ORKUSTOFNUN
Raforkudeild

MAPPING OF ICELAND IN SCALE 1:50,000

Control Surveys in Increments: 2,3,4,5

Gunnar Thorbergsson
Electric Power Division

OS79006/ROD03
Reykjavík, February 1979

By Contract with
Iceland Geodetic Survey

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ÁGRIP (SUMMARY IN ICELANDIC)

Fyrir tveimur áratugum var meiri hluti Íslands myndaður úr lofti. Army Map Service (sem heitir nú Defense Mapping Agency, Washington, D.C.) hóf gerð korta í mælikvarða 1:50.000 með því að kortleggja Reykjanesskaga, eftir að Landmælingar Íslands höfðu mælt inn myndpunkta þar (Mynd 1). Eftir langt hlé á kortagerðinni, sem á að ná til landsins alls, hefur nú verið hafist handa á ný.

Landmælingamenn Orkustofnunar hafa víða verið við mælingar, bæði vegna kortagerðar Orkustofnunar í mælikvarða 1:20.000, og einnig við þyngdarmælingar á landinu öllu á árunum 1968-73. Það þótti sýnt að þríhyrningapunktar, fastmerki og þyngdarmælistaðir (með þekktum hæðum), sem Orkustofnun hafði sett og mælt inn, kæmu að góðum notum við myndpunktamælingar, ef hægt væri að ganga að punktunum vísum.

Samningur milli Landmælinga Íslands og Orkustofnunar var því gerður 1977 og endurnýjaður 1978. Samkvæmt honum hafa landmælingamenn Orkustofnunar mælt inn myndpunkta vegna kortagerðar í mælikvarða 1:50.000 í nyðri hluta svæðis 2, í svæðum 3 og 4 og í hlutum svæða 5,6 og 7 (Mynd 1). Þessi númer mælisvæða eru í samræmi við áætlun um myndmælingar, sem Defense Mapping Agency hefur gert og látið fylgja með loftmyndunum sjálfum.

Skýrsla þessi fjallar um mælingar Orkustofnunar í svæðum 2,3,4 og 5. Hnit og hæðir myndpunkta og merktra punkta í þeim svæðum er að finna í hnitalista (2.2 List of Coordinates). Í samræmi við áætlun um myndmælingar, hafa lýsingar af öllum þeim punktum, sem skráðir eru í hnitalista, verið skrifaðar og teiknaðar aftan á loftmyndirnar, sem notaðar voru úti á mörkinni. Myndirnar með lýsingunum verða afhentar Landmælingum Íslands með skýrslu þessari.

0. ABSTRACT

Field work, by contract with Iceland Geodetic Survey, and data processing are described. List of coordinates with ground control points, identified and described on aerial photos, is given.

1. INTRODUCTION

Two decades ago most of Iceland was photographed from the air and Army Map Service (now Defense Mapping Agency, Washington, D.C.) started mapping the country in scale 1:50.000. Maps were prepared of Reykjaneskagi in the Southwest, after Landmælingar Íslands (Iceland Geodetic Survey) had established ground control in that area (Fig.1). Work necessary for continuation of the mapping has now been resumed.

Surveyors of the National Energy Authority (NEA) have been in all parts of the country, partly in connection with NEA's own maps in scale 1:20,000, and partly during the Iceland Gravity Survey in 1968-73. It was realized that triangulation points, benchmarks and gravity stations (of known elevations) established by NEA should be very useful for the work at hand, provided these points could be recovered without doubt.

A contract between the Iceland Geodetic Survey and the National Energy Authority was therefore signed in 1977 and renewed in 1978, according to which NEA's surveyors have now established ground control in the north half of Increment 2, in Increments 3 and 4, and in

parts of Increments 5,6 and 7 (Fig. 1). This identification of survey areas (as Increments) agrees with a Photogrammetric Plan compiled by the Defense Mapping Agency, provided together with the photographs used.

The present report contains results of field measurements in Increments 2 (north), 3,4 and 5 (two points). Coordinates and elevations of ground control (picture points and panelled points) in these areas are given in the List of Coordinates, Section 2.2 of this report.

As specified in the Photogrammetric Plan, descriptions of all ground control points listed in the List of Coordinates are given on the photographes used during the field work. The photographs will be handed over to the Iceland Geodetic Survey at the same time as this report.

2. RESULTS

The results of NEA's field work in Increments 2,3,4 and 5 consist of coordinates and elevations of ground control points as given in the List of Coordinates (2.2) and of descriptions of the same points as sketched on the aerial photographs used in the field.

2.1 Coordinate systems

Iceland 1956 Datum (Hjörsey Datum) was established during the first order triangulation in Iceland 1955/56. The observed astronomical coordinates of triangulation point 99 Hjörsey were used as geodetic coordinates for that point and held fixed during the

following adjustment. The International spheroid was used.

Lambert's coordinates or rectangular coordinates obtained by Lambert's orthomorphic projection of the spheroid onto a cone touching the spheroid at 65° N are in general use in Iceland and have been used in all computations. The intersection of the 65° N parallel and the 18° W (central) meridian is given coordinates (500000,500000) meters and there the y-axis is directed north and the x-axis west.

UTM-coordinates are used for the final results in the List of Coordinates. The Universal Transverse Mercator is a world-wide system of projections, each covering 6° of longitude wide grid zones (between 80° S and 84°N). Iceland lies in grid zones 26° W, 27°W, and 28°W and for these three zones a zone digit (under Z) in the List of Coordinates is 6,7 and 8 respectively. The zone digit is the leftmost digit in the east-coordinate of a point.

2.2 List of Coordinates

A list of coordinates is given on the following eight pages. The form of the printed list is identical to the format of coordinate cards described in Appendix A, except that ground control points are given as:

HVPP	horizontal-vertical picture point
HPP	horizontal picture point
VPP	vertical picture point

followed by the number of the photograph on which the point was identified and described. For panelled

points, the number of the photo on which the point was identified is given.

The southern half of Increment 2, together with HVPP-8541 in Increment 3, was controlled by the Iceland Geodetic Survey. All other picture points in Increments 2 and 3, all picture points in Increment 4, and two picture points in Increment 5, are given in the List of Coordinates.

All panelled points, that could be identified on photographs from Increment 2,3 and 4, are given in the list. These points had been panelled a short time before the aerial photography by the National Energy Authority. In Increment 5 no such points could be identified.

UTM-COORDINATES PICTURE POINTS IN INCREMENT 2 (NORTH)

NUMBER	NORTH	Z	EAST	ELEV.	NOTE	NAME	DESCRIPTION	DONE
	7148405.6		7535248.3	331.4		HVPP 7759		OS78
	7156286.9		7553460.4			HPP 7871		OS77
				555.9		VPP 7872		OS77
	7143014.6		7547317.0	277.4		HVPP 7923		OS77
	7211073.7		7519324.0	462.8		HVPP 8917		OS78
	7179449.0		7522497.3	559.9		HVPP 8925		OS78
				512.9		VPP 8970		OS78
	7152245.9		7523572.0			HPP 8971		OS78
				559.3		VPP 9212		OS78
	7185667.3		7535710.0	606.3		HVPP 9215		OS78
				654.2		VPP 9232		OS77
				673.3		VPP11336		OS78
	7211731.1		7531723.8	558.3		HVPP11345		OS78
	7213092.4		7548677.7	752.7		HVPP11411		OS78
	7201254.7		7549206.3	727.6		HVPP11415		OS78
				448.9		VPP11468		OS78
	7141413.6		7517640.6	495.1		HVPP11477		OS78
	7193504.6		7527287.8	499.3		HVPP11935		OS78
	7197259.7		7513175.2	434.8		HVPP12011		OS78

UTM-COORDINATES MARKED (PANELLED) POINTS IN INCREMENT 2

NUMBER		NORTH	Z	EAST	ELEV.	NOTE	NAME	DESCRIPTION		DONE
5163		7112966.4		7511865.5	188.6	3BM	AL	ALDA	PHOTO	5039 OS60
		7106070.5		7511501.9	125.1	BM	BH	BORGARHOLAR		5037 OS60
2039		7133257.2		7530217.3	726.9	2BVM	BJF	BJARNARFELL		5997 OS65
		7148642.3		7534174.2	631.5	BM	BRF			11827 OS61
		7100081.3		7515511.7	86.7	BM	BT	BJÖRNSTANGI		5035 OS60
		7127233.1		7536050.2	144.8	BM	DMA	DAGMALAAS		7727 OS61
5162		7119683.1		7528931.9	181.5	3BM	FEF	FELLSFJALL		6001 OS65
		7107361.6		7520444.6	112.5	BM	FJ	FJALL		5207 OS60
5170		7092384.9		7524811.4	161.8	3BVM	GHF	GISLHOLTSFJALL		5211 OS65
1130		7139540.7		7543010.8	283.1	3BM	HAA	HAALDA		7839 OS61
	60	7099291.4		7516102.6	316.8		HEF	ECCENTRIC CANVAS		5097 OS60
3077		7113509.3		7546977.0	614.3	2BVM	HFH	HESTFJALLAHNJUKUR		7915 OS65
		7147659.4		7549779.4	283.4	M	HV2			7875 OS61
		7145543.5		7549803.5	275.3	M	HV3			7875 OS61
		7145302.1		7548948.4	268.8	M	HV4			7875 OS61
		7147018.2		7543990.4	281.1	BM	HV5			7875 OS61
		7141446.9		7545290.9	272.0	M	HV8			7839 OS61
		7136424.7		7544338.7	252.4	M	HV9			7839 OS61
	60	7097347.1		7511619.0	92.1		KA	ECCENTRIC CANVAS		5035 OS60
9021		7098434.6		7529543.4	104.3	3BM	KH	KIRKJUHOLL		6007 OS78
		7132489.2		7533482.2	188.9	BM	LAUG			7729 OS61
		7100216.2		7511312.1	84.2	BM	LHO	LANGHOLT		5037 OS60
5165		7109352.1		7532041.6	240.5	3B	MF	MIDFELL		6003 OS61
	60	7102053.0		7517366.7	64.1		MH	ECCENTRIC CANVAS		5095 OS60
1073		7102527.7		7532953.2	192.5	3BVM	MHF	MIDHUSAFELL		6005 OS78
		7111933.5		7519071.0	249.9	BM	MOF	MOSFELL		5093 OS60
3060		7093678.1		7539585.8	96.6	BM	MVH	STORUVELLIR		7827 OS65
1070		7100014.7		7543061.0	337.0	2BVM	SKAF	SKARÐSFJALL		7827 OS65
2052		7089540.0		7529201.9	138.0	3BVM	SOT	MARTEINSTUNGA		6009 LI58
		7106540.0		7516245.6	103.3	BM	STB	STÆRRI-BÆR		5095 OS60
		7144278.8		7540218.2	291.8	BM	SV	SANDVATN		7761 OS61
0037		7104222.1		7523231.0	373.9	2BVM	VDF	VÖRÐUFELL		5207
1131		7100726.3		7515142.2	935.8	3BV	1131	STRÚTUR (CAIRN)		12007 OS78

UTM-COORDINATES PICTURE POINTS IN INCREMENT 3

NUMBER	NORTH	Z	EAST	ELEV.	NOTE	NAME	DESCRIPTION	DONE
				891.4		VPP 6194		
	7130221.9		7600634.9	587.4		HVPP 7459		
	7156544.4		7597464.9	595.9		HVPP 7467		
	7173984.2		7554333.5	973.6		HVPP 8161		
	7173995.7		7554314.0			HPP 8161		
	7188385.5		7557838.4			HPP 8175		
				688.1		VPP 8176		
				422.5		VPP 8186		
				482.7		VPP 8194		
				496.0		VPP 8260		
				619.2		VPP 8284		
				605.9		VPP 8298		
				287.6		VPP 8306		
				683.0		VPP 8318		
				730.1		VPP 8350		
	7109617.4		7574461.5	615.8		HVPP 8355		
				650.2		VPP 8398		
	7169061.6		7574542.8			HPP 8399		
	7152298.2		7573894.0	671.5		HVPP 8403		
				707.5		VPP 8408		
	7044318.7		7575919.1			HPP 8475		
				217.2		VPP 8480		
	7075172.2		7558464.3	473.8		HVPP 8575		
				562.0		VPP 9408		
				590.9		VPP 9860		
				927.0		VPP 9878		
				503.7		VPP 9892		
				593.8		VPP 9906		
	7101638.6		7595638.9	572.5		HVPP10879		
	7076930.9		7596552.1	603.8		HVPP10889		
	7047567.2		7596272.9	873.1		HVPP10899		
	7037648.4		7595184.2			HPP10901		
				593.4		VPP10954		
				319.8		VPP10960		
				617.2		VPP10972		
	7070972.1		7583023.0			HPP10975		
				471.4		VPP10976		
	7054130.9		7579119.6	850.8		HVPP10981		
				230.4		VPP10992		
				120.7		VPP11006		

UTM-COORDINATES PICTURE POINTS IN INCREMENT 3

NUMBER	NORTH	Z	EAST	ELEV.	NOTE	NAME	DESCRIPTION	DONE
				571.5		VPP11214		
	7211772.1		7558351.2	663.8		HVPP11449		
	7213739.0		7571109.0	534.4		HVPP12213		

UTM-COORDINATES MARKED (PANELLED) POINTS IN INCREMENT 3

NUMBER	NORTH	Z	EAST	ELEV.	NOTE	NAME	DESCRIPTION		DONE
0195	7106569.6		7557598.3	671.8	2VBM	BF	BURFELL	PHOTO 8201	OS65
2074	7120619.2		7560900.4	600.0	2BVM	FA	FOSSALDA	8245	OS65
2073	7123052.4		7566007.9	550.2	3BVM	FH	FOSSHEIDI	8245	OS65
5264	7144890.7		7587147.3	652.6	3BM	FMA	FLOAMANNAALDA	9873	OS68
9199	7091541.9		7600103.3	1189.3	2BV	HB	HABARMUR (CAIRN)	10883	OS69
2069	7132889.7		7580619.7	598.2	3BVM	LH	LANGAHLID	10957	OS68
5262	7132027.8		7572520.9	709.4	3BM	LF	LAMBAFELL	8411	OS68
2065	7154115.4		7596776.0	664.5	2BM	NA	NORDLINGAALDA	6213	OS65
2016	7132786.4		7589576.2	681.2	2BVM	NB	BUDARHALS,NORDUR	9411	OS65
2070	7119078.2		7595038.6	627.2	2BVM	NT	SSV AF ÞORISVATNI	6203	OS65
5263	7141085.1		7583151.0	660.0	3BM	OH	ORAEFAHNUKUR	9871	OS68
2004	7097478.0		7577932.3	1220.6	1BV	RFF	(CAIRN)	10934	
2071	7105846.7		7564490.9	479.3	3BVM	SSF	SYDRA SAUDAFELL	8311	OS65
2072	7111027.7		7572843.6	722.8	2BVM	VF	VALAFELL	8417	OS65
2204	7155366.4		7588818.5	684.1	4M	2204	HÆLL	9403	OS65
2205	7155692.6		7590650.1	643.2	4M	2205	HÆLL	9403	OS65
2206	7154507.7		7590464.0	634.9	4M	2206	HÆLL	9403	OS65
2210	7115438.7		7593290.2	495.6	4M	2210		9415	OS65
2211	7116242.4		7591967.6	498.7	4M	2211	HÆLL	9415	OS65
2212	7116093.2		7590049.7	562.9	3BM	2212	SIGALDA	9415	OS65
2214	7117654.5		7584768.8	531.0	3BM	2214	HRAUNEYJAFELL	9865	OS65
2215	7119674.4		7583911.5	388.4	4BM	2215	HRAUNEYJAR	9865	OS65
2217	7120549.7		7582734.1	344.6	4M	2217	HÆLL	9865	OS65

NUMBER	NORTH	Z	EAST	ELEV.	NOTE	NAME	DESCRIPTION	DONE
				582.8		VPP 7282		0S77
				582.6		VPP 7290		0S77
				580.5		VPP 7298		0S77
				650.1		VPP 8730		0S77
				663.5		VPP 8794		0S77
				831.5		VPP 8690		0S77
				621.0		VPP 8698		0S77
	7104216.5		7626090.8			HPP 8721		0S78
	7104206.9		7626071.7	669.2		HVPP 8722		0S78
				781.6		VPP 8738		0S77
	7157807.7		7621614.1	653.8		HVPP 8751		0S77
				429.7		VPP 8784		0S78
	7125579.7		7635841.4	678.6		HVPP 8849		0S77
	7032643.7		7616864.9			HPP 9691		0S77
				60.7		VPP 9696		0S77
				289.9		VPP 9702		0S77
				472.9		VPP11070		0S78
				58.1		VPP11100		0S77
	7047881.4		7628677.5			HPP11105		0S77
	7156521.8		8357315.9	1026.6		HVPP11149		0S77
	7156047.2		8360152.2			HPP11149		0S77
	7106066.2		8357987.9	534.9		HVPP11165		0S77
	7082910.6		8354655.1	30.4		HVPP11173		0S77
	7056968.0		7648069.3			HPP11181		0S77
				501.1		VPP11264		0S77
	7057717.1		7608367.1	279.6		HVPP11272		0S77
				51.3		VPP11292		0S77
	7049005.6		7640219.6			HPP11299		0S77

UTM-COORDINATES MARKED (PANELLED) POINTS IN INCREMENT 4

NUMBER		NORTH	Z	EAST	ELEV.	NOTE	NAME	DESCRIPTION		DONE
5149	60	7120677.4		7628646.0	1019.7		BB	ECC. PANEL PHOTO	11083	
5152	60	7120463.8		7634351.9	908.5		EE	ECCENTRIC PANEL	9756	
5146		7128057.3		7613704.5	731.5	3BM	FD	FONTUR	9775	OS69
0035		7034290.3		7612610.6	221.7	2BV	HJH	(HIGH CAIRN)	10851	
2108		7167012.1		7624593.8	580.2	3BM	KA	KISTUALDA	8807	OS65
5148	60	7117911.0		7621546.0	989.0		KKF	ECCENTRIC CANVAS	8763	
5150		7126799.0		7628327.6	902.4	3BM	MS	MOSASKEGGUR	8729	OS69
2064		7143666.3		7609875.3	767.7	2BVM	NSF	SAUDAFELL N.	7259	OS65
2067		7136675.4		7603528.7	722.3	3BM	OA	OSALDA	7219	OS65
2019		7160203.2		7633431.9	1269.0	2BV	SH	(CAIRN)	7993	OS6
0200		7111563.3		7625767.4	1092.0	1VM	SVEINSTINDUR		8723	

UTM-COORDINATES TWO PICTURE POINTS IN INCREMENT 5

NUMBER	NORTH	Z	EAST	ELEV.	NOTE	NAME	DESCRIPTION	DONE
	7264021.2		7553229.9	128.1		HVPP12131		OS78
	7242218.4		7549248.2	428.4		HVPP12085		OS78

3. FIELD WORK

In Increment 2 a 60 km long traverse was measured between triangulation points 2039 OK and 5006 SMS in order to locate two new triangulation points, and elevations were obtained by trigonometric levelling over distance ranging from 5.7 to 9.6 km and totalling 59 km (Fig.2). The standard error of coordinates and the gap in elevations between the known endpoints were both within 0.3 meters.

In Increment 3 triangulation point 5246 SMF is the westernmost unknown point in a network extending from Increment 4. This point had been established and approximatly located during the Gravity Survey in 1968, and the new coordinates differ by 4 m from the old coordinates. The new and old elevations of the point differ by 0.1 meter.

In Increment 4 angular measurements were started in a network (including 5246 SMF) after signals had been raised in a few, mainly old triangulation points. Because of unfavourable weather in 1977 these measurements were not concluded. In 1978 a few distances were measured with Tellurometer. After adjustment the standard error in coordinates was found to be within 0.3 meters. The triangulation network is shown in Fig. 3.

Ground control measurements were possible without further triangulation and traversing due to the large number of triangulation points and benchmarks in areas where NEA has done extensive surveying.

Transportation was by helicopter or cars. During the Gravity Survey in 1968-72 and since, NEA has used helicopter to transport field workers and their equipment between stations. The number of field workers is kept small, and the field methods are suitable for helicopter use (use of Tellurometer, simultaneous observation of vertical angles, signals light enough to be transported a few at a time). Unfortunately neither 1977 nor 1978 turned out to be a good year for helicopter use.

4. METHODS

4.1 Triangulation and traversing

The same field methods, recording of measurements and computer programs are used in traversing as in triangulation.

The signals used in triangulation consist of a 2 m or 3 m long vertical pole, with four or eight horizontal bars (8 mm or 10 mm in diameter) driven through bored holes in the wooden pole. From four to 24 white or red canvas strips, 20 cm wide and 80 cm long, are stretched vertically between the iron bars. A 2 meter long signal has four wings facing, say north, east, south and west, each wing having from one to three canvas strips. On a 3 meter long signal there are two wings at each of the four sides of the signal, a red wing at top and a white wing below. Four or eight steel wires and perhaps one metric ton of stones are used to fasten the pole in a vertical position. These signals are good for ranges up to 50 km.

Horizontal angles are observed by the method of rounds. Up to seven (six if the instrument site is eccentric) distant triangulation points are observed in a clockwise order around the horizon, and then after turning the tube 180° about the horizontal axis, the points are observed in a reversed order. The point observed first and last in a round is termed the reference mark or point. In one network a definite number (say 8) of rounds involving the same points (and the same reference mark) constitude one group. It may be necessary to observe two or more groups at one station. A main group should then have at least two points in common with any of the other groups. The theodolites used are of type Wild T2 or Wild T3.

Vertical angles are measured in sets, each consisting of an observation with the theodolite in the face left (FL) attitude, then two observations FR and finally one observation FL. In traversing, simultaneous observation between two manned stations is usual.

Distance measurements are made with Tellurometer, model MRA101. This means that idendical instruments are set up at the two ends of the line to be measured. One instrument is used as master instrument and the other as remote instrument. The observer at the master instrument makes two fine readings (forward and reverse) at each of 10 (or 20) different frequencies, each fine reading giving the distance between the instruments apart from a multiple of 10 meters. This multiple of 10 is resolved by a set of coarse readings. During this time the field worker at the remote instrument functions as a switch-board operator. After the

observations at one station are concluded, the instruments and operators interchange their roles, and observations are made at the other station. The observations at both stations, take 15 to 20 minutes. Dry and wet bulb temperature (from psychrometer) and barometric pressure are read and recorded three times at each station.

Eccentric measurements are not recommended nor are they forbidden. In triangulation a signal is always raised above the triangulation point itself, and during the following calculations the triangulation point with its signal is the centre of adjustment. If necessary an instrument site may, however, be eccentric. This is true of any type of observation, angular observations or measurement of distance in triangulation, as well as polar measurements, and observations for determination of auxiliary points. The eccentric angle is the observed angle between the reference point and the centre of adjustment at the observation site. The eccentric distance is the distance between the instrument (theodolite, Tellurometer) and the centre of adjustment at the observation site.

4.2 Polar measurements

Polar or radial measurements are much used in the ground control surveying. One surveyor is transported to the "pole", which (at the time of computation) is a point of known location and elevation. A known triangulation point, to be used as reference point, must be visible from the pole. The pole is often

situated at a trianglation point with a big cairn, and the instrument site may then have to be eccentric. Another surveyor sets up his instrument (at or near a ground control point). This instrument site must be centric, a not to serious condition, which usually reduces to a matter of definition (the surveyor drives a peg into the ground under the instrument). At the pole, the horizontal angle between the reference point and (usually) a light set up at the other instrument site (under the instrument), is observed. The vertical angles at both instrument sites are observed simultaneusly after a light beacon has been set up under the theodolite at the pole, and finally the distance between the two instrument sites is measured, the Tellurometer replacing the theodolites on the tripods. Heights of instruments and light beacons must be recorded, as well as eccentric angle and eccentric distance at the pole. In case of eccentricity at the pole, the height of instrument is obtained by using the theodolite as a level in both the FL and FR attitudes.

4.3 Auxiliary points

A ground control point, as located by reference to aerial photographs, is not always a suitable instrument site, or to put the matter differently, one or more auxiliary points situated a few tens of meters away from the instrument site, will call for determination of location and elevation by one of a number of special methods or combination of methods. These methods include measurement of horizontal angle, of horizontal distance by use of tape or subtense bar, levelling and stadia tacheometry.

5. COMPUTATIONS

Nearly all computations are done by computer, and input to the computer is on punched cards. The types of punched cards and the computer programs used will by mentioned here, but further details are given in Appendix A.

5.1 Punched card types

Coordinate cards with coordinates and elevations of triangulation points and other points are used by most of the programs.
Measurements cards in triangulation may contain either observed horizontal angles or observed distances.
Polar measurement cards each contain results from two field books as recorded at the pole and at the other endpoint.
Auxiliary point measurement cards contain the results of the simple measurements used for positioning of such points.

5.2 Computer programs

Program GTRFX is used to compute refractive index from the observations of temperature and barometric pressure.
Program GTRIANG is for the adjustment of triangulation and traverse. Up to 44 points may be adjusted in one step.
Program GTPOL is used for computation of coordinates and elevations of points positioned by polar measurements.

Program GTAUX is used for computation of coordinates and elevation of auxiliary points.
Program GTUTMI23 is used to transform Lambert's coordinates and to list UTM-coordinates and elevations of picture points.

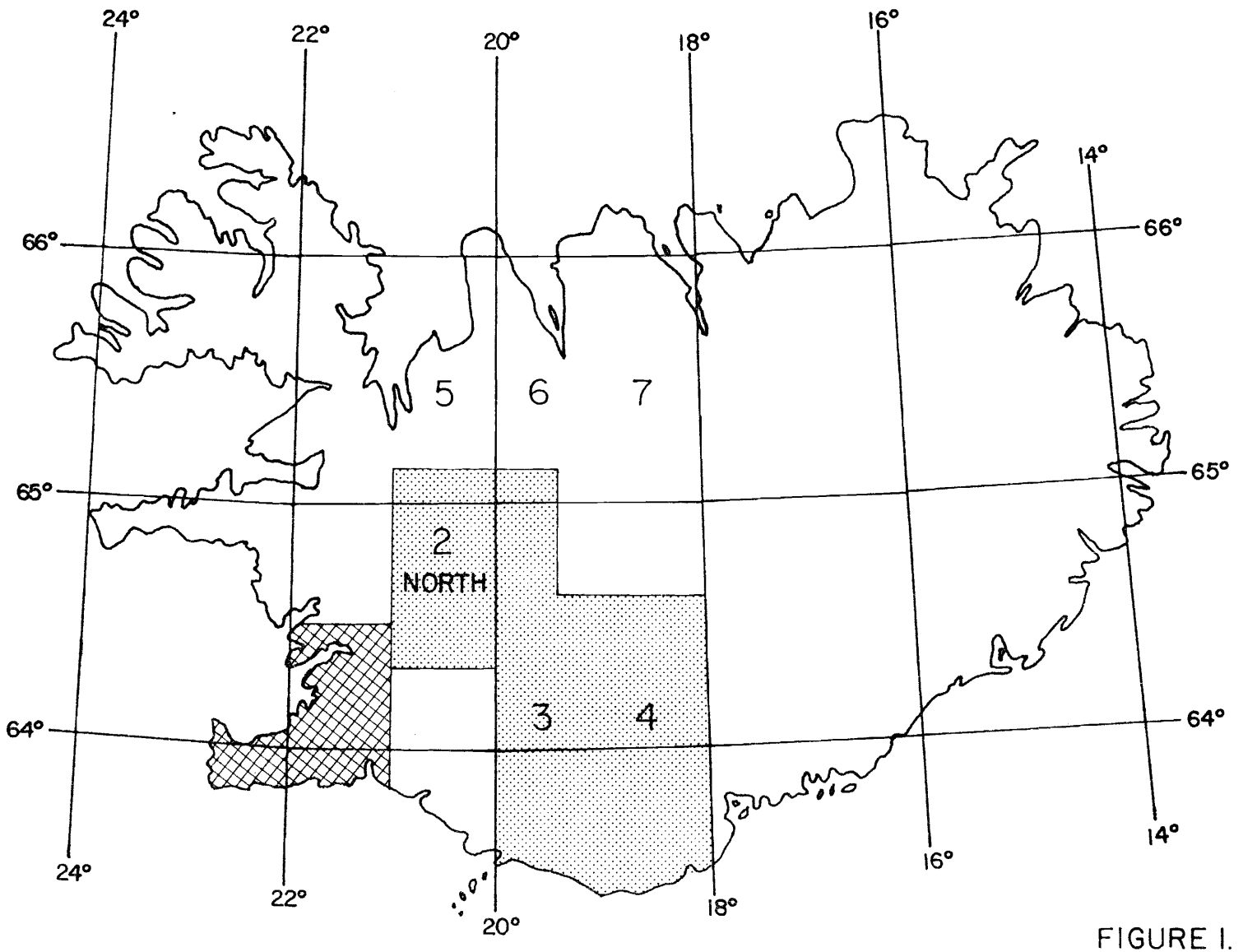


FIGURE I.
AREA CONTROLLED BY NEA 1977-1978

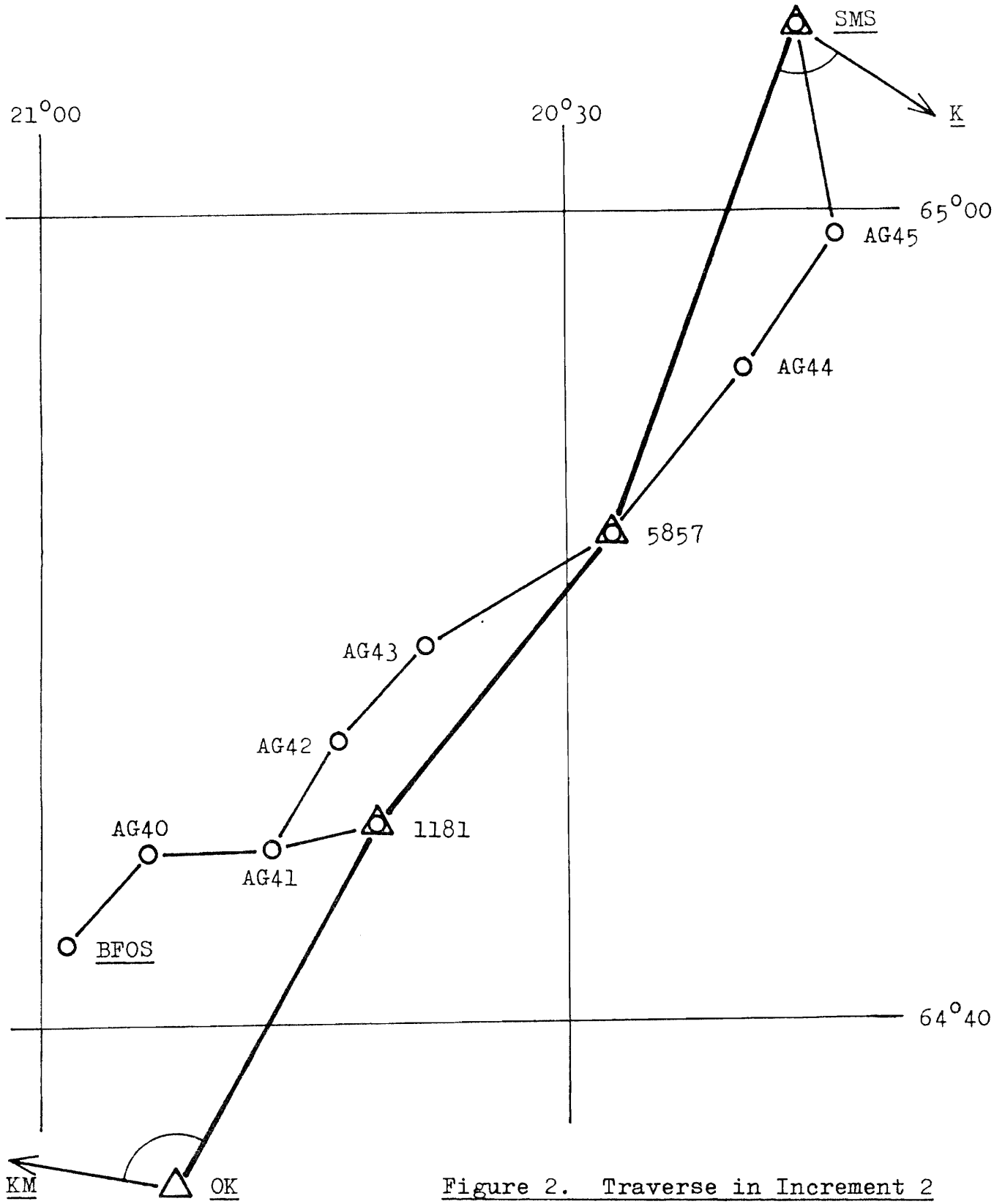


Figure 2. Traverse in Increment 2

Traverse

Trigonometric elevations

Triangulation point

Elevation point

Underlined points were known.

Scale of map 1:250,000

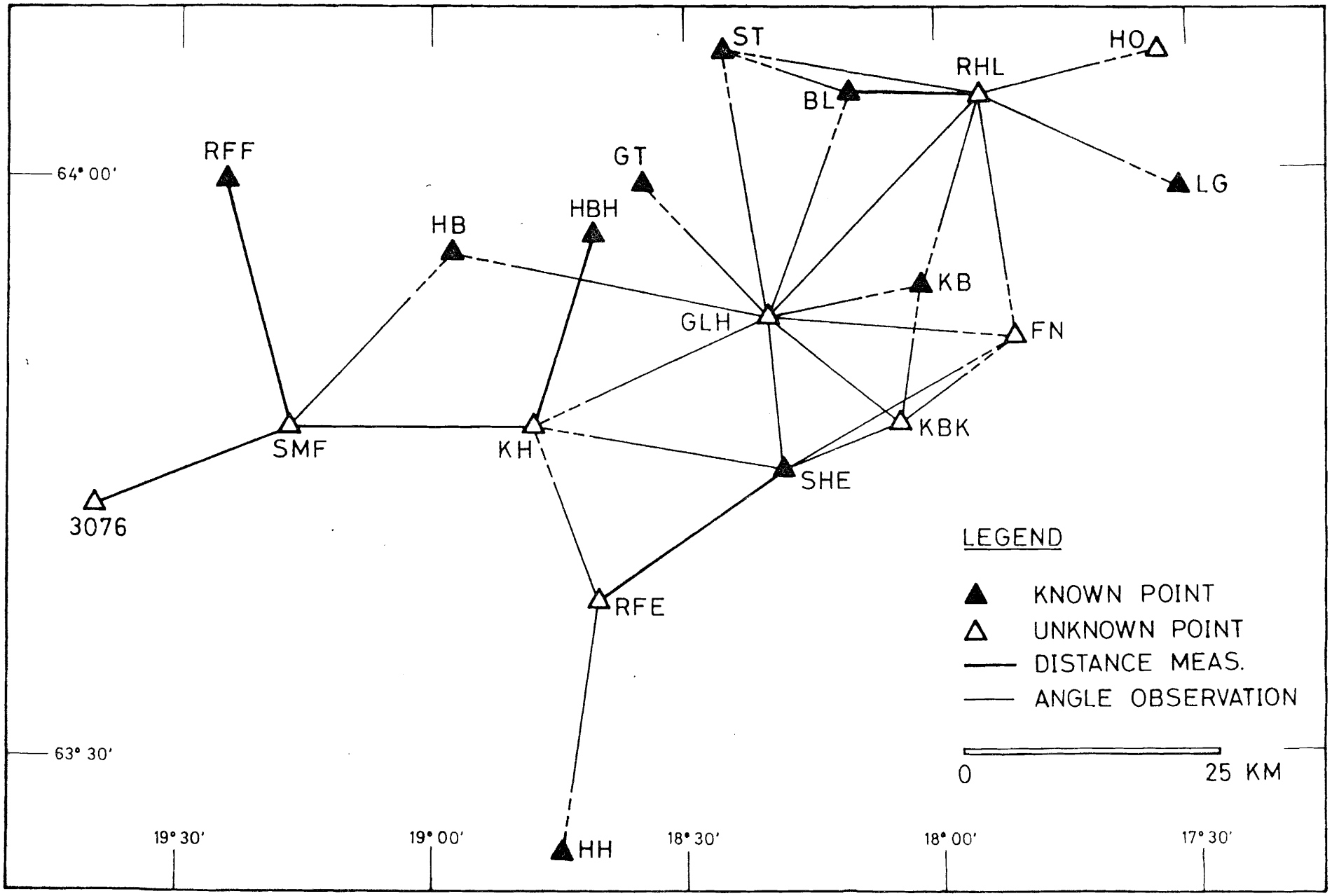


FIGURE 3. TRIANGULATION IN INCREMENTS 3 AND 4

APPENDIX A

CARD FORMAT AND COMPUTER PROGRAMS

Appendix A gives information necessary for understanding the following appendices. These contain data to be preserved, but are without interest to the general reader. The contents of Appendix A are as follows:

Coordinate cards
Example of eccentric instrument site
Horizontal angles in triangulation
Distances in triangulation
Polar measurement card
Auxiliary point measurement card
Input to program GTRIANG
Input to program GTPOL
Input to program GTAUXIL

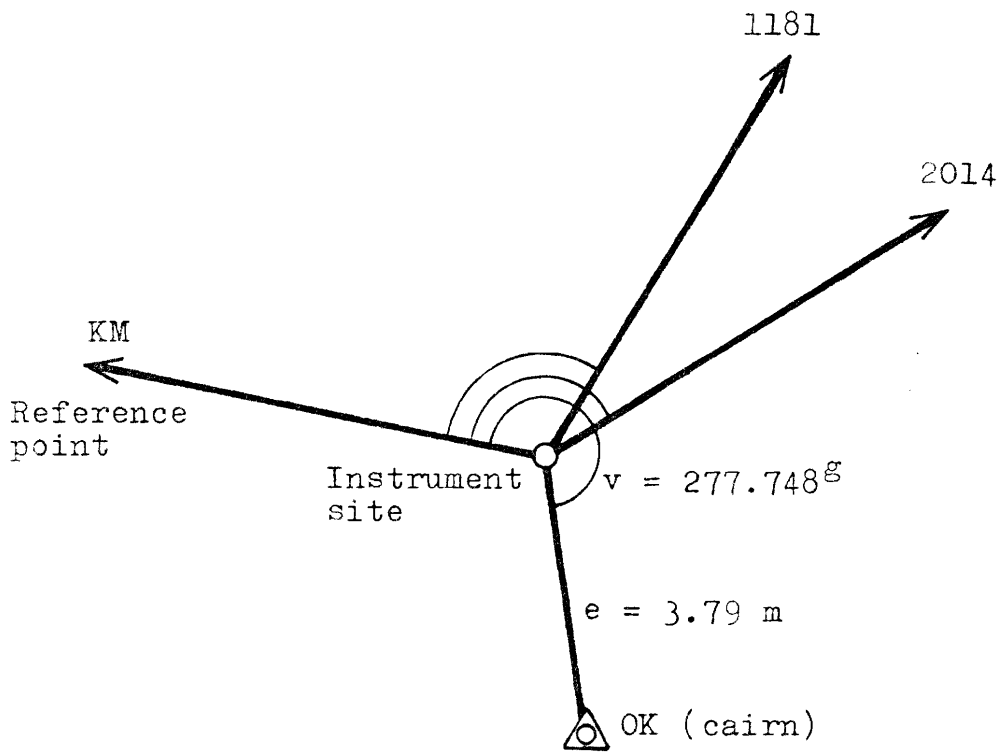
Coordinate cards

Coordinate cards are used in the processing of triangulation and traverse, polar measurements, and positioning of auxiliary points. In all cases the same card format is used, although each computer program uses only part of the information on the card. The format of a coordinate card is as follows:

Columns	Data
01-04	Triangulation point number
06-07	Auxiliary point number
	10, 11,... Location and elevation (HVPP)
	20, 21,... Location only (HPP)
	30, 31,... Elevation only (VPP)
09-18	North coordinate (m)
19-28	West or east coordinate (m)
30-36	Elevation (m)
39	Blank or symbol for coordinate system
	* Lambert's coordinates
	U UTM-coordinates
40	Blank or order of triangulation point
41-43	Note
	B Brass plug
	R Iron tube
	H Wooden peg
	V Cairn
	M Panelled point
	F Elevation by levelling
46-49	Point name (alphabetic or numeric)
53-76	Description or local name
77-78	Surveying institution
79-80	Year of surveying or recomputation

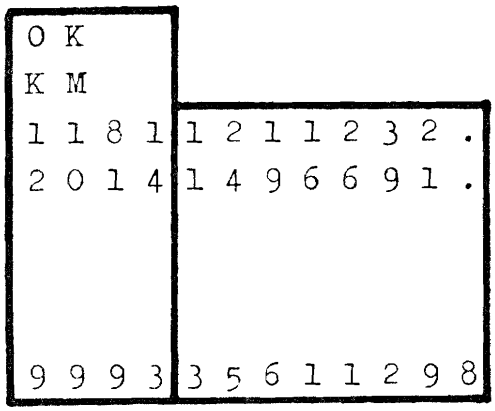
Example of eccentric instrument site

Due to a big cairn at triangulation point OK (Ok), the instrument site at that point was eccentric. Observation of horizontal angles were made to triangulation points KM (Kroppsmúli), 1181 (Strútur) and 2014 (Hafrafell). The distance between the eccentric site at OK and 1181 was measured with the Telluro-meter, together with simultaneous observation of vertical angles at the two instrument sites.



The eccentric angle, v, is measured clockwise from the reference point togeather with the other horizontal angles. The eccentric distance, e, is measured with a tape.

Horizontal angles in triangulation



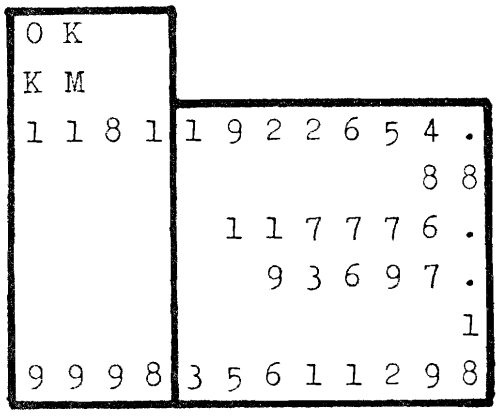
The instrument site at triangulation point OK is eccentric due to a big cairn at that point. Results of the observations of horizontal angles are shown in this schema. A measurement card is punched, reading the schema linewise from left to right.

Observations are made at triangulation point OK.
The reference point is KM.
The clockwise angle from KM to 1181 is 1211232^{cc}.
The clockwise angle from KM to 2014 is 1496691^{cc}.
The reserved name 9993 indicates eccentric instrument site, when horizontal angles are observed, and that the eccentric angle is in the third quadrant. This angle is $v = 277.748^{g}$.
The eccentric distance is e = 3.79 m and the absolute values of $e \cdot \sin(v)$ and $e \cdot \cos(v)$ are 3561 mm and 1298 mm respectively.

With the exception of negative numbers and the numbers from 9990 to 9999, any name of four letters or digits may be used as name of a triangulation point. When observations of horizontal angles are made at a centric instrument site, up to seven points, including the reference point, may be observed. If seven points are observed, the name of the seventh point and the corresponding angle are written in the last line of the schema. This line is blank if less than seven points are observed from a centric site.

When observations of horizontal angles are made at an eccentric instrument site, up to six points may be observed. The name in the last line in the schema is then 9991, 9992, 9993, or 9994 for eccentric angles in the first, second, third, or fourth quadrant.

Distances in triangulation



The instrument site at triangulation point OK is eccentric. Results of distance measurement from this eccentric site to the centric site at triangulation point 1181 are given in this schema, from which a measurement card is punched.

Although observations are made at both endpoints (Tellurometer), we consider OK to be the point of observations. The instrument site at the other point must be centric.
The reference point is KM.
The measured distance to triangulation point 1181, after the corrections associated with instrument constant and refractive index have been applied, is 1922654 cm.
The assumed standard error of the distance is 88 mm.
The elevation of the instrument at OK is 117776 cm.
The elevation of the instrument at 1181 is 93697 cm.
The nonzero number in the next line will cause a cord-to-arc correction to be applied to the distance.
The reserved name 9998 in the last line of the schema, is used for distance measurements at eccentric instrument sites, when the eccentric angle is in the third (9995 + 3) quadrant.
The eccentric angle (measured clockwise from the reference point) is $v = 277.748^g$ and the eccentric distance is 3.79 m.
The absolute values of $e \cdot \sin(v)$ and $e \cdot \cos(v)$ are 3561 mm and 1298 mm respectively.

When distance is measured from a centric instrument site, the reference point name is replaced with the station name, and the name in the last line of the schema is 9995.

Polar measurement card

O K			
K M			
1 1 8 1	1 2 1 1 2 3 2 .		
2 8 2	1 9 2 2 5 7 1 .		
	1 1 6	1 1 7	
0 9 0	1 0 0 8 8 0 0 .		
0 3 0	9 9 2 8 7 1 .		
. 2 7 7	7 4 8	3 7 9 .	

This schema gives the results of polar measurements, when the pole is situated at OK, and the point to be positioned is 1181. The site of instrument is eccentric.
This data is taken from the two field books used at OK and 1181.
The schema is in one of the books.

OK is the pole.
KM is the reference point.
1181 is the name of the point to be positioned.
The clockwise angle from KM to 1181 is 1211232^{cc}.
The refractice index is 1.000282
The measured distance, with instrument constant added, is 1922571 cm.
The theodolite height at OK is 116 cm.
The theodolite height at 1181 is 117 cm.
The light beacon height at 1181 is 090 cm.
The light beacon height at OK is 030 cm.
The zenith angle observed at OK is 1008800^{cc}.
The zenith angle observed at 1181 is 992871^{cc}.
The period (column 69 of the polar measurement card) must not be omitted from the punched card.
The eccentric angle is 277.748^{g}.
The eccentric distance is 379 cm.

The heights of the instrument and the light beacon at the pole are measured from the mark (brass plug) at the pole.
If the instrument site is centric, the fields for the eccentric angle and eccentric distance are left blank.
If the field for the reference point name is left blank, the elevation, and not the coordinates, of the point, which name is given in the third line of the schema, is computed.

Auxiliary point measurement card

8 1 6 1	
F R E M	
- 1 0 0	3 1 9 0 1 0 9 .
- 1 0 1	2 3 5 8 .
- 1 0 3	- 7 3 .
- 2 0 0	2 5 7 6 6 8 3 .
- 2 0 1	2 5 1 9 .

In this schema, data are given for the computation of the two auxiliary points 8161/10 and 8161/20 (or HVPP-8161 and HPP-8161) positioned from 8161, a centric instrument site.
A measurement card of 80 columns is punched from this schema.

Observations are made from point 8161.
The reference point is triangulation point FREM.
The symbols -10 stand for "auxiliary point 10".
The following symbol 0 stands for "measurement of type 0", which means horizontal angle.
The clockwise angle from FREM to -10 is 3190109^{cc}.
The distance from the instrument site to -10 is 2358 cm.
The height of -10 above 8161 is -73 cm (73 cm below 8161).
The clockwise angle from FREM to -20 is 2576683^{cc}.
The distance from the instrument site to -20 is 2519 cm.

Types of auxiliary point measurements are as follows:

Type	Measured quantity or operation
0	Horizontal angle clockwise from reference point (^{cc})
1	Horizontal distance from instrument site (cm)
2	Angle subtended by 2 m subtense bar (^{cc})
3	Height of auxiliary point above main point (cm)
4	Zenith angle to auxiliary point (^{cc})
5	Instrument height minus target height (cm)
6	Unreduced distance in stadia tacheometry (cm)
9	Identify auxiliary point with instrument site

In case of an eccentric instrument site, the eccentric angle is measured clockwise from reference point to main point, and eccentric distance from instrument site to main point. The last line in the schema is written as decribed in the case of horizontal angles in triangulation.

Input to program GTRIANG

The input to program GTRIANG (GTRIO-GTRI1) is described below for an application restricted to less than 21 known and unknown points, less than 19 unknown points, and where approximate values are known for the coordinates of unknown points.
The input cards are as follows:

```
AAABC
DDDDEEEE...
FFFFGGGG...
9991HHJ KKKKLLLL...
Measurement cards with horizontal angles or distances
9993
9992MM NNNN OOOO PPPP QQQQ                Heading (Col. 41-80)
9999
RRSSTTU
Coordinate cards for known (first) and unknown (last) points
```

A = number of names in list of names.
B = 0 for centesimal graduation, B = 1 for sexagesimal grad.
C = 0 for Lambert's projection, C = 1 for plane coordinates.
D is name of a triangulation point (list of names).
F is triangulation number of point named D.
H = number of unknown points.
J = number of computer runs (if corrections are too large).
K is name of unknown triangulation point.
M is number of following approximation cards (assume M = 0).
N is bound for correction (no more runs, if corrections are less).
O is bound for standard error of coordinate (not used).
P is expected mean standard error in direction (^{cc}).
Q is bound for discrepancy in resection (not used).
R = number of known points.
S = number of known or approximately known points (S=T if M=0).
T = number of points in list of coordinates (coordinate cards).
U = number of steps or adjustments (assume U = 1).

Input to program GTPOL

```
ABC   D.DDD                                   Heading (Col. 41-80)
Coordinate cards for known points (list of coordinates)
9999
Measurement cards for points to go into list of coordinates
9999
Measurement cards for other points (the last two points
computed are at the end of the list of coordinates).
9999
9999 (or new first card)
```

A = 0 for centesimal graduation, A = 1 for sexagesimal grad.
B = 0 for lambert's coordinates, B = 1 for plane coordinates.
C = 0 for punching, C = 1 for not punching results.
D is constant associated with refraction (use default value).

Input to program GTAUXIL

```
AB     C.CCC
Coordinate cards for known points
9999
Measurement cards for auxiliary points
9999
9999 (or new first card)
```

A = 0 for centesimal graduation, A = 1 for sexagesimal grad.
B = 0 for punching, B = 1 for not punching results.
C is constant associated with refraction (use default value).

APPENDIX B

COMPUTER INPUT/OUTPUT FOR INCREMENT 2

Program GTPOL (2 pages):
Trigonometric elevations between BFOS and SMS.
Approximate coordinates for triangulation point 1181.

Program GTRIANG (4 pages):
Polygon between OK (2039) and SMS (5006).

Program GTPOL (4 pages):
Polar measurements in Increment 2.

Program GTAUXIL (3 pages):
Picture points in Increment 2.

500	0.500						
98	464150.50	662577.90	306.33	*2BV	KM		OS67
2015	456613.01	538604.47	1179.70	*2BV	K	KRAKUR	OS67
2030	458458.00	537879.20	1176.50	*2BV	OK	OK	
5006	509969.86	606870.66	711.55	*2B	SMS	SUDURMANNASANDFELL	OS67
5180	469959.71	641944.31	122.64	*5B	BFOS	BARNAFOSSAR	OS67
5857	0.0	0.0	546.20		5857		
0	0.0	0.0	339.87		AG41		
9999							

9999

```
BFOS
     AG40        0.0     0.  579878.0  0.0  1.26 1.46
     0.55  989335.0  0.51 1011388.0    .     0   0.0          0.0          0.0  222.55  AG40   7.32  -0.55
AG40
     AG41        0.0     0.  566315.0  0.0  1.24 1.41
     0.56  987180.0  0.57 1013498.0    .     0   0.0          0.0          0.0  339.92  AG41   7.03  -0.34
AG41
     AG42        0.0     0.  574400.0  0.0  1.46 1.46
     0.63 1000042.0  0.60 1030875.0    .     0   0.0          0.0          0.0  342.69  AG42   7.32  -0.54
AG42
     AG43        0.0     0.  609391.0  0.0  1.50 1.48
     0.67  992765.0  1.37 1007809.0    .     0   0.0          0.0          0.0  415.05  AG43   6.13   0.27
5851
     AG43        0.0     0.  909174.0  0.0  1.45 1.40
     0.57 1009662.0  0.62  991277.0    .     0   0.0          0.0          0.0  414.97  AG43   7.11  -1.00
5857
     AG44        0.0     0.  964997.0  0.0  1.45 1.32
     0.59  996906.0  0.62 1004058.0    .     0   0.0          0.0          0.0  600.49  AG44   7.01  -0.95
SMS
     AG45        0.0     0.  957167.0  0.0  1.22 1.50
     0.67 1004705.0  0.65  998225.0    .     0   0.0          0.0          0.0  647.65  AG45   6.87  -0.67
AG45
     AG44        0.0     0.  771160.0  0.0  1.51 1.31
     0.54 1004319.0  0.67  996472.0    .     0   0.0          0.0          0.0  600.29  AG44   6.70  -0.24
OK   KM
     1181 1211232.0  282. 1522571.0  0.0  1.16 1.17
     0.90 1008800.0  0.30  992871.0   .277748 379.0    474750.95    627674.06  935.77  1181   6.67  -1.28
1181 K
     GT50  609152.0  289. 1611480.0  0.0  1.24 1.45
     0.66 1000170.0  0.38 1000800.0   .256493 340.0    470416.68    618532.32  940.53  GT50   6.73  -0.46
1181
     AG41        0.0     0.  462696.0  0.0  0.78 1.91
     1.13 1002367.0  0.24  918227.0    .     0   0.0          0.0          0.0  339.85  AG41   7.30  -0.34
9999
```

INPUT GTRIO

```
                 600
                KM   K    OK   SMS 11815857
                  98201520395006118158 57
                9991 22 11815857
OK      KM      1181 1211232.0              0.0          0.0          0.0          0.0  9993 3561129.8
1181    OK      5857 2100958.0              0.0          0.0          0.0          0.0  9991 3324061.1
SMS     K       5857  861492.0              0.0          0.0          0.0          0.0            0.0
5857    1181    SMS  1801891.0              0.0          0.0          0.0          0.0            0.0
OK      KM      1181 1922654.0              8.8     117776.0      93697.0          0.1  9998 3561129.8
1181    OK      5857 1679149.0              8.0      93704.0      54750.0          0.1  9996 3324061.1
5857    5857    SMS  2462058.0             10.4      54753.0      71277.0          0.1  9995          0.0
                9993
                9992 0  1.0  1.0 10.0 10.0          POLYGON BETWEEN 2039 AND 5006. JULY 1978
                9999
```

4 6 c1							
98	464150.30	662577.90	306.33	*2BV	KM		CS67
2015	496813.01	588604.47	1179.7	*2BV	K	KRAKUR	OS67
2059	458458.00	637879.20	1176.0	*2BV	OK	OK	
5006	509989.86	606670.66	711.55	*2B	SMS	SUDURMANNASANDFELL	OS67
1181	474751.00	627674.00	935.8	*3BV	1181		
5857	487367.00	616624.00	546.2	*3B	5857		

POLYGON BETWEEN 2039 AND 5006. JULY 1978 ADJUSTED COORDINATES

CORRECTION		MEAN ERROR		NUMBER	Y-NORTH	X- WEST	
-0.317	-0.213	0.164	0.251	1181	474750.683	627673.787	*
-0.290	-0.408	0.167	0.273	5857	487386.710	616623.592	*

MAX CORR 0.408 MAX ERR 0.273 ERROR IN DIRECTION 3.848 SEC 11.876 CC

POLYGON BETWEEN 2039 AND 5006. JULY 1978 ADJUSTED DIRECTIONS AND DISTANCES

STAT	NUMB	GRADS	ERROR	NAME	D	M	SEC	NUMB	DISTANCE	NAME
2039	ECC	3.762	0.460	OK						
	98	14.50844	6.16	KM	13	3	27.4	98	25353.88	KM
	1181	135.63288	-6.16	1181	122	4	10.5	1181	19222.09	1181
1181	ECC	-1.247	-3.141	1181						
	2039	335.63544	4.72	OK	302	4	18.8	2039	19225.65	OK
	5857	145.73218	-4.72	5857	131	9	32.3	5857	16785.06	5857
5006				SMS						
	2015	239.78427	-3.47	K	215	48	21.0	2015	22522.95	K
	5857	325.93276	3.47	5857	293	20	22.2	5857	24617.52	5857
5857				5857						
	1181	345.74391	-0.93	1181	311	10	10.3	1181	16786.18	1181
	5006	125.93283	0.93	SMS	113	20	22.4	5006	24617.52	SMS
2039	ECC	3.762	0.460	OK		DIST				
	1181	0.082 M	9.33	1181	0.17850-03			1181	19222.091	1181
1181	ECC	-1.247	-3.141	1181		DIST				
	5857	0.066 M	8.31	5857	0.19630-03			5857	16785.056	5857
5857				5857		DIST				
	5006	0.114 M	10.98	SMS	0.15100-03			5006	24617.515	SMS

MAXIMUM ERROR DIRECTION 8.2 CC DISTANCE 11.0 CC LOCATION 0.0 CC

```
     001    6.600                                                                  INCREMENT 2
     1181      474750.68 627673.79  935.80  *3BV    1181   STRUTUR                      OS78
     2015      496813.01 588604.47 1179.70  *2BV    K      KRAKUR                       OS67
     2039      458458.00 637879.20 1177.00  *2BV    OK     OK
     5006      509989.86 606870.66  711.55  *2B     SMS    SUDURMANNASANDFELL           OS67
     5192      507553.28 592993.32  784.31  *3B     GH     GRETTISHÆÐ                   OS67
     5193      511533.83 589040.23  711.84  *3B     SVF    SVINAFELL                    OS67
     5458      458169.07 579355.51  574.28  *3B     FREM   FREMRI-SKUTI                 OS65
     5455      448317.87 584461.49  542.99  *3B     LAM    LAMBAFELL N BLAFELLS         OS65
     5857      487386.71 616623.59  546.20  *3B     5857   SAUDAFJÖLL NORÐUR            OS78
        0      441279.00 599913.80  459.10  *       SVH
        0      435203.00 600222.30  281.40  *       HV7
     1130      432272.67 601777.70  283.10  *       HAA
     5158      438492.24 612699.72  594.30  * B     MSF
        0      437139.77 604343.91  291.80  * B     SV     SANDVATN
        0      441559.01 616238.01  504.30  * B     HÖLL
        0      438981.96 606093.66  292.40  *       TH61
        0           0.0       0.0   339.87          AG41
     9999
9999
```

SMS	K											
	8917	1395411.0	305.	1602494.0	0.0	1.22	1.14					
	0.65	1010559.0	0.64	990859.0	.	0	0.0	504877.62	622055.04	463.65	8917	6.74 -0.72
SMS	K											
	1345	922900.0	302.	575521.0	0.0	1.22	1.57					
	0.86	1017258.0	0.64	983410.0	.	0	0.0	504951.93	609647.94	558.28	1345	7.17 -0.38
GH	SVF											
	1411	1390450.0	295.	208660.0	0.0	0.37	1.45					
	0.70	1009648.0	-0.30	990988.0	.190148		331.0	505501.80	592627.23	752.69	1411	7.63 -0.09
5857	1181											
	2011	742152.0	305.	1285736.0	0.0	1.45	1.43					
	0.68	1006127.0	0.67	995090.0	.	0	0.0	491351.66	628853.08	434.75	2011	6.97 -1.23
5857	SMS											
	AG46	1068586.0	302.	17094.0	0.0	1.45	1.43					
	1.43	1007895.0	1.45	992160.0	.	0	0.0	487302.51	616474.85	544.11	AG46	25.27 -0.01
AG46	1181											
	1935	2682126.0	305.	158420.0	0.0	1.43	1.49					
	0.66	1018406.0	0.67	982443.0	.	0	0.0	486942.78	614932.78	499.34	1935	10.42 -0.19
5857												
	9212	0.0	0.	1065034.0	0.0	1.45	1.41					
	0.68	999746.0	0.62	1001310.0	.	0	0.0	0.0	0.0	559.27	9212	7.10 -1.13
5857	K											
	GT51	37172.0	301.	2446966.0	0.0	1.45	1.33					
	0.61	995799.0	0.62	1006300.0	.	0	0.0	493821.74	593018.00	748.08	GT51	6.61 -0.09
GT51	5857											
	1415	2457738.0	294.	39778.0	0.0	1.33	1.37					
	1.00	1033388.0	0.0	0.0	.	0	0.0	493647.94	592660.82	727.57	1415	
5857	1181											
	9215	3007844.0	301.	1308361.0	0.0	1.45	1.45					
	0.69	997471.0	0.64	1003785.0	.	0	0.0	478653.89	606882.28	611.06	9215	7.08 -1.65
9215												
	AG48	0.0	0.	410561.0	0.0	1.38	1.43					
	0.62	990241.0	0.68	1010352.0	.	0	0.0	0.0	0.0	675.91	AG48	6.86 -0.09
AG48												
	1336	0.0	0.	544516.0	0.0	1.43	1.41					
	0.61	1000640.0	0.64	1000026.0	.	0	0.0	0.0	0.0	673.31	1336	6.92 -0.19
1181	OK											
	AG47	2560151.0	288.	598376.0	0.0	1.29	1.09					
	0.35	1055264.0	0.55	945399.0	. 33124		336.0	475532.37	621760.95	420.30	AG47	6.62 -0.01

AG47	1181											
	8925	2752994.0	296.	277637.0	0.0	1.22	1.43					
	0.65	968230.0	0.34	1032410.0	.	0	0.0	473125.36	620384.59	559.93	8925	7.34 -0.11
AG41												
	1468	0.0	0.	925829.0	0.0	1.41	1.37					
	0.61	992731.0	1.30	1008162.0	.	0	0.0	0.0	0.0	452.44	1468	7.07 -0.80
HOLL	MSF											
	8971	2043068.0	291.	614798.0	0.0	1.39	1.26					
	0.69	999488.0	0.62	1001164.0	.	0	0.0	445890.55	620600.93	512.42	8971	6.56 0.03
HOLL	MSF											
	8970	2043068.0	291.	614798.0	0.0	1.39	1.26					
	0.69	999488.0	0.62	1001164.0	.	0	0.0	445890.55	620600.93	512.42	8970	6.56 0.03
SVH												
	AG23	0.0	0.	251736.0	0.0	1.46	1.55					
	0.67	981158.0	0.56	1019484.0	.	0	0.0	0.0	0.0	534.76	AG23	5.99 0.08
AG23												
	AG24	0.0	0.	253314.0	0.0	1.49	1.50					
	0.69	981264.0	0.69	1019355.0	.	0	0.0	0.0	0.0	610.53	AG24	6.65 -0.01
AG24												
	9232	0.0	0.	268891.0	0.0	1.50	1.55					
	0.68	989067.0	0.70	1011566.0	.	0	0.0	0.0	0.0	658.03	9232	6.94 -0.05
LAM	FREM											
	AG21	2739060.0	304.	561419.0	0.0	1.42	1.53					
	0.65	999960.0	0.64	1000697.0	.	0	0.0	448701.07	590062.41	546.18	AG21	6.56 0.03
AG21	LAM											
	7871	1712648.0	304.	50758.0	0.0	1.53	1.22					
	1.22	988185.0	1.53	1011871.0	.	0	0.0	448511.40	590533.11	555.93	7871	8.66 -0.01
AG21	LAM											
	7872	1712648.0	304.	50758.0	0.0	1.53	1.22					
	1.22	988185.0	1.53	1011871.0	.	0	0.0	448511.40	590533.11	555.93	7872	8.66 -0.01
TH61	SV											
	AG49	2110983.0	316.	349124.0	0.0	1.53	1.50					
	0.67	983877.0	0.69	1016729.0	.	0	0.0	441891.04	608021.85	382.50	AG49	6.78 -0.04
AG49	TH61											
	7759	1153532.0	314.	116223.0	0.0	1.50	1.37					
	0.68	1028517.0	0.67	972422.0	.	0	0.0	441499.28	609114.86	331.37	7759	7.24 -0.02
HAA	MSF											
	GT43	3789093.0	320.	1525808.0	0.0	1.28	1.42					
	0.70	987895.0	0.58	1013469.0	.	0	0.0	435099.25	616768.45	589.42	GT43	6.71 -0.53

```
GT43 HAA
     1477 1896689.0  289. 1027694.0  0.0  1.43 1.42
     0.66 1006345.0  0.70  994659.0   .     0   0.0    435346.96  627042.03  495.12  1477    6.97  -0.78
HV7  HAA
     7923 2616285.0  310.  289668.0  0.0  1.16 1.42
     0.97 1001023.0  0.41  999473.0   .     0   0.0    435534.71  597344.61  277.46  7923    6.30   0.05
9999
```

PROGRAM STAUXIL

01	6.500						
5006	509989.36	606870.66	711.55	*28	SMS	SUÐURMANNASANDFELL	OS67
5857	487336.71	616623.59	546.20	*38	5857	SAUÐAFJÖLL NORÐUR	OS78
0	435203.00	600222.30	281.40	*	HV7		
0	487302.91	616474.85	544.11		AG46		
0	504977.62	622055.04	463.65		8917		
0	504951.93	609647.94	558.28		1345		
0	505501.90	592627.23	752.69		1411		
0	491351.66	628853.08	434.75		2011		
0	486042.78	614932.78	499.34		1935		
0	0.0	0.0	559.27		9212		
0	493647.94	592660.82	727.57		1415		
0	478653.89	606832.28	611.06		9215		
0	0.0	0.0	673.31		1336		
0	473125.36	620384.59	559.93		8925		
0	0.0	0.0	452.44		1468		
0	445390.55	620600.93	512.42		8971		
0	445890.55	620600.93	512.42		8970		
0	0.0	0.0	658.03		9232		
0	448511.40	590533.11	555.93		7871		
0	448511.40	590533.11	555.93		7872		
0	441499.28	609114.86	331.37		7759		
0	435346.96	627042.03	495.12		1477		
0	435534.71	597344.61	277.46		7923		
9999							

8917	SMS	-100	0.0	-101	0.0	-103	-90.0					
			0.0		0.0		0.0	0	10	504877.62	622055.04	462.75 8917
1345	SMS	-110	920471.0	-111	1595.0	-113	0.0					
			0.0		0.0		0.0	0	11	504946.03	609633.12	558.28 1345
1411		-119	0.0		0.0		0.0					
			0.0		0.0		0.0	0	11	505501.80	592627.23	752.69 1411
2011	5857	-110	2522334.0	-111	530.0	-113	0.0					
			0.0		0.0		0.0	0	11	491356.46	628855.32	434.75 2011
1935	A346	-110	1647089.0	-111	216.0	-113	0.0					
			0.0		0.0		0.0	0	11	486943.47	614930.73	499.34 1935
9212		-300	0.0		0.0		0.0					
			0.0		0.0		0.0	0	30	0.0	0.0	559.27 9212
1415		-119	0.0		0.0		0.0					
			0.0		0.0		0.0	0	11	493647.94	592660.82	727.57 1415
9215	5857	-100	433872.0	-101	5862.0	-103	-426.0					
			0.0		0.0		0.0	0	10	478712.25	606886.50	606.80 9215
8925		-109	0.0		0.0		0.0					
			0.0		0.0		0.0	0	10	473125.36	620334.59	559.93 8925
1336		-319	0.0		0.0		0.0					
			0.0		0.0		0.0	0	31	0.0	0.0	673.31 1336
1468		-313	-355.0		0.0		0.0					
			0.0		0.0		0.0	0	31	0.0	0.0	448.89 1468
8971		-209	0.0		0.0		0.0					
			0.0		0.0		0.0	0	20	445890.55	620600.93	512.42 8971
8970		-303	51.0		0.0		0.0					
			0.0		0.0		0.0	0	30	0.0	0.0	512.93 8970

PROGRAM STAUYIL

9232	-304	1059061.0	-305	55.0	-306	4700.0						
		0.0		0.0		0.0	0	30	0.0	0.0	654.24	9232
7871	-209	0.0		0.0		0.0						
		0.0		0.0		0.0	0	20	448511.40	590533.11	555.93	7871
7872	-303	0.0		0.0		0.0						
		0.0		0.0		0.0	0	30	0.0	0.0	555.93	7872
7759	-109	0.0		0.0		0.0						
		0.0		0.0		0.0	0	10	441499.28	609114.86	331.37	7759
1477	-119	0.0		0.0		0.0						
		0.0		0.0		0.0	0	11	435346.96	627042.03	495.12	1477
7923 HV7	-100	1975913.0	-104	1008970.0	-105	42.0						
	-106	3500.0		0.0		0.0	0	10	435540.03	597310.02	277.39	7923
9999												

APPENDIX C

COMPUTER INPUT/OUTPUT FOR INCREMENT 3

Program GTPOL (7 pages):
Polar measurements in Increment 3.

Program GTAUXIL (5 pages):
Picture points in Increment 3.

001	6.600						INCREMENT 3	
35	323799.00	537189.60	221.70	*2BV	HH	HJÖRLEIFSHÖFDI	GI	OS69
38	323664.60	551407.80	230.60	*2BV	REY	REYNISFJALL		
38	323664.60	551407.80	230.60	*2BV	0038	REYNISFJALL		
41	329673.00	563655.60	276.30	*3BV	PEY	PETURSEY		
197	396294.71	558192.57	1074.92	*2BV	LM	LODMUNDUR		OS69
2004	388585.20	568870.10	1220.60	*1BV	RFF	RAUÐFOSSAFJALL		
2065	444290.72	547362.05	664.50	*2B	NA	NORÐLINGAALDA		R65
2066	441872.96	563004.55	867.50	*2BV	RF	RJUPNAFELL		OS65
2067	426545.08	541439.57	722.30	*3B	OA	OSALDA		R65
2072	402366.58	573314.94	722.80	*2BV	VF	VALAFELL		R65
2213	411330.38	557855.66	540.20	*3B	2213	HRAUNEYJAHNUKUR		R65
2214	408425.13	561084.65	531.00	*3B	2214	HRAUNEYJAFELL		R65
3058	381355.40	594345.00	499.30	*2BV	SEL	SELSUNDSFJALL		
3076	0.0	0.0	574.80	BV	3076	THORÓLFSFELL		OS68
5140	393848.71	550177.48	842.05	*3H	TF	TJORFAFELL	M58	OS69
5155	465557.52	573237.58	707.90	*3B	SKUT	INNRI-SKUTI		OS65
5160	436212.94	586973.36	484.35	*3B	BUF	BURFELL SA BLAFELLS		OS65
5183	489107.65	570007.63	729.46	*3R	DNF	DUFUNEFSFELL		OS67
5185	501663.71	574318.70	665.04	*3R	ARN	ARNARBÆLI		OS67
5187	509863.05	569380.00	551.17	*3B	THV	ÞUFNAVATN NV		OS67
5246	364931.10	563016.72	948.00	* B	SMF	STORA MOFELL		OS78
5262	423367.53	572644.08	709.45	*3B	LF	LAMBAFELL	M57	OS68
5263	431915.19	561593.13	660.00	*3B	OH	ORAEFAHNUKUR	M57	OS68
5264	435528.85	557419.75	652.56	*3R	FMA	FLOAMANNAALDA	M57	OS68
5265	435473.05	545581.26	677.40	*3B	KO	KJALOLDUR		OS68
5458	458169.07	579355.51	574.28	*3B	FREM	FREMRI-SKUTI		OS65
0	0.0	0.0	641.20		HVER			
0	0.0	0.0	423.26		*H3			
0	0.0	0.0	489.68		*X2			
0	0.0	0.0	287.76		FM1			
0	0.0	0.0	320.21		*KT			
0	0.0	0.0	233.07		FM5			
0	0.0	0.0	591.12		*279			
0	0.0	0.0	573.35		*264			
0	0.0	0.0	1023.40		3298	GRAVITY STATION		OS68
9999								

```
3076
     AG36        0.0     0.   449275.0  0.0   1.33 1.39
     0.64 1045178.0   1.31   955324.0   .      0   0.0          0.0          0.0   258.31  AG36   6.86  -0.10
9999
ARN  DNF
     AG55 1547796.0   296.   773230.0  0.0   1.24 1.55
     0.69 1001064.0   0.46   999757.0   .240143 299.0     505566.88    580992.09   656.83  AG55   6.97  -0.44
AG55 ARN
     1449 1193967.0   297.   274375.0  0.0   1.55 1.49
     0.65  994114.0   0.69  1006588.0   .      0   0.0     503723.36    583023.77   683.76  1449   8.80  -0.33
THV  ARN
     AG39 3706079.0   287.   368375.0  0.0   1.25 1.45
     0.64 1004646.0   0.63   995983.0   .      0   0.0     506191.46    569675.98   526.00  AG39   8.14  -0.42
AG39 THV
     2213 2221734.0   287.   121854.0  0.0   1.45 1.34
     0.62  995820.0   0.64  1005131.0   .      0   0.0     505083.29    570182.52   534.98  2213   9.78  -0.09
HVER
     AG22        0.0     0.    72009.0  0.0   1.10 1.50
     0.57 1001604.0   0.27   999990.0   .      0   0.0          0.0          0.0   639.94  AG22   4.15   0.03
AG22
     8284        0.0     0.   182862.0  0.0   1.50 1.40
     0.93 1007481.0   0.57   993160.0   .      0   0.0          0.0          0.0   619.24  8284   6.60   0.00
DNF  ARN
     AG54 2796625.0   295.  1317950.0  0.0   1.42 1.42
     0.64  999226.0   1.33  1001928.0   .      0   0.0     481130.25    580497.17   757.77  AG54   6.63  -0.09
AG54 DNF
     AG53 2048400.0   295.   209841.0  0.0   1.33 1.47
     0.65  973155.0   0.66  1027490.0   .      0   0.0     479991.67    582257.33   847.23  AG53   7.23  -0.06
AG53 DNF
     8175 2509645.0   296.   242504.0  0.0   1.47 1.37
     0.58 1042184.0   0.65   958515.0   .      0   0.0     480379.03    584645.72   688.07  8175   8.96  -0.28
AG53 DNF
     8176 2509645.0   296.   242504.0  0.0   1.47 1.37
     0.58 1042184.0   0.65   958515.0   .      0   0.0     480379.03    584645.72   688.07  8176   8.96  -0.28
FREM SKUT
     8161 3004368.0   304.  1240603.0  0.0   1.16 1.50
     0.72  979992.0   0.62  1021075.0   .      0   0.0     466141.97    588850.62   974.30  8161   6.32   0.85
FREM
     8260        0.0     0.   423062.0  0.0   1.30 1.69
     2.07 1011852.0   0.58   988573.0   .      0   0.0          0.0          0.0   495.99  8260   6.94  -0.12
```

SKUT	FREM											
	8399	3118040.0	299.	690601.0	0.0	1.49	1.35					
	0.63	1004891.0	0.57	995834.0	.	0	0.0	460248.41	568821.95	658.81	8399	6.53 0.07
SKUT	FREM											
	8398	3118040.0	299.	690601.0	0.0	1.49	1.35					
	0.63	1004891.0	0.57	995834.0	.	0	0.0	460248.41	568821.95	658.81	8398	6.53 0.07
*H3												
	8186	0.0	0.	0.0	0.0	0.0	0.0					
	99.99	42326.0	99.99	42250.0	.	0	0.0	0.0	0.0	422.50	8186	
NA	KO											
	7467	2336172.0	0.	259583.0	0.0	1.57	1.42					
	1.41	1016452.0	2.00	983853.0	.	0	0.0	446746.55	546524.21	598.42	7467	12.34 -0.77
RF	FMA											
	AG51	1526962.0	298.	654794.0	0.0	0.94	1.47					
	0.68	1009440.0	0.39	991269.0	.	0	0.0	442565.16	569514.74	773.64	AG51	6.94 -0.29
AG51	RF											
	8403	2501699.0	0.	127788.0	0.0	1.47	1.32					
	0.62	1051538.0	0.67	949318.0	.	0	0.0	443558.09	570312.43	671.26	8403	6.81 -0.01
AG51												
	AG52	0.0	0.	728845.0	0.0	1.47	1.27					
	0.47	1000051.0	0.68	1000721.0	.	0	0.0	0.0	0.0	777.68	AG52	6.82 -0.24
AG52												
	9878	0.0	0.	769412.0	0.0	1.23	2.35					
	1.51	987937.0	0.53	1012826.0	.	0	0.0	0.0	0.0	927.03	9878	6.49 0.13
BUF												
	AG50	0.0	0.	480134.0	0.0	1.69	1.45					
	0.67	990168.0	0.99	1010440.0	.	0	0.0	0.0	0.0	561.07	AG50	6.74 -0.06
AG50												
	8298	0.0	0.	290684.0	0.0	1.45	1.37					
	0.60	990486.0	0.67	1010106.0	.	0	0.0	0.0	0.0	605.94	8298	6.82 -0.04
FMA												
	9408	0.0	0.	261326.0	0.0	1.43	1.33					
	0.62	1021767.0	0.57	978928.0	.	0	0.0	0.0	0.0	564.68	9408	9.39 -0.38
OH												
	0954	0.0	0.	107182.0	0.0	1.50	1.50					
	1.49	1039644.0	1.50	960480.0	.	0	0.0	0.0	0.0	593.41	0954	8.63 -0.05
LF												
	8408	0.0	0.	448308.0	0.0	1.50	1.32					
	0.97	1000574.0	0.63	1000033.0	.	0	0.0	0.0	0.0	707.47	8408	7.60 -0.40

```
*X2
     8194        0.0     0.        0.0  0.0  0.0  0.0
    99.99    48968.0 99.99    48269.0    .    0  0.0          0.0          0.0  482.69  8194
OA   LM
     7459  3966904.0  287.   733034.0  0.0 1.37 1.56
     0.60  1011147.0 0.57    989653.0    .    0  0.0    419957.44    544652.40  598.44  7459    6.93  -0.36
FM1
     AG1         0.0     0.        0.0  0.0  0.0  0.0
    99.99    28776.0 99.99    28871.0    .    0  0.0          0.0          0.0  288.71  AG1
AG1
     8306        0.0     0.   105774.0  0.0 1.45 1.41
     1.41  1000770.0 1.45    999374.0    .    0  0.0          0.0          0.0  287.59  8306   10.69  -0.09
*KT
     0960        0.0     0.        0.0  0.0  0.0  0.0
    99.99    32021.0 99.99    31979.0    .    0  0.0          0.0          0.0  319.79  0960
2213
     9892        0.0     0.   437868.0  0.0 1.47 1.52
     0.67  1005617.0 0.62    995030.0    .    0  0.0          0.0          0.0  503.74  9892    7.17  -0.22
FM5
     0992        0.0     0.        0.0  0.0  0.0  0.0
    99.99    23307.0 99.99    23040.0    .    0  0.0          0.0          0.0  230.40  0992
2214 VF
     8355  3901285.0  312.  1307592.0  0.0 1.32 1.46
     0.61   996469.0 0.62    1004735.0    .    0  0.0    400880.74    571764.85  615.83  8355    6.78  -0.61
*279
     AG5         0.0     0.        0.0  0.0  0.0  0.0
    99.99    59112.0 99.99    59461.0    .    0  0.0          0.0          0.0  594.61  AG5
AG5
     9860        0.0     0.   318024.0  0.0 1.34 1.24
     0.43  1001184.0 0.52    999654.0    .    0  0.0          0.0          0.0  590.88  9860   12.64  -1.22
TF   LM
     0879  3060548.0  300.   212128.0  0.0 1.31 1.35
     0.61  1081435.0 0.80    919111.0    .    0  0.0    391903.56    550979.99  572.41  0879    6.39   0.02
*264
     0879        0.0     0.        0.0  0.0  0.0  0.0
    99.99    57335.0 99.99    57247.0    .    0  0.0          0.0          0.0  572.47  0879
SEL
     AG          0.0     0.  1214457.0  0.0 0.98 1.02
     0.50   987881.0 0.35    1013251.0    .    0  0.0          0.0          0.0  741.18  AG      6.93  -0.97
```

```
AG
     8350        0.0     0.   556184.0  0.0   1.02 1.35
     0.64  1001585.0    0.50   999113.0    .      0  0.0          0.0          0.0   730.14  8350    7.87   -0.78
3298
     6194        0.0     0.    98862.0  0.0   0.59 1.42
     0.0         0.0    0.59   915313.0    .      0  0.0          0.0          0.0   891.38  6194
SMF
     M4          0.0     0.   554572.0  0.0   0.19 1.39
     0.63  1043585.0    0.24   956939.0    .      0  0.0          0.0          0.0   570.10  M4      6.25    0.21
M4
     M5          0.0     0.   584104.0  0.0   1.44 1.51
     0.62   986789.0    0.65  1013918.0    .      0  0.0          0.0          0.0   694.53  M5      7.04   -0.30
M4
     M3          0.0     0.   141424.0  0.0   1.45 1.53
     0.68   985826.0    0.62  1015072.0    .      0  0.0          0.0          0.0   602.51  M3      7.88   -0.05
M3
     M2          0.0     0.   538416.0  0.0   1.53 1.23
     0.52   992666.0    0.62  1008005.0    .      0  0.0          0.0          0.0   667.57  M2      6.99   -0.23
M2
     M1          0.0     0.   405915.0  0.0   1.23 1.52
     0.62  1011688.0    0.52   988921.0    .      0  0.0          0.0          0.0   594.80  M1      6.90   -0.10
M1
     0972        0.0     0.        0.0  0.0   0.0  0.0
    99.99        0.0   99.99     2243.0    .      0  0.0          0.0          0.0   617.23  0972
SEL
     8318        0.0     0.  1495622.0  0.0   0.98 2.51
     1.75   992804.0    0.34  1008565.0    .      0  0.0          0.0          0.0   682.96  8318    6.88   -1.23
SEL  RFF
     8575   961037.0    286.  1498460.0  0.0   0.98 1.30
     0.71  1001742.0    0.34   999608.0   .363881 351.0    367212.68    589380.81   473.84  8575    6.80   -0.91
SMF  RFF
     9906   985472.0    298.   319708.0  0.0   0.19 1.40
     0.68  1070700.0   -0.01   929716.0    .   6398 266.0    365762.05    559949.68   593.75  9906    5.71    0.18
SMF  RFF
     M5     972217.0    298.   922314.0  0.0   0.19 1.45
     0.62  1017855.0   -0.50   983027.0    .   6398 266.0    367531.91    554170.75   694.55  M5      6.61   -0.03
M5   SMF
     GT4    881044.0     0.     85558.0  0.0   1.51 1.50
     1.48  1069981.0    0.0        0.0    .      0  0.0    368289.11    554558.08   600.76  GT4
```

```
M5    SMF
      0889 2260532.0  300.  296192.0  0.0  1.51 1.37
      0.60 1019825.0  0.67  980782.0   .     0   0.0    367167.84  551232.29  603.84  0889    6.92  -0.06
SMF   RFF
      GT3  2573561.0  299.  243802.0  0.0  1.49 1.40
      0.62 1093873.0  0.79  906719.0   .     0   0.0    363023.17  564492.45  591.04  GT3     6.68  -0.01
GT3   SMF
      0975 1828691.0  304.  130673.0  0.0  1.46 1.40
      0.59 1063477.0  0.66  937418.0   .     0   0.0    361819.92  564986.03  461.94  0975    6.85  -0.01
GT3   SMF
      0976 1828691.0  304.  130673.0  0.0  1.46 1.40
      0.59 1063477.0  0.66  937418.0   .     0   0.0    361819.92  564986.03  461.94  0976    6.85  -0.01
AG36
      GT37       0.0    0.  716376.0  0.0  1.39 1.42
      0.60 1013008.0  0.64  987753.0   .     0   0.0        0.0        0.0    116.23  GT37    6.81  -0.22
AG36
      GT38       0.0    0.  441839.0  0.0  1.39 1.34
      0.56 1018647.0  0.67  982002.0   .     0   0.0        0.0        0.0    131.24  GT38    7.69  -0.43
GT38
      1006       0.0    0.  262582.0  0.0  1.13 1.55
      0.69 1002869.0  0.38  997918.0   .     0   0.0        0.0        0.0    120.66  1006   11.86  -0.73
AG36
      GT39       0.0    0.  422646.0  0.0  1.39 1.36
      0.60 1009023.0  0.67  991599.0   .     0   0.0        0.0        0.0    200.52  GT39    7.42  -0.29
AG36
      GT40       0.0    0.  455510.0  0.0  1.39 1.46
      0.64 1005744.0  0.67  994922.0   .     0   0.0        0.0        0.0    219.57  GT40    7.77  -0.49
GT40
      8480       0.0    0.   98841.0  0.0  1.46 1.64
      0.78 1002043.0  0.64  999198.0   .     0   0.0        0.0        0.0    217.20  8480   12.63  -0.12
PEY   0038
      GT42 2436711.0  300. 1633294.0  0.0  1.18 1.05
      0.57  977616.0  0.38 1023792.0   .1205461249.0    344536.77  570420.60  868.49  GT42    6.53   0.39
GT42  PEY
      0981 2785476.0  290.   96185.0  0.0  1.06 1.32
      0.0        0.0  1.06  988508.0   .     0   0.0    345202.26  569726.10  850.81  0981
PEY   0038
      8475 2029868.0  312. 1338196.0  0.0  1.18 1.17
      0.55 1012476.0  0.37  988732.0   .1205461249.0    336144.39  575367.23   26.67  8475    6.69  -0.32
```

```
PEY
     1214        0.0     0.   763613.0  0.0   1.18 1.29
     0.52   975752.0    0.38 1025009.0   .      0   0.0          0.0          0.0     571.51  1214     6.48    0.14
PEY  0038
     0899  3295966.0   296. 1350508.0  0.0   1.18 1.13
     0.57   972480.0    0.37 1028767.0   .1205461249.0     337837.90    552894.61    873.08  0899     6.87   -0.98
REY  HH
     0901  2613762.0   324.  527156.0  0.0   1.56 1.50
     0.68  1025658.0    0.67  974995.0   . 59469 870.0     327973.40    554455.84     20.92  0901     6.65   -0.03
9999
```

PROGRAM STAUXIL

01	6.500						
5458	458169.07	579355.51	574.28	*3B	FREM	FREMRI-SKUTI	OS65
5155	465557.52	573237.58	707.90	*3B	SKUT	INNRI-SKUTI	OS65
2055	444200.72	547362.05	664.50	*2B	NA	NORDLINGAALDA	R65
2067	426545.08	541439.57	722.30	*3B	OA	OSALDA	R65
5140	393348.71	550177.48	842.05	*3H	TF	TJORFAFELL	M58 OS69
38	323664.60	551407.80	230.60	*2BV	REY	REYNISFJALL	
0	363023.17	564492.45	591.04		GT3		
0	367531.91	554170.75	694.55		M5		
0	344536.77	570420.60	868.49		GT42		
0	503723.36	583023.77	683.76		1449		
0	505083.29	570182.52	534.98		2213		
0	0.0	0.0	619.24		8284		
0	480379.02	584645.72	688.07		8175		
0	480379.03	584645.72	688.07		8176		
0	466141.07	588350.62	974.30		8161		
0	0.0	0.0	495.99		8260		
0	460248.41	563821.95	658.81		8399		
0	460248.41	563821.95	658.81		8398		
0	0.0	0.0	422.50		8186		
0	446746.55	546524.21	598.42		7467		
0	443553.09	570312.43	671.26		8403		
0	0.0	0.0	927.03		9878		
0	0.0	0.0	605.94		8298		
0	0.0	0.0	564.68		9408		
0	0.0	0.0	593.41		0954		
0	0.0	0.0	707.47		8408		
0	0.0	0.0	482.69		8194		
0	419957.44	544652.40	598.44		7459		
0	0.0	0.0	287.59		8306		
0	0.0	0.0	319.79		0960		
0	0.0	0.0	503.74		9892		
0	0.0	0.0	230.40		0992		
0	400830.74	571764.85	615.83		8355		
0	0.0	0.0	590.88		9860		
0	391903.56	550979.99	572.47		0879		
0	0.0	0.0	730.14		8350		
0	0.0	0.0	891.38		6194		
0	0.0	0.0	617.23		0972		
0	0.0	0.0	682.96		8318		

```
    0      367212.69 583380.81   473.84          8575
    0      365762.05 559949.69   593.75          9906
    0      367167.84 551232.29   603.84          0889
    0      361819.92 564986.03   461.94          0975
    0      361819.92 564986.03   461.94          0976
    0           0.0       0.0   120.66          1006
    0           0.0       0.0   217.20          8480
    0      345202.26 569726.10   850.81          0981
    0      336144.39 575367.23    26.67          8475
    0           0.0       0.0   571.51          1214
    0      337837.90 552894.61   873.08          0899
    0      327973.40 554455.84    20.92          0901
9999

1449       -119        0.0              0.0            0.0
                       0.0              0.0            0.0    0 11 503723.36 583023.77  683.76 1449

2213       -110        0.0  -111        0.0  -113     -60.0
                       0.0              0.0            0.0    0 11      0.0      0.0       0.0  2213 *

8284       -309        0.0              0.0            0.0
                       0.0              0.0            0.0    0 30      0.0      0.0    619.24 8284

8175       -209        0.0              0.0            0.0
                       0.0              0.0            0.0    0 20 480379.03 584645.72  688.07 8175

8176       -309     -165.0              0.0            0.0
                       0.0              0.0            0.0    0 30 480379.03 584645.72  688.07 8176

8161 ERSM  -100 3190109.0  -101     2358.0  -103     -73.0
           -200 2576683.0  -201     2519.0            0.0    0 10 466154.77 588830.82  973.57 8161
                                                             0 20 466167.14 588849.78    0.0  8161

8260       -309        0.0              0.0            0.0
                       0.0              0.0            0.0    0 30      0.0      0.0    495.99 8260

8399 SKUT  -200 3792656.0  -204 1075464.0  -205     -15.0
           -206    5730.0              0.0            0.0    0 20 460278.00 568870.07  651.93 8399
```

8398	-303	-862.0		0.0		0.0				
		0.0		0.0		0.0	0 30	0.0	0.0	650.19 8398
9878	-309	0.0		0.0		0.0				
		0.0		0.0		0.0	0 30	0.0	0.0	927.03 9878
8186	-309	0.0		0.0		0.0				
		0.0		0.0		0.0	0 30	0.0	0.0	422.50 8186
7467 NA	-100	117365.0	-104	1026278.0	-105	42.0				
	-106	7060.0		0.0		0.0	0 10	446685.15	546558.81	595.93 7467
8403	-109	0.0		0.0		0.0				
		0.0		0.0		0.0	0 10	443558.09	570312.43	671.26 8403
8298	-309	0.0		0.0		0.0				
		0.0		0.0		0.0	0 30	0.0	0.0	605.94 8298
9408	-304	1065411.0	-305	33.0	-306	2960.0				
		0.0		0.0		0.0	0 30	0.0	0.0	561.99 9408
0954	-319	0.0		0.0		0.0				
		0.0		0.0		0.0	0 31	0.0	0.0	593.41 0954
8408	-309	0.0		0.0		0.0				
		0.0		0.0		0.0	0 30	0.0	0.0	707.47 8408
8194	-309	0.0		0.0		0.0				
		0.0		0.0		0.0	0 30	0.0	0.0	482.69 8194
7459 NA	-100	3748564.0	-101	27644.0	-104	1025797.0				
	-105	14.0		0.0		0.0	0 10	420233.40	544636.15	587.38 7459
8306	-309	0.0		0.0		0.0				
		0.0		0.0		0.0	0 30	0.0	0.0	287.59 8306
0960	-319	0.0		0.0		0.0				
		0.0		0.0		0.0	0 31	0.0	0.0	319.79 0960

9892	-309	0.0		0.0		0.0					
		0.0		0.0		0.0	0	30	0.0	0.0	503.74 9892
9992	-319	0.0		0.0		0.0					
		0.0		0.0		0.0	0	31	0.0	0.0	230.40 0992
8355	-109	0.0		0.0		0.0					
		0.0		0.0		0.0	0	10	400880.74	571764.85	615.83 8355
9960	-309	0.0		0.0		0.0					
		0.0		0.0		0.0	0	30	0.0	0.0	590.88 9860
0879 TF	-110	0.0	-111	347.0	-113	0.0					
		0.0		0.0		0.0	0	11	391906.77	550978.67	572.47 0879
8350	-309	0.0		0.0		0.0					
		0.0		0.0		0.0	0	30	0.0	0.0	730.14 8350
6194	-309	0.0		0.0		0.0					
		0.0		0.0		0.0	0	30	0.0	0.0	891.38 6194
0972	-319	0.0		0.0		0.0					
		0.0		0.0		0.0	0	31	0.0	0.0	617.23 0972
8318	-309	0.0		0.0		0.0					
		0.0		0.0		0.0	0	30	0.0	0.0	682.96 8318
8575	-109	0.0		0.0		0.0					
		0.0		0.0		0.0	0	10	367212.68	589380.81	473.84 8575
0975 GT3	-210	3153279.0	-211	5935.0		0.0					
		0.0		0.0		0.0	0	21	361854.89	565033.99	0.0 0975
0976	-313	949.0		0.0		0.0					
		0.0		0.0		0.0	0	31	0.0	0.0	471.43 0976
9906	-309	0.0		0.0		0.0					
		0.0		0.0		0.0	0	30	365762.05	559949.68	593.75 9906

0889 M5	-110	1000833.0	-111	422.0		0.0						
		0.0		0.0		0.0	0	11	367172.03	551231.77	0.0	0889
1006	-319	0.0		0.0		0.0						
		0.0		0.0		0.0	0	31	0.0	0.0	120.66	1006
8480	-309	0.0		0.0		0.0						
		0.0		0.0		0.0	0	30	0.0	0.0	217.20	8480
0981 GT42	-110	1042759.0	-111	600.0	-113	0.0						
		0.0		0.0		0.0	0	11	345206.86	569729.95	850.81	0981
8475	-209	0.0		0.0		0.0						
		0.0		0.0		0.0	0	20	336144.39	575367.23	26.67	8475
1214	-319	0.0		0.0		0.0						
		0.0		0.0		0.0	0	31	0.0	0.0	571.51	1214
0899	-119	0.0		0.0		0.0						
		0.0		0.0		0.0	0	11	337837.90	552894.61	873.08	0899
0901 REV	-210	3211446.0	-211	630.0		0.0						
		0.0		0.0		0.0	0	21	327975.16	554449.79	0.0	0901

9999

APPENDIX D

COMPUTER INPUT/OUTPUT IN INCREMENT 4

Program GTRIANG (5 pages):
Triangulation net Hverfisfljót 1978
(Triangulation in Increments 3 and 4).

Program GTPOL (5 pages):
Polar measurements in Increment 4.

Program GTAUXIL (4 pages):
Picture points in Increment 4.

INPUT GIK10

```
 2110
ST  BL  RFF GT  LG  HB  KB  FN  SHE RFE HH  HO  RHL GLH SMF KH  KBK VO  00493076
HBH
 2005290200416003  239199  26  24  27  30  3552375827583152465830523 5   0  493076
5294
9991 63 RFE RHL GLH SMF KH  KBK
```

GLH	KB	FN	154736.3	KBK	493000.8	SHE	952534.2	KH	1664558.0	GT	2380834.9		0.0
KBK	SHE	GLH	994530.5	KB	1203820.2	FN	1045506.3		0.0		0.0		0.0
RHL	HO	LG	381920.6	FN	951413.7	KB	1205300.8	GLH	1481233.5	BL	1953554.0	ST	2035237.6
SHE	RFE	KH	943636.7	GLH	1184404.7	FN	1850205.9	KBK	1930241.8		0.0	9993	2989252.0
GLH	KF	HB	361720.0	GT	712302.0	ST	1050237.4	RHL	1584428.9	KB	1931510.0	9993	3548124.6
GLH	KH	ST	1050237.4	BL	1350349.1	RHL	1584428.9		0.0		0.0	9993	3548124.6
RFE	KH	SHE	761158.5	HH	2093629.5		0.0		0.0		0.0		0.0
SMF	RFF	HB	574515.3	KH	1042244.5		0.0		0.0		0.0	9991	267264.7
BL	ST	RHL	1634211.4		0.0		0.0		0.0		0.0	9994	323110.4
SMF	SMF	3076	2045796.0		6.8		94944.0		57613.0		0.1	9995	0.0
SMF	SMF	RFF	2436870.0		7.9		94944.0		122185.0		0.1	9995	0.0
BL	BL	RHL	1251875.0		4.8		83114.0		76182.0		0.1	9995	0.0
KH	KH	SMF	2367525.0		7.7		73134.0		94921.0		0.1	9995	0.0
KH	KH	HBH	1913539.0		6.5		73134.0		74583.0		0.1	9995	0.0
SHE	HH	RFE	2184978.0		7.2		41596.0		34330.0		0.1	9998	88420.9

```
9993
9992 0  0.5  5.0 10.0 10.0              TRIANGULATION NET HVERFISFLJOT 1978
9999
```

INPUT STRIL

APPROXIMATE COORDINATES

1616161									
200	400452.70	520404.00	1091.79	*1BV	ST	SVEINSTINDUR			OS69
5296	396396.61	508147.77	830.09	*3BV	BL	BLÆNGUR		X69	OS69
2004	388585.20	568870.10	1220.6	*1BV	RFF	RAUDFOSSAFJALL			
1603	387943.42	528360.12	935.74	*3HV	GT	GJATINDUR	X69	X58	OS69
23	388831.30	476254.40	766.6	*2BV	LG	LOMAGNUPUR		GI	OS69
9199	381606.24	546993.75	1189.54	*2BV	HB	HABARMUR, VARDA		M58	OS69
26	377756.70	501525.70	0709.	*2BV	KB	KALDBAKUR			
27	360177.60	515052.70	414.7	*2BV	SHE	SKALARFJALL		GI	OS69
35	323799.00	537189.60	221.3	*2BV	HH	HJØRLEIFSHOFDI		GI	OS69
5294	382978.56	533673.94	744.64	*3B	HBH	HERDUBREIDARHALS		X69	OS69
30	347960.44	533177.40		*	RFE				
5827	395830.14	495636.23		*	RHL				
5831	374906.35	516411.48		*	GLH				
5246	364931.34	563016.75		*	SMF				
5830	364731.31	539341.31		*	KH				
5235	364577.29	503565.83		*	KBK				

TRIANGULATION NET HVERFISFLJÓT 1978 ADJUSTED COORDINATES

CORRECTION		MEAN ERROR		NUMBER	Y-NORTH	X- WEST	
-0.137	-0.045	0.196	0.134	30	347960.303	533177.355	*
0.082	-0.014	0.135	0.045	5827	395830.222	495638.216	*
0.191	0.142	0.112	0.121	5831	374906.541	516411.622	*
-0.238	-0.028	0.088	0.223	5246	364931.102	503016.722	*
0.225	-0.132	0.085	0.219	5830	364731.535	539341.178	*
0.352	-0.162	0.183	0.219	5235	364577.642	503565.668	*

MAX CORR 0.352 MAX ERR 0.223 ERROR IN DIRECTION 3.036 SEC 9.371 CC

STAT	NUMB	GRADS	ERROR	NAME	D	M	SEC	NUMB	DISTANCE	NAME
5831				GLH						
	26	188.11399	-0.83	KB	169	13	9.3	26	15352.80	KB
	5235	243.11384	3.14	KBK	218	48	8.8	5235	16483.47	KBK
	27	294.14314	-1.61	SHE	264	43	46.8	27	14791.50	SHE
	5830	373.40966	-0.80	KH	336	4	7.3	5830	25085.76	KH
	1603	52.71726	0.11	GT	47	26	43.9	1603	17697.60	GT
5235				KBK						
	27	376.71097	1.53	SHE	339	2	23.5	27	12300.91	SHE
	5831	43.11128	5.49	GLH	38	48	0.0	5831	16483.47	GLH
	26	110.71806	-7.02	KB	99	38	46.5	26	13368.06	KB
5827				RHL						
	23	227.67164	3.92	LG	204	54	16.1	23	21370.84	LG
	26	319.40847	-18.07	KB	287	28	3.4	26	18947.29	KB
	5831	349.76880	-1.92	GLH	314	47	30.9	5831	29484.48	GLH
	5298	2.42220	8.82	BL	2	10	47.9	5298	12518.62	BL
	200	11.62100	7.24	ST	10	27	32.0	200	25184.35	ST
27	ECC	1.069	3.760	SHE						
	30	362.23071	-4.00	RFE	326	0	27.5	30	21855.33	RFE
	5830	11.79574	20.66	KH	10	36	58.2	5830	24707.81	KH
	5831	94.15855	-8.61	GLH	84	44	33.7	5831	14790.09	GLH
	5235	176.72550	-8.06	KBK	159	3	10.6	5235	12304.04	KBK
5831	ECC	2.737	2.578	GLH						
	5830	373.40966	7.54	KH	336	3	38.1	5830	25084.51	KH
	9199	13.72249	-0.86	HB	12	21	0.9	9199	31304.28	HB
	1603	52.71743	-5.85	GT	47	26	44.5	1603	17693.84	GT
	200	90.11650	1.59	ST	81	6	17.5	200	25803.74	ST
	5827	149.78035	1.59	RHL	134	48	9.0	5827	29484.36	RHL
	26	188.12712	-4.01	KB	169	13	51.9	26	15354.83	KB

TRIANGULATION NET HVERFISFJOT 1978 ADJUSTED DIRECTIONS AND DISTANCES

STAT	NUMB	GRADS	ERROR	NAME	D	M	SEC	NUMB	DISTANCE	NAME
5831	ECC	2.737	2.578	GLH						
	5830	373.40066	1.50	KH	336	3	38.1	5830	25084.51	KH
	200	90.11650	-4.45	ST	81	6	17.5	200	25803.74	ST
	5298	123.47078	7.40	BL	111	7	25.3	5298	22938.61	BL
	5827	149.78055	-4.46	RHL	134	48	9.0	5827	29484.36	RHL
30				RFE						
	5830	77.57755	-0.56	KH	69	49	11.2	5830	17868.04	KH
	27	162.24341	2.79	SHE	146	1	8.7	27	21857.85	SHE
	35	310.47571	-2.23	HH	279	25	41.3	35	24492.18	HH
5246	ECC	-2.634	-0.377	SMF						
	2004	84.55670	-10.95	RFF	76	6	3.7	2004	24370.22	RFF
	9199	148.72621	7.78	HB	133	51	12.9	9199	23127.29	HB
	5830	200.53198	3.17	KH	180	28	43.6	5830	23675.99	KH
5298	ECC	-0.044	-1.149	BL						
	200	20.53064	5.74	ST	18	28	39.3	200	12923.69	ST
	5827	202.42419	-5.74	RHL	182	10	54.4	5827	12517.47	RHL
5246				SMF		DIST				
	2004	0.020 M	2.47	RFF	0.1988D-03			2004	24367.568	RFF
5298				BL		DIST				
	5827	0.015 M	3.09	RHL	0.3272D-03			5827	12518.621	RHL
5830				KH		DIST				
	5246	0.012 M	1.53	SMF	0.2040D-03			5246	23676.386	SMF
5830				KH		DIST				
	5294	0.027 M	4.22	HBH	0.2417D-03			5294	19106.844	HBH
27	ECC	-3.550	2.263	SHE		DIST				
	30	-0.001 M	-0.16	RFE	0.2182D-03			30	21853.986	RFE

MAXIMUM ERROR DIRECTION 20.7 CC DISTANCE 4.2 CC LOCATION 0.0 CC

001	6.600							INCREMENT 4	
2062	444862.26	525952.12	783.00	*2B	HA	HNOTTOTTAALDA			R65
2019	448639.35	510449.24	1269.00	*2BV	SH	SYDRI HAGANGA			R65
2063	438448.73	515987.14	882.70	*2B	NK	VATNSLEYSUOLDUR			R65
200	400402.70	520404.00	1091.79	*1BV	ST	SVEINSTINDUR			OS69
8015	412311.05	508275.14	838.99	*4	GM	OFAN UTFALLS		M69	OS69
5149	409367.69	517106.03	1021.06	*3BVF	BB	BREIDBAKUR	X69	X58	OS69
5296	392642.56	522810.27	732.04	*3B	UT	UXATINDAR		X69	OS69
5298	396306.61	508147.77	830.09	*3BV	BL	BLÆNGUR		X69	OS69
5827	395830.22	495638.22	760.40	*	RHL	RAUDHOLAR			OS78
5831	374906.54	516411.62	645.70	*	GLH	GEIRLANDSHRAUN			OS78
23	386831.30	476254.40	767.00	*2BV	LG	LOMAGNUPUR		GI	OS69
5235	364577.64	503565.67	153.80	*	KBK	KIRKJUBÆJARKLAUSTUR			OS78
27	360177.60	515052.70	415.10	*2BV	SHE	SKALARFJALL		GI	OS69
30	347960.30	533177.36	342.30	*3B	RFE	RJUPNAFELL			OS78
5830	364731.54	539341.18	0.0	*	KH	KERLINGAHNUKAR			OS78
29	347339.90	500507.40	23.40	*3ABV	SMY	STEINSMYRARFLJOT			
32	332776.20	518883.50	31.60	*3AV	TBK	ÞYKKVIBÆR			
35	323799.00	537189.60	221.70	*2BV	HH	HJÖRLEIFSHÖFÐI		GI	OS69
38	323664.60	551407.80	230.60	*2BV	REY	REYNISFJALL			
0	0.0	0.0	611.65		*407				
0	0.0	0.0	673.95		JHEI				
8016	408663.05	505460.95	636.02	*4	ESH	TROLLHAMAR NA		X69	OS69
0	0.0	0.0	585.04		*205				
0	0.0	0.0	646.42		*376				
0	0.0	0.0	582.70		*348				
0	0.0	0.0	603.83		0889				
0	0.0	0.0	119.10		3379				
0	0.0	0.0	72.41		5811				
0	0.0	0.0	38.91		5813				
0	0.0	0.0	75.20		3382				
0	0.0	0.0	56.95		5844				
0	0.0	0.0	74.08		LSKR	LANGASKER			
9999									

9999

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*407
     HA          0.0     0.   343640.0  0.0   0.52 1.41
     1.14   968304.0 -0.21  1032230.0   .      0   0.0          0.0          0.0    782.99  HA        7.97   -0.32
HA
     AG2         0.0     0.   691646.0  0.0   1.41 1.41
     0.59  1012148.0  0.65   988594.0   .      0   0.0          0.0          0.0    655.09  AG2       6.77   -0.17
AG2
     7282        0.0     0.   193246.0  0.0   1.50 2.29
     1.46  1023908.0  0.58   976842.0   .      0   0.0          0.0          0.0    582.83  7282      7.06   -0.03
HA   SH
     8751  3835792.0  277.   407722.0  0.0   1.41 1.41
     0.60  1020342.0  0.67   980276.0   .      0   0.0     446804.91    522369.88   654.75  8751      7.24   -0.21
HA   SH
     SPI   2373815.0    0.   240346.0  0.0   1.41 1.20
     0.36  1045115.0  1.56   955356.0   .      0   0.0     445680.29    528205.59   614.41  SPI       9.41   -0.32
NK   SH
     AG8    365802.0  293.  1097452.0  0.0   1.54 1.40
     0.59   996446.0  0.67  1004698.0   .      0   0.0     443694.43    506348.63   953.94  AG8       7.49   -2.14
AG8
     8738        0.0     0.   783943.0  0.0   1.39 1.25
     0.43  1014068.0  0.60   986770.0   .      0   0.0          0.0          0.0    786.03  8738      7.08   -0.60
AG8  NK
     1149  2246508.0  290.   772348.0  0.0   1.40 1.49
     1.52   993461.0  0.59  1007336.0   .      0   0.0     444551.48    498673.95  1037.60  1149      7.45   -1.01
1149 SH
      -21  1867288.0    0.   293322.0  0.0   1.49 1.42
     0.69  1004978.0  0.67   995620.0   .      0   0.0     444183.89    495764.30  1016.06   -21      7.00   -0.07
JHEI
     AG7         0.0     0.    86625.0  0.0   1.28 1.37
     0.66   959350.0  0.58  1041804.0   .      0   0.0          0.0          0.0    729.92  AG7      10.85   -0.06
AG7
     AG6         0.0     0.   559928.0  0.0   1.37 1.18
     0.99   993160.0  0.66  1007074.0   .      0   0.0          0.0          0.0    791.04  AG6       1.85    2.98
AG6
     8690        0.0     0.   404188.0  0.0   1.18 1.84
     1.12   993692.0  1.00  1006555.0   .      0   0.0          0.0          0.0    831.48  8690      2.05    1.49
*205
     7290        0.0     0.        0.0  0.0   0.0  0.0
    99.99    58504.0 99.99    58264.0   .      0   0.0          0.0          0.0    582.64  7290
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*376
     AG4          0.0     0.   267176.0   0.0   1.53 1.50
     0.62    999287.0    0.67 1001360.0    .      0   0.0          0.0          0.0    650.81  AG4      6.83  -0.03
AG4
     8794         0.0     0.   449385.0   0.0   1.50 3.58
     2.69    998234.0    0.62 1002421.0    .      0   0.0          0.0          0.0    663.51  8794     7.07  -0.19
JHEI
     AG3          0.0     0.   156748.0   0.0   1.20 1.50
     0.65    998453.0    0.60 1002279.0    .      0   0.0          0.0          0.0    678.49  AG3      7.17  -0.03
AG3
     8730         0.0     0.   194270.0   0.0   1.50 1.51
     1.27   1009460.0    1.50  990817.0    .      0   0.0          0.0          0.0    650.15  8730     8.02  -0.11
GM   BB
     8849    750939.0   296.   214954.0   0.0   1.18 1.36
     0.63   1047812.0    0.54  952815.0    .      0   0.0     413932.51    509677.19   678.62  8849     8.10  -0.14
ESH
     8698         0.0     0.        0.0   0.0   0.0  0.0
    99.99     63602.0   99.99    62103.0    .      0   0.0          0.0          0.0    621.03  8698
*348
     7298         0.0     0.        0.0   0.0   0.0  0.0
    99.99     58270.0   99.99    58048.0    .      0   0.0          0.0          0.0    580.48  7298
UT   ST
     8721    703139.0   290.   239698.0   0.0   1.28 1.30
     0.57   1016986.0    0.65  983588.0    .      0   0.0     393037.65    520446.75   669.20  8721     6.97  -0.04
UT   ST
     8722    703139.0   290.   239698.0   0.0   1.28 1.30
     0.57   1016986.0    0.65  983588.0    .      0   0.0     393037.65    520446.75   669.20  8722     6.97  -0.04
RHL  LG
     1165    697030.0     0.   170210.0   0.0   1.59 1.50
     0.69   1085010.0    1.06  915636.0    .      0   0.0     394144.52    495568.66   534.87  1165     6.83  -0.01
BL   ST
     RHL    1818924.0   290.  1251716.0   0.0   1.05 1.42
     1.13   1004097.0    1.51  996992.0   .381892 115.0     395830.45    495638.20   760.24  RHL      6.89  -0.90
UT
     8784         0.0     0.   974092.0   0.0   1.28 1.41
     0.66   1019579.0    0.65  981376.0    .      0   0.0          0.0          0.0    439.74  8784     6.97  -0.70
GLH
     1070         0.0     0.   820978.0   0.0   1.47 1.27
     0.58   1013822.0    0.68  987003.0    .      0   0.0          0.0          0.0    472.94  1070     6.79  -0.26
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GLH
     GT41          0.0     0.   480466.0   0.0   1.47  1.02
     0.42  1031169.0   0.68   969436.0    .      0    0.0          0.0          0.0   413.19  GT41     6.87   -0.13
0889
     M6            0.0     0.   416720.0   0.0   1.37  1.47
     0.59  1001420.0   0.60   999240.0    .      0    0.0          0.0          0.0   596.65  M6       7.69   -0.38
M6
     M7            0.0     0.   478712.0   0.0   1.47  1.45
     0.63  1004446.0   0.59   996193.0    .      0    0.0          0.0          0.0   565.61  M7       6.77   -0.08
M7
     1264          0.0     0.   348496.0   0.0   1.51  1.41
     0.59  1012102.0   0.63   988514.0    .      0    0.0          0.0          0.0   501.12  1264     6.88   -0.07
1264
     M8            0.0     0.   264156.0   0.0   1.41  1.54
     0.64   994558.0   0.59  1006093.0    .      0    0.0          0.0          0.0   524.96  M8       7.03   -0.06
M8
     M9            0.0     0.   395488.0   0.0   1.54  1.38
     0.64  1014581.0   0.63   985614.0    .      0    0.0          0.0          0.0   433.83  M9       6.54    0.02
M9
     M10           0.0     0.   353644.0   0.0   1.38  1.47
     0.56  1008699.0   0.64   991897.0    .      0    0.0          0.0          0.0   387.16  M10      6.64   -0.01
M10
     M11           0.0     0.   233216.0   0.0   1.47  1.36
     0.60  1007178.0   0.56   993460.0    .      0    0.0          0.0          0.0   362.06  M11      6.13    0.05
M11
     M12           0.0     0.   225384.0   0.0   1.36  1.40
     0.55  1049163.0   0.60   951438.0    .      0    0.0          0.0          0.0   189.25  M12      5.13    0.15
M12
     9702          0.0     0.   285240.0   0.0   1.50  1.37
     0.57   977812.0   0.63  1022783.0    .      0    0.0          0.0          0.0   290.07  9702     6.12    0.08
M12
     M13           0.0     0.   280710.0   0.0   1.50  1.50
     0.62   996362.0   0.63  1004220.0    .      0    0.0          0.0          0.0   206.58  M13      5.18    0.22
M13
     3379          0.0     0.   237442.0   0.0   1.50  0.68
    -0.25  1023999.0   0.62   976627.0    .      0    0.0          0.0          0.0   119.10  3379     4.66    0.22
5811
     GT2           0.0     0.   297496.0   0.0   2.71  1.36
     0.57   995826.0   1.83  1004844.0    .      0    0.0          0.0          0.0    94.79  GT2      8.25   -0.29
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GT2
     1292        0.0     0.    67172.0  0.0  1.36 1.47
     0.58 1042019.0    0.58   959627.0    .     0   0.0          0.0          0.0    51.29  1292     7.77   -0.01
KBK
     5813        0.0     0.   123625.0  0.0  1.51 1.37
     0.68 1059724.0    0.64   941161.0    .     0   0.0          0.0          0.0    38.90  5813     5.39    0.04
KBK  SHE
     GT1  1729538.0   334.   641055.0  0.0  1.51 1.47
     0.66 1011782.0    1.33   988823.0    .     0   0.0     369134.55    499056.57    38.57  GT1      6.21    0.32
GT1  KBK
     1173 1903537.0   334.   212094.0  0.0  1.47 1.42
     0.54 1002864.0    0.66   997894.0    .     0   0.0     370850.40    497809.21    30.37  1173     9.28   -0.24
5844
     1100        0.0     0.        0.0  0.0  0.0  0.0
    99.99     5695.0   99.99     5812.0    .     0   0.0          0.0          0.0    58.12  1100
3382
     RFE         0.0     0.   831844.0  0.0  1.69 1.24
     0.34   980017.0    0.85  1020832.0    .     0   0.0          0.0          0.0   342.29  RFE      6.76   -0.22
RFE  KH
     1272 3176448.0   301.   717001.0  0.0  1.53 1.22
     0.71 1005959.0    0.65   994799.0    .     0   0.0     347422.69    540328.74   279.58  1272     6.95   -0.36
SMY  SHE
     1181 2584918.0   321.   254368.0  0.0  1.02 1.35
     0.69 1003682.0    0.12   997081.0    . 26105 370.0     344798.61    500686.74     9.76  1181    11.50   -0.63
LSKR
     3385        0.0     0.        0.0  0.0  0.0  0.0
    99.99     7380.0   99.99     6463.0    .     0   0.0          0.0          0.0    64.91  3385
3385
     9696        0.0     0.        0.0  0.0  0.0  0.0
    99.99     6463.0   99.99     6039.0    .     0   0.0          0.0          0.0    60.67  9696
TBK  HH
     1105 1033520.0   332.   419323.0  0.0  1.53 1.40
     0.62   999812.0    1.33  1000497.0    .     0   0.0     336634.21    520529.73    34.28  1105     3.00    1.27
TBK  HH
     1299 2024445.0   332.  1091250.0  0.0  1.53 1.49
     1.53 1000854.0    0.67   998529.0    .     0   0.0     337203.27    508905.59    11.26  1299    -4.79   27.11
REY  HH
     9691   64994.0   325.  1847310.0  0.0  1.63 1.30
     0.57 1008555.0    1.42   993014.0    . 59469 870.0     321953.27    533014.73     5.72  9691     6.53    0.46
9999
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PROGRAM STAUXII

01	6.500						
2019	448639.35	510449.24	1269.00	*2BV	SH	SYÐRI HAGANGA	R65
30	347960.30	533177.36	342.30	*3B	REF	RJUPNAFELL	ÐS78
5296	392642.56	522810.27	732.04	*3B	UT	ÚXATINDAR	X69 ÐS69
32	332776.20	518883.50	31.60	*3AV	TBK	ÞYKKVIBÆR	
0	0.0	0.0	582.83		7282		
0	446304.91	522369.88	654.75		8751		
0	0.0	0.0	786.03		8738		
0	444551.48	498673.95	1037.60		1149		
0	0.0	0.0	831.48		8690		
0	0.0	0.0	582.64		7290		
0	0.0	0.0	663.51		8794		
0	0.0	0.0	650.15		8730		
0	413932.51	509677.19	678.62		8849		
0	0.0	0.0	621.03		8698		
0	0.0	0.0	580.48		7298		
0	393037.65	520446.75	669.20		8721		
0	393037.65	520446.75	669.20		8722		
0	394144.52	495568.66	534.87		1165		
0	0.0	0.0	439.74		8784		
0	0.0	0.0	472.94		1070		
0	0.0	0.0	501.12		1264		
0	0.0	0.0	290.07		9702		
0	0.0	0.0	51.29		1292		
0	370350.40	497809.21	30.37		1173		
0	0.0	0.0	58.12		1100		
0	347422.69	540328.74	279.58		1272		
0	344738.61	500686.74	9.76		1181		
0	0.0	0.0	60.67		9696		
0	336634.21	520529.73	34.28		1105		
0	337203.27	508905.59	11.26		1299		
0	321953.27	533014.73	5.72		9691		

9999

7232	-309	0.0		0.0		0.0					
		0.0		0.0		0.0	0 30	0.0	0.0	582.83	7282
8751	-100	0.0	-101	0.0	-103	-100.0					
		0.0		0.0		0.0	0 10	0.0	0.0	0.0	8751 *
8738	-304	1074634.0	-305	25.0	-306	4000.0					
		0.0		0.0		0.0	0 30	0.0	0.0	781.63	8738
1149 SH	-110	2099236.0	-114	1120282.0	-115	49.0					
	-116	6240.0		0.0		0.0	0 11	444523.99	498620.40	1026.58	1149
8690	-309	0.0		0.0		0.0					
		0.0		0.0		0.0	0 30	0.0	0.0	831.48	8690
7290	-309	0.0		0.0		0.0					
		0.0		0.0		0.0	0 30	0.0	0.0	582.64	7290
8794	-309	0.0		0.0		0.0					
		0.0		0.0		0.0	0 30	0.0	0.0	663.51	8794
8730	-309	0.0		0.0		0.0					
		0.0		0.0		0.0	0 30	0.0	0.0	650.15	8730
8849	-109	0.0		0.0		0.0					
		0.0		0.0		0.0	0 10	413932.51	509677.19	678.62	8849
8698	-309	0.0		0.0		0.0					
		0.0		0.0		0.0	0 30	0.0	0.0	621.03	8698
7298	-309	0.0		0.0		0.0					
		0.0		0.0		0.0	0 30	0.0	0.0	580.48	7298
8722	-109	0.0		0.0		0.0					
		0.0		0.0		0.0	0 10	393037.65	520446.75	669.20	8722
8721 HT	-209	1838328.0	-201	2137.0		0.0					
		0.0		0.0		0.0	0 20	393046.36	520427.23	0.0	8721

1165	-119	0.0		0.0		0.0					
		0.0		0.0		0.0	0	11	394144.52	495568.66	534.87 1165
8784	-309	0.0		0.0		0.0					
		0.0		0.0		0.0	0	30	0.0	0.0	439.74 8784
1070	-319	0.0		0.0		0.0					
		0.0		0.0		0.0	0	31	0.0	0.0	472.94 1070
1264	-319	0.0		0.0		0.0					
		0.0		0.0		0.0	0	31	0.0	0.0	501.12 1264
9702	-303	-21.0		0.0		0.0					
		0.0		0.0		0.0	0	30	0.0	0.0	289.86 9702
1292	-319	0.0		0.0		0.0					
		0.0		0.0		0.0	0	31	0.0	0.0	51.29 1292
1173	-119	0.0		0.0		0.0					
		0.0		0.0		0.0	0	11	370850.40	497809.21	30.37 1173
1100	-319	0.0		0.0		0.0					
		0.0		0.0		0.0	0	31	0.0	0.0	58.12 1100
1272 REF	-110	1064729.0	-111	970.0	-113	0.0					
		0.0		0.0		0.0	0	11	347412.99	540329.00	279.58 1272
1181	-219	0.0		0.0		0.0					
		0.0		0.0		0.0	0	21	344798.61	500686.74	9.76 1181
9696	-309	0.0		0.0		0.0					
		0.0		0.0		0.0	0	30	0.0	0.0	60.67 9696
1105 TBK	-210	3362599.0	-211	3750.0		0.0					
		0.0		0.0		0.0	0	21	336628.00	520492.74	0.0 1105
1299 TBK	-210	1334014.0	-211	645.0		0.0					
		0.0		0.0		0.0	0	21	337209.69	508904.90	0.0 1299

PROGRAM STAUXII

9691	-209	0.0	0.0	0.0					
		0.0	0.0	0.0	0	20	321953.27	533014.73	5.72 9691
9999									

APPENDIX E

COMPUTER INPUT/OUTPUT IN INCREMENT 5

Program GTPOL (1 page):
Polar measurements in Increment 5.

Program GTAUXIL (1 page):
Picture points in Increment 5.

```
     001   6.600                                                    INCREMENT 5
     5011      540646.57 583634.86  491.15  *2B    THH    PRAMARHAUGUR     F/M X57 OS67
     5012      557563.67 585055.97  517.20  *2B    SKG    SKEGGJASTADAFJALL V      OS67
     5210      534561.40 588388.72  511.80  *3B    FMV    FRIDMUNDARVOTN           OS77
     9999
9999
SKG  THH
     5853  806486.0  314.  255251.0  0.0  1.19 1.34
     0.67 1085571.0  0.71  914919.0   .     0   0.0    556607.13  587397.76  176.05  5853   6.28   0.04
5853 SKG
     2131  401540.0  320.  179612.0  0.0  1.34 1.52
     0.72 1017297.0  0.68  983371.0   .     0   0.0    556175.18  585654.98  128.09  2131   6.59   0.00
FMV  THH
     2085 2580645.0  314.  229124.0  0.0  1.43 1.40
     0.67 1023452.0  0.60  977125.0   .     0   0.0    534571.61  590678.31  428.43  2085   4.93   0.18
9999
```

```
PROGRAM GTAUXIL
--------------------------------------------------------------------------------
01      6.500
5210      534561.40 588388.72   511.80  *30     FMV     FRIDMUNDARVÖTN          OS77
   0      556607.13 587397.76   176.05          5853
   0      556175.18 585654.98   128.09          2131
   0      534571.61 590678.31   428.43          2085
9999

2131 5053  -110        0.0  -111      505.0  -113        0.0
                      0.0                0.0                0.0    0 11 556176.39 585659.88  128.09 2131

2085 FMV   -110 3315452.0  -111      818.0  -113        0.0
                      0.0                0.0                0.0    0 11 534578.79 590674.39  428.43 2085
9999
```