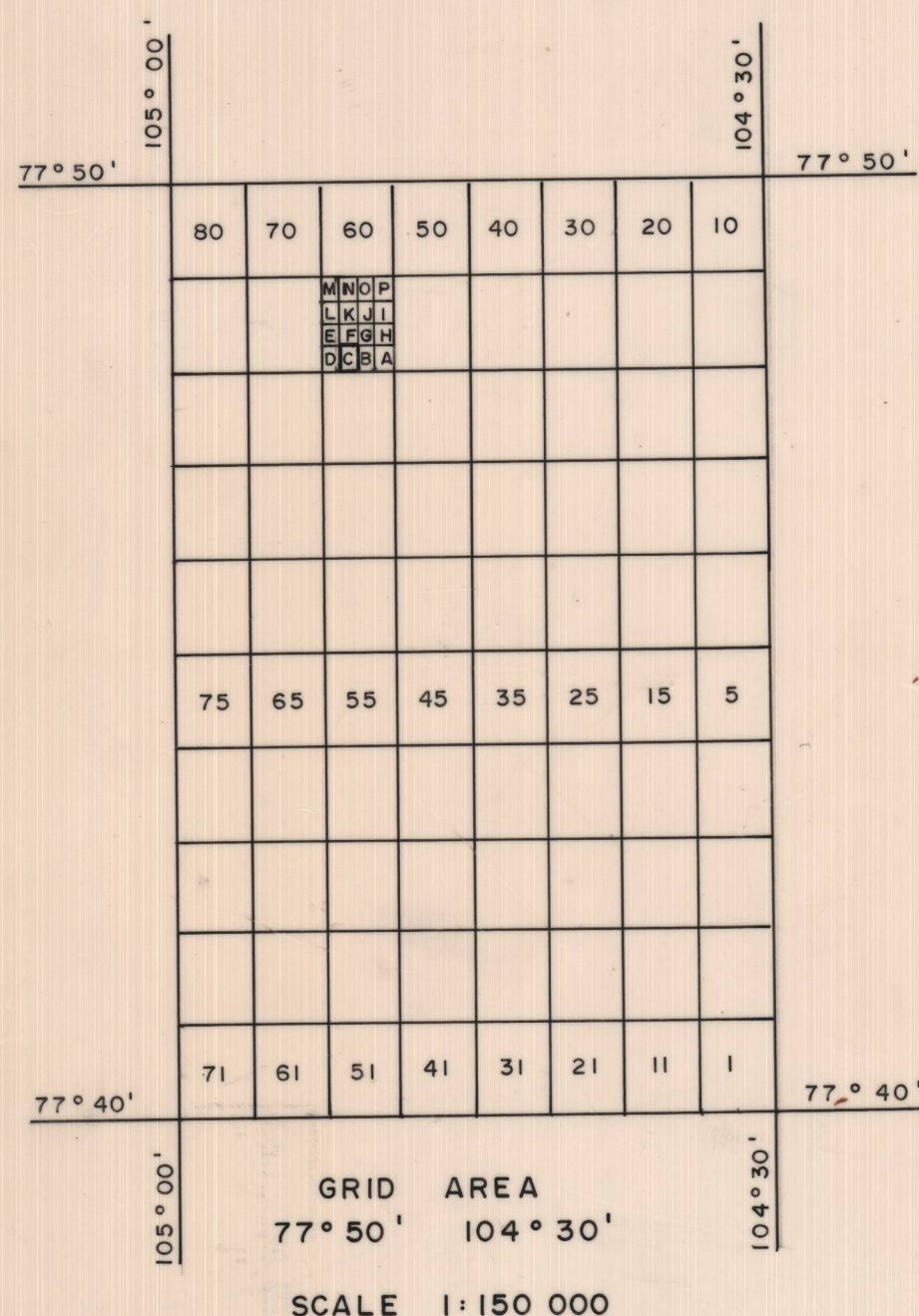
I, T.J. CRAGO, OF THE CITY OF CALGARY, CANADA LANDS SURVEYOR, MAKE OATH AND SAY THAT I HAVE IN MY OWN PROPER PERSON, ACCORDING TO LAW AND THE INSTRUCTIONS OF THE SURVEYOR GENERAL OF CANADA LANDS, FAITHFULLY AND CORRECTLY EXECUTED THE SURVEY SHOWN BY THIS PLAN AND FIELD NOTES, AND THAT THE SAID PLAN AND FIELD NOTES ARE CORRECT AND TRUE TO THE BEST OF MY KNOWLEDGE SO HELP ME GOD

PANARCTIC OILS LTD.

L. Franklin

T. Crago
CANADA LANDS SURVEYOR

M. Schacht
A COMMISSIONER FOR OATHS IN
AND FOR THE PROVINCE OF ALBERTA
MANFRED SCHACHT (Exp. JULY 24/84)



DETAIL OF SURVEY FROM REA POINT CONTROL TO ANTENNA LOCATION
SCALE 1:1 000

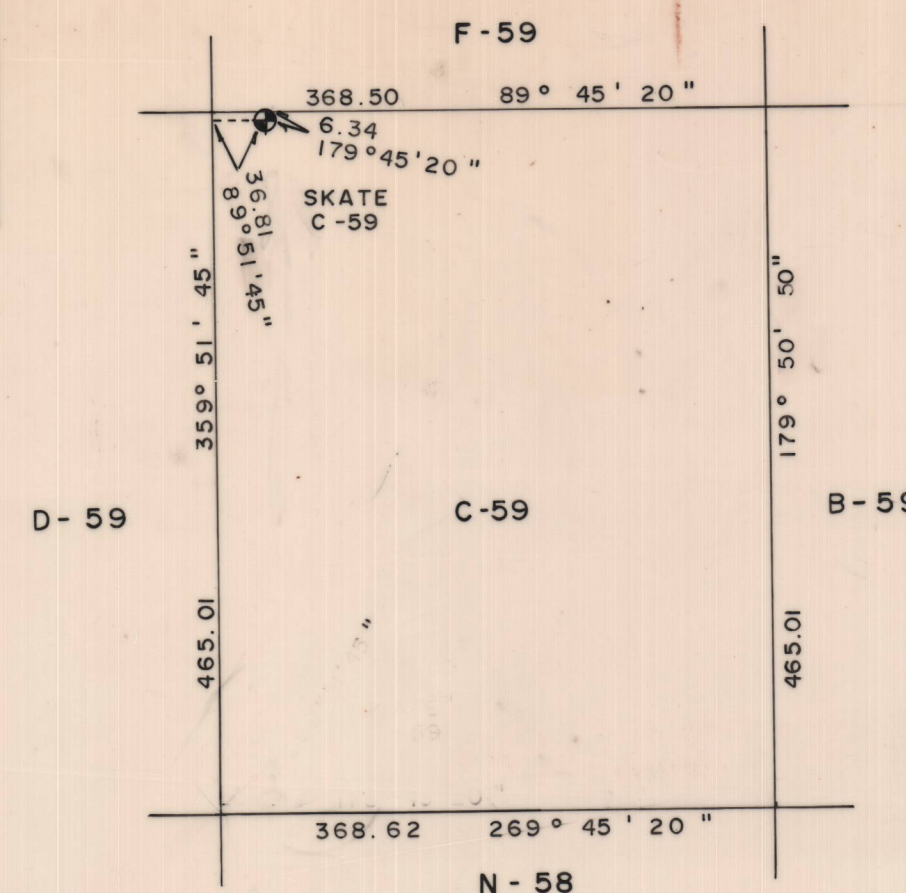
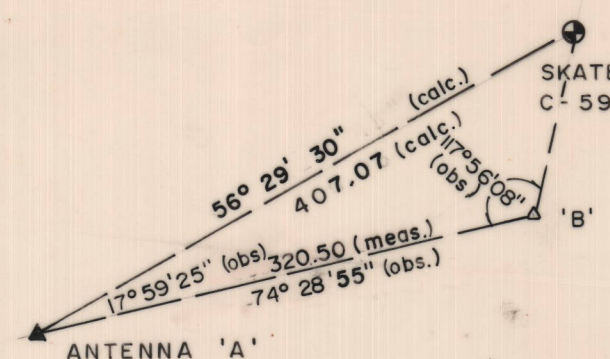


TABLE OF DEFINITIVE COORDINATES, 1927 NAD

STATION	LATITUDE	LONGITUDE	NORTHING	EASTING
GRID AREA				
NE	77° 50'	104° 30'	8 639 678.85	511 764.04
NW	77° 50'	105° 00'	8 639 628.67	500 000.00
SE	77° 40'	104° 30'	8 621 078.94	511 922.66
SW	77° 40'	105° 00'	8 621 028.12	500 000.00
UNIT C, SECTION 59				
NE			8 636 389.29	503 684.94
NW			8 636 387.72	503 316.44
SE			8 635 924.28	503 686.18
SW			8 635 922.71	503 317.56
ANTENNA POSITION 'A'				
	77° 48' 08.866"	104° 52' 22.700"	8 636 186.63	502 996.22
DRILL STEM LOCATION, SKATE C 59				
	77° 48' 15.124"	104° 51' 28.133"	8 636 381.47	503 353.27

SUMMARY OF DOPPLER SATELLITE POSITION DIFFERENCE SURVEY

CONTROL STATION STATION REA SATELLITE ANTENNA 39 ACCEPTED PASSES BETWEEN 0:00 GMT, DAY 15 AND 0:00 GMT, DAY 17		DERIVED STATION SKATE C 59 39 ACCEPTED PASSES BETWEEN 0:00 GMT, DAY 15 AND 0:00 GMT, DAY 17	
1927 NAD COORDINATES C.L.S.R. 64910	OBSERVED GEOCENTRIC COORDINATES BROADCAST EPHEMERIS	DERIVED DATUM SHIFT GEOCENTRIC MINUS NAD	OBSERVED GEOCENTRIC COORDINATES BROADCAST EPHEMERIS
CARTESIAN COORDINATES	X - 438 269.43 Y - 1 556 640.49 Z 6 148 896.92	- 17.61 167.84 186.02	- 346 646.57 - 1306 430.29 6 212 372.04
LATITUDE	75° 21' 37.177"		77° 48' 15.124"
LONGITUDE	105° 43' 28.104"		104° 51' 28.133"
SEA LEVEL HT. H	16.94		- 2.18
GEOID HT. N	5.40		8.40
SPHEROID HT h	22.34		6.22