Technical Report

Fixed-Wing High-Resolution Aeromagnetic, Gamma-ray Spectrometric and Frequency-Domain Electromagnetic Survey

Tellus A7 Block, Republic of Ireland
2019

For

Geological Survey, Ireland

Sander Geophysics Limited
260 Hunt Club Road
Ottawa, ON Canada K1V 1C1

Tel: +1 613.521.9626
Fax: +1 613.521.0215
www.sgl.com

Martin Bates, Ph.D., P.Geo

Martin Bates, Ph.D., P.Geo

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF PICTURES

Appendix

1. EXECUTIVE SUMMARY

Sander Geophysics Limited (SGL) conducted a fixed-wing high-resolution aeromagnetic, gamma-ray spectrometry and frequency-domain electromagnetic survey in the southeastern part of the Republic of Ireland for Geological Survey, Ireland which consists of all County Wexford, all but the north part of County Wicklow, most of County Carlow and the eastern part of County Kildare and County Kilkenny. The survey block "A7" is part of the ongoing Tellus Programme that commenced with the Tellus Airborne Geophysical survey of Northern Ireland in 2005/2006, conducted by the British Geological Survey (BGS), and the subsequent Tellus Border Survey in 2012 jointly administered by the GSI and the Geological Survey of Northern Ireland (GSNI).

The survey was conducted using SGL's De Havilland DHC-6 Twin Otter, registration C-GSGF. Production flights commenced on June 15, 2019 and were completed on September 15, 2019. A total of 72 flights were flown during the survey to complete the planned 35,658 line Kilometers of A7 block as determined using the ITM projection (also 35,658 Kilometers in the UTM projection). The survey operations were conducted from Kerry (EIKY) airport for the first 14 flights, and from Waterford (EIWF) for the rest.

The traverse lines were oriented N15°W and spaced at 200 m. The control lines were oriented E15°N and spaced at 2,000 m. The target clearance was 60 m above ground level, based on the Irish Aviation Authority (IAA) permit. The target average ground speed was 60 m/s, or 115 knots.

2. INTRODUCTION

This report describes the survey of the A7 Block flown by Sander Geophysics Limited (SGL) for the Geological Survey of Ireland (GSI) in the summer of 2019 in Republic of Ireland mainly in County Wexford and County Wicklow. See *Appendix I* for a company profile of SGL.

Fixed-wing high-resolution aeromagnetic, gamma-ray spectrometric, and frequency-domain electromagnetic data were gathered during this survey. The instruments used to collect the data, the tests performed to ensure optimal data quality and the data processing methods are described in this report.

Picture 1: Humewood Castle, County Wicklow, as seen from the survey aircraft in the A7 Block.

The Field Operations section contains all information relating to operations at the survey location including reference station coordinates and any problems encountered during the survey. Re-flights are listed as well as field crew members. The Digital Data Compilation section details all processing performed from data acquisition to final product creation.

The following Project Brief gives a quick reference of the details of the survey.

Project Brief

Survey Title	Fixed-wing high-resolution aeromagnetic, gamma-ray spectrometric, and frequency-domain electromagnetic survey, Republic of Ireland
Client:	Geological Survey Ireland (GSI)
Survey Location:	Republic of Ireland
Survey Start Date:	June 15, 2019
Survey End Date:	September 15, 2019
Contact:	Jim Hodgson (jim.hodgson@gsi.ie / tellus@gsi.ie)
Field Office Location:	Tralee, County Kerry, for flights 1 – 15, Dunmore East, County Waterford for flights 16 - 72
Airports Used:	Kerry (EIKY) and Waterford (EIWF)
Aircraft Type:	De Havilland DHC-6 Twin Otter
Total line kilometres:	35,658 in both the ITM projection and in the UTM projection
Survey Flying Particulars	
Traverse Lines	
Line numbers:	7001 to 7459
Line direction:	N15°W
Line spacing:	200 m
Control Lines	
Line numbers:	701 to 759
Line direction:	E15°N
Line spacing:	2000 m
Survey Altitude:	Target height of 60 m above ground. This number increased to 214 m over high fly zones and 305 m over built up areas outlined by the GSI.
Digital Terrain Source:	SRTM
Number of Flights:	72
Aircraft Target Ground Speed	60 m/s
Data	
Base Station Locations (WGS-84)	GND1: N52°16'46.9'' W09°52'01.8'' 68.70 m GND2: N52°11'02.8'' W09°31'39.0'' 87.96 m GND3: N52°09'21.4'' W07°00'39.6'' 106.99 m GND4: N52°09'17.0'' W07°00'15.0'' 102.28 m GND5: N52°11'23.6'' W07°04'47.2'' 84.46 m
Datum:	IRENET95
Projection:	Irish Transverse Mercator (ITM)

3. SURVEY AREA

The weather during the survey was partly sunny with broken cloud and intermittent heavy showers, high winds and fog.

Figure 1 shows the geographical location of the survey area. The area is mostly rural in character but contains a moderate amount of infrastructure including towns, villages, farm houses, roads, railway lines and power lines. The topography in the area is fairly flat except for the area of the Wicklow Mountains in the centre of County Wicklow and a range of hills along the County Wexford / County Carlow border. The planned survey lines are illustrated in *Figure 2* and listed in *Appendix II*.

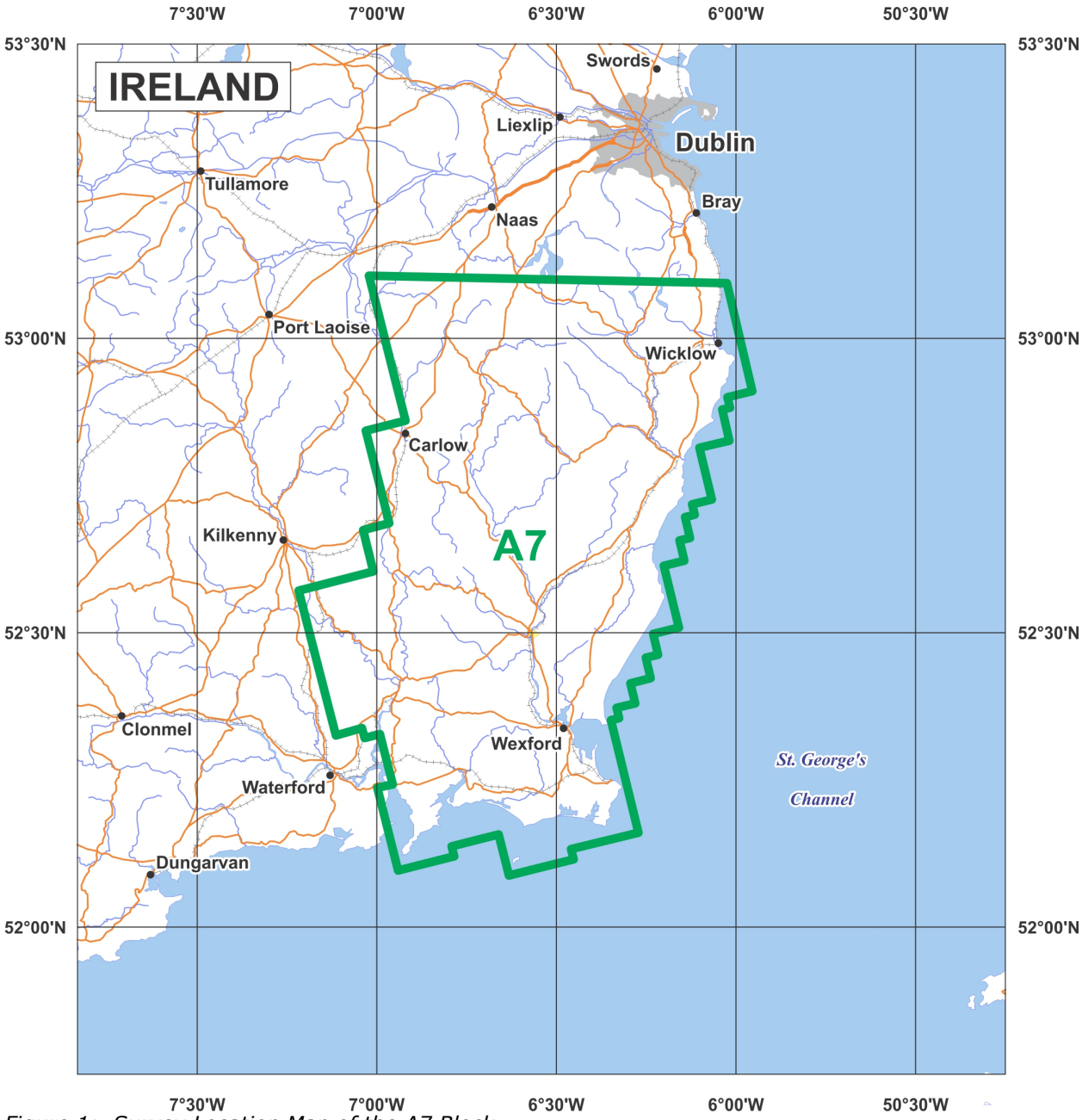


Figure 1: Survey Location Map of the A7 Block

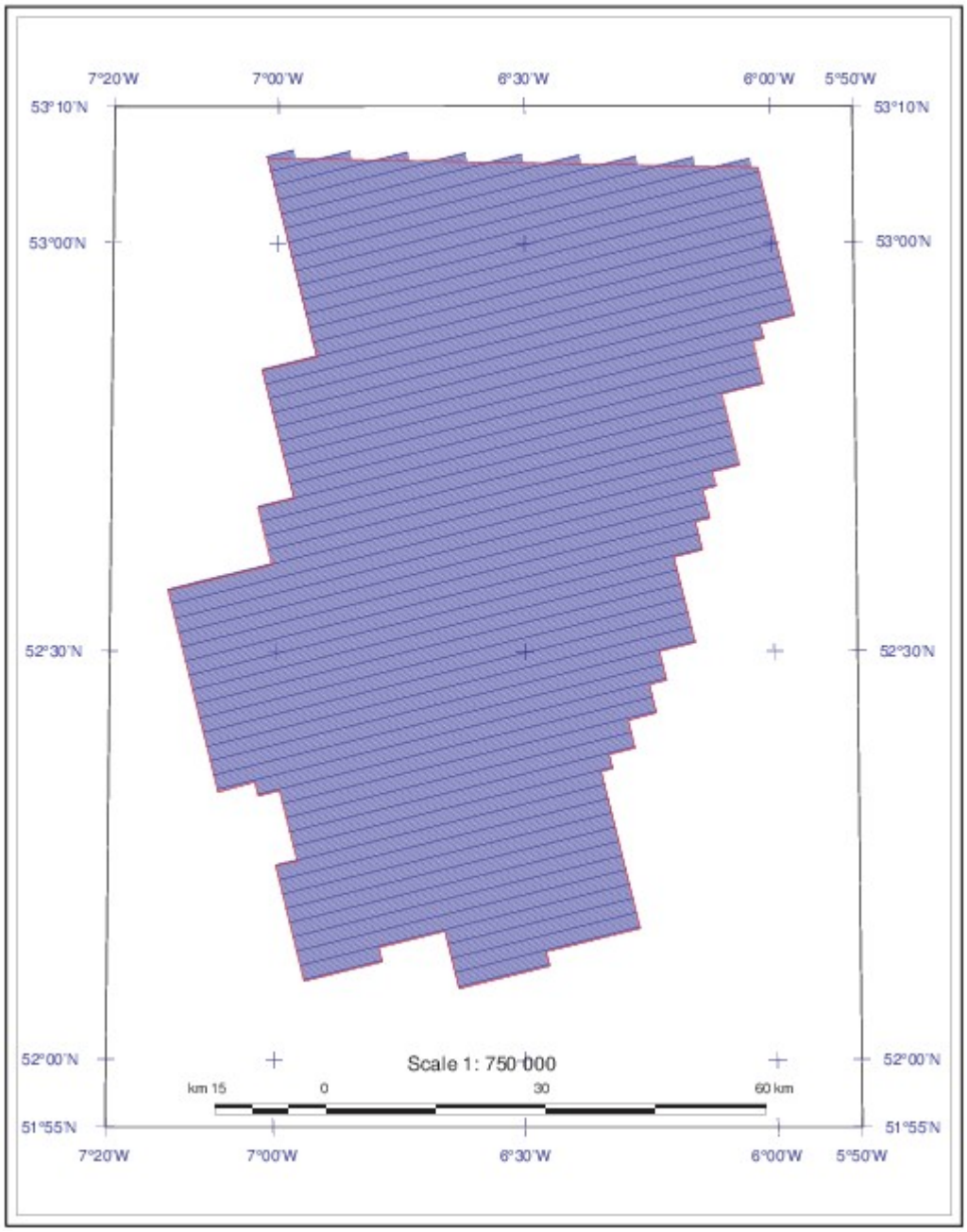


Figure 2: Planned survey lines

Survey Boundary

The block is bounded by the coordinates provided in *Table 1*.

Table 1: Survey Boundary (WGS-84)

Latitude	Longitude
N52˚54'40.3181"	W5˚57'16.2141"
N52˚54'03.5592"	W6˚01'24.9655"
N52˚52'59.2111"	W6˚00'59.8099"
N52˚52'48.4033"	W6˚02'17.2127"
N52˚49'40.3745"	W6˚01'05.8163"
N52˚48'57.0008"	W6˚06'06.4683"
N52˚43'42.6966"	W6˚04'01.9173"
N52˚43'13.1051"	W6˚07'20.1641"
N52˚42'10.3803"	W6˚06'53.1198"
N52˚41'55.3155"	W6˚08'30.1094"
N52˚39'48.6389"	W6˚07'41.0188"
N52˚39'33.7746"	W6˚09'25.9316"
N52˚37'29.8102"	W6˚08'36.9066"
N52˚36'59.0330"	W6˚12'03.0191"
N52˚30'55.5588"	W6˚09'36.9893"
N52˚30'41.6130"	W6˚09'30.9501"
N52˚30'03.1723"	W6˚13'49.8562"
N52˚27'55.7246"	W6˚13'01.0476"
N52˚27'37.3554"	W6˚15'03.6776"
N52˚25'32.5550"	W6˚14'15.7485"
N52˚25'00.2179"	W6˚17'37.9046"
N52˚22'57.6761"	W6˚16'49.8028"
N52˚22'29.8312"	W6˚19'56.3032"
N52˚21'27.0812"	W6˚19'30.9753"
N52˚21'14.6783"	W6˚20'53.4031"
N52˚09'42.6342"	W6˚16'18.2336"
N52˚08'01.1858"	W6˚27'32.7293"
N52˚06'57.9986"	W6˚27'06.6337"
N52˚05'18.5783"	W6˚37'55.7538"
N52˚09'31.6364"	W6˚39'38.5433"
N52˚08'18.6218"	W6˚47'30.4329"
N52˚07'16.5078"	W6˚47'04.7396"
N52˚05'49.4869"	W6˚56'27.0820"

Latitude	Longitude
N52˚14'19.4857"	W6˚59'54.3572"
N52˚14'39.9291"	W6˚57'20.4407"
N52˚19'48.6145"	W6˚59'29.5665"
N52˚19'25.2180"	W7˚02'01.6678"
N52˚20'26.1175"	W7˚02'28.9331"
N52˚19'40.5872"	W7˚06'50.3459"
N52˚34'27.7017"	W7˚13'03.5571"
N52˚36'24.5667"	W7˚00'35.1059"
N52˚40'36.5501"	W7˚02'17.0271"
N52˚41'18.3278"	W6˚57'55.8140"
N52˚50'40.1949"	W7˚01'49.7850"
N52˚51'41.6393"	W6˚55'12.5605"
N53˚06'18.0091"	W7˚01'19.3688"
N53˚05'33.7174"	W6˚01'31.4509"

4. SURVEY EQUIPMENT

SGL provided the following instrumentation for this survey; see *Appendix IV* for further details:

Frequency-Domain Electromagnetic (FEM) System

SGFEM four frequency (1) EM System (0.9, 3, 12, 24.5 kHz)

SGL's DHC-6 Twin Otter is configured with a four-frequency, wingtip mounted Frequency Electromagnetic (FEM) system that operates at four frequencies, 912, 3005, 11962 and 24510 Hz. This configuration results in a large transmitter-receiver coil separation which improves the signal to noise ratio. The transmitter-receiver coil pairs are mounted in a vertical-coplanar orientation which reduces noise by minimizing coupling with the wingtip surface. Additionally, the coils in any one set (transmitter or receiver) are axially offset and are kept adequately separated from each other. The system has a 40 Hz sampling rate which is later decimated to 10 Hz in the processing. The system is equipped with a power line monitor derived from the magnetic data, described in the section "Digital Data Compilation Magnetometer Data" that is particularly useful in identifying cultural interference when surveying in urban settings.

Aerial and Ground Magnetometers

Geometrics G-822A

Both the ground and airborne systems used a non-oriented (strap-down) optically-pumped cesium split-beam sensor. One airborne sensor was mounted in a fibreglass stinger extending from the tail of the aircraft and a second sensor was housed in the left FEM pod attached to the left wingtip. These magnetometers have a sensitivity of 0.005 nT and a range of 20,000 to 100,000 nT with a sensor noise of less than 0.02 nT. Total magnetic field measurements were recorded at 160 Hz in the aircraft then later decimated to 10 Hz in the processing. The ground systems recorded magnetic data at 11 Hz. For the primary purpose of the survey, the wingtip sensor is considered to be redundant.

Magnetic Compensation System

Sander Geophysics AIRComp

SGL's own hardware and software system, AIRComp, was used to remove the effects of the aircraft and its maneuvers from the recorded magnetic data. This system records the magnetic field measured by up to 4 cesium magnetometers, as well as the three axis output of a fluxgate magnetometer. These data are recorded for post-processing. Calibration of the magnetic effects of the aircraft is carried out as described in section 6, System Tests. Coefficients to be used for compensation are derived by processing the calibration flight data. The compensation coefficients are applied to data recorded during normal survey operations to produce compensated magnetic data.

Gamma Ray Spectrometer System

Radiation Solutions RS-501 with Crystal Detector Packs RS5558, RS5557, RS5444, RS5632

The Radiation Solutions spectrometer system includes an on-board ADS computer for each crystal, providing real-time signal processing and analysis, and allowing automatic gain control for individual crystals using the natural thorium peak, and multi-channel recording and analysis. The system utilizes 16 downward-looking and 3 upward-looking parallelepiped NaI(Tl) crystals of 4.2 L each for a total downward volume of 67.2 litres and upward volume of 12.6 litres. The crystals are housed in four detector packs, four downward crystals in each pack and one upward crystal in three of the packs. Data were recorded in 1024 channel spectral mode and windowed data mode at an interval of 1 s.

Airborne Navigation and Data Acquisition System

Sander NavDAS

The NavDAS is the latest version of airborne navigation and data acquisition computers developed by SGL. It displays all incoming data on a flat panel screen for real-time monitoring. The data are recorded in database format on a solid-state internal hard drive and a removable hard drive simultaneously for transfer of data to the field office. The computer incorporates a magnetometer coupler, an altimeter analogue to digital converter and a GPS multi-frequency receiver NovAtel OEM4 tracking 14 GPS Satellites, 12 GLONASS Satellites, 2 SBAS and 1 L-Band which automatically provides the UTC time base for the recorded data. In addition to providing essential post-mission positional data, the NavDAS computer processes user-received GPS or real-time differentially corrected GPS (RDGPS) data and compares the data to the coordinates of a theoretical flight plan in order to guide

pilots along the desired survey line in three dimensions.

Septentrio PolaRx2, 48 channel dual-frequency GNSS GPS receiver
The PolaRx2 system is a 3-antenna, 48-channel L1/L2 GPS receiver, designed to record attitude data of the airplane.

Reference Station Acquisition System

SGRef
The reference station system SGRef consists of a ground data acquisition computer with a Sander magnetometer frequency counter to process the signal from the magnetometer sensor and from the GPS receiver. The noise level of the station magnetometer is less than 0.1 nT. The time base (UTC) of both the ground and airborne systems is automatically provided by the GPS receiver, ensuring proper merging of both data sets. All data are displayed on an LCD flat panel monitor. The magnetic data, sampled at 11 Hz and GPS data, sampled at 10 Hz, are recorded on the internal hard drive of the computer and the removable hard drive simultaneously for transfer to the processing computers in the field office. The entire reference data acquisition system is fully automatic and was set for unattended recording.

Reference Station GPS Receiver

NovAtel OEM4 receiver boards
The OEM4 is a high performance, high accuracy, dual-frequency GPS receiver that is capable of receiving and tracking the L1 C/A code, L1 and L2 carrier phase, and L2 P-code (or encrypted Y-code) of up to 24 GPS satellites. The GPS data are recorded at 10 Hz. The OEM4 is employed in both the airborne NAVDAS and ground based SGREF acquisition computers.

Digital Video System

SGDIS - Sander Geophysics Digital Imaging System
The video camera is mounted in the floor of the aircraft and oriented to look vertically below while in flight. Real time text annotation of position, flight information and fiducial marking are incorporated for flight path verification. The data are stored, by flight line, in avi format, viewable by any commercial media player.

Altimeters

SGLas-P - Riegl LD90-3300VHS-FLP Laser Rangefinder
The Riegl laser altimeter is an eye safe laser, has a range of 338 m, a resolution of 0.01 m with an accuracy of 5 cm and a 20 Hz data rate.

Collins AL-101 Radar Altimeter
The Collins radar altimeter has a resolution of 0.5 m, an accuracy of 5%, a range of 0 to 408 m., and a 10 Hz data rate. This system is actively employed for survey guidance and data acquisition.

Honeywell Barometric Pressure Sensor
The barometric pressure sensor measures static pressure to an accuracy of ± 4 m and resolution of 2 m over a range up to 30,000 ft. above sea level. The barometric altimeter data is sampled at 10 Hz.

Omega RTD-805 Outside Air Temperature Probe
The outside air temperature is measured at 10 Hz with a resolution of 0.1º C. The temperature sensor has a range of +/-100º C and an accuracy of +/-0.2º C. The temperature sensor is mounted in an air inlet duct at the point where the wing strut attaches to the right hand wing.

Survey Aircraft

De Havilland DHC-6 Twin Otter (C-GSGF)
The De Havilland DHC-6 Twin Otter (C-GSGF) is an all metal, high-wing, twin-engine, short takeoff and landing (STOL) aircraft. It is powered by two Pratt & Whitney Canada PT6A-27 engines that run a constant speed, fully feathering, and reversible propeller. The PT6 turbine engines provide ample power for climbing over steep terrain, working at altitudes up to 7,000 m and can withstand frequent rapid power changes. The aircraft is highly manoeuvrable, rugged in design and can be flown at speeds from 80 to 160 knots. The low stall speeds and abundant available power make the Twin Otter

a safe and effective aircraft for surveys requiring flying over rough topography, low air speeds or flights at high altitude. The aircraft has fixed gear, extendable flaps and manually adjustable trim tabs on the primary controls for the roll and pitch axes and full rudder trim for the yaw axis. The aircraft is equipped with full de-icing equipment and sufficient avionics for instrument flying, including a flight control system. Supplementary fuel can be added for transoceanic flight. The Twin Otter is certified for IFR flights in known icing conditions.

Picture 2: SGL's Twin Otter, Registration C-GSGF

The SGL Twin Otter is fully equipped for airborne magnetic, radiometric and frequency-domain Electromagnetic (FEM) surveys. EM fields are measured with the SGL frequency-domain EM system (SGFEM). The four-frequency FEM transmitter is located in the right wingtip FEM pod, and the receiver is located in the left wingtip FEM pod. The magnetic field is measured by up to two sensors allowing for horizontal gradient with one sensor in the composite tail stinger and one in the left wingtip FEM pod. The Twin Otter can carry up to 79.8 litres of detector crystals for gamma-ray spectrometer surveys. The aircraft conforms to Canadian aeronautical regulations in survey configuration. See *Appendix V*.

Data Processing Hardware and Software

Processing was performed on high performance desktop computers optimized for processing tasks. SGL's proprietary geophysical software was used for data processing.

5. SURVEY SPECIFICATIONS

Data Recording

In the aircraft:

- GPS positional data (time, latitude, longitude, altitude and raw range from each satellite being tracked) 10 readings per second (10 Hz);
- Altitude as measured by the barometric altimeter at 10 readings per second (10 Hz);
- Terrain clearance as measured by the radar altimeter at 10 readings per second (10 Hz);
- Terrain clearance as measured by the laser rangefinder at 20 readings per second (20 Hz);
- Total magnetic field recorded at 160 readings per second (160 Hz);
- Airborne spectrometer data recorded in windowed and 1024 channel spectral format at 1 reading per second (1 Hz);
- Outside air temperature at 10 readings per second (10 Hz);
- Digital video at 30 frames per second (30 Hz).
- Electromagnetic in-phase and quadrature components for four frequencies (912, 3005, 11962 and 24510 Hz designated as P09, Q09, P3, Q3, P12, Q12, P25 and Q25 respectively) recorded at 40 Hz.

At the base and remote magnetic/GPS reference stations:

- Total magnetic field at 11 readings per second (11 Hz);
- GPS positional data (time, latitude, longitude, and raw range from each satellite being tracked) at 10 readings per second (10 Hz).

Technical Specifications

The following technical specifications were adhered to:

- The horizontal accuracy of the final flight path after correction shall typically be +/- 0.5 m.
- Traverse lines with deviation greater than 40 m from the planned line over a distance of 2.5 km or more, or greater than 80 m from the planned line over any distance, will be re-flown (except where ground conditions dictate otherwise).
- Tie lines with deviation greater than 80 m from the planned line over a distance of 2.5 km or more, or greater than 160 m from the planned line over any distance, will be re-flown (except where ground conditions dictate otherwise).
- Lines where terrain clearance exceeds +/- 20 m from the nominal survey height for more than 2.5 km or 40 m form the nominal survey height at any time on any line will be re-flown (unless local topography makes it unavoidable).
- The average flying speed for the survey aircraft is 116 knots or 60 m/s and should not be exceeded by more than 30% for more than 2.5 km.
- The aircraft shall be equipped with a survey magnetometer fitted according to the manufacturer's specification, with a resolution of 0.001 nT and a noise envelope of <0.1 nT.
- The aircraft magnetic heading error after compensation shall be less than +/- 1.0 nT on reciprocal survey headings.
- The envelope sum of the compensation maneuvers shall not exceed 3 nT.
- During data acquisition magnetic variations recorded at the local base magnetometer should not exceed 12 nT over any 3 minute chord or exceed 2 nT over any 30 second chord, on flight lines or tie lines.
- Relative count rates above background during the pre/post flight source tests will be within two standard deviations of the average sample checks for the survey.
- The average line gamma spectra for any line should not appear anomalous by comparison with previously acquired data.
- The calculated PDOP should be <6 and more than 4 satellites should be available.

- If both primary and secondary GPS base stations fail to record for 30 minutes or more simultaneously the affected lines will be re-flown.
- If both primary and secondary magnetic base stations fail to record for 30 minutes or more simultaneously the affected lines will be re-flown.
- The calibration of the EM system should not deviate significantly from the norm.

Flight Line Specifications

The survey area flight line specifications are given in Table 2 (line direction is with respect to the UTM zone reference frame).

Table 2: Flight Lines Specification

	Line Direction	Line Spacing (m)
Traverse Lines	N15°W	200
Control Lines	E15°N	2,000

Terrain Clearance

Flying guidance was provided primarily by SGNav, a flexible and simple navigation system specifically designed by SGL for the airborne geophysical environment. Following the pre-planned survey lines, SGL's SGNav system guides the pilots from their point of departure to the start of a specific line, directs them along the survey line, and then to the next line or any other line of their choosing. While flying along a line, the SGNav system shows the pilots the correct x and y location and their altitude on a small LCD screen mounted in the pilot's line of vision.

Additional navigation parameters are displayed, such as DTS (distance to start of line), DTE (distance to end of line), TMG (track made good), SPD (aircraft ground speed), XHT (up/down error), DTK (desired heading), TTS (time to start of line), TTE (time to end of line), TKE (track error).

For the A7 Block survey, the target height was set to 60 metres above ground level in accordance with the IAA permit. The altitude measurements were provided by an aviation radar altimeter. The system is equipped with a safety pull up mode that warns the pilots if the clearance is below a pre-determined height, set at 50 metres above ground level in this case. Each survey line is flown as close to the target height as possible so as to maximize the quality and coverage of the frequency-domain EM data which drops off rapidly in signal strength with distance from the source. FEM data quality is very good up to altitudes of about 75 m above ground whilst data collected above 150 m is usually unreliable due to reduced coupling. For this reason, the altitude in adjacent lines and at intersections of lines is not consistent, as would normally be preferred for aeromagnetic data acquisition.

A Garmin GNS430/530 was employed as a second guidance system for this survey with dual receiver navigation system that uses a Jeppesen NavData database. A Garmin was installed on each pilot's yoke that displayed the survey lines and also let the pilots know which lines have already been flown. Another important use for this GPS system was to mark pre-determined areas that pilots had to avoid flying low over. This included towns, farms, equestrian centres etc. Each pre-determined high-fly area had a buffer around it to allow the plane to climb to a higher altitude before reaching the area. The method for dealing with areas to be avoided is discussed in more detail in the Public Relations and Flying section below.

Public Relations and Flying

A public relations (PR) campaign was set up by GSI to inform the public about the Tellus survey. A website was set up showing the survey area and the layout of the flight lines, along with some information about the survey. Each week the website was updated with lines that SGL planned to fly that week. This information was submitted to the PR representatives each week by the crew. There was also a phone hotline set up where the public could call with concerns, usually issues related to low

flying. People also had the option to become a 'notify' or a 'high-fly'. The people on the 'notify' list were notified before each day that SGL planned to fly over their property. The people on the 'high-fly' list were generally not notified but the plane flew at 214 m or 700 ft over their property to avoid disruption of people and animals. In such a case the person gave the GPS coordinates of their property to the PR group, who in turn passed it along to the crew. This polygon was then input into the Garmin GPS along with a buffer area. This allowed the pilots to see the areas they needed to avoid during the flight and plan accordingly. High-Fly polygons, to be flown at 305 m or 1000 ft, were also made for large towns and cities (with a population of 2000 people or greater) without previous request from any specific person. In some cases the pilots climbed over a built up area that was not marked in their GPS to avoid complaints from the public.

6. OTTAWA SYSTEM TESTS

Magnetometer System Tests

Compensation Calibration

Compensation calibrations determine the magnetic influence of aircraft and its maneuvers. During the compensation calibration flight, the aircraft performs sets of three pitches (+/-5°), rolls (+/-10°), and yaws (+/-5°), while flying in the four flight line directions at high altitude over a magnetically quiet area. The coefficients calculated from the calibration are applied to the acquired magnetometer data to measure the effectiveness of the compensation system in mitigating the magnetic interference.

The total compensated signal noise resulting from the twelve maneuvers, referred to as the Figure of Merit (FOM), is calculated from the maximum peak-to-peak value resulting from each maneuver. A compensation calibration was performed on May 11, 2018 for the tail magnetometer before the aircraft left Ottawa. *Table 3* shows the compensation calibration test result for the tail magnetometer. See *Figure 3* for an illustration of the compensated and uncompensated data acquired during the compensation calibration.

Table 3: Magnetic compensation calibration tests and results

Date	FOM (nT)
May 11, 2018	0.76

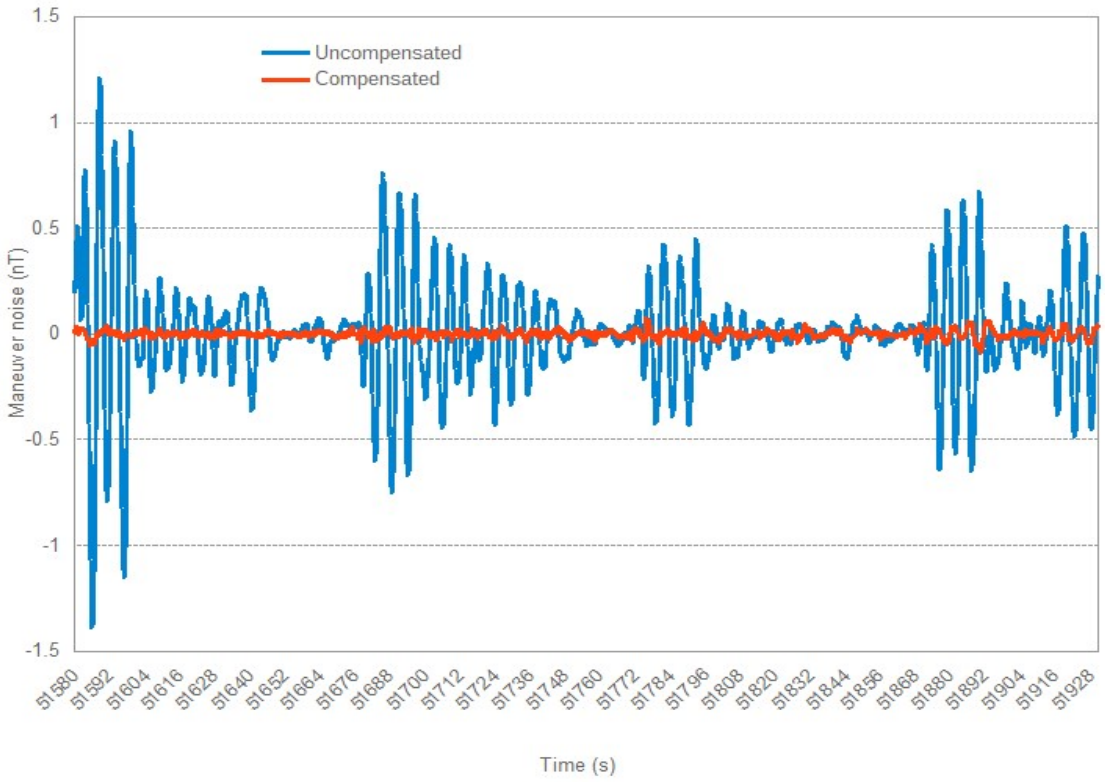


Figure 3: Tail magnetometer compensation calibration test, May 11, 2018

Spectrometer System Tests

Ground Calibration Pads Test

The stripping ratios for the gamma-ray spectrometer were determined on February 5, 2018 before the aircraft departed Ottawa. The Geological Survey of Canada (GSC) calibration pads, which are stored at the SGL hangar in Ottawa, were used. The tests were performed with the detectors installed in survey configuration on board the aircraft. Each detector was tested separately and the test results were averaged to create stripping ratios for this system. See *Table 4* for a complete list of stripping ratios.

The following procedure was carried out:

1 Pre-pads source test, one thorium source below pack
2 Pads test carried out in order: background, potassium, uranium, thorium, and background (six minutes recording each)
3 Post-pads source test, one thorium source below pack

Table 4: Spectrometer stripping ratios

	Crystal Pack A	Crystal Pack B	Crystal Pack C	Crystal Pack D	Overall System
Thorium into Uranium (α)	0.2745	0.2845	0.2798	0.2773	0.2790
Thorium into Potassium (β)	0.4193	0.4216	0.4082	0.4221	0.4178
Uranium into Potassium (γ)	0.7658	0.7705	0.7614	0.7663	0.7660
Uranium into Thorium (a)	0.0473	0.0419	0.0427	0.0500	0.0455
Potassium into Thorium (b)	0.0000	0.0000	0.0000	0.0000	0.0000
Potassium into Uranium (g)	0.0039	0.0010	0.0000	0.0055	0.0045

Attenuation Test

The exponential height attenuation coefficients for the spectrometer were calculated using the data acquired during a pre-survey test flight over the GSC test range at Breckenridge, Quebec near Ottawa on May 16, 2018. The calibration flights were carried out from approximately 150 m to 300 m mean terrain clearance at 15 m and 30 m intervals. A series of background measurements were made by flying the same altitudes over the Ottawa River to determine the background due to cosmic radiation, radon decay products in the air and the radioactivity of the aircraft and equipment.

After correction for background and stripping, the variation in count rate with effective height was used to determine the attenuation coefficients shown in Table 6. The data from the test that is corrected to 60 m above the ground using these coefficients are given in *Table 5*. Results of the attenuation test are shown in *Figure 4*.

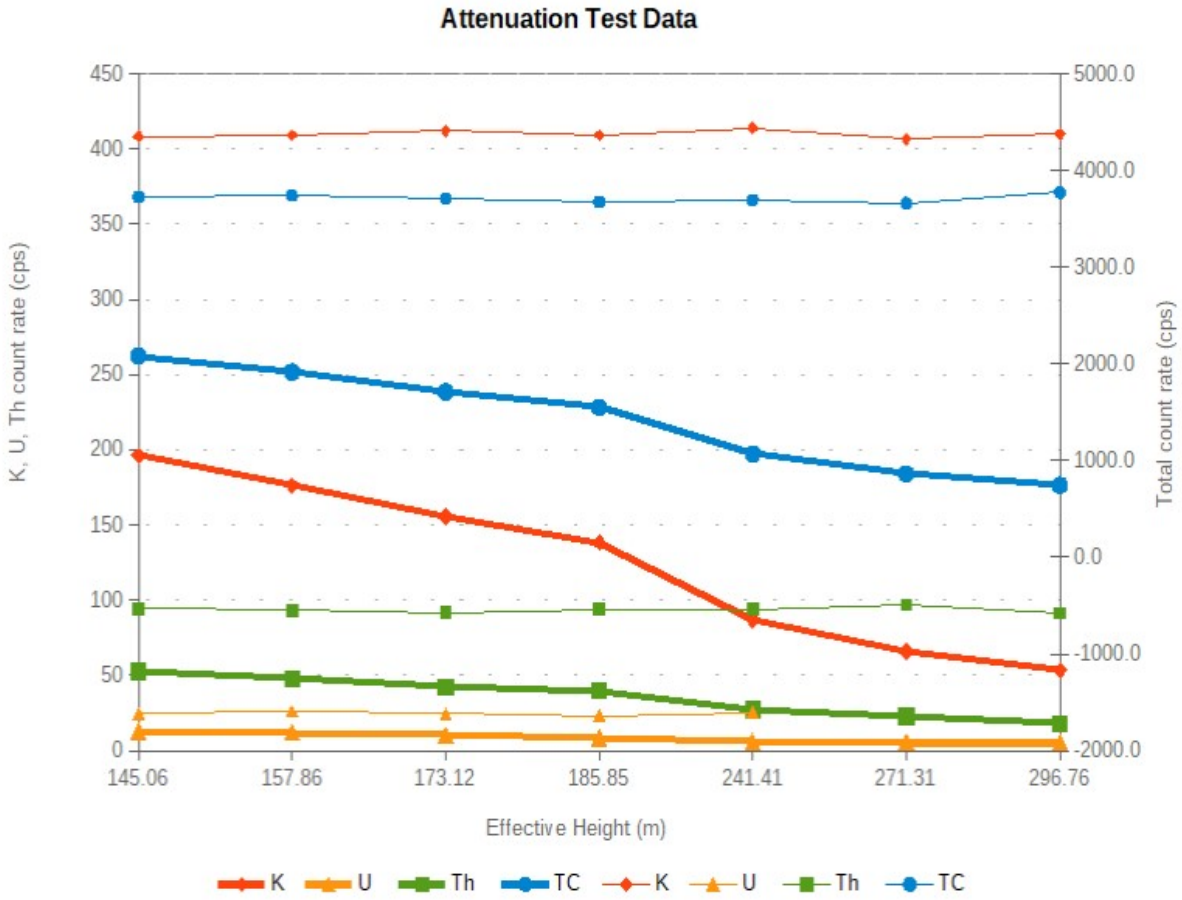


Figure 4: Spectrometer attenuation test: thick lines are recorded data, thin lines are data corrected to an effective height of 60 m using the attenuation coefficients derived.

Table 5: Spectrometer calibration test data – height corrected values (at 60 m effective height)

Altitude at STP (m)	Total Counts (cps)	Potassium (cps)	Uranium (cps)	Thorium (cps)
296.76	3772.1	409.8		91.3
271.31	3661.0	406.5		96.9
241.41	3694.5	414	25.3	93.9
185.85	3674.8	408.9	23.1	93.9
173.12	3708.0	411.9	24.6	91.8
157.86	3741.2	409.1	26.2	93.4
145.06	3725.9	408.2	24.6	94.5

Table 6: Spectrometer attenuation coefficients

	Coefficients (m^{-1})
Total	-0.006849
Potassium	-0.00861
Uranium	-0.007837
Thorium	-0.006836

System Sensitivity

A pre-survey test flight to determine the gamma ray spectrometer sensitivity was carried out over the GSC test range at Breckenridge, Quebec on May 16, 2018 (the same test flight as performed to determine attenuation). The test flight served to determine system sensitivities through comparison of airborne data with data acquired on the ground.

The ground measurements were made using an Exploranium portable gamma-ray spectrometer, acquired at 25 different sites along the 10 km length of the calibration range. Measurements were also made using the portable spectrometer on a boat on the Ottawa River to determine background radiation due to cosmic radiation, radon decay products in the air and any radioactivity of the equipment. The background was subtracted from the ground measurements and the ground concentrations of potassium, uranium and thorium were determined by calibration of the portable spectrometer using the GSC calibration pads located at Ottawa Airport.

The sensitivities of the airborne system for potassium, equivalent uranium, and equivalent thorium were calculated by dividing the average count rates corrected to an effective height of 60 m above ground by the measured ground concentrations. The results are presented in *Table 7*.

Table 7: Spectrometer system sensitivities

	Average counts at 60 m (cps)	Ground Concentrations	Sensitivities
Potassium	409.8	1.79%	228.9322 cps/%
Equivalent Uranium	24.7	1.04 ppm	23.7863 cps/ppm
Equivalent Thorium	93.7	7.61 ppm	12.31 cps/ppm

Altimeter System, Position and Digital Terrain Model Tests

Radar and Laser Altimeter Calibration

A test flight to calibrate the radar and laser altimeters was flown on May 16, 2018 over Lac Deschênes which is situated on the Ottawa River. Eight passes were conducted over the water at heights from 150 to 375 m above ground at various levels. The height of the water was determined using real-time hydrometric data from the Britannia Natural Resources hydrometric station. The altimeter values were compared to the post-flight differentially corrected GPS altitude information for calibration. An ideal altimeter would yield a slope of 1 and an intercept of 0. The Collins radar altimeter slope was 1.0093 and the intercept -1.0930 m. The laser altimeter slope was 1.0022 and the intercept was -0.4109 m. These results are within the expected accuracy of the altimeters. Please refer to *Figure 5* which illustrates the results of the altimeter test.

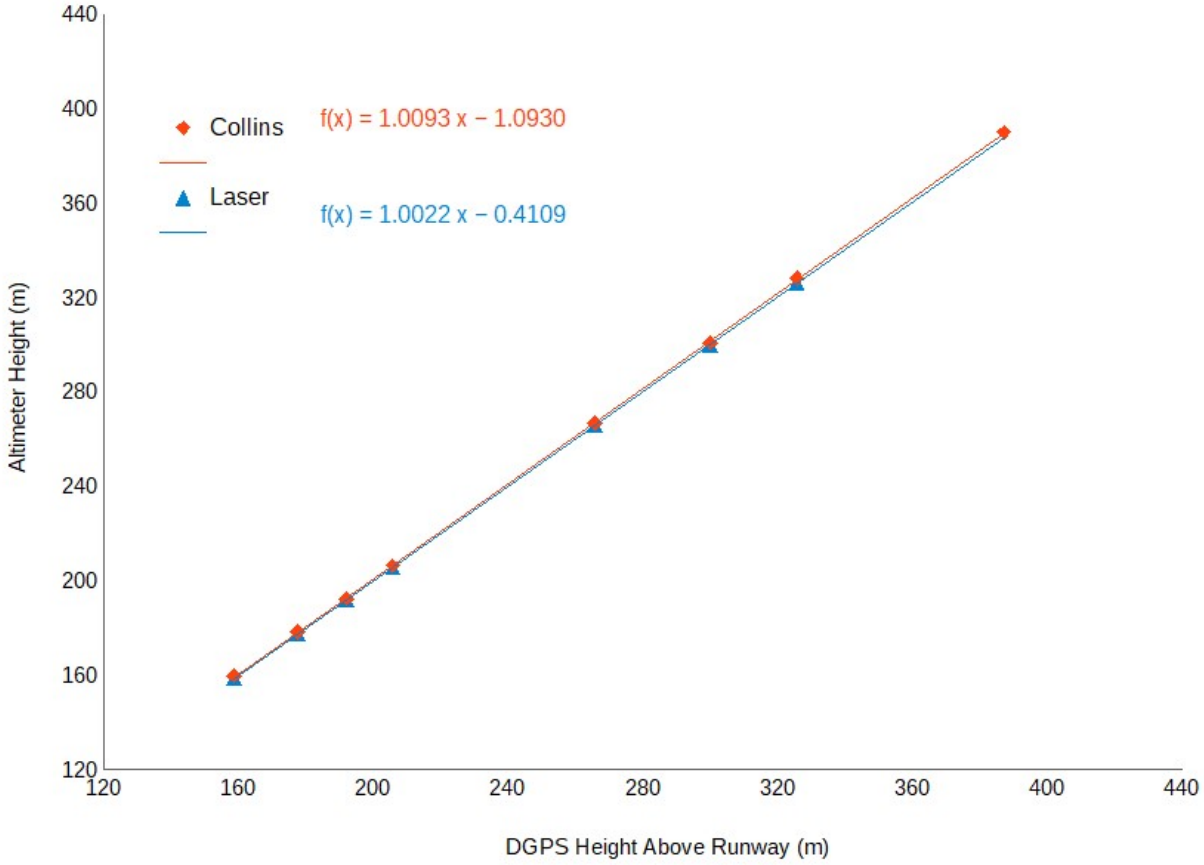


Figure 5: Altimeter test

7. A7 BLOCK SYSTEM TESTS

Magnetometer System Tests

Magnetometer Heading Test

A heading test was performed over Rosslare in the southeast corner of County Wexford on September 13, 2019. The heading test flight lines were pre-planned along existing survey lines, and reference ground magnetic data were obtained through the use of the survey SGL reference station.

Heading errors are calculated as the difference in variation from the average between data acquired when flying in opposite directions. The results of the heading test are presented in *Table 8*. The test determined an average north-south heading error of -0.10 nT and an average east-west heading error of 0.34 nT for the tail magnetometer. The heading error remains consistent through the duration of the survey, and is fully corrected in the normal airborne magnetic data during processing.

No heading test result is reported for the wingtip magnetometer which is considered redundant.

Table 8: Tail magnetometer heading test

Aircraft type:	DHC6 Twin Otter	Date:	September 13, 2019
Registration:	C-GSGF	Height flown:	~10.000 ft AGL
Field Location:	Republic of Ireland	Magnetometer type:	Geometrics G-822A
Organization:	Sander Geophysics	Compensator:	SGL AIRComp
Pilot:	Steve Gebhardt	Sampling rate:	10/s
		Data acquisition system:	Sander SGDAS-3

Line #	Heading (degrees)	Diurnally and IGRF Corrected Data (nT)	Variation From Average
3220	165	97.48325	-0.658
3220	345	98.6205	0.47925
310	75	98.3045	0.16325
310	255	98.11675	-0.0245
3220	165	98.01725	-0.124
3220	345	98.6	0.45875
310	75	98.0045	-0.13675
310	255	97.98325	-0.158
	Average	98.14125	
Average Traverse Line Heading Error		-0.86 nT	
Average Control Line Heading Error		0.1045 nT	

Compensation Calibration

Compensation calibrations determine the magnetic influence of the aircraft and its manoeuvres. During the compensation calibration flight, the aircraft performs sets of three pitches (+/-5°), rolls (+/-10°), and yaws (+/-5°), while flying in the four flight line directions at high altitude over a magnetically quiet area. The coefficients calculated from the calibration are applied to the acquired magnetometer data to measure the effectiveness of the compensation system in mitigating the magnetic interference.

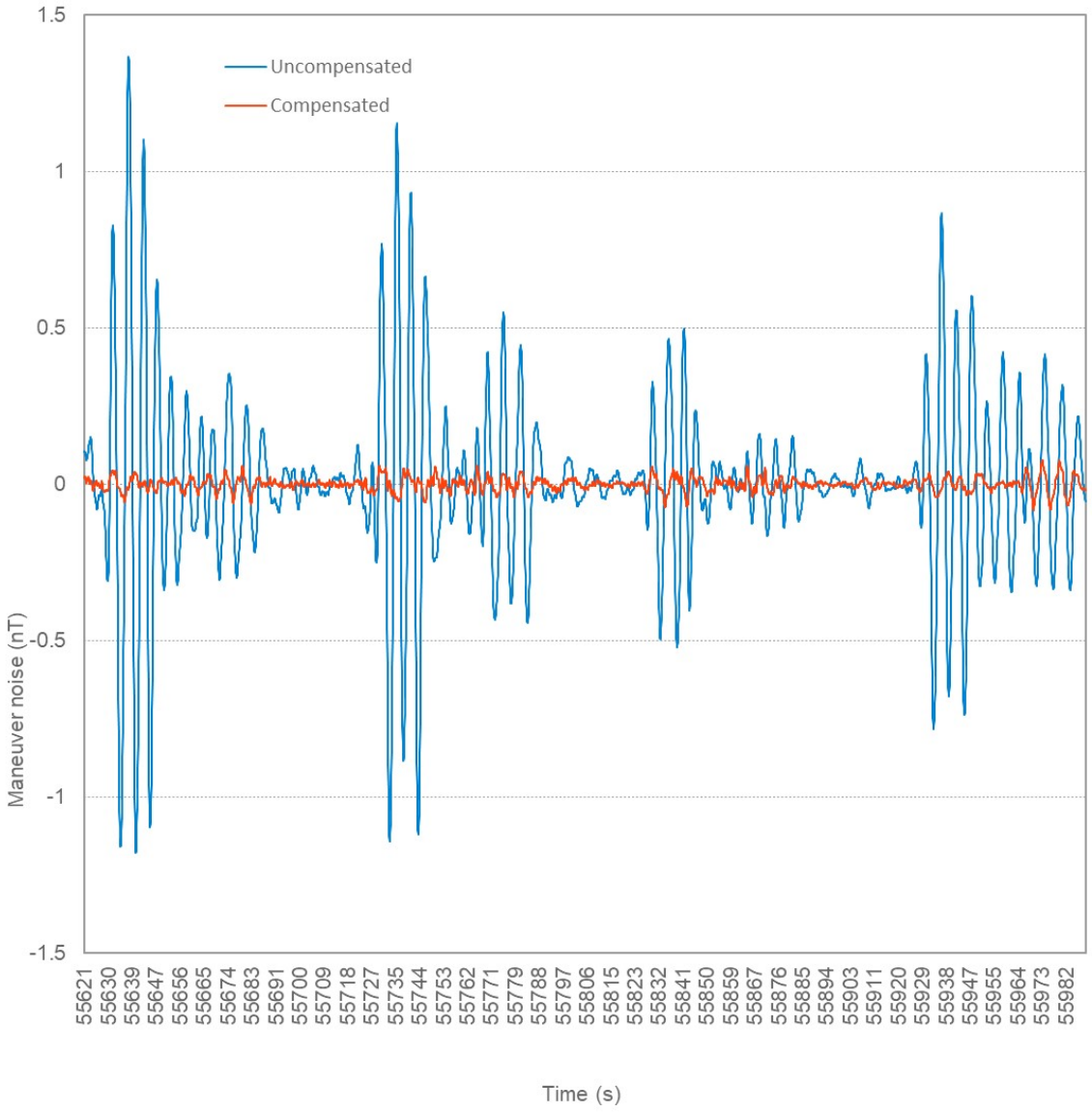


Figure 6: Compensation Calibration Test Results, September 13, 2019

The total compensated signal noise resulting from the twelve manoeuvres, referred to as the Figure of Merit (FOM), is calculated from the maximum peak-to-peak value resulting from each manoeuvre. A new compensation calibration must be performed after any aircraft or system modifications that may affect the aircraft's magnetic field interference. A compensation flight was performed on September 13, 2019 at high altitude in the area of Bridgetown in south east County Wexford. These calibration coefficients were used for all survey flights in the A7 Block.

Table 9 shows the compensation calibration test results for the tail magnetometer. See *Figure 6* for an illustration of the compensated and uncompensated data acquired during the test.

Table 9: Magnetic compensation calibration tests and results

Date	Flight	FOM (nT)	Used for Flights
September 13, 2019	1070	1.14	1001 - 1072

No compensation calibration result is reported for the wingtip magnetometer which is considered redundant.

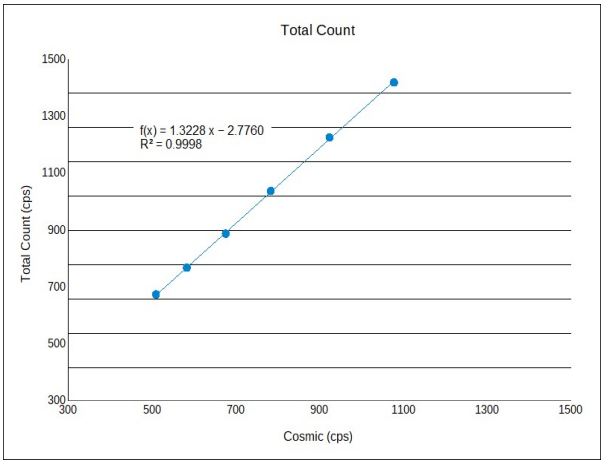
Spectrometer System Tests

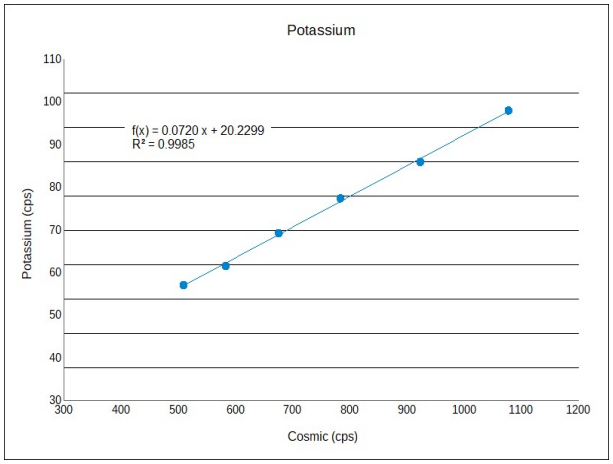
Cosmic and Aircraft Background

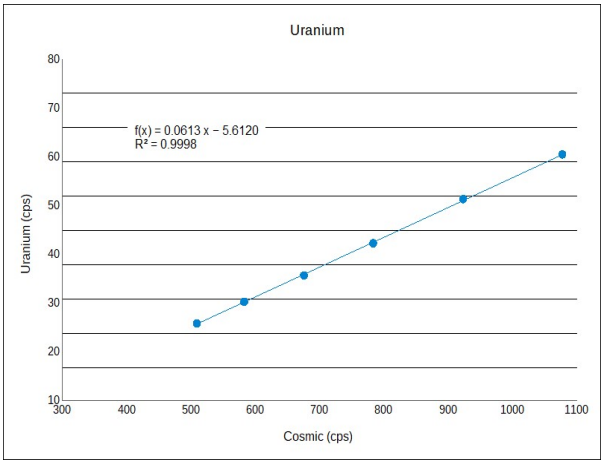
A cosmic and aircraft background test was performed for the spectrometer on October 15, 2018, over Dingle Bay. The test flight consisted of flying at heights of approximately 1500 m to 3500 m above sea level at 300 m intervals, recording between 3 and 6.5 minutes of data at each altitude. Coefficients are determined by linear regression of cosmic counts versus each spectral window as described in the IAEA Report 323 (1991). *Table 10* lists the computed cosmic and aircraft background coefficients. *Figure 7* shows the cosmic test results.

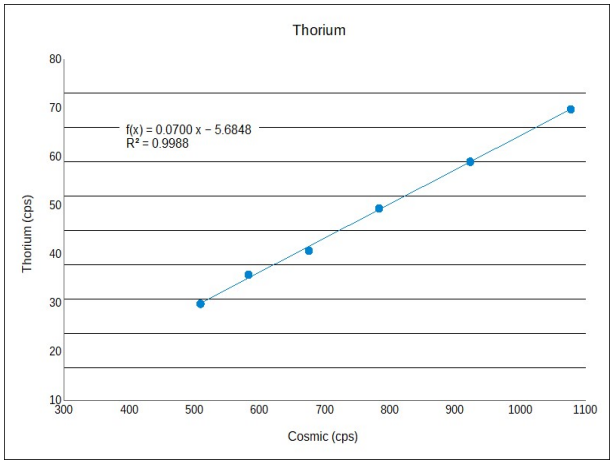
Table 10: Cosmic coefficients

	Cosmic Stripping Factor	Aircraft Background (cps)
Total	1.3228	-2.7760
Potassium	0.0720	20.2299
Uranium	0.0613	-5.6120
Thorium	0.0700	-5.6848
Upward	0.0114	-0.8973









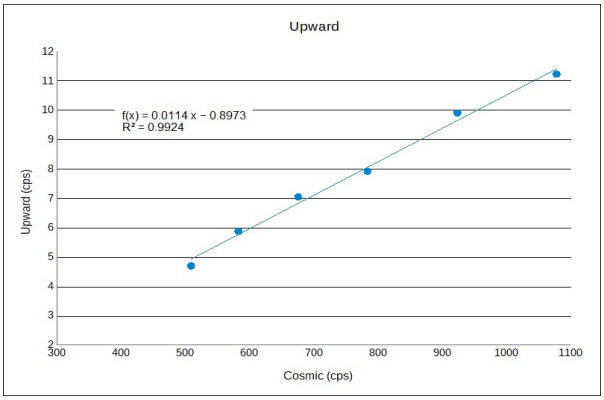


Figure 7: Cosmic Test Results

Radon Background Calibration

Radon background was monitored through the use of three upward looking detectors. Coefficients relating the count rate in the uranium window from the upward detectors to the count rate in the potassium, uranium, thorium and total count windows from the downward facing detectors were determined using several test lines flown over areas of water that were acquired during operations for the A5 and A6 Blocks that were flown in 2018 and 2019. Due to a paucity of suitable bodies of fresh water of sufficient size, data was acquired over the upper reaches of Bantry Bay and the Kenmare River Estuary where it was expected that the influence of the freshwater rivers would be strongest. (*Figure 8*)

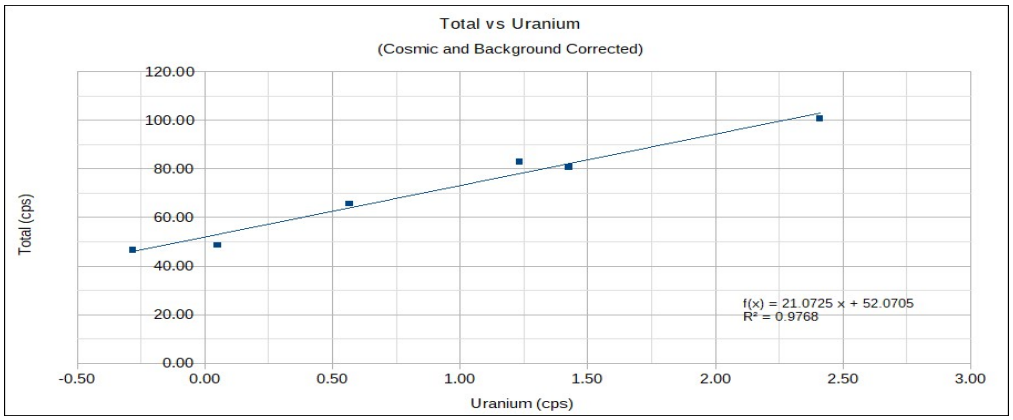
Figure 8: Location of radon calibration sites over upper Bantry Bay and upper Kenmare River Estuary

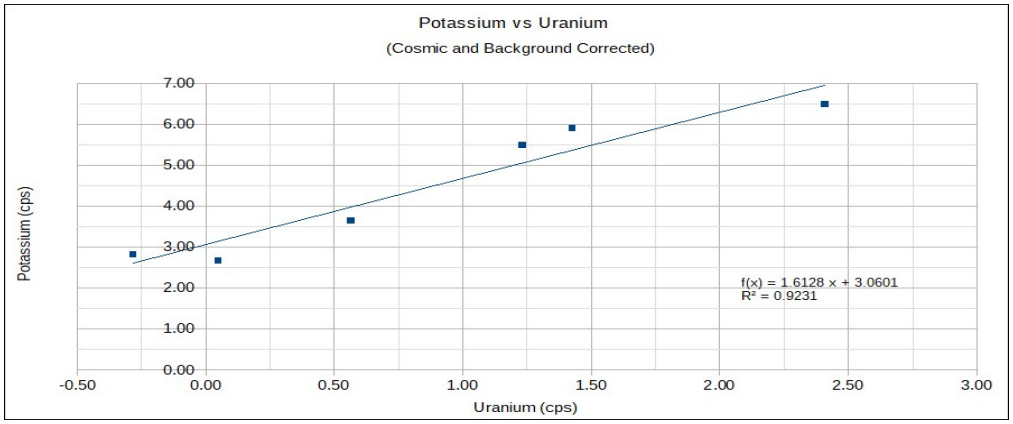
The data was also acquired at altitudes of 235 to 320 m above the water to alleviate any effects from potassium that may have occurred due to the influence of sea water.

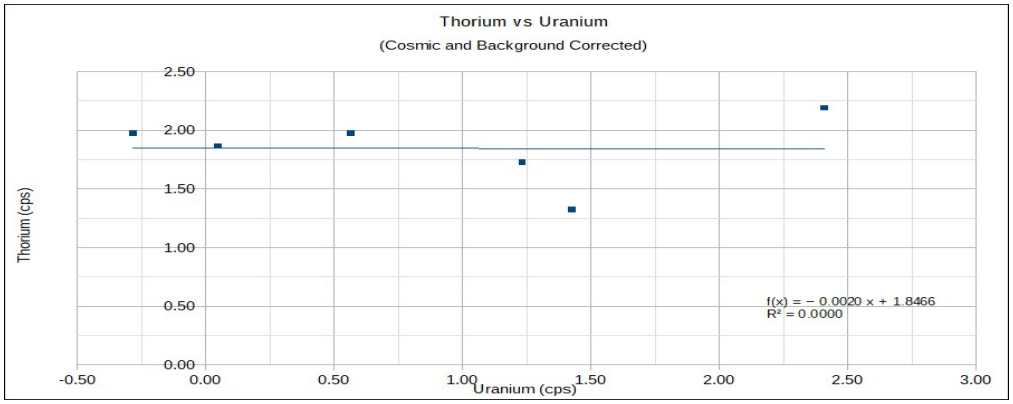
The cosmic and background corrected data from each of the up (ur), thorium (Tr), potassium (Kr) and total (Ir) windows are plotted against the counts in the uranium (Ur) window for each over water line flown. The coefficients determined for this survey are presented in *Table 11*. Linear regressions of these plots provide the radon coefficients to be used in the radiometric data processing are shown in *Figure 9*.

Table 11: Radon correction coefficients

	a	***b***
$I_r = a_I U_r + b_I$	21.0725	52.0705
$K_r = a_K U_r + b_K$	1.6125	3.0601
$T_r = a_T U_r + b_T$	-0.0020	1.8466
$u_r = a_u U_r + b_u$	0.2124	0.5877







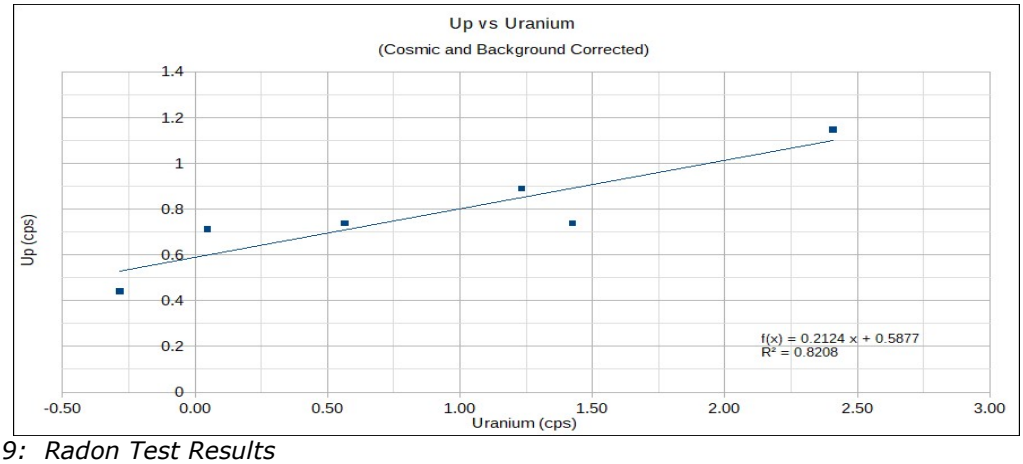


Figure 9: Radon Test Results

Ground Component

The ground component coefficients are used to quantify the response of the upward looking detector to radiation from the ground using the technique described in IAEA Report 323. This involves computing two coefficients based on the counts in the uranium and thorium windows as follows:

$$u_g = a_1 U_g + a_2 T_g$$

where: u_g is the upward window count from the ground
U_g is the downward uranium window count
T_g is the downward thorium window count
a_1 and a_2 are the ground coefficients

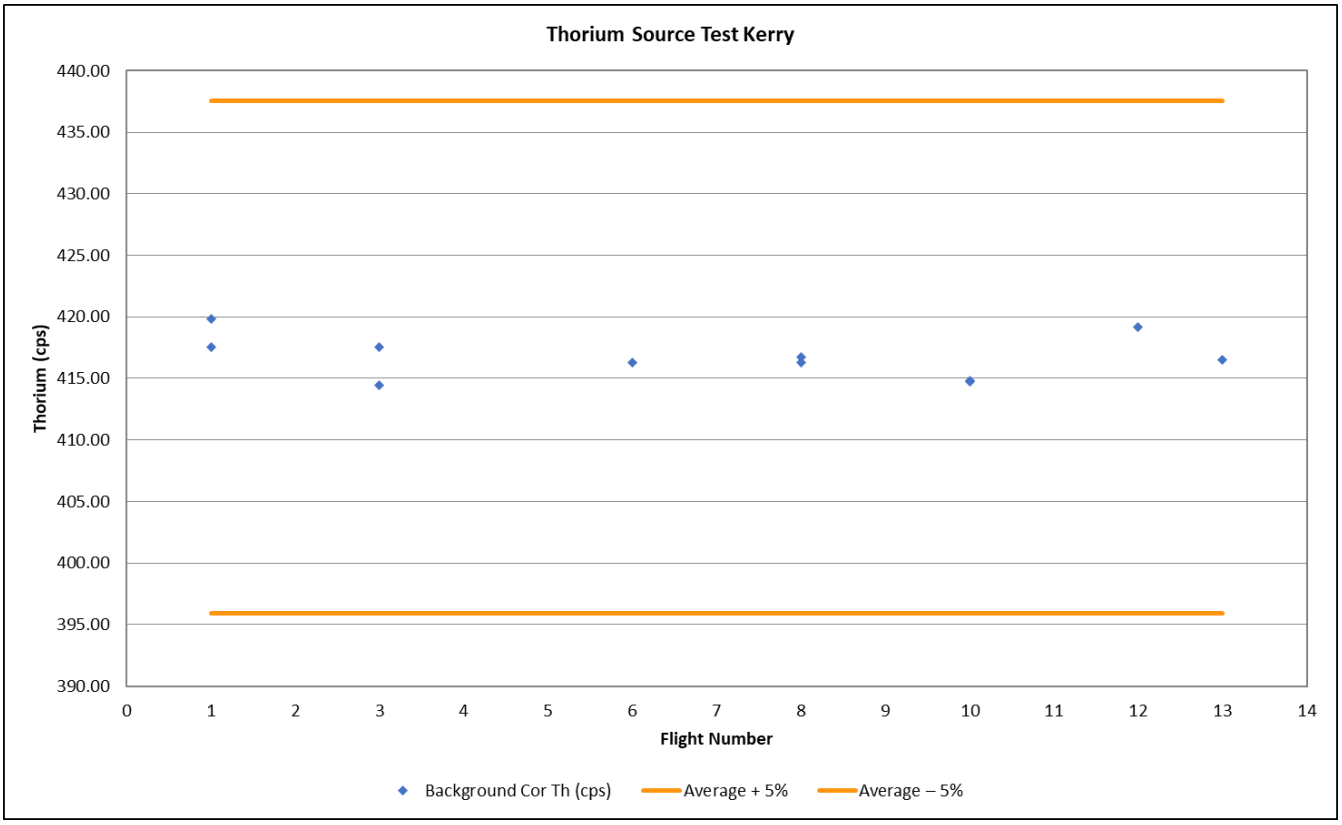
The ground component coefficients are determined from the full survey data set and those used for this project are listed in *Table 12.*

Table 12: Spectrometer ground component coefficients

a_1 (uranium)	a_2 (thorium)
0.036277	0.020805

Daily Source Tests

Thorium and uranium source tests were performed at the start and end of each production day. A source was positioned beneath each crystal pack. Data from the thorium, uranium, and background windows were recorded for 180 seconds during each test. Operations were conducted from Kerry Airport for the first fifteen flights, and from Waterford Airport thereafter, so the test results are split into two sets. Recorded data were dead-time and background corrected and statistics were compiled (see *Figure 10* and *Figure 11*). Thorium and Uranium source test results were within +/-5% of the mean value. The coherence of the data indicates that the system is operating correctly.



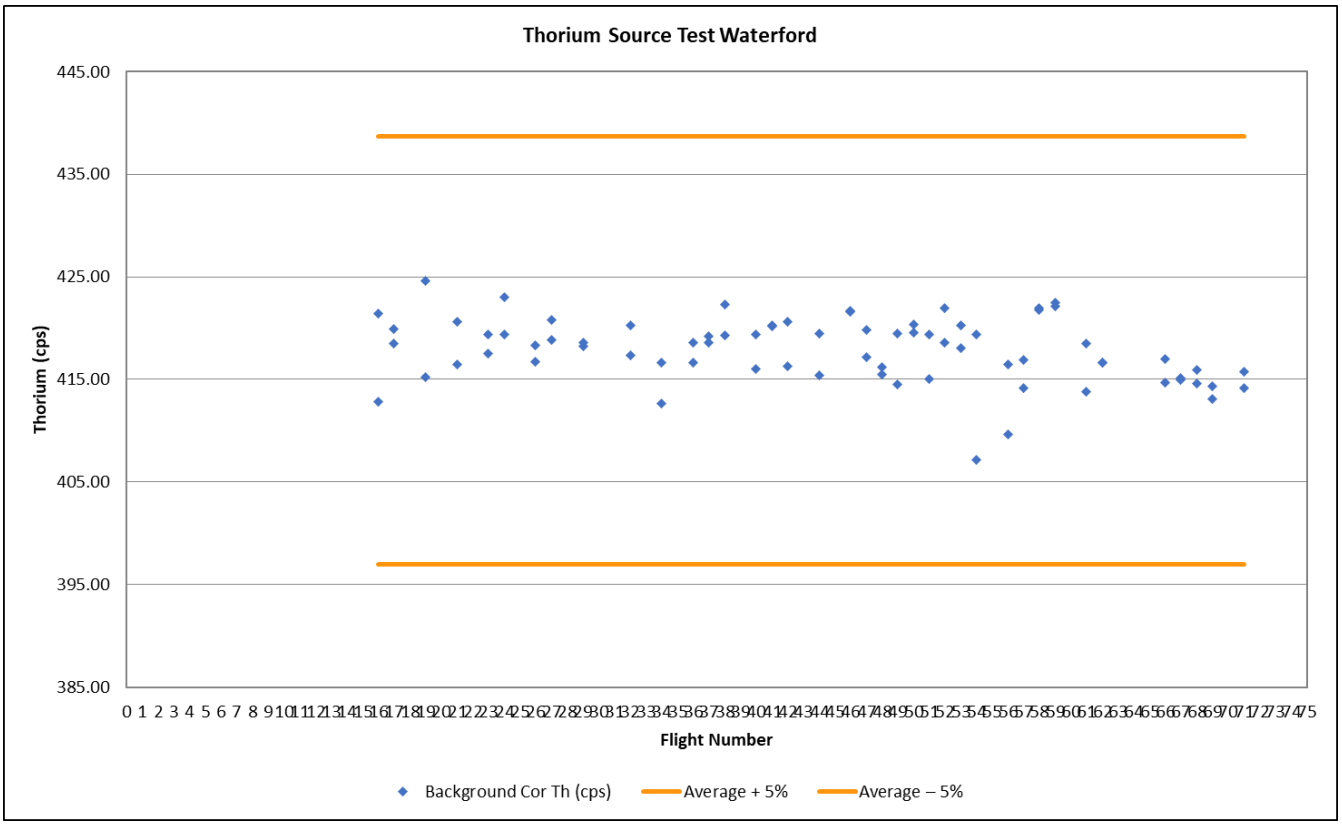
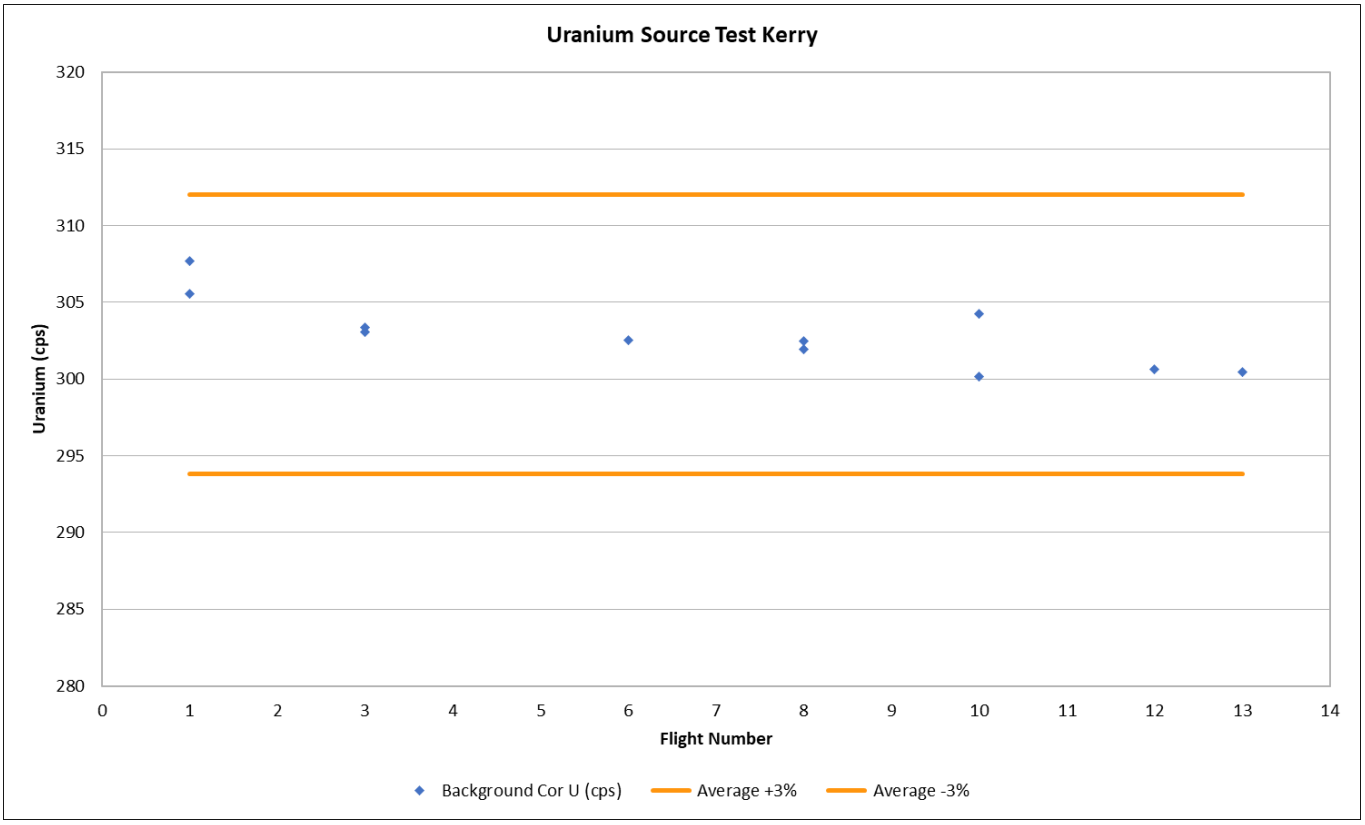


Figure 10a: Thorium Source Tests from Kerry
Figure 10b: Thorium Source Tests from Waterford



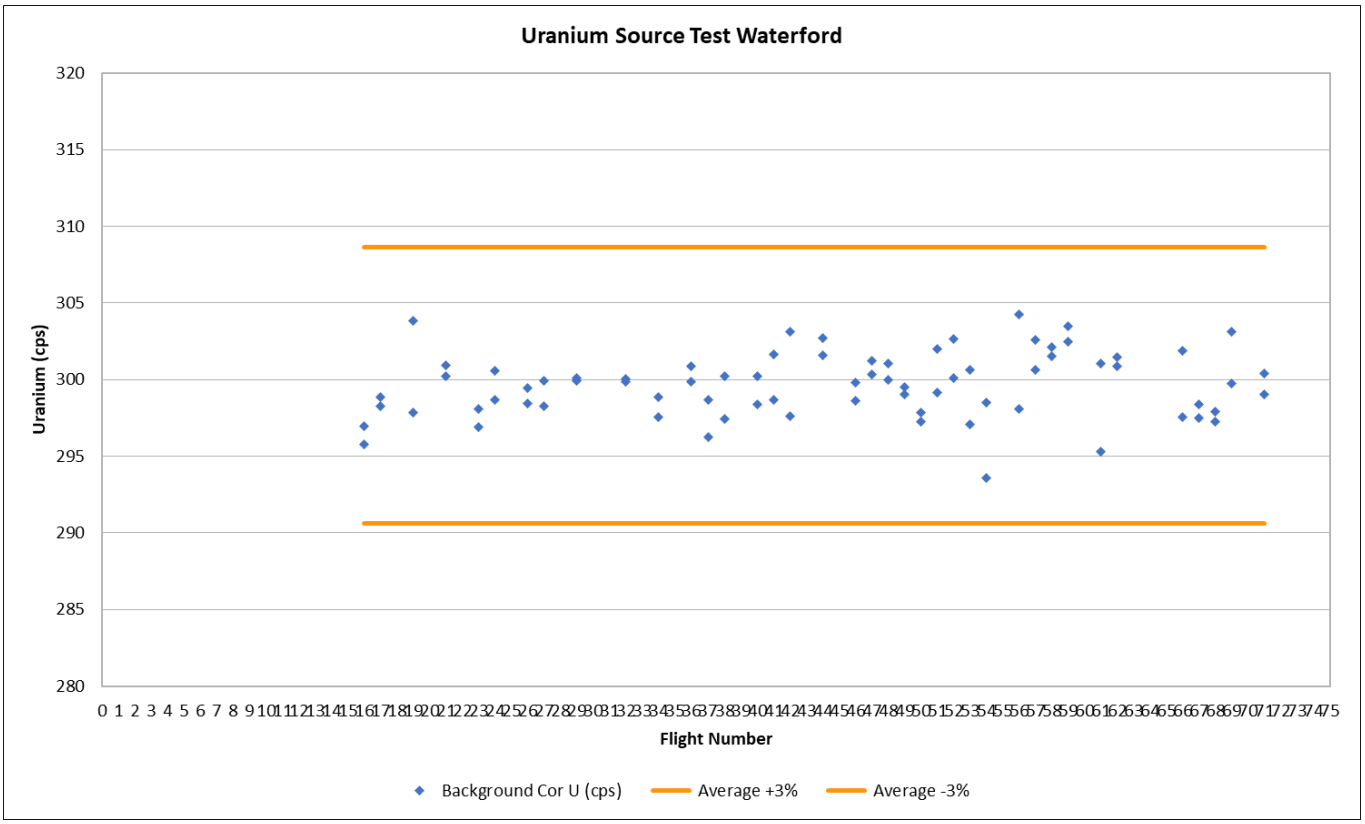


Figure 11a: Uranium Source Tests from Kerry
Figure 11b: Uranium Source Tests from Waterford

Frequency-Domain Electromagnetic System Tests

EM System Orthogonality

Prior to each flight, the phase shift between the in-phase and quadrature parts of the EM response is verified and adjusted if required. For each frequency, two pulses of constant amplitude are artificially generated, the first being perfectly in-phase with the primary field, and the second being phase shifted by 90 degrees. Therefore, when the phase orthogonality is properly adjusted, no quadrature response should be observed during the first pulse, and no in-phase response should be observed during the second. This test is usually performed at 300 m or more above the ground to avoid any EM response from the ground and to minimize cultural interference. In addition the compensation of the primary field is also verified. The primary field enables EM data to be recorded with reference to an arbitrary zero-level low enough to ensure that the full range of the receiving device can be utilized. The orthogonality check is also performed following the flight, while ferrying back to the base. An example of the orthogonality check is shown in *Figure 12*.

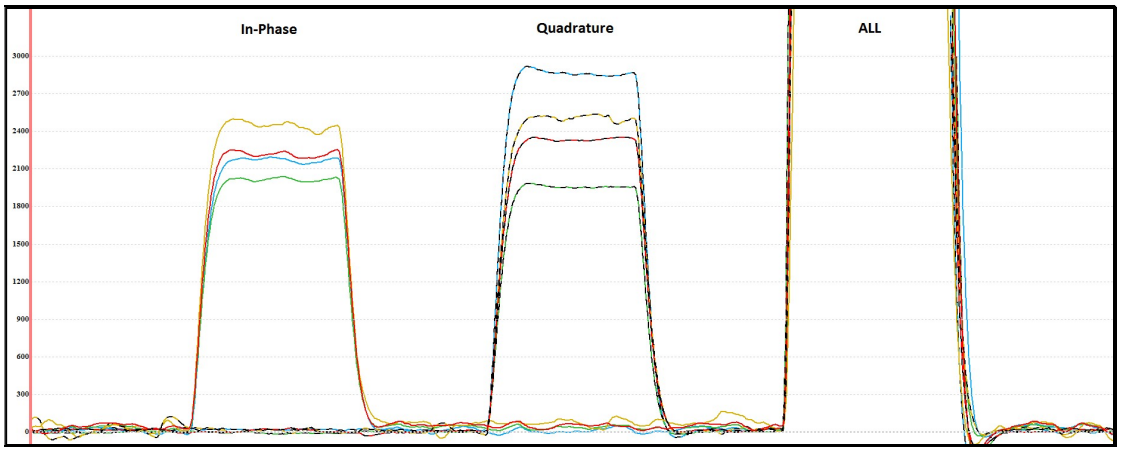


Figure 12: Orthogonality check for the four frequencies

Each pulse represents the in-phase and quadrature response for each of the four frequencies, followed by a single large pulse for all frequencies. For the first two pulses, a well-adjusted system will only show a response in the single channel expected, as illustrated here.

EM Over-Seawater Calibration

The frequency domain electromagnetic system was calibrated following procedures described by Hautaniemi et al (2005). For surveys previous to 2018, a test site was chosen over Donegal Bay, in an area where water conductivity and temperature have been measured several times over the years, at every meter from surface to sea floor, by the Irish Marine Institute. The water depth reaches over 60 m, ensuring that the bottom sediments do not contribute to the EM response. Conductivity data from two different stations taken at three different years were analyzed, and proved conductivity profiles to be essentially consistent at the two stations and therefore can be assumed to be constant between them. The calibration line location (in red) and the two sampling stations (CE10003_056 and CE10003_057) are shown in *Figure 13*. This 4.5 km long calibration line was flown at several heights.

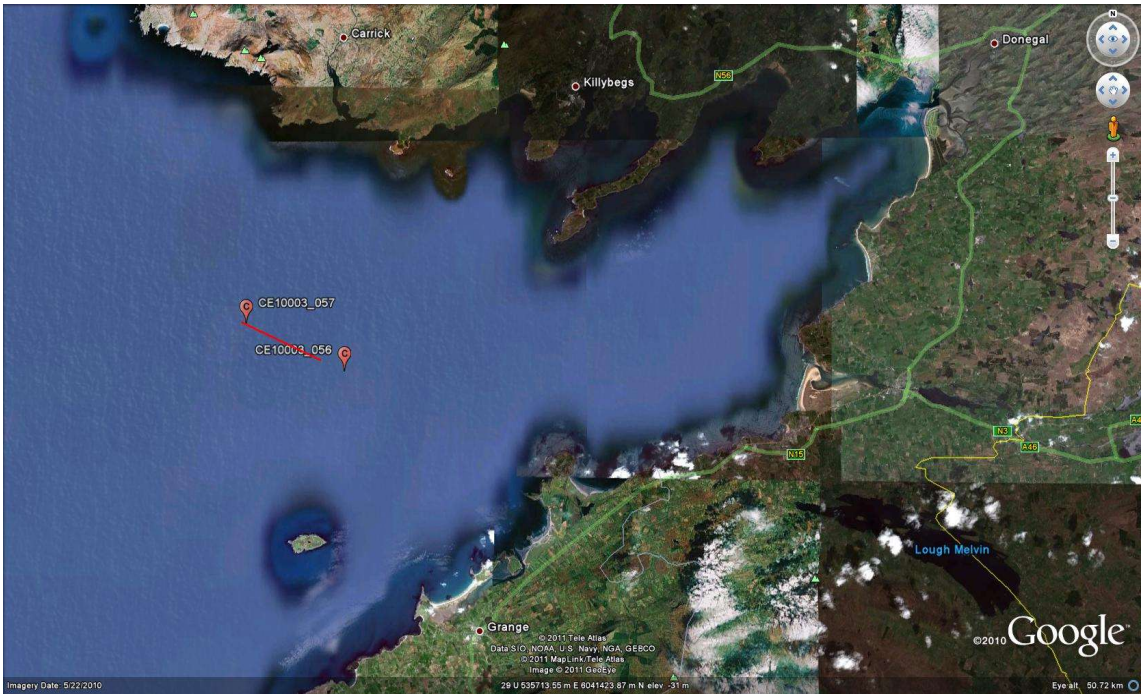


Figure 13: Seawater test line location (red line)

The conductivity data was analyzed to estimate the conductivity variation with depth. (*Figure 14*)

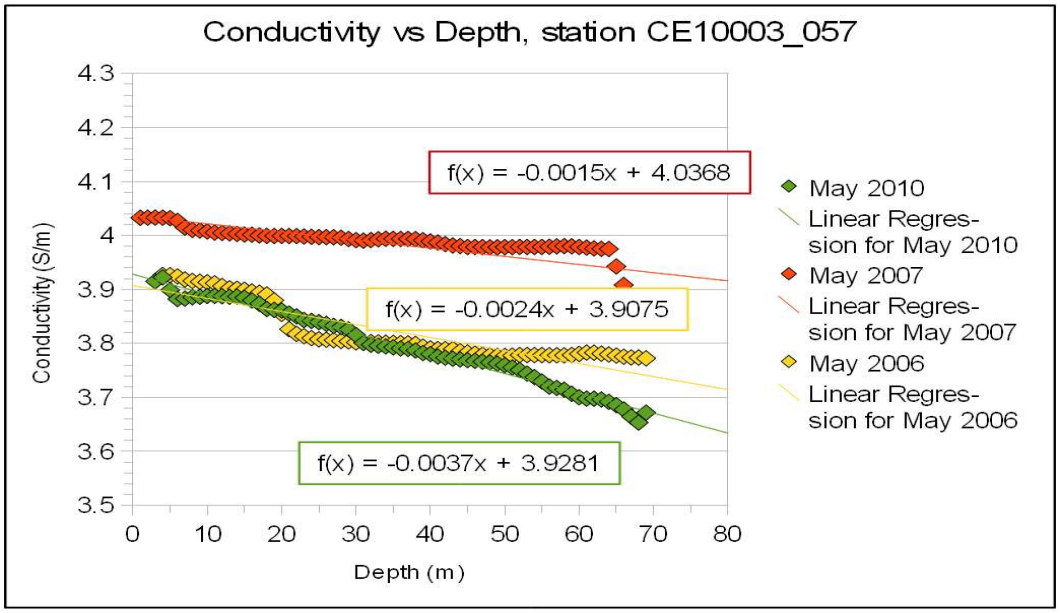


Figure 14: Conductivity variation with depth

As well, the conductivity change with respect to temperature was analyzed over three different years. (*Figure 15*)

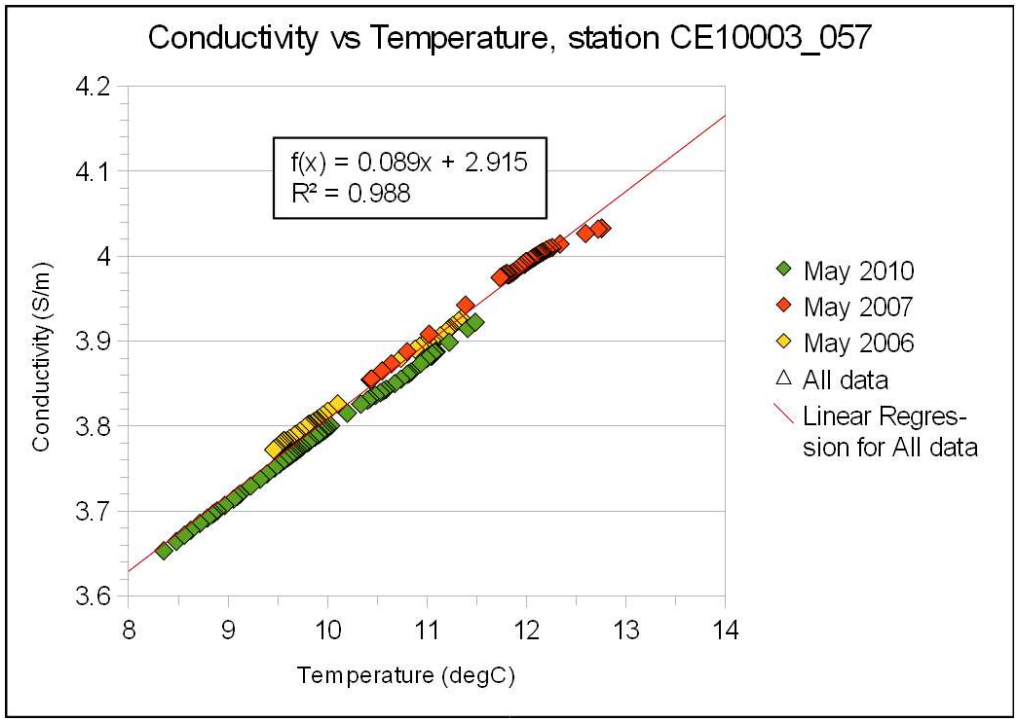


Figure 15: Conductivity variation with temperature

For the 2018 and the 2019 projects, a new test site was selected just south of Waterford due to its proximity to this project (see *Figure 16*). Sea-surface salinity at the Waterford site, as provided by the Irish Marine Atlas, is within 0.1g/l of the Donegal site (as measured in April, 2017), hence this new test site will have very similar resistivity and thermal characteristics to the Donegal Bay location outlined above. The Waterford test line includes an on-land portion to replace the "Bundoran" test line, as well as an over-sea-water portion for the EM calibration test line. The central test line is simply extended over sea water and flown at multiple altitudes. The land and shallow portions of the test line are omitted when tabulating the calibration test results. The yellow box in the figure outlines the data used in the over sea water test portion. The skin depth of all four frequencies are less than half the water depth so the sea-floor bottom has no impact and the homogenous half space model is valid. The water depth in the seawater test portion is greater than 22.5m, for which typical sea-floor bottom resistivity of 1.0 ohm-m would make less than 0.1% difference in the low-frequency in-phase amplitude, relative to deeper water.

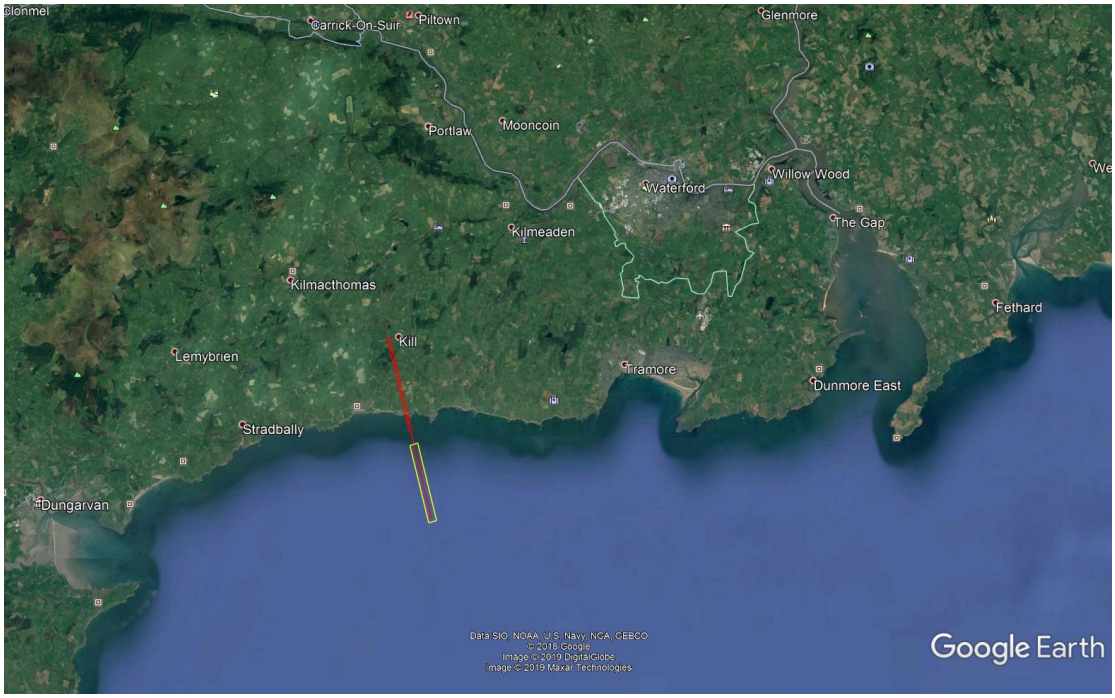


Figure 16: Waterford land/seawater test line location (red line, deep sea section indicated by Yellow box)

Surface water temperature measured on the same day the calibration flight took place (15.762 ºC, measured at buoy M5 located approximately 65 km south east of the Waterford test line (51.6900ºN, 06.7040ºW) on September 13, 2019 as published by the Irish Marine Institute) enabled the estimation of the water conductivity close to surface ([0.089 S/m ºC * 15.762 ºC] + 2.915 S/m = 4.318 S/m). Based on the average conductivity decrease with depth observed over the three years in Donegal Bay, it was possible to estimate the water conductivity at a depth of 30m ([-0.0025 S/m^2 * 30 m] + 4.318 S/m = 4.243 S/m), and the average conductivity between the surface and a depth of 30 m at the calibration site (4.280 S/m). Slight changes in conductivity below 30m are negligible. This conductivity was used to create a single layer model (half-space), which was employed to calculate the EM response for each component of each frequency, for the range of altitudes covered during the calibration flight. The calculation was performed with the software Airbeo, developed by AMIRA. The results are shown in *Figure 17*.

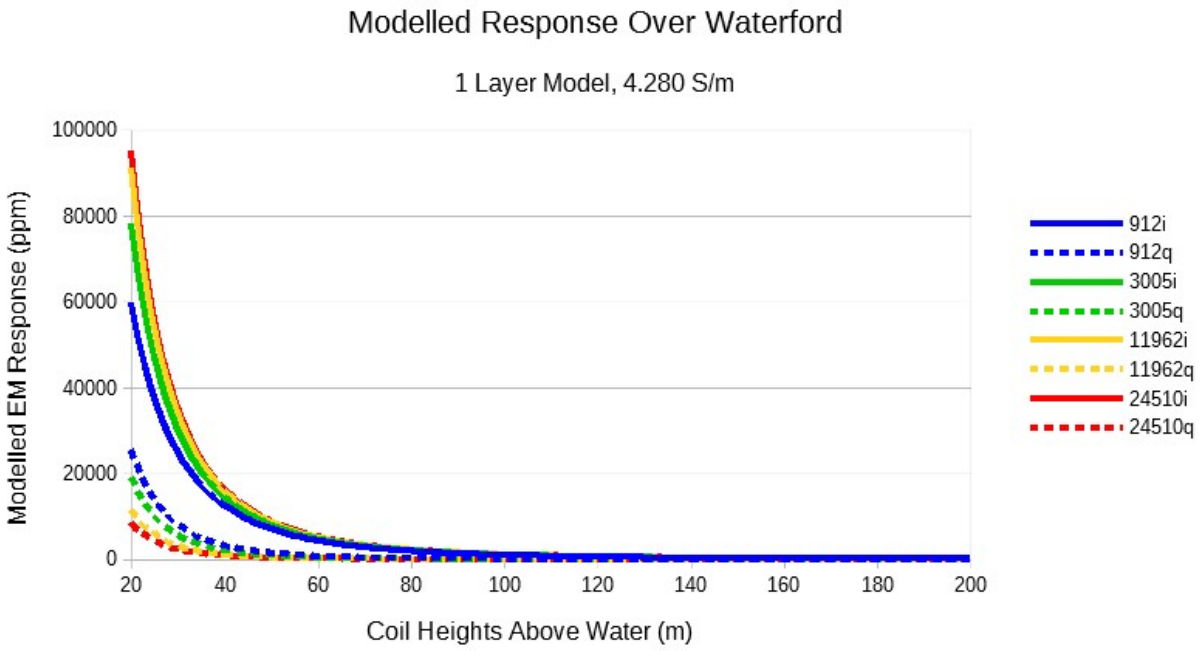


Figure 17: Modelled EM response vs. Coil height above sea water near Waterford

This shows how sensitive the EM response is with respect to separation distance between the system and the water. It is therefore important to use accurate clearance information to perform the calibration. The radar altimeter was properly calibrated over Lac Deschênes in Ottawa, Canada. Moreover, the altimeter data was corrected for the distance between the radar system and the EM coils. Given the wide footprint of the radar, the use of the strongest return when recording altitude, and the relatively low flying altitude, attitude corrections were deemed negligible. The EM data was also corrected for lag effects.

The receiver measured voltage (V units) recorded along the calibration line were plotted against the theoretical secondary to primary field coupling ratio (ppm units), and the calibration coefficients (ppm/V units) were obtained through a linear regression. In order to ensure that the measured in-phase data used for the calibration is indeed entirely in-phase, the in-phase/quadrature orthogonality was verified before and after the calibration flight. This particular post-flight orthogonality test result is shown in *Figure 18*.

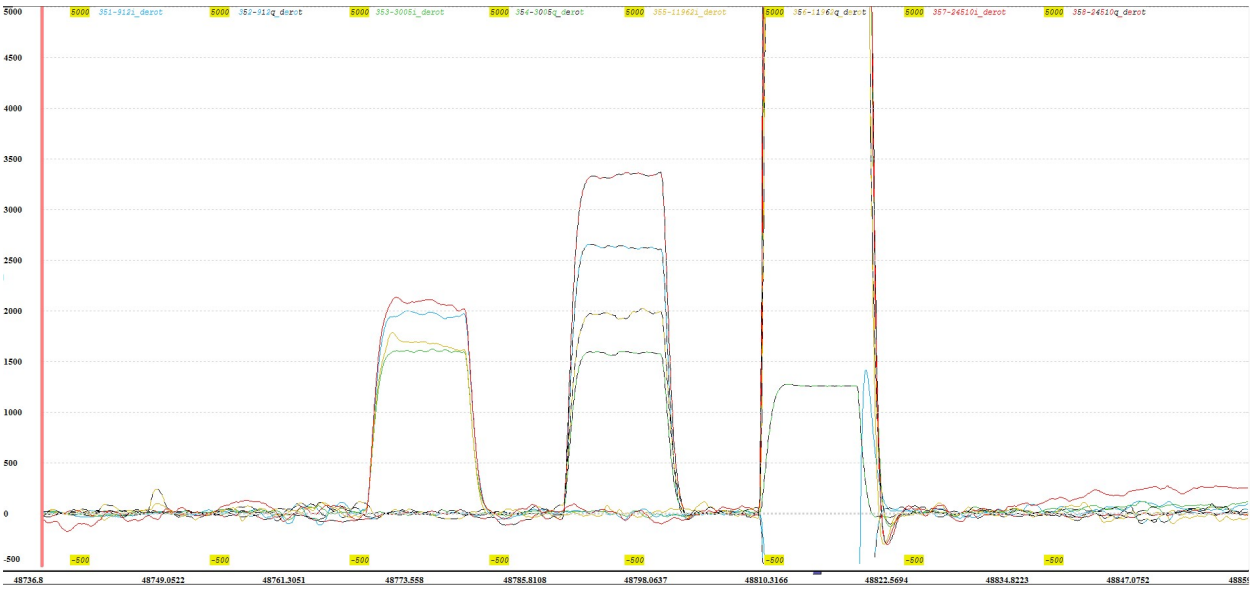


Figure 18: Post flight orthogonality check from the FEM calibration test flight

The coefficients obtained for each frequency are outlined in the following table. These coefficients are used for all flights on the A7 Block. The plots showing the fit obtained for the in-phase response at each frequency are presented in *Figures 19-22* (note that the quadrature signal is not used due to its very low amplitude over sea water).

Table 13: Calculated conductivity coefficients for each frequency (ppm/volt)

Frequency	912 Hz	3005 Hz	11962 Hz	24510 Hz
Coefficient	5872	5986	5690	6979

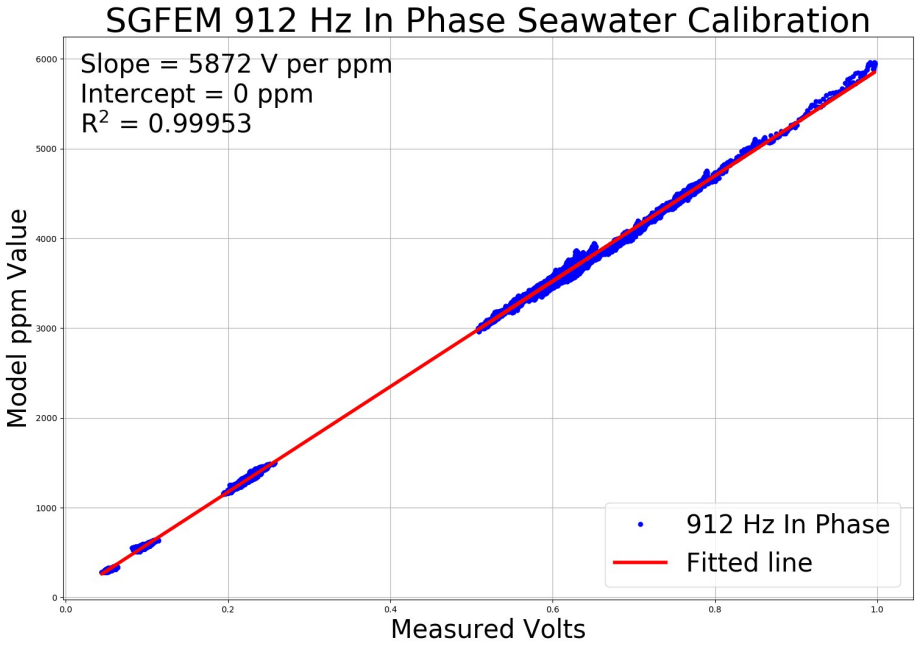


Figure 19: SGFEM 912 Hz In Phase Seawater Calibration

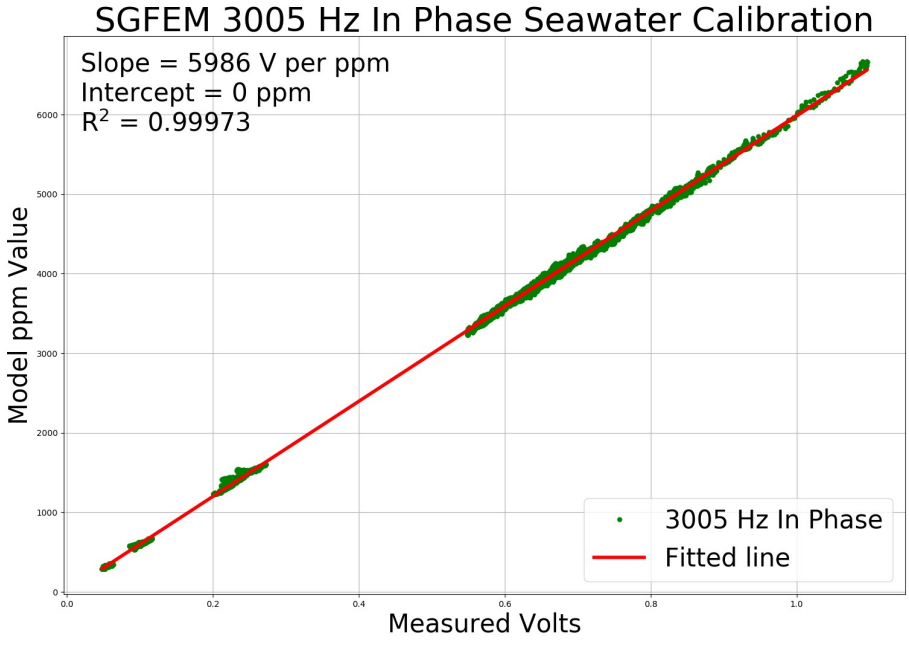


Figure 20: SGFEM 3005 Hz In Phase Seawater Calibration

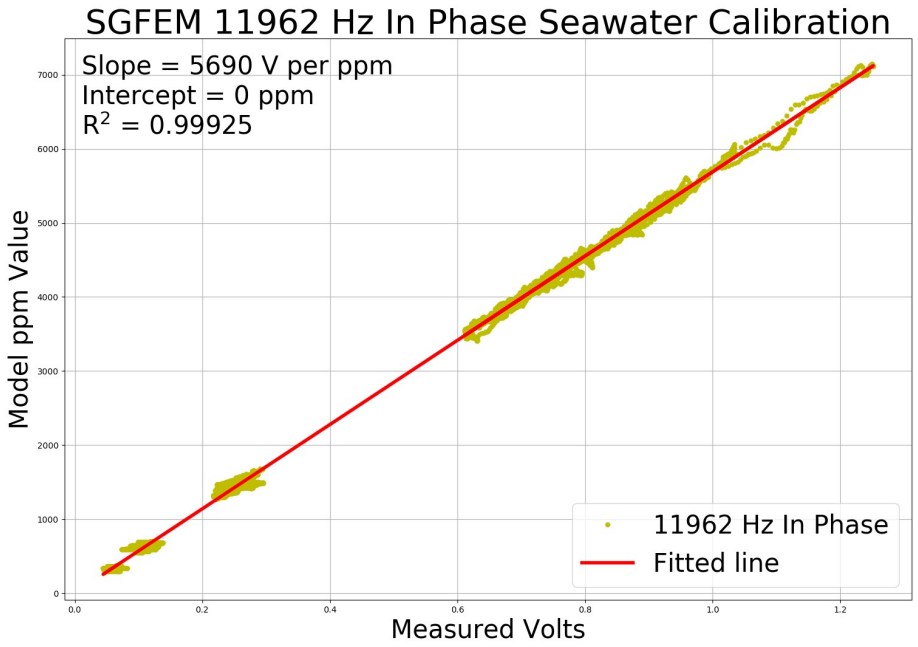


Figure 21: SGFEM 11962 Hz In Phase Seawater Calibration

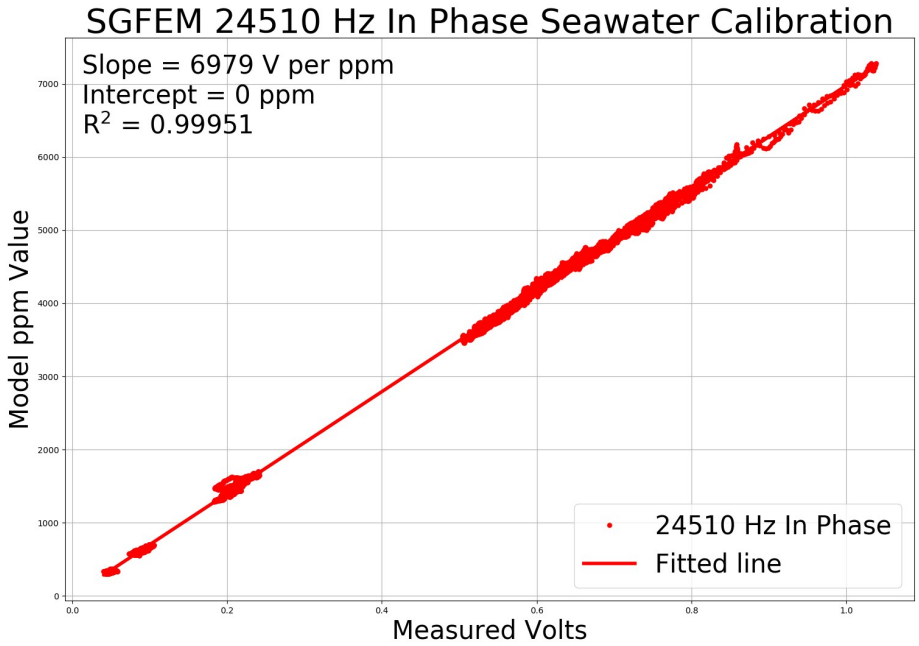


Figure 22: SGFEM 24510 Hz In Phase Seawater Calibration

EM Instrumentation Lag

The lag in the EM data is a function of two components, a static lag due to signal processing and a speed-dependent dynamic lag due to the physical offset of the EM coils and the GPS antenna. The static lag is known to be *0.70 s* from the filters applied during signal processing. The dynamic lag is equal to the offset of the coils and GPS reference point along the long axis of the

aircraft, known to be 2.888 m, divided by the flying speed. For a speed of 60 m/s the dynamic lag will average 0.048 s, for a total lag of 0.748 s.

EM Transmitter Noise

The effect of the FEM transmitter on the magnetic response was verified for the tail and wing sensors, while flying at high altitude (about 10,000 ft.). This was done by turning the EM transmitter OFF, then back ON. *Figure 23* and *Figure 24* show that the EM transmitter induces no effect on the magnetic signal from either sensor.

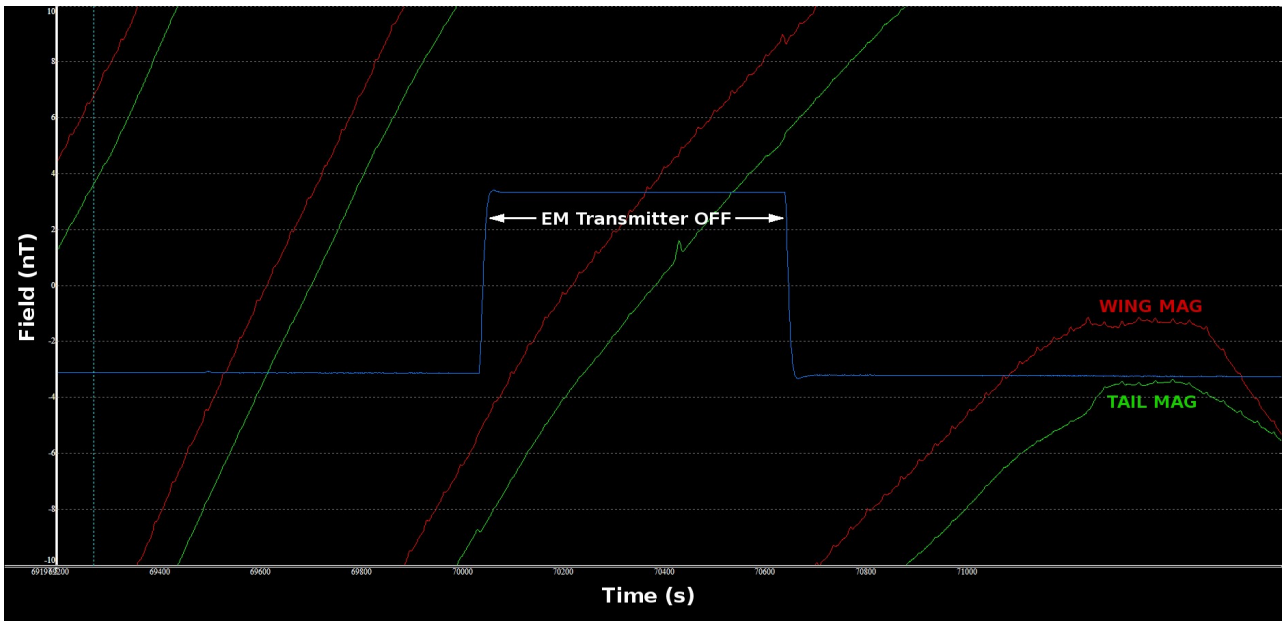


Figure 23: EM transmitter noise test, showing tail and wing magnetic sensor traces.

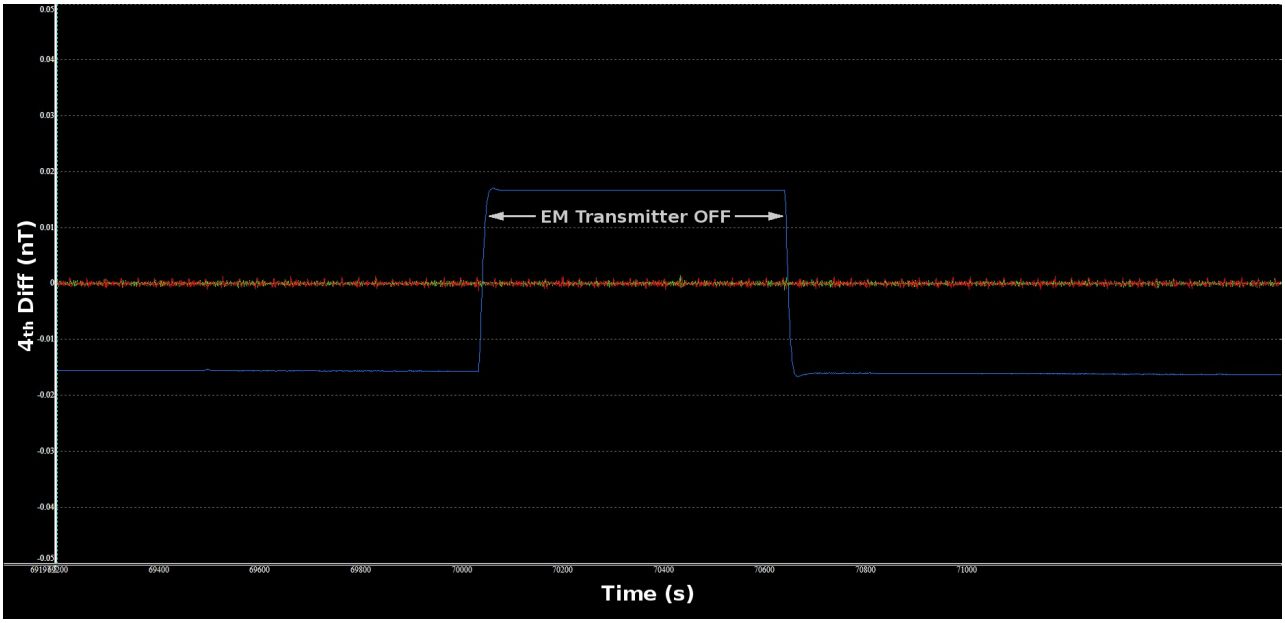


Figure 24: EM transmitter noise test, showing the 4th difference of the tail and wing magnetic sensor traces.

8. FIELD OPERATIONS

Flight operations for this project were performed from Kerry Airport for the first fifteen flights. Thereafter, operations were relocated to Waterford Airport. The Block A7 required 72 production flights, from June 15, 2019 to September 15, 2019. Weekly reports are provided in *Appendix VI*.

Reference Stations

Two reference stations were installed for the part of the survey flown from Kerry. GND1 was located in the backyard of the crew lodging in Fenit, Co. Kerry. GND2 was setup at the Kerry airport located east of the hangar and north of the taxi way. After relocating to Waterford, GND1 was dismantled and re-established as GND3 in a farmer's field in Dunmore East, County Wexford, on June 19, 2019. On June 29, 2019 GND2 was dismantled and restablished as GND4 in the back yard of the field crew's house at 22 Glen Ard in Dunmore East, but it was moved again and set up as GND5 behind the fuel farm at Waterford Airport on July 3, 2019. *Table 14* summarises which reference stations were operative for all survey flights.

Table 14: Reference station coverage for Block A7 survey flights

Flight Numbers	Reference Stations
1001-1007	GND1 & GND2
1008-1015	GND2 & GND3
1016-1018	GND3 & GND4
1019-1072	GND3 & DND5

The positions of all reference station GPS antennas were calculated using Precise Point Positioning (PPP) Corrections using the algorithm developed by NRCAN, that has been incorporated in to SGL's suite of software (http://webapp.geod.nrcan.gc.ca/geod/tooloutils/ppp.php).

Picture 3: Reference station GND3 in Dunmore East

The position of the GPS antennas of the reference stations after differential correction is shown in *Table 15.*

Table 15: GPS Reference Station Location in the WGS-84 datum

Station	Latitude	Longitude	Elevation
GND1	N 52:16:46.9	W 9:52:01.8	69.00 m
GND2	N 52:11:02.7	W 9:31:38.9	87.42 m
GND3	N 52:09:21.4	W 7:00:39.6	106.99 m
GND4	N 52:09:17.0	W 7:00:15.0	102.28 m
GND5	N 52:11:23.6	W 7:04:47.2	84.46 m

Lists of the lines as acquired for each data set are provided in *Appendix III*. Due to re-flights for specific data issues, the lines selected for each data type (FEM, magnetic, spectrometer) are not identical.

Operational Issues

Due to a delayed commencement of operations in 2018, Blocks A5 and A6 were completed in the spring and early summer of 2019. Acquisition of Block A7 commenced on June 14, 2019 after A5 and A6 were completed, with operations initially from the same base in Kerry, County Kerry. On June 28, 2019 the survey aircraft ferried to Waterford Airport which was used as the base of operations for the rest of the survey.

The weather provided the main challenge for airborne operations throughout acquisition in the A7 Block although by comparison to other surveys in Ireland the conditions were quite good. Rain, poor visibility and windy days caused various delays and flight cancellations.

During flight 1063 on August 26, 2019, a bird strike resulted in damage to the port side wing. The aircraft was flown to Weston Airport near Dublin for maintenance, and returned to Waterford to complete the survey on September 9, 2019.

Re-flights are listed in *Appendix VII*.

Field Personnel

The technical personnel of SGL that participated in field operations are given in *Table 16*.

Table 16: Field Personnel

Field Personnel	Name	Dates on Field
Operations Manager	Kevin Charles	n/a
Field Crew Chief	Alison McCleary	June 15, 2019 – September 15, 2019
Data Processor	Ania Smetny-Sowa	June 15, 2019 – June 28, 2019
Data Processor	Angella Farr	June 24, 2019 – August 27, 2019
Technician	Craig McMahon	June 28, 2019 – July 11, 2019
Lead Pilot	Steve Gebhardt	June 15, 2019 – September 15, 2019
Pilot	Charles Dicks	July 2, 2019 – August 19, 2019
Pilot	Steven Hyde	August 27, 2019 – September 15, 2019
Pilot	Jean Deschenes	June 15, 2019 – July 14, 2019
Pilot	George Sakgaev	July 14, 2019 – July 28,2019
AME	Darren McBeth	August 30, 2019 - September 15, 2019
AME	John Burnham	June 15, 2019 – July 1, 2019
AME	Mike MacDonald	July 2, 2019 – July 18, 2019
AME	Emmett Smith	July 26, 2019 – August 16, 2019
AME	Scott Campbell	August 14, 2019 – September 10, 2019
AME Specialist	Roger Knott	September 1, 2019 – September 11, 2019

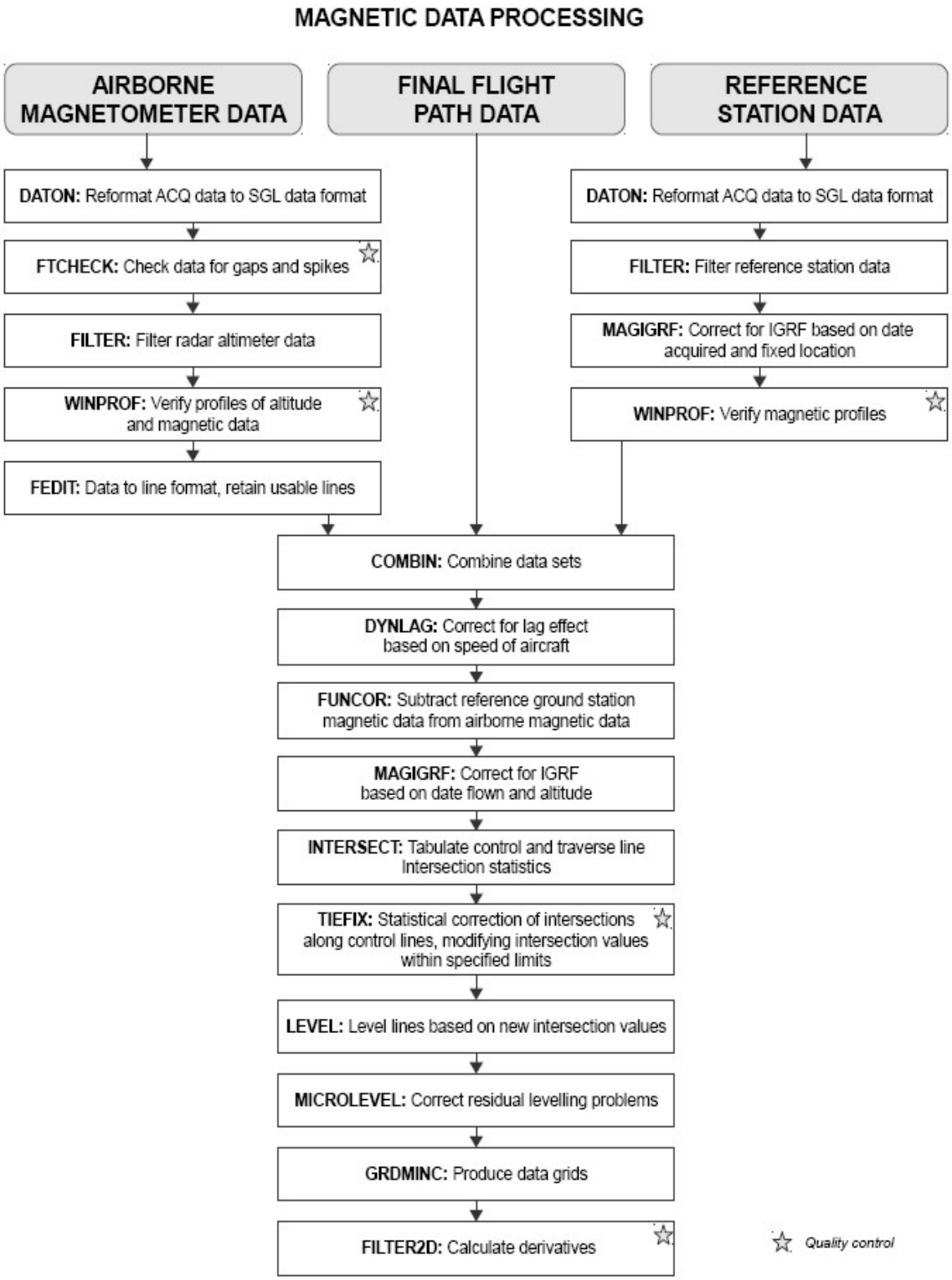


Figure 25: Magnetic data processing flow chart

9. DIGITAL DATA COMPILATION

Preliminary processing for on-site quality control was performed in the field as each flight was completed. This included verifying the data on the computer screen, profiling all of the data channels, and creating preliminary data grids.

Magnetometer Data

A magnetic data flowchart is presented in *Figure 25*. All final magnetic data is from the magnetometer housed in the tail stinger at the rear of the aircraft. The airborne magnetometer data were recorded at 160 Hz, and down sampled to 10 Hz for processing. All magnetic data were plotted and checked for any spikes or noise. A dynamic lag correction averaging 0.18 s depending on the instantaneous velocity of the aircraft was applied to each data point. The aircraft speed dependent dynamic lag was calculated using SGL's Dynlag software.

The ground based reference magnetometer data were inspected for cultural interference and edited where necessary. All reference station magnetometer data were filtered using a 369-point low pass filter (see *Appendix VIII*) to remove any high frequency signal, but retain the low frequency diurnal variations.

A correction for the International Geomagnetic Reference Field (IGRF) year 2015 model, was extrapolated for all ground magnetometer data using the fixed ground station location and the recorded date for each flight. The mean residual values of the reference stations calculated to be -76.303 nT for GND1, -237.06 nT for GND2, -34.295 nT for GND3, 192.584 nT for GND4 and 18.094 nT for GND5 were subtracted from the ground station data to remove any bias from the local anomalous field. Diurnal variations in the airborne magnetometer data were removed by subtracting the corrected reference station data. The reference station used for each survey line are listed in *Appendix IX.* Note that in some cases, data were drawn from different stations for different parts of a line.

The airborne magnetometer data were corrected for the IGRF using the location, altitude, and date of each point. IGRF values were calculated using the year 2015 IGRF model. The altitude data used for the IGRF corrections are DGPS heights above the GRS-80 ellipsoid.

Height Correction

The survey was flown in radar guidance mode in order to stay as close to the target survey altitude of 60 m as much as possible. This approach was adopted in order to optimize the acquisition of frequency-domain electromagnetic (FEM) data which is known to drop off in signal strength rapidly. Little reliable FEM data is acquired a heights of 200 to 250 m above ground depending on the signal frequency and the conductivity of the ground, and the lower the survey is flown, the higher the signal to noise ratio for all frequencies.

By adopting a flying strategy optimized for FEM data, drape flying was not possible, resulting in survey lines flown at different altitudes in adjacent lines and at intersections between traverse and control lines. Inevitably this results in differences in the spectral content of airborne magnetic data where the survey height above ground was inconsistent. At low altitudes, even relatively small differences in altitude may result in significant changes in spectral content of the magnetic data. Amplitude of magnetic signal drops off with height at an exponential rate proportional to the frequency of the signal, so that high frequency signal in particular changes rapidly with small changes in altitude close to the ground. Correcting for such changes using traditional levelling methods can be challenging since there is no way to properly extrapolate corrections from miss-ties at intersections due to altitude differences. Therefore, there is an advantage to correcting the airborne data for height variation before attempting levelling.

In order to correct magnetic data for altitude variation, we first need to define a consistent surface that will be used as a reference height. This can be a surface of constant height with respect to the ellipsoid or a "virtual" drape surface. The drape surface approach has the advantage of retaining as much of the recorded signal content as possible whilst achieving consistency of height at intersections and smoothly varying heights between adjacent lines. The reference drape surface was made based on a grid of the height of the survey lines as actually flown. Due to some large miss-matching in height over some of the hills in the survey area, the surface was based on traverse lines only so as to avoid unnecessary loss of high frequency signal when control lines only were flown high. The resultant surface is then converted to a smooth drape using a climb rate of 500 feet/nMile. This ensures that the reference surface is always at or slightly higher than the altitude as flown so that all corrections for height can be achieved using a stable upward continuation operation. Any control lines flown above the reference surface were left unaltered due to the instability of downward continuation.

To determine the height corrections, magnetic data is upwardly continued by a range of distances up to the maximum separation between the survey altitude as flown and the reference surface.
A profile based method was used because high frequency cultural effects in this survey block were not well sampled in the cross line direction. The height correction is then applied to the unlevelled data, and final levelling is then performed.

Levelling

Intersections between control and traverse lines were determined by a program which extracts the magnetic, altitude, and x and y values of the traverse and control lines at each intersection point. Each control line was adjusted by a constant value to minimize the intersection differences, calculated as follows:

$\Sigma\ |i - a|$ summed over all traverse lines
where, i = (individual intersection difference)
a = (average intersection difference for that traverse line)

Adjusted control lines were further corrected locally to minimize any residual differences. Traverse line levelling was carried out by a program that interpolates and extrapolates levelling values for each point based on the two closest levelling values. After traverse lines have been levelled, the control lines are matched to them. This ensures that all intersections tie perfectly and permits the use of all data in the final products.

CLEVEL provides a curved correction using a function similar to spline interpolation. A third degree polynomial is used to interpolate between two intersections and the two values and two derivatives are chosen to determine the polynomial. CLEVEL is an improved method as it allows intersection points to be preserved with no mismatch and interpolation is smooth with the first derivative continuously approaching the same value from both sides of the intersection points.

The levelling procedure was verified through inspection of magnetic anomaly and vertical derivative grids, plotting profiles of corrections along lines, and examining levelling statistics to check for steep correction gradients.

Micro-Levelling

Micro-levelling was applied to remove any residual diurnal and/or height related artifacts from the data. This was achieved by using directional filters to identify and remove artifacts that are long wavelength parallel to survey lines and short wavelength perpendicular to survey lines. A limit of +/-6.5 nT was set for micro-levelling corrections. The strong micro-level correction was required

due to areas where high gradients combine with large height differences to cause strong local artifacts.

Gridding

The grid of the magnetic anomaly was made using a minimum curvature algorithm to create a two-dimensional grid equally sampled in the x and y directions. The algorithm produces a smooth grid by iteratively solving a set of difference equations minimizing the total second horizontal derivative while attempting to honour the input data (Briggs, I.C, 1974, Geophysics, v 39, no. 1). The final grids of the magnetic data were created with 50 m grid cell size appropriate for survey lines spaced at 200 m.

Magnetometer Power Line Monitor

A magnetometer power line monitor data channel is included that is derived from the 160Hz magnetic data. This channel is derived from a frequency-domain band pass filter centered on 3 samples (0.01875 s). This step extracts the 50Hz power line signal that is observed in the magnetometer while suppressing all other signal. The absolute value is taken from the output of the band pass filter and is passed through a median slope time-domain filter with a window of 8 samples (0.05 s) effectively measuring the size of the noise envelope. The magnetometer power line monitor channel is not as susceptible to interference from spurious sources such as radio transmitters and is also able to detect power lines with less current. The magnetometer power line monitor data channel is included with the frequency-domain electromagnetic data.

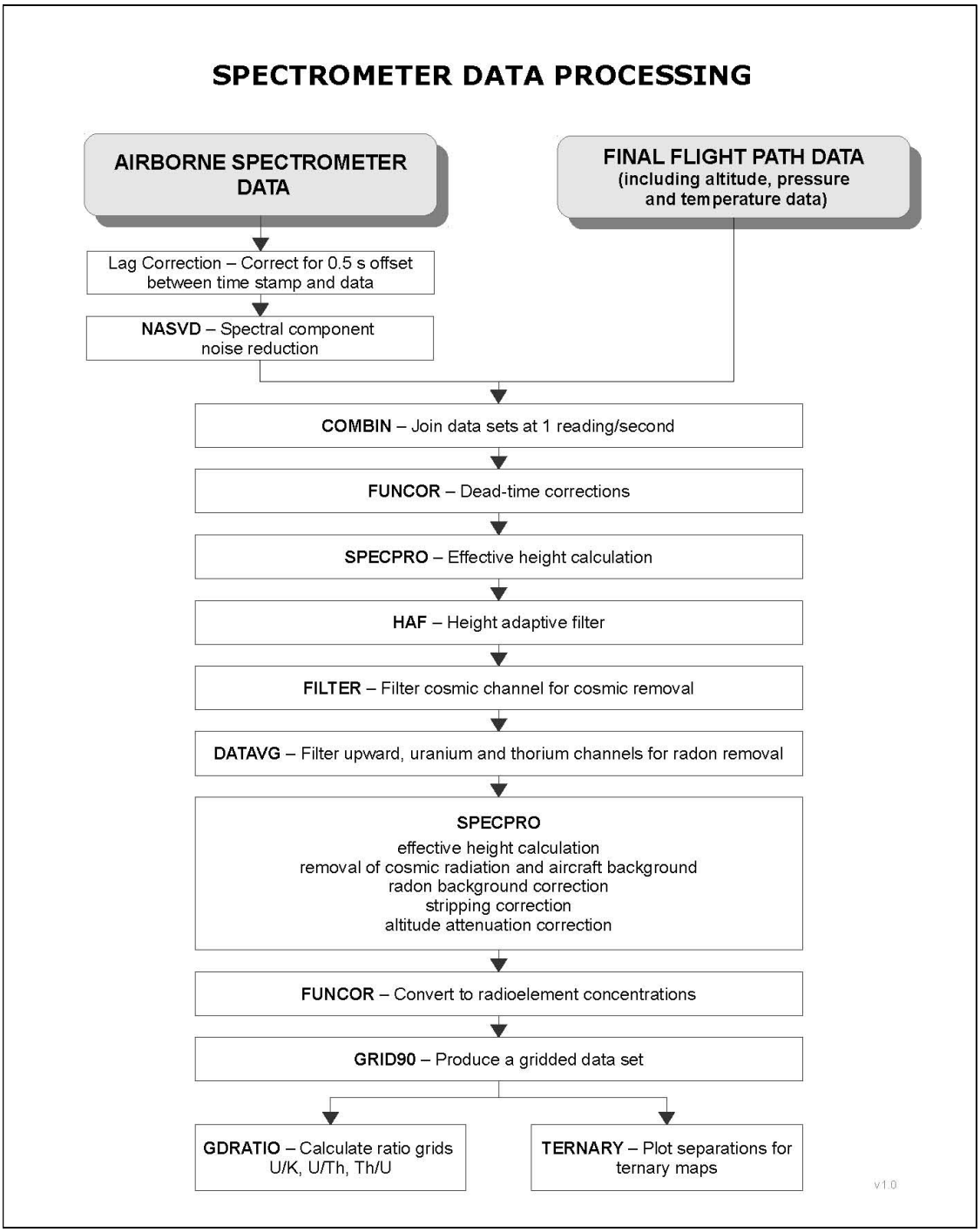


Figure 26: Spectrometer data processing flowchart

Spectrometer Data

A spectrometer data compilation flowchart is presented in *Figure 26*.

A 0.5 second shift was applied to all data to correct for the time delay between detection and recording of the airborne data. The data were recorded at 1 Hz in asynchronous mode, and subsequently interpolated to 1 Hz synchronous data on the exact second.

Spectral Component Analysis

Raw 1024 channel spectrometer data were analyzed using noise adjusted singular value decomposition (NASVD; J. Hovgaard and R L. Grasty paper 98; Geophysics and Geochemistry at the Millennium, Proceedings of the 4th Decennial International Conference on Mineral Exploration, 1997). Normalization with respect to the count rate is achieved by dividing each measured spectrum by the standard deviation of the best fit of the mean spectra, i.e. component zero. The NASVD method determines the components in order of significance with respect to the amount of variance in the data they describe. Each component is a spectrum with 1024 channels. In theory, there are as many components as there are channels. Variation in the signal is accounted for by the low order components, and variation due to noise is accounted for by the higher order components. Spectra are reconstructed from the low order signal only components, and the count rates in the standard windows are recalculated.

For this survey the data was subdivided into "low flown" and "high flown", defined as data acquired at effective heights below and above 300m respectively. These two sets of data have different spectral characteristics and components for them were derived independently. For the low flown data, components 0 - 5, 8, 13, 16, 18 – 20, and 22 – 27 were retained. For the high flown data only components 0 – 3 were required. See *Appendix X and XI.*

Standard Corrections

Spectrometer data were corrected as documented in the Geological Survey of Canada Open File No. 109 and the IAEA report "Airborne gamma-ray spectrometer surveying; Technical Report Series No. 323 (International Atomic Energy Agency, Vienna). The gamma-ray spectroscopy processing parameters are shown in *Table 17*. Parameters are adjusted during processing through analysis of the corrections applied, and therefore may differ from those determined from calibration test flight data.

Table 17: Spectrometer processing parameters

Spectrometer Processing Parameters		
Window	Cosmic Stripping Ratio (b)	Aircraft Background (a)
Total	1.2728	10.0000
Potassium	0.0650	19.2200
Uranium	0.0420	0.0000
Thorium	0.0550	0.1000
Upward	0.0075	0.0500
Radon Component	a	b
Total (I_r)	14.6042	0.0000
Potassium (K_r)	1.3049	0.0000
Thorium (T_r)	0.0025	0.0000
Up (u_r)	0.1957	0.0000
Ground Component	a_1	a_2
Up (u_g)	0.036277	0.020805
Stripping Ratios	Contribution on the Ground	Effective Height Adjustment (m^{-1})
α	0.2790	0.00049
β	0.4178	0.00065
γ	0.7660	0.00069
a	0.0455	
b	0.0000	
g	0.0045	
Attenuation Coefficients (m^{-1})		
Total	-0.006849	
Potassium	-0.008500	
Uranium	-0.007337	
Thorium	-0.007236	
Sensitivities		
Potassium	228.9322 cps/%	
Uranium	23.7863 cps/eU ppm	
Thorium	12.3100 cps/eTh ppm	

Before gridding, the following corrections were applied to the spectrometer data in the order shown:

Calculation of effective height above ground level (AGL)

Clearances obtained by the subtracting the SRTM measurements from the aircraft DGPS altitude in conjunction with barometric altitudes were used to calculate the effective height. A frequency-domain filter was used to filter the 10 Hz barometric altimeter data and temperature data. The former was then converted to equivalent pressure and used with the filtered temperature to convert the clearance data to effective height at standard pressure and temperature (STP) as follows:

$$h_e = h \times \frac{273.15}{T + 273.15} \times \frac{P}{101.325}$$

where, h_e = the effective height
h = the clearance above ground in metres
T = the air temperature in degrees Celsius and
P = the barometric pressure in millibars.

Height adaptive filter

Adaptive filters were applied between 250 m and 350 effective height to improve the signal-to-noise ratio for potassium, thorium, uranium and total count. A moving average filter is applied to data and the degree of filtering applied increases gradually up to 350 up to a maximum of a 9 point running average. Data collected at a terrain clearance greater than 500 m are often considered unreliable due to the low count rates and consequent low signal to noise ratio. For this survey a maximum of 450 m was deemed appropriate, except for areas of weak radioactivity defined as 350 cps for total count, 15 cps for potassium, 5 cps for uranium and 5 cps for thorium. These areas of low signal were limited to 275 m effective height, except uranium that was limited to 250 m.

Removal of cosmic radiation and aircraft background radiation

A 67-point low pass filter (see *Appendix VII*) is applied to 1 Hz cosmic data to reduce statistical noise. Cosmic radiation and aircraft background radiation are removed from each spectral window using the cosmic coefficients and aircraft background values determined from test flight data using the following equation:

$$N = a + bC$$

where, N = the combined cosmic and aircraft background in each spectral window,
a = the aircraft background in the window,
b = the cosmic stripping factor for the window, and
C = the cosmic channel count.

Radon background corrections

A 199-point running average filter is applied to 1 Hz downward uranium, downward thorium and upward uranium count data for the purposes of the radon correction only. The radon component in the uranium window is calculated using the radon coefficients determined from the survey data using the following equation:

$$U_r = \frac{u - a_1 U - a_2 T + a_2 b_T - b_u}{a_u - a_1 - a_2 a_T}$$

where, U_r = the radon background measured in the downward uranium window,
u = the filtered observed count in the upward uranium window,
U = the filtered observed count in the downward uranium window,
T = the filtered observed count in the downward thorium window,
a_1 and a_2 = the ground component coefficients,
a_u and b_u = the radon coefficients for uranium,
a_T and b_T = the radon coefficients for thorium.

The radon counts in the uranium upward window and the potassium, thorium and total count downward windows are calculated from U_r using the following equations:

$$u_r = a_u U_r + b_u$$
$$K_r = a_K U_r + b_K$$
$$T_r = a_T U_r + b_T$$
$$I_r = a_I U_r + b_I$$

Where u_r is the radon component in the upward uranium window, K_r, U_r, T_r and I_r are the radon components in the various windows of the downward detectors, and a and b are the radon calibration coefficients.

Stripping

The stripping ratios for the spectrometer system are determined experimentally. The stripped count rates for the potassium, uranium and thorium downward windows are calculated using the following equations:

$$N_K = \frac{n_{Th}(\alpha\gamma - \beta) + n_U(\alpha\beta - \gamma) + n_K(1 - a\alpha)}{A}$$
$$N_U = \frac{n_{Th}(g\beta - \alpha) + n_U(1 - b\beta) + n_K(b\alpha - g)}{A}$$
$$N_{Th} = \frac{n_{Th}(1 - g\gamma) + n_U(b\gamma - a) + n_K(ag - b)}{A}$$

where A has the value:

$$A = 1 - g\gamma - a(\alpha - g\beta) - b(\beta - \alpha\gamma)$$

and where,

n_K, n_U and n_{Th} = the unstripped potassium, uranium and thorium downward windows counts,

N_K, N_U and N_{Th} = the stripped potassium, uranium and thorium downward windows counts,

α, β, and γ = the forward stripping ratios, and

a, b and g = the reverse stripping ratios.

α, β, and γ are adjusted for effective height (as calculated above) by standard factors given in *Table 16* Spectrometer Processing Parameters.

Altitude attenuation correction

This correction normalizes the data to a constant terrain clearance of 60 m above ground level (AGL) at standard temperature and pressure (STP). Attenuation coefficients for each of the downward windows were determined from test flights. The measured count rate is related to the actual count rate at the nominal survey altitude by the equation:

$$N_s = N_m\left(e^{\mu(h_o - h)}\right)$$

where, N_S = *the count rate normalized to the nominal survey altitude,* h_o,

N_m = *the background corrected, stripped count rate at effective height* h,

μ = *the attenuation coefficient for that window,*

h_o = *the nominal survey altitude, and*

h = *the effective height.*

The effective height was determined in step 2.

Differential Polynomial Fitting

To adjust for variable signal due to changing conditions and/or residual uncorrected background, a levelling method know as differential polynomial fitting (DPF, Beiki et al. 2010, Geophysics v.75, No.1) was applied prior to gridding the data. DPF fits a 2D polynomial to a circular window that incorporates data from adjacent lines, and a 1D polynomial of the same length along the line to be levelled that coincides with the centre of the circle. The length of the polynomials were 600 m (300 m radius from the centre to either side of the survey line, and the same equivalent distance along the line). The difference between the two fitted polynomials provides a levelling correction which is effective at addressing the short wavelength residual miss-matches of gamma-ray data on adjacent lines. Due to the sudden variability in the uranium signal along line in some locations, data was first limited to remove local high anomalies above 4ppm before corrections were derived. Corrections for total count, potassium, uranium and thorium were limited to ±100 counts/s, ±0.1 %, ±0.9 ppm, and ±0.2 ppm respectively. All corrections were low-pass filtered with a cosine tapered filter (0% pass at 33 s, 100% pass at 233 s) before they are applied.

DPF was not effective over the very low signal offshore areas, instead the offshore portions of some lines were adjusted for residual background or over-correction as indicated in Appendix XII. Subsequently the total counts and uranium were microlevelled offshore only, with corrections limited to 50 counts/s and 0.1 ppm respectively.

Conversion to radio element concentration

Sensitivities are determined experimentally from the flight data. The spectrometer system employed was identical to that used for A1 Block that is immediately to the north of A7 Block. Derivation of the sensitivities used for the system is described earlier in this report in the section *Spectrometer System Tests: System Sensitivity*. The A1 and A7 Blocks were planned with an overlap of approximately 1 km along most of their boundary. Analysis of data in the overlap area was used to determine scaling coefficients that allowed the corrected data in counts per second for Total Count and in concentration for individual elements to match across block boundaries. These scaling factors are given in *Table 18*. The transition between the adjacent A1 and A7 Blocks is not apparent when these values are employed, inferring that they are reasonable.

Table 18: Scaling factors applied to A7 data

Total counts	Potassium	Uranium	Thorium
0.92	1.35	0.82	1.20

The units of the count rates in each spectral window are converted to "apparent radio element concentrations" using the following equation:

$$C = \frac{N}{S}$$

where, C = *the concentration of the element(s)*

N = *the count rate for the window after correction for dead-time, background, stripping and attenuation*

S = *the broad source sensitivity for the window*

Potassium concentration is expressed as a percentage and equivalent uranium and thorium as parts per million of the accepted standards. Uranium and thorium are described as "equivalent" since their presence is inferred from gamma-ray radiation from daughter elements (^{214}Bi for uranium, ^{208}Tl for thorium).

Data gridding

The grids of gamma-ray data were made using a minimum curvature algorithm to create a two-dimensional grid equally sampled in the x and y directions. The algorithm produces a smooth grid by iteratively solving a set of difference equations minimizing the total second horizontal derivative while attempting to honour the input data (Briggs, I.C, 1974, Geophysics, v 39, no. 1). The final grids of the gamma-ray data were created with 50 m grid cell size appropriate for survey lines spaced at 200 m. Data within cells are averaged prior to applying the minimum curvature algorithm.

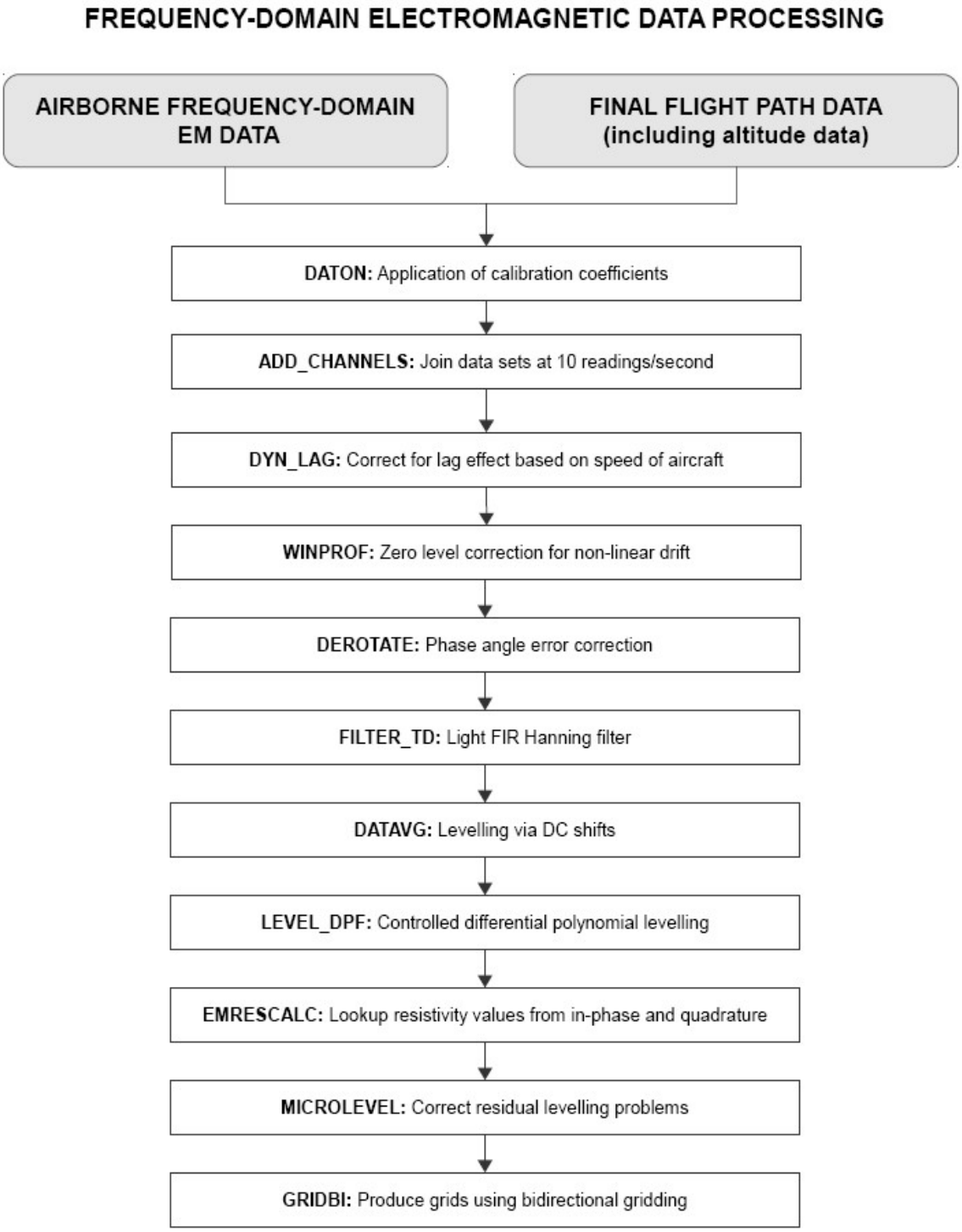


Figure 27: Frequency Domain Electromagnetic Data Processing Flowchart

Frequency-Domain Electromagnetic Data

A flowchart showing all the data processing steps can be found in *Figure 27.*

The airborne electromagnetic data were recorded in volts at 40 Hz, and down sampled to 10 Hz for processing. The data were recorded at four frequencies (912 Hz, 3005 Hz, 11962 Hz and 24510 Hz) each with two components, in-phase with the source pulse and out of phase "quadrature" each expressed as volts. The data were visually inspected for spikes and noise. Identification of cultural interference is assisted by the Power Line Monitor, and radio calls are detected and recorded in a flag channel that is 1 when a call is made, and 0 otherwise.

Conversion to PPM

Data in volts are converted to parts per million (ppm) of the source signal using the calibration coefficients described in the section "EM Over Seawater Calibration" earlier in this report (see *Table 13*). The sea water calibration assumes a homogeneous half space which allows modelling in ppm, which when compared to the measured voltages allows calibration coefficients to be determined.

Lag

A +0.70 s static lag correction due to signal processing was applied to each data point. In addition a variable lag correction is applied that is a function of speed and the physical offset between the GPS antenna on the aircraft cabin and the electromagnetic pods as measured along the long axis of the aircraft, known to be -8.433 m. Therefore, the total lag applied is equal to (0.70 - (8.433/v)) s where v is the instantaneous velocity of the aircraft in m/s. The aircraft speed dependent lag is calculated using SGL's Dynlag software.

Interactive Single Flight, Zero Level Correction For Non-Linear Drift

The zero level of the system can drift, possibly due to variations in the temperature of the air outside and inside the aircraft, and of the instrument components. To correct for drift, SGL uses a method similar to that described by Leväniemi et. al (2009, Journal of Applied Geophysics, 67, 219-233). The data is often zero when the survey aircraft is more than 250 m above ground, and we can use these regions to define a curve of corrections which brings the data to the correct level on a flight by flight basis. The start and end of the correction curve for each flight are set to coincide with the zero level calibration pulse procedure which is performed at approximately 350 m above ground before and after flying the survey lines. Intermediate points during production were determined when the aircraft ascended to flying heights of over 120m to 250 m above ground, particularly when flying over obstacles or ferrying between sections of the survey block. The EM response data at the start, end and intermediate points are shifted until they are zero. Shifts between the known zero points are interpolated using an akima spline to define the full correction curve in between. A separate correction curve is required for the in-phase and quadrature data of each frequency and is subtracted from the observed data. The drift curve is centred on the noise envelope of the data, which varies between frequencies (see below), therefore when the base level is near zero some negative data will occur.

Derotation

The pre and post flight phase orthogonality test is used to verify that the in-phase and quadrature data are at 90° to each other (see "EM Source Orthogonality" earlier in this report). If an in-phase response is detected in the quadrature signal for any frequency, or vice versa, for a given flight, a derotation correction is applied on a flight by flight basis, linearly interpolated between the pre- and post-flight calibration. The following formulae are applied to each component and frequency as necessary:

$$I' = I \cos \theta_i + Q \sin \theta_i$$

$$Q' = Q \cos \theta_q - I \sin \theta_q$$

where:

I = Observed in-phase signal,
I' = Derotated in-phase signal,
Q = Observed quadrature signal,
Q' = Derotated quadrature signal,
and
θ_i, θ_q = angle of rotation from orthogonality.

θ_i, and θ_q are determined experimentally until the rotation effect is removed from the orthogonality test data. The average of the rotations applied to the in-phase data was -1.3° with a standard deviation of 4.6°. The average of the rotations applied to the quadrature data was -1.0° with a standard deviation of 2.8°. The largest rotations were applied to the 25 kHz data.

Filtering

A 1 second (10 sample) Hanning FIR low pass filter is applied to each component and frequency of EM signal to reduce the high-frequency (out of the earth signal range) noise envelope.

Levelling

Data from each flight is split into lines for the purpose of levelling. Averages of parts of each line that correspond to areas of low resistivity are calculated by line in order to determine zero order ("D.C. shift") correction to each survey line. Subtracting the DC shift brings each line to a level with neighbouring lines. The entire data set is then re-corrected by adding back the overall average D.C. shift previously applied. Following the zero order corrections, differential polynomial levelling following the method of Beiki et al. (2010, Geophysics, Vol. 75, No. 1, L13-L23) is used as an additional set of corrections. The algorithm is based on polynomial fitting of data points in 1D and 2D sliding windows. The levelling error is taken as the difference between 1D and 2D polynomial fitted data at the centre of the windows. Polynomials of order 1 were used along with a search radius of 600 metres for all components, and the long wavelength (>200s) correction for the line is applied to bring each line to the same zero base level. Manual adjustments to the line-by-line levelling are applied to render correctly levelled apparent resistivity.

Conversion to Resistivity

High-range resistivity results are comprised of the results of two resistivity algorithms: a pseudo-layer resistivity for areas of strong signal (i.e. low resistivity) (Fraser, 1978), and an amplitude-altitude algorithm for areas of low signal (i.e. high resistivity).

The pseudo-layer resistivity algorithm uses an interpolation of an in-phase/quadrature nomogram (created at 22 intervals per decade of resistivity) to find the apparent resistivity and apparent height of the sensor above ground (see *Figures 28-31*). As shown by Fraser, the pseudo-layer algorithm measures more accurately the resistivity of the thickest layers of the geology, typically the bedrock under the overburden.

Since the pseudo-layer algorithm resistivity is primarily dependent on the ratio of in-phase and quadrature, and the in-phase is low signal over resistive ground, the pseudo-layer algorithm may become unstable when there is still good signal in quadrature. At this point we substitute an amplitude-altitude algorithm, since the total amplitude of the signal is still above noise. The draw-back of the amplitude altitude algorithm, and the reason that it is not used everywhere, is that the amplitude of the EM signal is dominated by the near-surface geology, so the maximum depth

of sensitivity is less than the pseudo-layer algorithm. Therefore the two methods are each used when they are most appropriate and the combined result of both methods is termed "extended range apparent resistivity". A gradual transition from the pseudo-layer derived resistivity to the amplitude-altitude method is employed if either the in-phase signal drops below 100ppm or the amplitude ($\sqrt{(\text{in-phase}^2 + \text{quadrature}^2)}$) drops below 141 ppm.

The combined extended range apparent resistivity algorithm provides the highest range of apparent resistivity measurements available from any airborne EM system, including the highest accuracy for bedrock resistivity in areas of moderate to high conductivity, and extended range of resistivity over resistive geology.

The resultant minimum and maximum values for each frequency range from a low of 0.1 ohm-m to a value in ohm-m approximately equal to the frequency of the signal, summarized as follows:

Frequency (Hz)	912	3005	11962	24510
Minimum (ohm-m)	0.1	0.1	0.1	0.1
Maximum (ohm-m)	912	3005	11962	24510

Values that fall outside these ranges are considered invalid, and are nulled.

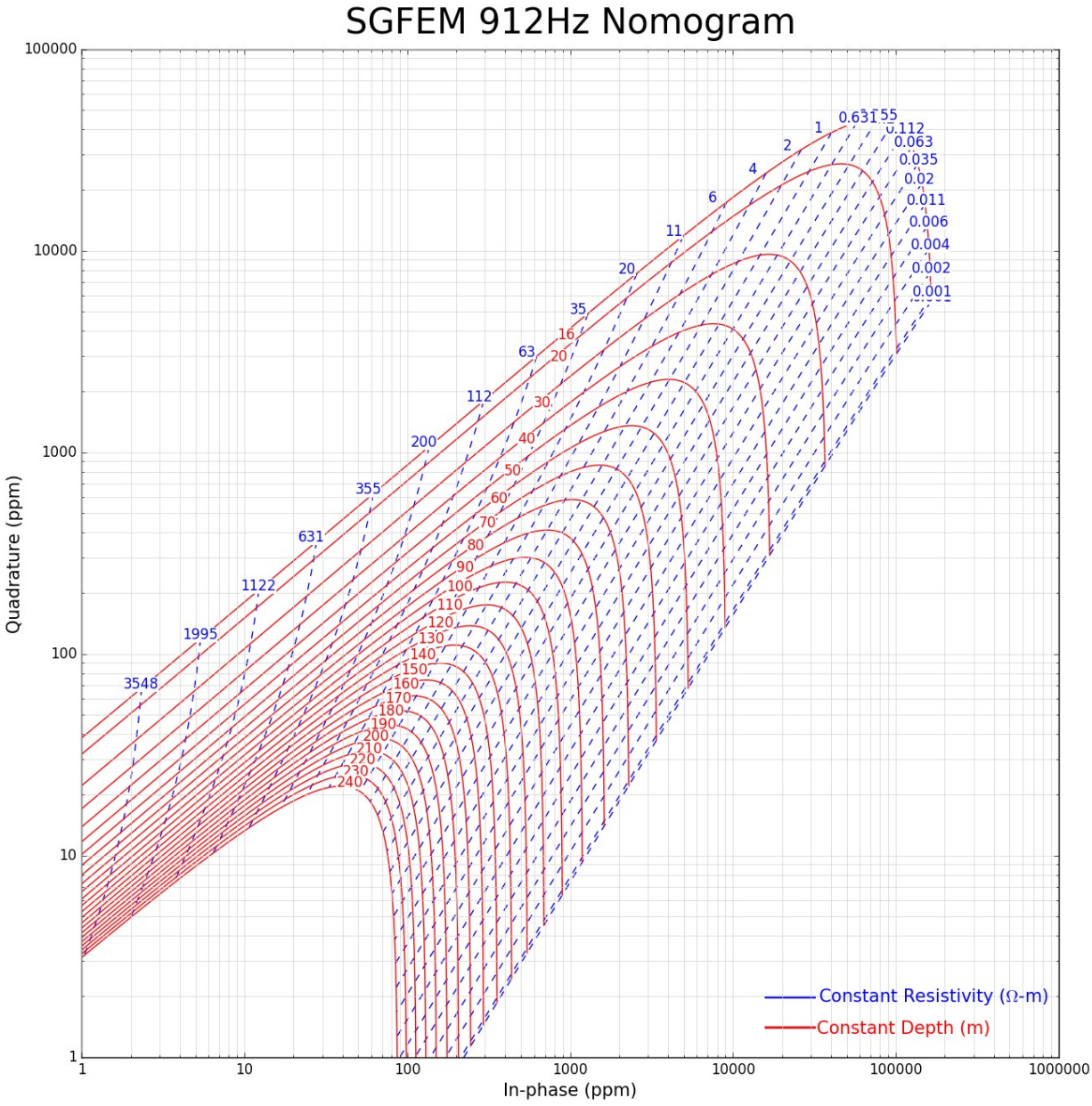


Figure 28: SGFEM 912Hz Nomogram

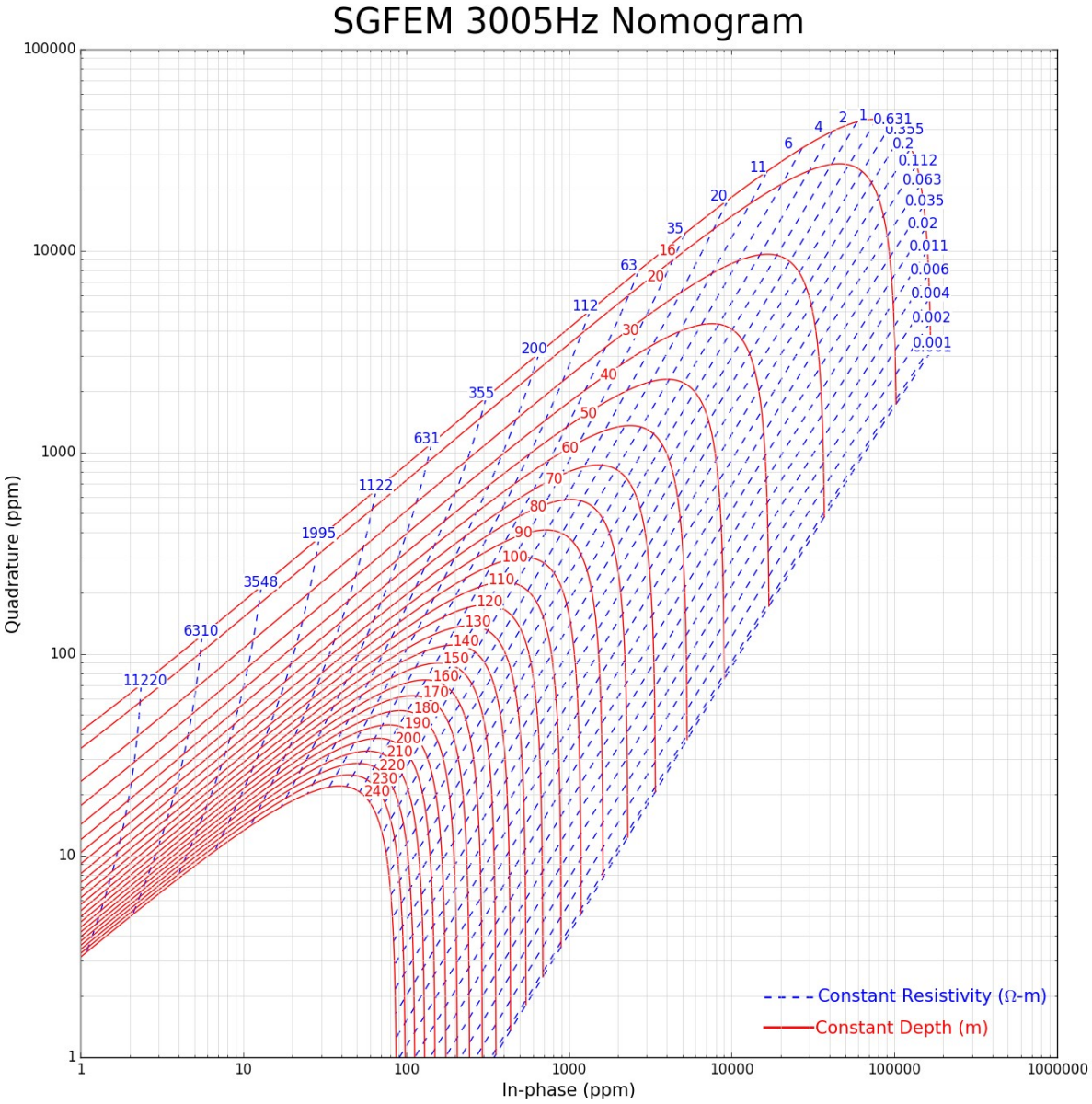


Figure 29: SGFEM 3005Hz Nomogram

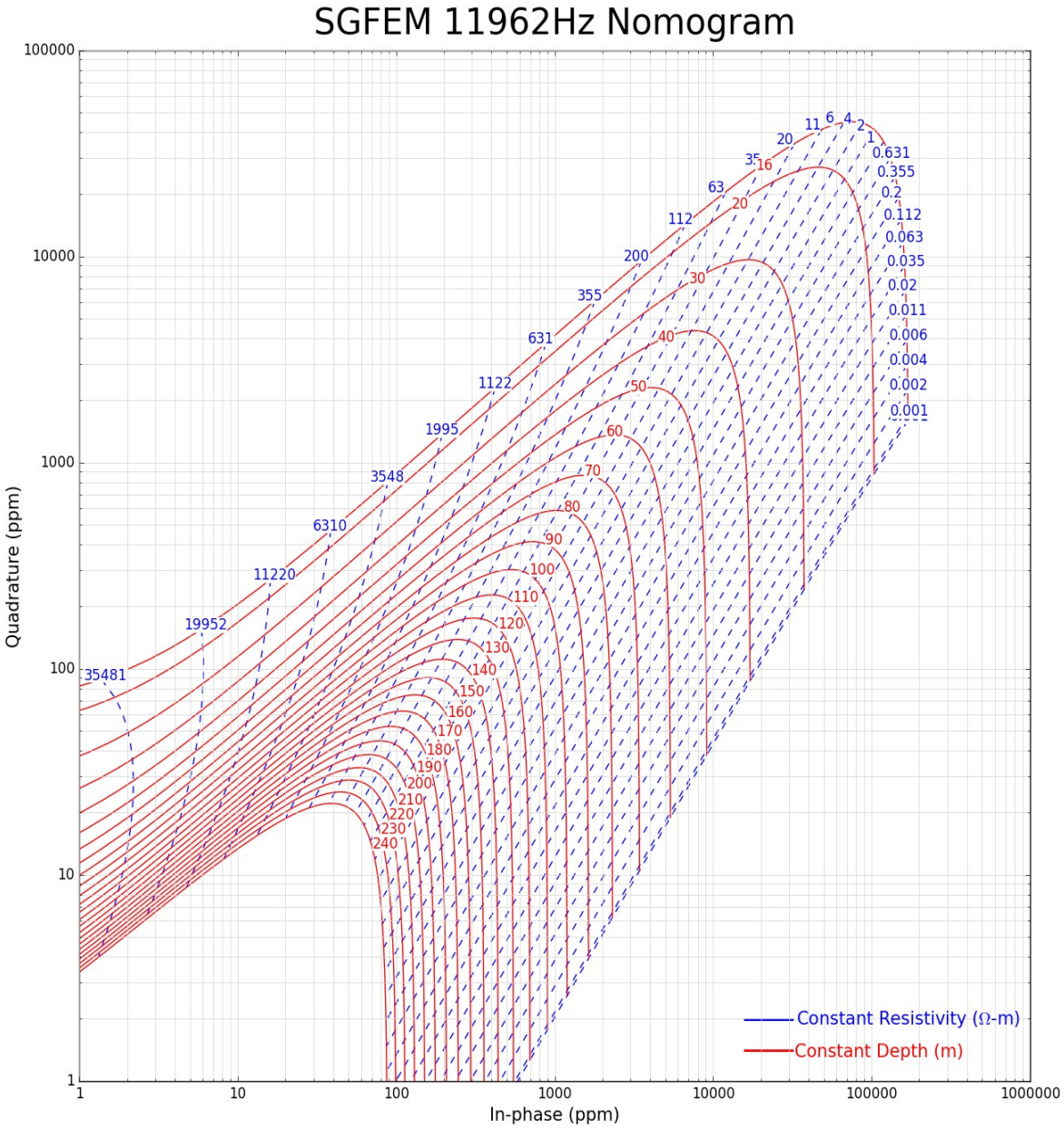


Figure 30: SGFEM 11962Hz Nomogram

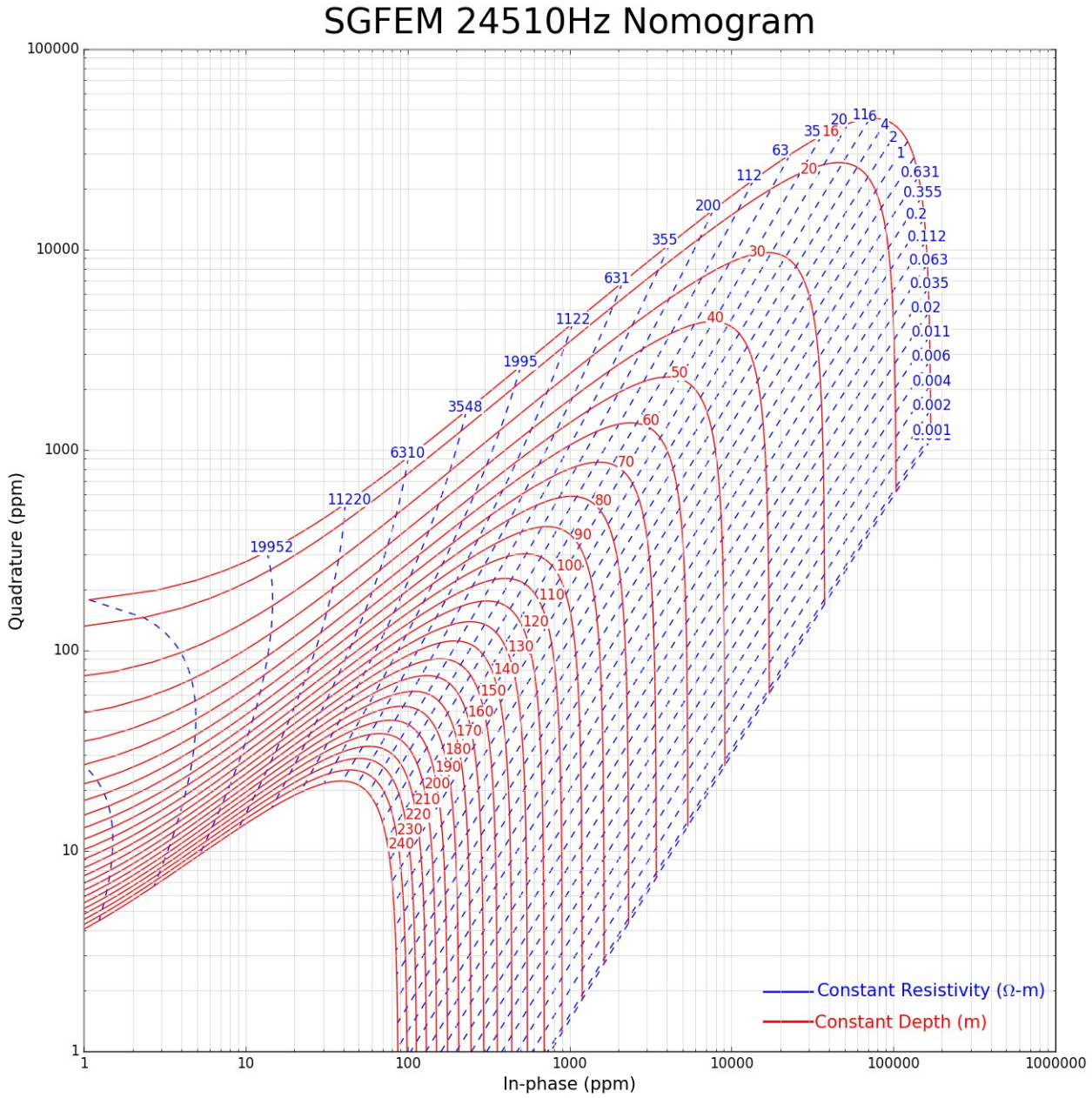


Figure 31: SGFEM 24510Hz Nomogram

Micro-levelling

For the purpose of micro-levelling, the log value of each resistivity is calculated. This approach is preferred because small changes in low resistivity values are as measurable and significant as large changes in large resistivity values. Micro-levelling was applied using the log grids to remove residual levelling errors from the gridded log of resistivity data. This was achieved by using a combined directional cosine filter and high pass Butterworth filter to identify and remove artifacts that are long wavelength parallel to survey lines and short wavelengths perpendicular to survey lines. A limit of +/-0.1 log (ohm-m) was set for all micro-levelling corrections. The cut-off wavelength of the directional Butterworth filter was chosen to be 800 metres for each frequency and component. The micro-levelling corrections are converted back to ohm-m and applied to the resistivity data.

Gridding

All grids were made using a bi-directional Akima spline gridding routine which is appropriate for the high range of EM data. The final grids of the electromagnetic data were created with 50 m grid cell size appropriate for survey lines spaced at 200 m.

Conductivity Depth Images

The Conductivity Depth Image (CDI) used here is a type of apparent resistivity section first defined by Sengpiel (1988, Geophysical Prospecting v.36 p.446-459) then refined in Sengpiel and Siemon (1998, Exploration Geophysics v.9 p.133-141). The conductivity depth section is created by assigning "a centroid depth z* to the half-space resistivity ρa" (Sengpiel and Siemon, 1998).

The centroid depth $z^*p = Da - h0 + pa/2$

where:

Da is the apparent height above ground in m (see above),
h0 is the measured height above ground in m (eg. from laser or radar altimeter),
and
pa is the skin depth = 503 √(resistivity (ohm-m)/frequency (Hz)).

At SGL we do not use the apparent depth term (Da – h0) in calculation of the centroid depth because in conditions where the measured altitude is affected by tree cover this will add an artificial error to the centroid depth. Also in conditions of near-surface conductivity the resultant negative apparent depth (Da – h0) is not directly equivalent to the depth to the top of the layer. Therefore in our calculations, the centroid depth is simply equal to the skin depth divided by two as defined above.

A series of profiles are created for each resistivity and centroid depth along each survey line. In cases where the profiles cross, preference is given to the shallower profile derived from the higher frequency which is considered to be more reliable. The resistivity is then linearly interpolated in the vertical direction between the profiles and the lowest resistivity profile value is projected for an additional depth equal to 25% of the depth of the lowest profile to create the full CDI.

Depth Slices

The final step is to extract resistivity at specific depths from the CDIs of each survey line and grid them using a bi-directional Akima spline gridding algorithm to provide maps of resistivity at specific depths, or so called "depth slices". Depth slices at 10m, 30m, 60m and 100m below the surface have been generated. The gridded data is micro-levelled to produce an even grid without line related artifacts.

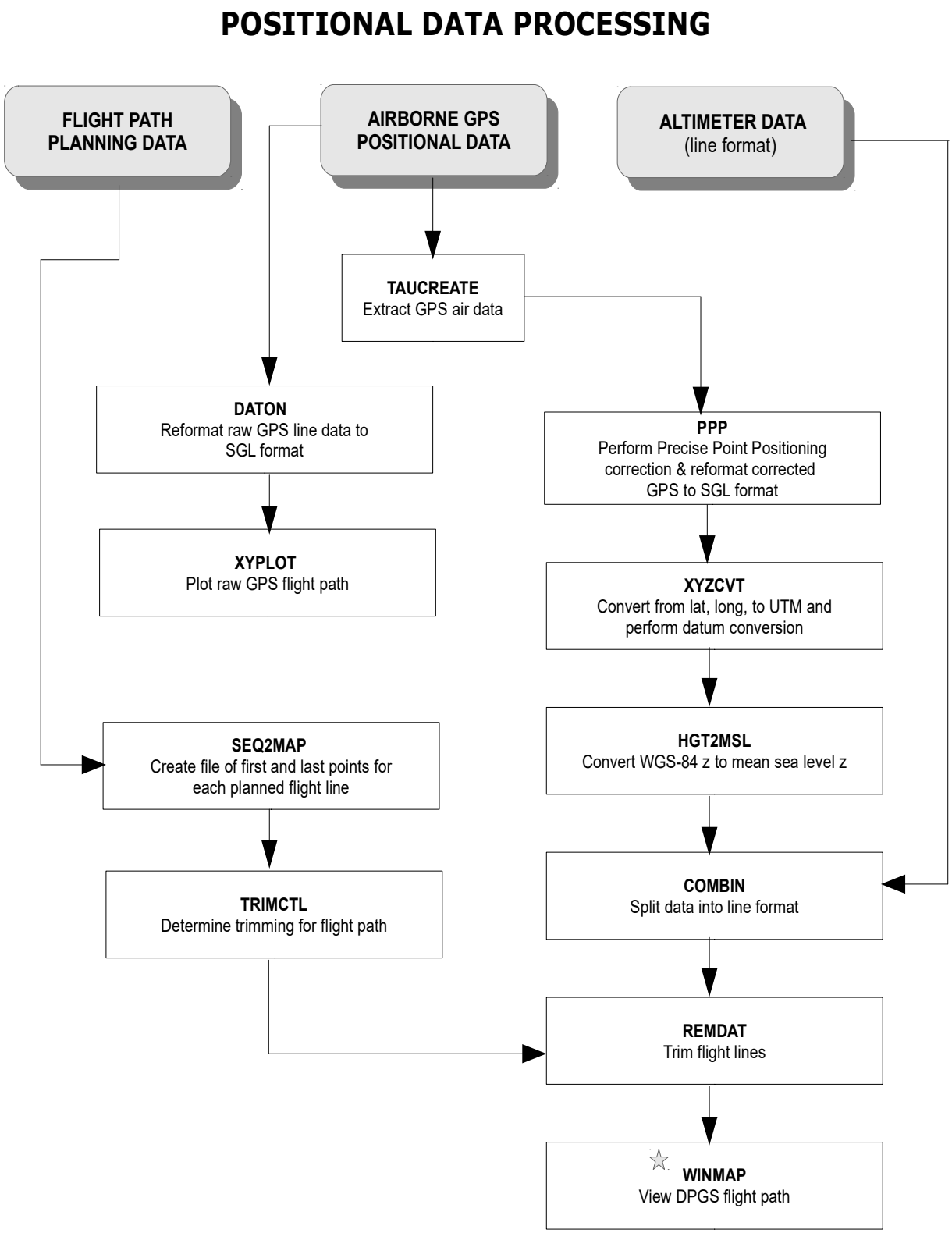


Figure 32: Positional data processing flowchart

Positional Data

A positional data flowchart is presented in *Figure 32*. A number of programs were executed for the compilation of navigation data in order to reformat and recalculate positions in differential mode. SGL's GPS data processing package, GPSoft, was used to calculate DGPS positions from raw 10 Hz range data obtained from the moving (airborne) and stationary (ground) receivers using combinations of L1 and L2 phase signal.

Accurate locations of the GPS antenna on the aircraft were determined through Precise Point Positioning (PPP) differential corrections using the algorithm developed by the National Research Council of Canada (NRCAN) (http://webapp.geod.nrcan.gc.ca/geod/tools-outils/ppp.php) adapted to run under SGL's suite of software. This technique provides a final receiver location with an accuracy of better than 5 cm.

Positional data (x, y, z) were recorded and all data processing was performed in the WGS-84 datum. Please see *Table 19* for ellipsoid parameters. Positions were calculated and delivered in the WGS-84 datum, UTM projection zone UTM29N. The delivered data are provided with x, y locations converted to the Irish National Grid (IRENET95 Datum, Irish Transverse Mercator projection). See *Tables 18* and *19* for the ellipsoid parameters and the datum conversion parameters, and *Table 21* for the projection parameters.

Table 19: Ellipsoid parameters for WGS-84

Ellipsoid	WGS-84
Semi-major axis	6378137.0
1/flattening	298.257223563

Table 20: Ellipsoid parameters for IRENET95

Ellipsoid	GRS-80
Semi-major axis	6378137.0
1/flattening	298.257222101

Table 21: Datum conversion parameters from IRENET95 to WGS-84

x shift (m)	0
y shift (m)	0
z shift (m)	0
x rotation (rad)	0
y rotation (rad)	0
z rotation (rad)	0

Table 22: Irish Transverse Mercator projection Parameters

Central meridian	8° West
Latitude of origin	53.5° North
False northing (m)	750,000
False easting (m)	600,000
Scale factor	0.999820

Elevation data were recorded relative to the GRS-80 ellipsoid and transformed to mean sea level (MSL) using the Earth Gravitational Model 2008 (EGM2008).

Laser Altimeter Data

The laser altimeter was modified to record terrain clearances at 20 Hz, with a maximum recorded clearance of 338 m. Laser data was corrected for attitude using pitch, roll and azimuth data recorded by the Sandel attitude and heading reference system SG102 unit. A "laser clearance" value was derived based on a combination of laser data as the primary altimeter, replaced by Collins radar altimeter data up to 600 m above ground and then by a height above ground value determined by subtracting SRTM data from the GPS altitude when there were gaps in the laser recording.

Digital Elevation Models (DEMs) with respect to Mean Sea Level (MSL) were derived from a combination of the laser clearance and the GPS altitude. The DEMs were set to zero over the sea. This zero correction was also applied to the delivered laser clearance channel. The DEM provided as a channel and as a grid is the version derived from the combination of laser clearance and GPS altitude.

10. FINAL PRODUCTS

Magnetic Line Data Format

A listing of the data channels delivered in ASCII format with a sampling rate of 10 Hz can be found in *Table 23*.

Table 23: Magnetic line data channels and format

Name	Units	Field Length	Null	Description
LINE	-	8	-	Line Number - LLLL.SR (L=line, S=segment, R=reflight)
FLT	-	5	-	Flight Number
DATE	-	10	-	Date YYYYMMDD
DAY	-	5	-	Day of year
TIME	sec	10	-	Fiducial Seconds
LAT	degree	13	*	Latitude, WGS-84
LONG	degree	13	*	Longitude, WGS-84
UTM-X	m	11		X coordinate, WGS-84 UTM 29N
UTM-Y	m	12		Y coordinate, WGS-84 UTM 29N
UTM-Z	m	10		GPS Elevation above WGS-84 Ellipsoid
ITM-X	m	11	*	X coordinate, IRENET95 ITM
ITM-Y	m	11	*	Y coordinate, IRENET95 ITM
MSLHGT	m	10	*	GPS Elevation above Mean Sea Level
GCLEAR	m	10	*	Clearance above Terrain
DEM	m	10	*	DEM from Laser & GPS with respect to Mean Sea Level
DICOR	nT	11	*	Diurnal Magnetic Field from reference station
MAG-uncomp	nT	11	*	Uncompensated Airborne Magnetic Field
MAG-comp	nT	11	*	Compensated Airborne Magnetic Field
IGRF	nT	11	*	IGRF Correction
MAG-Lag	nT	11	*	Tail Lag Corrected Airborne Magnetic Field
MAG-DC	nT	11	*	Diurnally Corrected Airborne Magnetic Field
MAG-IGRF	nT	11	*	IGRF Corrected Airborne Magnetic Field
MAG-LEV	nT	11	*	Levelled Airborne Magnetic Field
MAG-MIC	nT	11	*	Microlevelled Airborne Magnetic Field

Radiometric Line Data Format

A listing of the data channels delivered in ASCII format with a sampling rate of 1 Hz can be found in *Table 24*.

Table 24: Radiometric line data channels and format

Title	Size	Units	Null	Description
LINE	08	-	-	Line number - LLLL.SR (L=line, S=segment, R=reflight)
FLT	06	-	-	Flight Number
DATE	10	-	-	Date YYYYMMDD
DAY	05	-	-	Day of year
TIME	10	sec	-	Fiducial Seconds
LAT	13	degree	*	Latitude, WGS-84
LONG	13	degree	*	Longitude, WGS-84
ITM-X	11	m	*	X coordinate, IRENET95 ITM
ITM-Y	11	m	*	Y coordinate, IRENET95 ITM
UTM-X	11	m	*	X coordinate, WGS-84 UTM 29N
UTM-Y	12	m	*	Y coordinate, WGS-84 UTM 29N
UTM-Z	10	m	*	GPS Elevation above WGS-84 Ellipsoid
MSLHGT	10	m	*	GPS Elevation above Mean Sea Level
GCLEAR	10	m	*	Clearance above Terrain from GPS
LASER	10	m	*	Laser Altimeter
LCLEAR	10	m	*	Clearance above Terrain from Laser & GPS
DEM	10	m	*	DEM from Laser & GPS with respect to Mean Sea Level
TEMP	11	degree C	*	Temperature
BARO	11	m	*	Barometric Pressure Altitude
E_HGT	11	m	*	Effective Height at Standard Temperature and Pressure
R_LIVE	08	msec	*	Gamma-ray spectrometer live time
R_COS	10	counts/s	*	Recorded Cosmic Count
R_UPU	10	counts/s	*	Recorded Up-Looking Uranium Count
R_TOT	10	counts/s	*	Recorded Total Count, de-lagged
R_POT	10	counts/s	*	Recorded Potassium Count, de-lagged
R_URA	10	counts/s	*	Recorded Uranium Count, de-lagged
R_THO	10	counts/s	*	Recorded Thorium Count, de-lagged
C_TOT_D	10	counts/s	*	Corrected Total Count, de-lagged, DPF

Title	Size	Units	Null	Description
C_POT_D	10	%	*	Corrected Potassium Concentration, de-lagged, DPF
C_URA_D	10	ppm	*	Corrected Uranium Concentration, de-lagged, DPF
C_THO_D	10	ppm	*	Corrected Thorium Concentration, de-lagged, DPF
C_TOT_DL	10	counts/s	*	Corrected Total Count, de-lagged, DPF and minimum limited to 0
C_POT_DL	10	%	*	Corrected Potassium Concentration, de-lagged, DPF and minimum limited to 0
C_URA_DL	10	ppm	*	Corrected Uranium Concentration, de-lagged, DPF and minimum limited to 0
C_THO_DL	10	ppm	*	Corrected Thorium Concentration, de-lagged, DPF and minimum limited to 0
E_DOSE	10	nGy/hr	*	Air absorbed dose rate
RUT	10	ppm/ppm	*	Uranium / Thorium Ratio
RUK	10	ppm/%	*	Uranium / Potassium Ratio
RTK	10	ppm/%	*	Thorium / Potassium Ratio

Frequency-Domain Electromagnetic Line Data Format

A listing of the data channels delivered in ASCII format with a sampling rate of 10 Hz can be found in *Table 25*.

Table 25: F.E.M. line data channels and format

Title	Size	Units	Null	Description
LINE	08	-	-	Line number - LLLL.SR (L=line, S=segment, R=reflight)
FLT	05	-	-	Flight number
DATE	10	-	-	Date YYYYMMDD
DAY	05	-	-	Day of year
TIME	10	sec	-	Fiducial seconds
LAT	13	degree	*	Latitude, WGS-84
LONG	13	degree	*	Longitude, WGS-84
ITM-X	11	m	*	X coordinate, IRENET95 ITM
ITM-Y	11	m	*	Y coordinate, IRENET95 ITM
UTM-X	11	m	*	X coordinate, WGS-84 UTM 29N
UTM-Y	12	m	*	Y coordinate, WGS-84 UTM 29N
UTM-Z	10	m	*	GPS Elevation above WGS-84 Ellipsoid
MSLHGT	10	m	*	GPS Elevation above Mean Sea Level

Title	Size	Units	Null	Description
CLEARANCE	13	m	*	Clearance above Terrain from Laser
DEM	07	m	*	DEM for Laser with respect to Mean Sea Level
TEMP	08	degree C	*	Temperature
P09ppm	09	ppm	*	In-phase 912 Hz
Q09ppm	09	ppm	*	Quadrature 912 Hz
P3ppm	09	ppm	*	In-phase 3005 Hz
Q3ppm	09	ppm	*	Quadrature 3005 Hz
P12ppm	09	ppm	*	In-phase 11962 Hz
Q12ppm	09	ppm	*	Quadrature 11962 Hz
P25ppm	09	ppm	*	In-phase 24510 Hz
Q25ppm	09	ppm	*	Quadrature 24510 Hz
P09filt	09	ppm	*	Filtered in-phase 912 Hz
Q09filt	09	ppm	*	Filtered quadrature 912 Hz
P3filt	09	ppm	*	Filtered in-phase 3005 Hz
Q3filt	09	ppm	*	Filtered quadrature 3005 Hz
P12filt	09	ppm	*	Filtered in-phase 11962 Hz
Q12filt	09	ppm	*	Filtered quadrature 11962 Hz
P25filt	09	ppm	*	Filtered in-phase 24510 Hz
Q25filt	09	ppm	*	Filtered quadrature 24510 Hz
P09lev	09	ppm	*	Levelled and filtered in-phase 912 Hz
Q09lev	09	ppm	*	Levelled and filtered quadrature 912 Hz
P3lev	09	ppm	*	Levelled and filtered in-phase 3005 Hz
Q3lev	09	ppm	*	Levelled and filtered quadrature 3005 Hz
P12lev	09	ppm	*	Levelled and filtered in-phase 11962 Hz
Q12lev	09	ppm	*	Levelled and filtered quadrature 11962 Hz
P25lev	09	ppm	*	Levelled and filtered in-phase 24510 Hz
Q25lev	09	ppm	*	Levelled and filtered quadrature 24510 Hz
Radio_Flag	11	-	*	Radio call flag
PLM_nT	11	nT	*	Power line monitor
ExtendedRes09	18	ohm-m	*	Extended range resistivity, half-space model, 912 Hz
ExtendedRes3	18	ohm-m	*	Extended range resistivity, half-space model, 3005 Hz

Title	Size	Units	Null	Description
ExtendedRes12	18	ohm-m	*	Extended range resistivity, half-space model, 11962 Hz
ExtendedRes25	18	ohm-m	*	Extended range resistivity, half-space model, 24510 Hz
ExtendedRes09_GRID	20	ohm-m	*	Microlevelled extended range resistivity, half-space model, 912 Hz, for gridding, nulled >120 m
ExtendedRes3_GRID	20	ohm-m	*	Microlevelled extended range resistivity, half-space model, 3005 Hz, for gridding, nulled >120 m
ExtendedRes12_GRID	20	ohm-m	*	Microlevelled extended range resistivity, half-space model, 11962 Hz, for gridding, nulled >120 m
ExtendedRes25_GRID	20	ohm-m	*	Microlevelled extended range resistivity, half-space model, 24510 Hz, for gridding, nulled >120 m
ExtendedDepth09	17	m	*	Extended range centroid depth 912 Hz
ExtendedDepth3	17	m	*	Extended range centroid depth 3005 Hz
ExtendedDepth12	17	m	*	Extended range centroid depth 11962 Hz
ExtendedDepth25	17	m	*	Extended range centroid depth 24510 Hz
ExtendedResSlice10	21	ohm-m	*	Extended range resistivity depth slice at 10 m
ExtendedResSlice30	21	ohm-m	*	Extended range resistivity depth slice at 30 m
ExtendedResSlice60	21	ohm-m	*	Extended range resistivity depth slice at 60 m
ExtendedResSlice100	21	ohm-m	*	Extended range resistivity depth slice at 100 m
ExtendedResSlice10_GRID	25	ohm-m	*	Microlevelled extended range resistivity depth slice at 10 m, for gridding, nulled >120 m
ExtendedResSlice30_GRID	25	ohm-m	*	Microlevelled extended range resistivity depth slice at 30 m, for gridding, nulled >120 m
ExtendedResSlice60_GRID	25	ohm-m	*	Microlevelled extended range resistivity depth slice at 60 m, for gridding, nulled >120 m
ExtendedResSlice100_GRID	25	ohm-m	*	Microlevelled extended range resistivity depth slice at 100 m, for gridding, nulled >120 m

Full Spectrum Spectrometer Line Data Format

A listing of the data channels delivered in ASCII format with a sampling rate of 1 Hz can be found in *Table 26*.

File Names: 1024DOWN-A6.xyz, 1024UP-A6.xyz

Table 26: Full spectrum spectrometer line data channels and format

Column	Title	Size	Units	Null	Description
01	TIME	9	s	-	Fiducial Seconds
02	LIVE	6	msec	-	Live time
03	S:1	6	counts	-	Spectrometer channel 1
04	S:2	6	counts	-	Spectrometer channel 2
.	.	.		.	.
.	.	.	.	.	.
.	.	.	.	.	.
1026	S:1024	6	counts	-	Spectrometer channel 1024

Digital Grids

The following are provided as digital grids:

Formats:	ASCII (.XYZ), Geosoft Binary (.GRD), Grid Exchange (.GXF)
Grid Cell Size:	50 m
Datum:	IRENET95
Projection:	Irish Transverse Mercator (ITM)

Table 27: Delivered digital grids

Grid File Name	Units	Description
AMF	nT	Magnetic Anomaly
FVM	nT/m	First Vertical Derivative of Magnetic Anomaly
TER	m	Digital Elevation Model from Clearance
TOT	counts/sec	Total counts
POT	%	Potassium
THO	ppm	Equivalent Thorium
URA	ppm	Equivalent Uranium
P09	ppm	In-phase, 912 Hz, levelled
Q09	ppm	Quadrature, 912 Hz, levelled
P3	ppm	In-phase, 3005 Hz, levelled
Q3	ppm	Quadrature, 3005 Hz, levelled
P12	ppm	In-phase, 11962 Hz, levelled
Q12	ppm	Quadrature, 11962 Hz, levelled

Grid File Name	Units	Description
P25	ppm	In-phase, 24510 Hz, levelled
Q25	ppm	Quadrature, 24510 Hz, levelled
ExtendedRes09	ohm-m	Microlevelled extended range resistivity, half-space model, 912 Hz, nulled >120 m
ExtendedRes3	ohm-m	Microlevelled extended range resistivity, half-space model, 3005 Hz, nulled >120 m
ExtendedRes12	ohm-m	Microlevelled extended range resistivity, half-space model, 11962 Hz, nulled >120 m
ExtendedRes25	ohm-m	Microlevelled extended range resistivity, half-space model, 24510 Hz, nulled >120 m
ExtendedResSlice10	ohm-m	Microlevelled extended range resistivity depth slice at 10m, nulled >120 m
ExtendedResSlice30	ohm-m	Microlevelled extended range resistivity depth slice at 30m, nulled >120 m
ExtendedResSlice60	ohm-m	Microlevelled extended range resistivity depth slice at 60m, nulled >120 m
ExtendedResSlice100	ohm-m	Microlevelled extended range resistivity depth slice at 100m, nulled >120 m

Digital Video

Please see *Appendix XIII* for Digital Video Inventory.

SGL

Appendix I

COMPANY PROFILE

ABOUT US

Sander Geophysics Limited (SGL) provides worldwide airborne geophysical surveys for petroleum and mineral exploration, and geological and environmental mapping. Services offered include high resolution airborne gravity, magnetic, electromagnetic, and radiometric surveys, using fixed-wing aircraft and helicopters.

SGL head office in Ottawa, Canada

Dr. George W. Sander (1924-2008) founded SGL in 1956 to provide ground geophysical surveys. The first airborne surveys were performed as early as 1958, and by 1967 airborne geophysical surveys were the company's main focus. Operations have expanded steadily since SGL was founded 60 years ago. The company is led by co-Presidents Luise Sander and Stephan Sander.

WORLDWIDE OPERATIONS

SGL's head office and aircraft maintenance hangar are located at the International Airport in Ottawa, Canada. Sander Geophysics has operated on every continent including Antarctica, over diverse conditions ranging from the tropics to deserts, mountains and offshore.

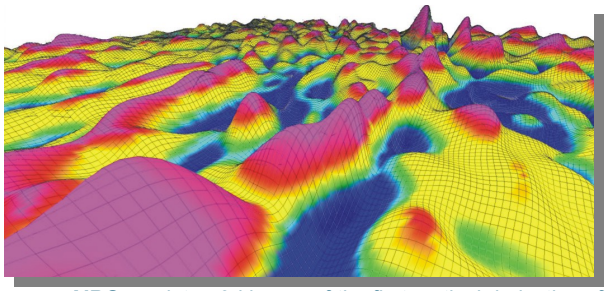
Facilities at the head office include a state of the art data processing department with an integrated digital cartographic department and a fully equipped electronics workshop for research, development and production of geophysical instruments. A Transport Canada Approved Maintenance Organization (AMO) for fixed-wing aircraft and helicopters allows most aircraft maintenance and modifications to be performed in-house.

SERVICES

AIRBORNE SURVEYS

- **Gravity (AIRGrav)**
- **Magnetic Total Field**
- **Magnetic Gradient**
- **Electromagnetic**
- **Gamma-ray Spectrometer**
- **Scanning LiDAR**

SGL offers gravity surveys with **AIRGrav** (Airborne Inertially Referenced Gravimeter), which was designed specifically for the unique characteristics of the airborne environment and is the highest resolution airborne gravimeter available. **AIRGrav** can be flown in an efficient survey aircraft during normal daytime conditions and is routinely flown in combination with magnetometer systems in SGL's airplanes and helicopters.



***AIRGrav** data: 3d image of the first vertical derivative of terrain corrected Bouguer gravity*

DATA PROCESSING

Immediate data processing is part of SGL's standard quality control procedure, and provides clients with rapid results for evaluation while a survey is in progress. Sander Geophysics offers a full range of data enhancement programs and integrated interpretation services by experienced geoscientists. Available products in digital and/or hard copy include:

- **Contour, colour or shaded relief maps of any parameter or combination of parameters**
- **NASVD processed gamma-ray spectrometer data**

- **Filtered line or grid products such as vertical or horizontal gradients, frequency slices, high/low-pass or band-pass filtered, amplitude of the analytic signal, reduction to the pole, upward or downward continuation**
- **Computed depth to basement**
- **Calculated digital terrain models**
- **Two- or three-dimensional modelling**
- **Cultural editing**
- **Complete geophysical interpretative reports**

ENVIRONMENTAL MONITORING

The company also provides environmental monitoring services using gamma-ray spectrometers and specialized processing to detect and quantify natural and anthropogenic radiation.

HEALTH & SAFETY

Sander Geophysics is a founding and active executive member of the International Airborne Geophysics Safety Association (IAGSA), which promotes the safe operation of helicopters and fixed-wing aircraft on airborne geophysical surveys.

SGL has developed and implemented a Safety Management System (SMS) and comprehensive Health, Safety and Environment (HSE) policies that govern all aspects of company operations. Safety initiatives include:

- **Project-specific Aviation Risk Analysis (ARA) and Personnel Risk Analysis (PRA) for all surveys**
- **Real-time satellite tracking of SGL aircraft**
- **HSE and first aid training for all field personnel**
- **Low-level flight and aircraft simulator training for pilots**
- **Advanced safety training appropriate to the survey location, such as water-egress, wilderness survival, etc.**

SGL's excellent safety record reflects the quality and experience of its survey crews. This, combined with management's ongoing commitment to safety, helps to ensure that Sander Geophysics is a safe and reliable choice for airborne geophysical surveys.

PERSONNEL

Sander Geophysics has over 160 experienced permanent employees, including geophysicists, software and hardware engineers, aircraft maintenance engineers and pilots.

AIRCRAFT

SGL owns and operates thirteen aircraft, including eight Cessna Grand Caravans and a Twin Otter all equipped for geophysical surveys.

The Grand Caravans have been modified to allow the installation of a tri-axial magnetic gradiometer system. The company's fleet also includes a de Havilland DHC-6 Twin Otter for airborne magnetic, gravity, radiometric and frequency-domain EM surveys, and two AS350 B3 helicopters equipped for gravity, magnetic and radiometric surveys. Extensive modifications have been made to all of the survey aircraft to accommodate geophysical instruments and to reduce the aircraft's magnetic field. Typical Figures of Merit (FOM) for Sander Geophysics' fixed-wing aircraft are less than 1 nT. The company's aircraft are flown and maintained by licensed and experienced permanent employees of Sander Geophysics.

SGL aircraft

RESEARCH & DEVELOPMENT

Nearly one-third of the company's resources are devoted to developing new and more efficient instrumentation for airborne geophysical surveying, and to further refine its full suite of software for geophysical data processing.

SGL

Appendix II

PLANNED SURVEY LINES
DATUM IRENET95

SEGMENT NO	START LAT	START LONG	END LAT	END LONG	LENGTH NM	LENGTH KM
C0701.0	N52:05.44	W006:38.08	N52:07.11	W006:27.11	6.97	12.90
C0702.0	N52:06.49	W006:38.50	N52:09.85	W006:16.29	14.09	26.10
C0703.0	N52:07.54	W006:38.92	N52:10.89	W006:16.70	14.09	26.10
C0704.0	N52:05.94	W006:56.51	N52:07.40	W006:47.08	5.99	11.10
C0704.1	N52:08.59	W006:39.34	N52:11.94	W006:17.11	14.09	26.10
C0705.0	N52:06.99	W006:56.94	N52:12.99	W006:17.53	25.00	46.30
C0706.0	N52:08.03	W006:57.37	N52:14.04	W006:17.94	25.00	46.30
C0707.0	N52:09.08	W006:57.80	N52:15.08	W006:18.36	25.00	46.30
C0708.0	N52:10.12	W006:58.23	N52:16.13	W006:18.77	25.00	46.30
C0709.0	N52:11.17	W006:58.66	N52:17.18	W006:19.19	25.00	46.30
C0710.0	N52:12.21	W006:59.09	N52:18.23	W006:19.60	25.00	46.30
C0711.0	N52:13.26	W006:59.52	N52:19.28	W006:20.02	25.00	46.30
C0712.0	N52:14.31	W006:59.95	N52:20.32	W006:20.44	25.00	46.30
C0713.0	N52:15.75	W006:57.83	N52:21.58	W006:19.48	24.24	44.90
C0714.0	N52:16.79	W006:58.26	N52:23.08	W006:16.82	26.19	48.50
C0715.0	N52:17.84	W006:58.69	N52:24.13	W006:17.23	26.19	48.50
C0716.0	N52:18.88	W006:59.12	N52:25.69	W006:14.22	28.35	52.50
C0717.0	N52:19.53	W007:02.11	N52:26.73	W006:14.64	29.97	55.50
C0718.0	N52:19.89	W007:06.98	N52:28.09	W006:12.99	34.07	63.10
C0719.0	N52:20.93	W007:07.42	N52:29.13	W006:13.41	34.07	63.10
C0720.0	N52:21.98	W007:07.85	N52:30.82	W006:09.53	36.77	68.10
C0721.0	N52:23.02	W007:08.29	N52:31.86	W006:09.94	36.77	68.10
C0722.0	N52:24.07	W007:08.73	N52:32.91	W006:10.36	36.77	68.10
C0723.0	N52:25.11	W007:09.16	N52:33.96	W006:10.77	36.77	68.10
C0724.0	N52:26.16	W007:09.60	N52:35.01	W006:11.19	36.77	68.10
C0725.0	N52:27.20	W007:10.04	N52:36.06	W006:11.60	36.77	68.10
C0726.0	N52:28.25	W007:10.47	N52:37.61	W006:08.57	38.93	72.10
C0727.0	N52:29.29	W007:10.91	N52:38.66	W006:08.99	38.93	72.10
C0728.0	N52:30.34	W007:11.35	N52:39.96	W006:07.68	40.01	74.10
C0729.0	N52:31.38	W007:11.79	N52:41.01	W006:08.09	40.01	74.10
C0730.0	N52:32.43	W007:12.23	N52:42.29	W006:06.93	40.99	75.92
C0731.0	N52:33.47	W007:12.67	N52:43.81	W006:04.07	43.04	79.72
C0732.0	N52:34.52	W007:13.10	N52:44.86	W006:04.49	43.04	79.72
C0733.0	N52:37.51	W007:01.02	N52:45.91	W006:04.90	35.16	65.12
C0734.0	N52:38.55	W007:01.45	N52:46.96	W006:05.32	35.16	65.11
C0735.0	N52:39.60	W007:01.88	N52:48.00	W006:05.73	35.16	65.11
C0736.0	N52:40.64	W007:02.32	N52:49.78	W006:01.14	38.28	70.90
C0737.0	N52:42.35	W006:58.45	N52:50.83	W006:01.54	35.59	65.92
C0738.0	N52:43.40	W006:58.89	N52:51.88	W006:01.93	35.60	65.93
C0739.0	N52:44.44	W006:59.32	N52:53.13	W006:00.99	36.45	67.50
C0740.0	N52:45.49	W006:59.76	N52:54.77	W005:57.24	39.04	72.30
C0741.0	N52:46.53	W007:00.20	N52:55.82	W005:57.65	39.04	72.30
C0742.0	N52:47.58	W007:00.63	N52:56.87	W005:58.06	39.04	72.30
C0743.0	N52:48.62	W007:01.07	N52:57.92	W005:58.48	39.04	72.30
C0744.0	N52:49.67	W007:01.51	N52:58.97	W005:58.89	39.04	72.30
C0745.0	N52:50.72	W007:01.94	N53:00.02	W005:59.30	39.04	72.30
C0746.0	N52:52.77	W006:55.81	N53:01.07	W005:59.72	34.94	64.70
C0747.0	N52:53.81	W006:56.25	N53:02.12	W006:00.13	34.94	64.70
C0748.0	N52:54.86	W006:56.69	N53:03.17	W006:00.55	34.94	64.70
C0749.0	N52:55.90	W006:57.12	N53:04.21	W006:00.96	34.94	64.70
C0750.0	N52:56.95	W006:57.56	N53:05.26	W006:01.38	34.94	64.70
C0751.0	N52:57.99	W006:58.00	N53:06.21	W006:02.49	34.50	63.90
C0752.0	N52:59.04	W006:58.43	N53:06.33	W006:09.35	30.51	56.50
C0753.0	N53:00.09	W006:58.87	N53:06.42	W006:16.39	26.40	48.90
C0754.0	N53:01.13	W006:59.31	N53:06.52	W006:23.26	22.41	41.50
C0755.0	N53:02.18	W006:59.75	N53:06.60	W006:30.30	18.30	33.90
C0756.0	N53:03.22	W007:00.19	N53:06.69	W006:37.17	14.31	26.50
C0757.0	N53:04.27	W007:00.63	N53:06.75	W006:44.21	10.21	18.90
C0758.0	N53:05.31	W007:01.07	N53:06.80	W006:51.25	6.10	11.30
C0759.0	N53:06.36	W007:01.51	N53:06.87	W006:58.12	2.11	3.90
T7001.0	N52:19.69	W007:06.76	N52:34.62	W007:13.01	15.42	28.57
T7002.0	N52:19.72	W007:06.59	N52:34.64	W007:12.84	15.42	28.56
T7003.0	N52:19.75	W007:06.43	N52:34.67	W007:12.67	15.42	28.56

PLANNED SURVEY LINES
DATUM IRENET95

SEGMENT	START		END		LENGTH	
NO	LAT	LONG	LAT	LONG	NM	KM
T7004.0	N52:19.78	W007:06.26	N52:34.70	W007:12.49	15.42	28.55
T7005.0	N52:19.81	W007:06.09	N52:34.72	W007:12.32	15.41	28.54
T7006.0	N52:19.84	W007:05.92	N52:34.75	W007:12.15	15.41	28.54
T7007.0	N52:19.87	W007:05.75	N52:34.78	W007:11.98	15.41	28.53
T7008.0	N52:19.90	W007:05.58	N52:34.80	W007:11.81	15.40	28.53
T7009.0	N52:19.93	W007:05.41	N52:34.83	W007:11.64	15.40	28.52
T7010.0	N52:19.96	W007:05.24	N52:34.86	W007:11.47	15.40	28.52
T7011.0	N52:19.98	W007:05.07	N52:34.88	W007:11.29	15.39	28.51
T7012.0	N52:20.01	W007:04.90	N52:34.91	W007:11.12	15.39	28.50
T7013.0	N52:20.04	W007:04.73	N52:34.94	W007:10.95	15.39	28.50
T7014.0	N52:20.07	W007:04.56	N52:34.96	W007:10.78	15.39	28.49
T7015.0	N52:20.10	W007:04.39	N52:34.99	W007:10.61	15.38	28.49
T7016.0	N52:20.13	W007:04.22	N52:35.02	W007:10.44	15.38	28.48
T7017.0	N52:20.16	W007:04.05	N52:35.04	W007:10.26	15.38	28.48
T7018.0	N52:20.19	W007:03.88	N52:35.07	W007:10.09	15.37	28.47
T7019.0	N52:20.22	W007:03.71	N52:35.10	W007:09.92	15.37	28.47
T7020.0	N52:20.25	W007:03.55	N52:35.12	W007:09.75	15.37	28.46
T7021.0	N52:20.28	W007:03.38	N52:35.15	W007:09.58	15.36	28.45
T7022.0	N52:20.31	W007:03.21	N52:35.18	W007:09.41	15.36	28.45
T7023.0	N52:20.34	W007:03.04	N52:35.20	W007:09.24	15.36	28.44
T7024.0	N52:20.37	W007:02.87	N52:35.23	W007:09.06	15.36	28.44
T7025.0	N52:20.40	W007:02.70	N52:35.26	W007:08.89	15.35	28.43
T7026.0	N52:20.43	W007:02.53	N52:35.28	W007:08.72	15.35	28.43
T7027.0	N52:05.84	W006:56.34	N52:14.40	W006:59.86	8.84	16.37
T7027.1	N52:19.43	W007:01.94	N52:35.31	W007:08.55	16.40	30.38
T7028.0	N52:05.87	W006:56.17	N52:14.43	W006:59.69	8.84	16.37
T7028.1	N52:19.46	W007:01.76	N52:35.34	W007:08.38	16.40	30.38
T7029.0	N52:05.90	W006:56.00	N52:14.46	W006:59.52	8.84	16.37
T7029.1	N52:19.49	W007:01.59	N52:35.36	W007:08.21	16.40	30.38
T7030.0	N52:05.92	W006:55.83	N52:14.48	W006:59.35	8.84	16.37
T7030.1	N52:19.51	W007:01.42	N52:35.39	W007:08.03	16.40	30.38
T7031.0	N52:05.95	W006:55.66	N52:14.51	W006:59.18	8.84	16.37
T7031.1	N52:19.54	W007:01.25	N52:35.42	W007:07.86	16.40	30.38
T7032.0	N52:05.97	W006:55.49	N52:14.54	W006:59.00	8.84	16.37
T7032.1	N52:19.57	W007:01.08	N52:35.44	W007:07.69	16.40	30.38
T7033.0	N52:06.00	W006:55.32	N52:14.56	W006:58.83	8.84	16.37
T7033.1	N52:19.59	W007:00.91	N52:35.47	W007:07.52	16.40	30.38
T7034.0	N52:06.03	W006:55.15	N52:14.59	W006:58.66	8.84	16.37
T7034.1	N52:19.62	W007:00.74	N52:35.50	W007:07.35	16.40	30.38
T7035.0	N52:06.05	W006:54.98	N52:14.62	W006:58.49	8.84	16.37
T7035.1	N52:19.64	W007:00.57	N52:35.52	W007:07.18	16.40	30.38
T7036.0	N52:06.08	W006:54.81	N52:14.64	W006:58.32	8.84	16.37
T7036.1	N52:19.67	W007:00.40	N52:35.55	W007:07.00	16.40	30.38
T7037.0	N52:06.11	W006:54.64	N52:14.67	W006:58.15	8.84	16.37
T7037.1	N52:19.70	W007:00.23	N52:35.58	W007:06.83	16.40	30.38
T7038.0	N52:06.13	W006:54.47	N52:14.69	W006:57.98	8.84	16.37
T7038.1	N52:19.72	W007:00.06	N52:35.60	W007:06.66	16.40	30.38
T7039.0	N52:06.16	W006:54.30	N52:14.72	W006:57.81	8.84	16.37
T7039.1	N52:19.75	W006:59.89	N52:35.63	W007:06.49	16.40	30.38
T7040.0	N52:06.19	W006:54.13	N52:14.75	W006:57.64	8.84	16.37
T7040.1	N52:19.78	W006:59.72	N52:35.66	W007:06.32	16.41	30.38
T7041.0	N52:06.21	W006:53.96	N52:14.77	W006:57.47	8.84	16.37
T7041.1	N52:19.80	W006:59.55	N52:35.68	W007:06.15	16.41	30.38
T7042.0	N52:06.24	W006:53.79	N52:35.71	W007:05.97	30.44	56.37
T7043.0	N52:06.26	W006:53.62	N52:35.74	W007:05.80	30.44	56.37
T7044.0	N52:06.29	W006:53.45	N52:35.76	W007:05.63	30.44	56.37
T7045.0	N52:06.32	W006:53.28	N52:35.79	W007:05.46	30.44	56.37
T7046.0	N52:06.34	W006:53.11	N52:35.82	W007:05.29	30.44	56.37
T7047.0	N52:06.37	W006:52.94	N52:35.84	W007:05.12	30.44	56.37
T7048.0	N52:06.40	W006:52.77	N52:35.87	W007:04.94	30.44	56.37
T7049.0	N52:06.42	W006:52.60	N52:35.90	W007:04.77	30.44	56.37
T7050.0	N52:06.45	W006:52.43	N52:35.92	W007:04.60	30.44	56.37
T7051.0	N52:06.48	W006:52.26	N52:35.95	W007:04.43	30.44	56.37

PLANNED SURVEY LINES
DATUM IRENET95

SEGMENT	START		END		LENGTH	
NO	LAT	LONG	LAT	LONG	NM	KM
T7052.0	N52:06.50	W006:52.09	N52:35.98	W007:04.26	30.44	56.37
T7053.0	N52:06.53	W006:51.92	N52:36.00	W007:04.09	30.44	56.37
T7054.0	N52:06.55	W006:51.75	N52:36.03	W007:03.91	30.44	56.37
T7055.0	N52:06.58	W006:51.58	N52:36.06	W007:03.74	30.44	56.37
T7056.0	N52:06.61	W006:51.41	N52:36.08	W007:03.57	30.44	56.37
T7057.0	N52:06.63	W006:51.24	N52:36.11	W007:03.40	30.44	56.37
T7058.0	N52:06.66	W006:51.07	N52:36.14	W007:03.23	30.44	56.37
T7059.0	N52:06.69	W006:50.90	N52:36.16	W007:03.06	30.44	56.37
T7060.0	N52:06.71	W006:50.73	N52:36.19	W007:02.88	30.44	56.37
T7061.0	N52:06.74	W006:50.56	N52:36.22	W007:02.71	30.44	56.37
T7062.0	N52:06.76	W006:50.39	N52:36.24	W007:02.54	30.44	56.37
T7063.0	N52:06.79	W006:50.22	N52:36.27	W007:02.37	30.44	56.37
T7064.0	N52:06.82	W006:50.05	N52:36.29	W007:02.20	30.44	56.37
T7065.0	N52:06.84	W006:49.88	N52:36.32	W007:02.03	30.44	56.37
T7066.0	N52:06.87	W006:49.71	N52:36.35	W007:01.85	30.44	56.37
T7067.0	N52:06.90	W006:49.54	N52:36.37	W007:01.68	30.44	56.37
T7068.0	N52:06.92	W006:49.37	N52:36.40	W007:01.51	30.44	56.37
T7069.0	N52:06.95	W006:49.20	N52:36.43	W007:01.34	30.44	56.37
T7070.0	N52:06.97	W006:49.03	N52:36.45	W007:01.17	30.44	56.37
T7071.0	N52:07.00	W006:48.86	N52:36.48	W007:01.00	30.44	56.37
T7072.0	N52:07.03	W006:48.69	N52:36.51	W007:00.82	30.44	56.37
T7073.0	N52:07.05	W006:48.52	N52:36.53	W007:00.65	30.44	56.37
T7074.0	N52:07.08	W006:48.35	N52:40.74	W007:02.22	34.76	64.37
T7075.0	N52:07.11	W006:48.18	N52:40.77	W007:02.05	34.76	64.37
T7076.0	N52:07.13	W006:48.01	N52:40.79	W007:01.88	34.76	64.37
T7077.0	N52:07.16	W006:47.84	N52:40.82	W007:01.71	34.76	64.37
T7078.0	N52:07.18	W006:47.67	N52:40.85	W007:01.53	34.76	64.37
T7079.0	N52:07.21	W006:47.50	N52:40.87	W007:01.36	34.76	64.37
T7080.0	N52:07.24	W006:47.33	N52:40.90	W007:01.19	34.76	64.37
T7081.0	N52:07.26	W006:47.16	N52:40.93	W007:01.02	34.76	64.37
T7082.0	N52:08.32	W006:47.41	N52:40.95	W007:00.85	33.69	62.39
T7083.0	N52:08.35	W006:47.24	N52:40.98	W007:00.67	33.69	62.39
T7084.0	N52:08.38	W006:47.07	N52:41.01	W007:00.50	33.69	62.39
T7085.0	N52:08.40	W006:46.90	N52:41.03	W007:00.33	33.69	62.39
T7086.0	N52:08.43	W006:46.73	N52:41.06	W007:00.16	33.69	62.39
T7087.0	N52:08.46	W006:46.56	N52:41.09	W006:59.99	33.69	62.39
T7088.0	N52:08.48	W006:46.39	N52:41.11	W006:59.81	33.69	62.39
T7089.0	N52:08.51	W006:46.22	N52:41.14	W006:59.64	33.69	62.39
T7090.0	N52:08.54	W006:46.05	N52:41.17	W006:59.47	33.69	62.39
T7091.0	N52:08.56	W006:45.88	N52:41.19	W006:59.30	33.69	62.39
T7092.0	N52:08.59	W006:45.71	N52:41.22	W006:59.13	33.69	62.39
T7093.0	N52:08.62	W006:45.54	N52:41.24	W006:58.95	33.69	62.39
T7094.0	N52:08.64	W006:45.37	N52:41.27	W006:58.78	33.69	62.39
T7095.0	N52:08.67	W006:45.20	N52:41.30	W006:58.61	33.69	62.39
T7096.0	N52:08.69	W006:45.03	N52:41.32	W006:58.44	33.69	62.39
T7097.0	N52:08.72	W006:44.86	N52:41.35	W006:58.27	33.69	62.39
T7098.0	N52:08.75	W006:44.69	N52:41.38	W006:58.09	33.69	62.39
T7099.0	N52:08.77	W006:44.52	N52:50.81	W007:01.85	43.40	80.38
T7100.0	N52:08.80	W006:44.35	N52:50.84	W007:01.67	43.40	80.38
T7101.0	N52:08.83	W006:44.18	N52:50.87	W007:01.50	43.40	80.38
T7102.0	N52:08.85	W006:44.01	N52:50.89	W007:01.33	43.40	80.38
T7103.0	N52:08.88	W006:43.84	N52:50.92	W007:01.16	43.40	80.38
T7104.0	N52:08.90	W006:43.67	N52:50.95	W007:00.98	43.40	80.38
T7105.0	N52:08.93	W006:43.50	N52:50.97	W007:00.81	43.40	80.38
T7106.0	N52:08.96	W006:43.33	N52:51.00	W007:00.64	43.40	80.38
T7107.0	N52:08.98	W006:43.16	N52:51.03	W007:00.47	43.40	80.38
T7108.0	N52:09.01	W006:42.99	N52:51.05	W007:00.29	43.40	80.38
T7109.0	N52:09.04	W006:42.82	N52:51.08	W007:00.12	43.40	80.38
T7110.0	N52:09.06	W006:42.65	N52:51.10	W006:59.95	43.40	80.38
T7111.0	N52:09.09	W006:42.48	N52:51.13	W006:59.77	43.40	80.38
T7112.0	N52:09.12	W006:42.31	N52:51.16	W006:59.60	43.40	80.38
T7113.0	N52:09.14	W006:42.14	N52:51.18	W006:59.43	43.40	80.38
T7114.0	N52:09.17	W006:41.97	N52:51.21	W006:59.26	43.40	80.38

PLANNED SURVEY LINES
DATUM IRENET95

SEGMENT NO	START LAT	START LONG	END LAT	END LONG	LENGTH NM	LENGTH KM
T7115.0	N52:09.19	W006:41.80	N52:51.24	W006:59.08	43.40	80.38
T7116.0	N52:09.22	W006:41.63	N52:51.26	W006:58.91	43.40	80.38
T7117.0	N52:09.25	W006:41.46	N52:51.29	W006:58.74	43.40	80.38
T7118.0	N52:09.27	W006:41.29	N52:51.32	W006:58.57	43.40	80.38
T7119.0	N52:09.30	W006:41.12	N52:51.34	W006:58.39	43.40	80.38
T7120.0	N52:09.33	W006:40.95	N52:51.37	W006:58.22	43.40	80.38
T7121.0	N52:09.35	W006:40.78	N52:51.40	W006:58.05	43.40	80.38
T7122.0	N52:09.38	W006:40.61	N52:51.42	W006:57.87	43.40	80.38
T7123.0	N52:09.40	W006:40.44	N52:51.45	W006:57.70	43.40	80.37
T7124.0	N52:09.43	W006:40.27	N52:51.47	W006:57.53	43.40	80.37
T7125.0	N52:09.46	W006:40.10	N52:51.50	W006:57.36	43.40	80.37
T7126.0	N52:09.48	W006:39.93	N52:51.53	W006:57.18	43.40	80.37
T7127.0	N52:09.51	W006:39.76	N52:51.55	W006:57.01	43.40	80.37
T7128.0	N52:05.32	W006:37.89	N52:51.58	W006:56.84	47.75	88.43
T7129.0	N52:05.34	W006:37.72	N52:51.61	W006:56.66	47.75	88.43
T7130.0	N52:05.37	W006:37.55	N52:51.63	W006:56.49	47.75	88.43
T7131.0	N52:05.39	W006:37.38	N52:51.66	W006:56.32	47.75	88.43
T7132.0	N52:05.42	W006:37.21	N52:51.69	W006:56.15	47.75	88.43
T7133.0	N52:05.45	W006:37.04	N52:51.71	W006:55.97	47.75	88.43
T7134.0	N52:05.47	W006:36.87	N52:51.74	W006:55.80	47.75	88.43
T7135.0	N52:05.50	W006:36.70	N52:51.76	W006:55.63	47.75	88.43
T7136.0	N52:05.52	W006:36.53	N52:51.79	W006:55.46	47.75	88.43
T7137.0	N52:05.55	W006:36.36	N53:06.46	W007:01.41	62.87	116.43
T7138.0	N52:05.58	W006:36.19	N53:06.48	W007:01.23	62.87	116.43
T7139.0	N52:05.60	W006:36.02	N53:06.51	W007:01.06	62.87	116.43
T7140.0	N52:05.63	W006:35.85	N53:06.54	W007:00.89	62.87	116.43
T7141.0	N52:05.66	W006:35.68	N53:06.56	W007:00.71	62.87	116.43
T7142.0	N52:05.68	W006:35.51	N53:06.59	W007:00.54	62.87	116.43
T7143.0	N52:05.71	W006:35.34	N53:06.62	W007:00.37	62.87	116.43
T7144.0	N52:05.73	W006:35.17	N53:06.64	W007:00.19	62.87	116.43
T7145.0	N52:05.76	W006:35.00	N53:06.67	W007:00.02	62.87	116.43
T7146.0	N52:05.79	W006:34.83	N53:06.69	W006:59.84	62.87	116.43
T7147.0	N52:05.81	W006:34.66	N53:06.72	W006:59.67	62.87	116.43
T7148.0	N52:05.84	W006:34.49	N53:06.75	W006:59.50	62.87	116.43
T7149.0	N52:05.86	W006:34.32	N53:06.77	W006:59.32	62.86	116.43
T7150.0	N52:05.89	W006:34.15	N53:06.80	W006:59.15	62.86	116.43
T7151.0	N52:05.92	W006:33.98	N53:06.83	W006:58.98	62.86	116.43
T7152.0	N52:05.94	W006:33.81	N53:06.85	W006:58.80	62.86	116.42
T7153.0	N52:05.97	W006:33.64	N53:06.88	W006:58.63	62.86	116.42
T7154.0	N52:05.99	W006:33.47	N53:06.91	W006:58.45	62.86	116.42
T7155.0	N52:06.02	W006:33.30	N53:06.93	W006:58.28	62.86	116.42
T7156.0	N52:06.05	W006:33.13	N53:06.27	W006:57.82	62.15	115.10
T7157.0	N52:06.07	W006:32.96	N53:06.27	W006:57.63	62.12	115.05
T7158.0	N52:06.10	W006:32.79	N53:06.27	W006:57.45	62.09	114.99
T7159.0	N52:06.12	W006:32.62	N53:06.26	W006:57.26	62.06	114.94
T7160.0	N52:06.15	W006:32.45	N53:06.26	W006:57.08	62.03	114.89
T7161.0	N52:06.18	W006:32.28	N53:06.26	W006:56.89	62.00	114.83
T7162.0	N52:06.20	W006:32.11	N53:06.26	W006:56.70	61.97	114.78
T7163.0	N52:06.23	W006:31.94	N53:06.26	W006:56.52	61.95	114.72
T7164.0	N52:06.25	W006:31.77	N53:06.25	W006:56.33	61.92	114.67
T7165.0	N52:06.28	W006:31.60	N53:06.25	W006:56.15	61.89	114.61
T7166.0	N52:06.31	W006:31.43	N53:06.25	W006:55.96	61.86	114.56
T7167.0	N52:06.33	W006:31.26	N53:06.25	W006:55.78	61.83	114.51
T7168.0	N52:06.36	W006:31.09	N53:06.25	W006:55.59	61.80	114.45
T7169.0	N52:06.38	W006:30.92	N53:06.26	W006:55.41	61.78	114.42
T7170.0	N52:06.41	W006:30.75	N53:06.28	W006:55.24	61.78	114.42
T7171.0	N52:06.44	W006:30.58	N53:06.31	W006:55.06	61.78	114.42
T7172.0	N52:06.46	W006:30.41	N53:06.34	W006:54.89	61.78	114.42
T7173.0	N52:06.49	W006:30.24	N53:06.36	W006:54.71	61.78	114.42
T7174.0	N52:06.51	W006:30.07	N53:06.39	W006:54.54	61.78	114.42
T7175.0	N52:06.54	W006:29.90	N53:06.41	W006:54.37	61.78	114.42
T7176.0	N52:06.57	W006:29.73	N53:06.44	W006:54.19	61.78	114.42
T7177.0	N52:06.59	W006:29.56	N53:06.47	W006:54.02	61.78	114.41

PLANNED SURVEY LINES
DATUM IRENET95

SEGMENT NO	START LAT	START LONG	END LAT	END LONG	LENGTH NM	LENGTH KM
T7178.0	N52:06.62	W006:29.39	N53:06.49	W006:53.85	61.78	114.41
T7179.0	N52:06.64	W006:29.22	N53:06.52	W006:53.67	61.78	114.41
T7180.0	N52:06.67	W006:29.05	N53:06.55	W006:53.50	61.78	114.41
T7181.0	N52:06.70	W006:28.88	N53:06.57	W006:53.32	61.78	114.41
T7182.0	N52:06.72	W006:28.71	N53:06.60	W006:53.15	61.78	114.41
T7183.0	N52:06.75	W006:28.54	N53:06.62	W006:52.98	61.78	114.41
T7184.0	N52:06.77	W006:28.37	N53:06.65	W006:52.80	61.78	114.41
T7185.0	N52:06.80	W006:28.20	N53:06.68	W006:52.63	61.78	114.41
T7186.0	N52:06.83	W006:28.03	N53:06.70	W006:52.46	61.78	114.41
T7187.0	N52:06.85	W006:27.86	N53:06.73	W006:52.28	61.78	114.41
T7188.0	N52:06.88	W006:27.69	N53:06.76	W006:52.11	61.78	114.41
T7189.0	N52:06.90	W006:27.52	N53:06.78	W006:51.93	61.78	114.41
T7190.0	N52:06.93	W006:27.35	N53:06.81	W006:51.76	61.78	114.41
T7191.0	N52:06.96	W006:27.18	N53:06.83	W006:51.59	61.78	114.41
T7192.0	N52:08.04	W006:27.43	N53:06.86	W006:51.41	60.69	112.39
T7193.0	N52:08.06	W006:27.26	N53:06.20	W006:50.95	59.98	111.08
T7194.0	N52:08.09	W006:27.09	N53:06.20	W006:50.77	59.95	111.03
T7195.0	N52:08.11	W006:26.92	N53:06.20	W006:50.58	59.92	110.98
T7196.0	N52:08.14	W006:26.75	N53:06.20	W006:50.40	59.89	110.92
T7197.0	N52:08.17	W006:26.58	N53:06.20	W006:50.21	59.87	110.87
T7198.0	N52:08.19	W006:26.41	N53:06.19	W006:50.03	59.84	110.82
T7199.0	N52:08.22	W006:26.24	N53:06.19	W006:49.84	59.81	110.76
T7200.0	N52:08.24	W006:26.07	N53:06.19	W006:49.65	59.78	110.71
T7201.0	N52:08.27	W006:25.90	N53:06.19	W006:49.47	59.75	110.66
T7202.0	N52:08.29	W006:25.73	N53:06.19	W006:49.28	59.72	110.60
T7203.0	N52:08.32	W006:25.56	N53:06.18	W006:49.10	59.69	110.55
T7204.0	N52:08.35	W006:25.39	N53:06.18	W006:48.91	59.66	110.50
T7205.0	N52:08.37	W006:25.22	N53:06.18	W006:48.73	59.63	110.44
T7206.0	N52:08.40	W006:25.05	N53:06.18	W006:48.54	59.61	110.39
T7207.0	N52:08.42	W006:24.88	N53:06.21	W006:48.37	59.61	110.39
T7208.0	N52:08.45	W006:24.71	N53:06.23	W006:48.20	59.61	110.39
T7209.0	N52:08.47	W006:24.54	N53:06.26	W006:48.02	59.61	110.39
T7210.0	N52:08.50	W006:24.37	N53:06.29	W006:47.85	59.61	110.39
T7211.0	N52:08.53	W006:24.20	N53:06.31	W006:47.67	59.61	110.39
T7212.0	N52:08.55	W006:24.03	N53:06.34	W006:47.50	59.61	110.39
T7213.0	N52:08.58	W006:23.86	N53:06.36	W006:47.33	59.61	110.39
T7214.0	N52:08.60	W006:23.69	N53:06.39	W006:47.15	59.61	110.39
T7215.0	N52:08.63	W006:23.52	N53:06.42	W006:46.98	59.61	110.39
T7216.0	N52:08.65	W006:23.35	N53:06.44	W006:46.80	59.61	110.39
T7217.0	N52:08.68	W006:23.18	N53:06.47	W006:46.63	59.61	110.39
T7218.0	N52:08.70	W006:23.01	N53:06.49	W006:46.46	59.61	110.39
T7219.0	N52:08.73	W006:22.84	N53:06.52	W006:46.28	59.61	110.39
T7220.0	N52:08.76	W006:22.67	N53:06.55	W006:46.11	59.61	110.39
T7221.0	N52:08.78	W006:22.50	N53:06.57	W006:45.93	59.61	110.39
T7222.0	N52:08.81	W006:22.33	N53:06.60	W006:45.76	59.61	110.39
T7223.0	N52:08.83	W006:22.16	N53:06.63	W006:45.59	59.61	110.39
T7224.0	N52:08.86	W006:21.99	N53:06.65	W006:45.41	59.61	110.39
T7225.0	N52:08.88	W006:21.82	N53:06.68	W006:45.24	59.61	110.39
T7226.0	N52:08.91	W006:21.65	N53:06.70	W006:45.07	59.61	110.39
T7227.0	N52:08.94	W006:21.48	N53:06.73	W006:44.89	59.61	110.39
T7228.0	N52:08.96	W006:21.31	N53:06.76	W006:44.72	59.61	110.39
T7229.0	N52:08.99	W006:21.14	N53:06.78	W006:44.54	59.61	110.39
T7230.0	N52:09.01	W006:20.96	N53:06.81	W006:44.37	59.61	110.39
T7231.0	N52:09.04	W006:20.79	N53:06.13	W006:43.90	58.88	109.04
T7232.0	N52:09.06	W006:20.62	N53:06.13	W006:43.72	58.85	108.99
T7233.0	N52:09.09	W006:20.45	N53:06.12	W006:43.53	58.82	108.93
T7234.0	N52:09.11	W006:20.28	N53:06.12	W006:43.35	58.79	108.88
T7235.0	N52:09.14	W006:20.11	N53:06.12	W006:43.16	58.76	108.83
T7236.0	N52:09.17	W006:19.94	N53:06.12	W006:42.98	58.73	108.77
T7237.0	N52:09.19	W006:19.77	N53:06.11	W006:42.79	58.70	108.72
T7238.0	N52:09.22	W006:19.60	N53:06.11	W006:42.60	58.67	108.66
T7239.0	N52:09.24	W006:19.43	N53:06.11	W006:42.42	58.64	108.61
T7240.0	N52:09.27	W006:19.26	N53:06.11	W006:42.23	58.61	108.55

PLANNED SURVEY LINES
DATUM IRENET95

SEGMENT	START		END		LENGTH	
NO	LAT	LONG	LAT	LONG	NM	KM
T7241.0	N52:09.29	W006:19.09	N53:06.11	W006:42.05	58.58	108.50
T7242.0	N52:09.32	W006:18.92	N53:06.10	W006:41.86	58.56	108.44
T7243.0	N52:09.34	W006:18.75	N53:06.10	W006:41.68	58.53	108.39
T7244.0	N52:09.37	W006:18.58	N53:06.13	W006:41.50	58.53	108.39
T7245.0	N52:09.40	W006:18.41	N53:06.15	W006:41.33	58.53	108.39
T7246.0	N52:09.42	W006:18.24	N53:06.18	W006:41.15	58.53	108.39
T7247.0	N52:09.45	W006:18.07	N53:06.20	W006:40.98	58.53	108.39
T7248.0	N52:09.47	W006:17.90	N53:06.23	W006:40.81	58.53	108.39
T7249.0	N52:09.50	W006:17.73	N53:06.26	W006:40.63	58.53	108.39
T7250.0	N52:09.52	W006:17.56	N53:06.28	W006:40.46	58.53	108.39
T7251.0	N52:09.55	W006:17.39	N53:06.31	W006:40.29	58.53	108.39
T7252.0	N52:09.57	W006:17.22	N53:06.33	W006:40.11	58.53	108.39
T7253.0	N52:09.60	W006:17.05	N53:06.36	W006:39.94	58.53	108.39
T7254.0	N52:09.62	W006:16.88	N53:06.39	W006:39.76	58.52	108.39
T7255.0	N52:09.65	W006:16.71	N53:06.41	W006:39.59	58.52	108.39
T7256.0	N52:09.68	W006:16.54	N53:06.44	W006:39.42	58.52	108.39
T7257.0	N52:09.70	W006:16.37	N53:06.46	W006:39.24	58.52	108.39
T7258.0	N52:21.26	W006:20.77	N53:06.49	W006:39.07	46.64	86.37
T7259.0	N52:21.29	W006:20.59	N53:06.52	W006:38.89	46.64	86.37
T7260.0	N52:21.31	W006:20.42	N53:06.54	W006:38.72	46.64	86.37
T7261.0	N52:21.34	W006:20.25	N53:06.57	W006:38.55	46.64	86.37
T7262.0	N52:21.37	W006:20.08	N53:06.59	W006:38.37	46.63	86.37
T7263.0	N52:21.39	W006:19.91	N53:06.62	W006:38.20	46.63	86.37
T7264.0	N52:21.42	W006:19.74	N53:06.64	W006:38.02	46.63	86.37
T7265.0	N52:21.44	W006:19.57	N53:06.67	W006:37.85	46.63	86.37
T7266.0	N52:22.52	W006:19.81	N53:06.70	W006:37.68	45.56	84.37
T7267.0	N52:22.54	W006:19.64	N53:06.72	W006:37.50	45.56	84.37
T7268.0	N52:22.57	W006:19.47	N53:06.75	W006:37.33	45.56	84.37
T7269.0	N52:22.59	W006:19.30	N53:06.05	W006:36.86	44.81	82.98
T7270.0	N52:22.62	W006:19.13	N53:06.05	W006:36.67	44.78	82.93
T7271.0	N52:22.64	W006:18.96	N53:06.05	W006:36.49	44.75	82.88
T7272.0	N52:22.67	W006:18.79	N53:06.04	W006:36.30	44.72	82.82
T7273.0	N52:22.69	W006:18.61	N53:06.04	W006:36.11	44.69	82.77
T7274.0	N52:22.72	W006:18.44	N53:06.04	W006:35.93	44.66	82.71
T7275.0	N52:22.75	W006:18.27	N53:06.04	W006:35.74	44.63	82.66
T7276.0	N52:22.77	W006:18.10	N53:06.03	W006:35.56	44.60	82.61
T7277.0	N52:22.80	W006:17.93	N53:06.03	W006:35.37	44.58	82.55
T7278.0	N52:22.82	W006:17.76	N53:06.03	W006:35.19	44.55	82.50
T7279.0	N52:22.85	W006:17.59	N53:06.03	W006:35.00	44.52	82.45
T7280.0	N52:22.87	W006:17.42	N53:06.03	W006:34.82	44.49	82.39
T7281.0	N52:22.90	W006:17.25	N53:06.04	W006:34.64	44.47	82.37
T7282.0	N52:22.92	W006:17.07	N53:06.06	W006:34.46	44.47	82.37
T7283.0	N52:22.95	W006:16.90	N53:06.09	W006:34.29	44.47	82.37
T7284.0	N52:25.02	W006:17.54	N53:06.12	W006:34.11	42.37	78.47
T7285.0	N52:25.05	W006:17.37	N53:06.14	W006:33.94	42.37	78.46
T7286.0	N52:25.07	W006:17.20	N53:06.17	W006:33.77	42.37	78.46
T7287.0	N52:25.10	W006:17.03	N53:06.19	W006:33.59	42.36	78.46
T7288.0	N52:25.13	W006:16.86	N53:06.22	W006:33.42	42.36	78.45
T7289.0	N52:25.15	W006:16.69	N53:06.24	W006:33.25	42.36	78.45
T7290.0	N52:25.18	W006:16.52	N53:06.27	W006:33.07	42.36	78.45
T7291.0	N52:25.21	W006:16.35	N53:06.30	W006:32.90	42.36	78.44
T7292.0	N52:25.24	W006:16.18	N53:06.32	W006:32.72	42.35	78.44
T7293.0	N52:25.26	W006:16.01	N53:06.35	W006:32.55	42.35	78.44
T7294.0	N52:25.29	W006:15.84	N53:06.37	W006:32.38	42.35	78.43
T7295.0	N52:25.32	W006:15.66	N53:06.40	W006:32.20	42.35	78.43
T7296.0	N52:25.35	W006:15.49	N53:06.42	W006:32.03	42.35	78.42
T7297.0	N52:25.37	W006:15.32	N53:06.45	W006:31.85	42.34	78.42
T7298.0	N52:25.40	W006:15.15	N53:06.48	W006:31.68	42.34	78.42
T7299.0	N52:25.43	W006:14.98	N53:06.50	W006:31.51	42.34	78.41
T7300.0	N52:25.45	W006:14.81	N53:06.53	W006:31.33	42.34	78.41
T7301.0	N52:25.48	W006:14.64	N53:06.55	W006:31.16	42.34	78.41
T7302.0	N52:25.51	W006:14.47	N53:06.58	W006:30.98	42.33	78.40
T7303.0	N52:25.54	W006:14.30	N53:06.60	W006:30.81	42.33	78.40

PLANNED SURVEY LINES
DATUM IRENET95

SEGMENT NO	START LAT	START LONG	END LAT	END LONG	LENGTH NM	LENGTH KM
T7304.0	N52:27.64	W006:14.95	N53:06.63	W006:30.63	40.19	74.44
T7305.0	N52:27.66	W006:14.78	N53:06.66	W006:30.46	40.19	74.43
T7306.0	N52:27.69	W006:14.61	N53:05.97	W006:30.00	39.45	73.07
T7307.0	N52:27.72	W006:14.44	N53:05.97	W006:29.81	39.43	73.02
T7308.0	N52:27.74	W006:14.26	N53:05.96	W006:29.62	39.40	72.96
T7309.0	N52:27.77	W006:14.09	N53:05.96	W006:29.44	39.37	72.91
T7310.0	N52:27.79	W006:13.92	N53:05.96	W006:29.25	39.34	72.85
T7311.0	N52:27.82	W006:13.75	N53:05.96	W006:29.07	39.31	72.80
T7312.0	N52:27.84	W006:13.58	N53:05.95	W006:28.88	39.28	72.75
T7313.0	N52:27.87	W006:13.41	N53:05.95	W006:28.70	39.25	72.69
T7314.0	N52:27.90	W006:13.24	N53:05.95	W006:28.51	39.22	72.64
T7315.0	N52:27.92	W006:13.06	N53:05.95	W006:28.33	39.19	72.59
T7316.0	N52:30.07	W006:13.73	N53:05.95	W006:28.14	36.98	68.49
T7317.0	N52:30.09	W006:13.56	N53:05.94	W006:27.96	36.95	68.43
T7318.0	N52:30.12	W006:13.39	N53:05.94	W006:27.77	36.92	68.38
T7319.0	N52:30.14	W006:13.22	N53:05.97	W006:27.60	36.92	68.38
T7320.0	N52:30.17	W006:13.05	N53:05.99	W006:27.42	36.92	68.38
T7321.0	N52:30.20	W006:12.87	N53:06.02	W006:27.25	36.92	68.38
T7322.0	N52:30.22	W006:12.70	N53:06.05	W006:27.08	36.92	68.38
T7323.0	N52:30.25	W006:12.53	N53:06.07	W006:26.90	36.92	68.38
T7324.0	N52:30.27	W006:12.36	N53:06.10	W006:26.73	36.92	68.38
T7325.0	N52:30.30	W006:12.19	N53:06.12	W006:26.55	36.92	68.38
T7326.0	N52:30.32	W006:12.02	N53:06.15	W006:26.38	36.92	68.38
T7327.0	N52:30.35	W006:11.84	N53:06.17	W006:26.21	36.92	68.38
T7328.0	N52:30.37	W006:11.67	N53:06.20	W006:26.03	36.92	68.38
T7329.0	N52:30.40	W006:11.50	N53:06.22	W006:25.86	36.92	68.38
T7330.0	N52:30.42	W006:11.33	N53:06.25	W006:25.68	36.92	68.38
T7331.0	N52:30.45	W006:11.16	N53:06.28	W006:25.51	36.92	68.38
T7332.0	N52:30.48	W006:10.98	N53:06.30	W006:25.34	36.92	68.38
T7333.0	N52:30.50	W006:10.81	N53:06.33	W006:25.16	36.92	68.38
T7334.0	N52:30.53	W006:10.64	N53:06.35	W006:24.99	36.92	68.38
T7335.0	N52:30.55	W006:10.47	N53:06.38	W006:24.81	36.92	68.38
T7336.0	N52:30.58	W006:10.30	N53:06.40	W006:24.64	36.92	68.37
T7337.0	N52:30.60	W006:10.13	N53:06.43	W006:24.46	36.92	68.37
T7338.0	N52:30.63	W006:09.95	N53:06.46	W006:24.29	36.92	68.37
T7339.0	N52:30.65	W006:09.78	N53:06.48	W006:24.12	36.92	68.37
T7340.0	N52:30.68	W006:09.61	N53:06.51	W006:23.94	36.92	68.37
T7341.0	N52:37.00	W006:11.93	N53:06.53	W006:23.77	30.43	56.36
T7342.0	N52:37.03	W006:11.76	N53:06.56	W006:23.59	30.43	56.36
T7343.0	N52:37.05	W006:11.59	N53:06.58	W006:23.42	30.43	56.36
T7344.0	N52:37.08	W006:11.41	N53:05.88	W006:22.95	29.68	54.96
T7345.0	N52:37.10	W006:11.24	N53:05.88	W006:22.77	29.65	54.91
T7346.0	N52:37.13	W006:11.07	N53:05.87	W006:22.58	29.62	54.85
T7347.0	N52:37.16	W006:10.90	N53:05.87	W006:22.39	29.59	54.80
T7348.0	N52:37.18	W006:10.73	N53:05.87	W006:22.21	29.56	54.75
T7349.0	N52:37.21	W006:10.55	N53:05.87	W006:22.02	29.53	54.69
T7350.0	N52:37.23	W006:10.38	N53:05.86	W006:21.84	29.50	54.64
T7351.0	N52:37.26	W006:10.21	N53:05.86	W006:21.65	29.47	54.58
T7352.0	N52:37.28	W006:10.04	N53:05.86	W006:21.47	29.44	54.53
T7353.0	N52:37.31	W006:09.87	N53:05.86	W006:21.28	29.41	54.47
T7354.0	N52:37.34	W006:09.69	N53:05.85	W006:21.10	29.38	54.42
T7355.0	N52:37.36	W006:09.52	N53:05.85	W006:20.91	29.35	54.36
T7356.0	N52:37.39	W006:09.35	N53:05.87	W006:20.73	29.34	54.35
T7357.0	N52:37.41	W006:09.18	N53:05.89	W006:20.56	29.34	54.35
T7358.0	N52:37.44	W006:09.00	N53:05.92	W006:20.39	29.34	54.34
T7359.0	N52:37.46	W006:08.83	N53:05.94	W006:20.21	29.34	54.34
T7360.0	N52:37.49	W006:08.66	N53:05.97	W006:20.04	29.34	54.34
T7361.0	N52:39.58	W006:09.30	N53:05.99	W006:19.86	27.22	50.40
T7362.0	N52:39.61	W006:09.13	N53:06.02	W006:19.69	27.22	50.40
T7363.0	N52:39.63	W006:08.96	N53:06.05	W006:19.51	27.22	50.41
T7364.0	N52:39.65	W006:08.79	N53:06.07	W006:19.34	27.22	50.41
T7365.0	N52:39.68	W006:08.61	N53:06.10	W006:19.17	27.22	50.41
T7366.0	N52:39.70	W006:08.44	N53:06.12	W006:18.99	27.22	50.41

PLANNED SURVEY LINES
DATUM IRENET95

SEGMENT NO	START LAT	START LONG	END LAT	END LONG	LENGTH NM	LENGTH KM
T7367.0	N52:39.73	W006:08.27	N53:06.15	W006:18.82	27.22	50.41
T7368.0	N52:39.75	W006:08.10	N53:06.17	W006:18.64	27.22	50.41
T7369.0	N52:39.78	W006:07.92	N53:06.20	W006:18.47	27.22	50.41
T7370.0	N52:39.80	W006:07.75	N53:06.22	W006:18.30	27.22	50.42
T7371.0	N52:41.94	W006:08.41	N53:06.25	W006:18.12	25.05	46.39
T7372.0	N52:41.96	W006:08.24	N53:06.27	W006:17.95	25.05	46.39
T7373.0	N52:41.99	W006:08.07	N53:06.30	W006:17.77	25.05	46.39
T7374.0	N52:42.02	W006:07.90	N53:06.32	W006:17.60	25.04	46.38
T7375.0	N52:42.04	W006:07.72	N53:06.35	W006:17.43	25.04	46.38
T7376.0	N52:42.07	W006:07.55	N53:06.38	W006:17.25	25.04	46.38
T7377.0	N52:42.10	W006:07.38	N53:06.40	W006:17.08	25.04	46.37
T7378.0	N52:42.12	W006:07.21	N53:06.43	W006:16.90	25.04	46.37
T7379.0	N52:42.15	W006:07.04	N53:06.45	W006:16.73	25.04	46.37
T7380.0	N52:43.23	W006:07.28	N53:06.48	W006:16.55	23.95	44.36
T7381.0	N52:43.25	W006:07.11	N53:05.78	W006:16.09	23.21	42.99
T7382.0	N52:43.28	W006:06.93	N53:05.78	W006:15.91	23.18	42.93
T7383.0	N52:43.30	W006:06.76	N53:05.78	W006:15.72	23.15	42.88
T7384.0	N52:43.33	W006:06.59	N53:05.78	W006:15.54	23.12	42.82
T7385.0	N52:43.36	W006:06.42	N53:05.77	W006:15.35	23.09	42.77
T7386.0	N52:43.38	W006:06.24	N53:05.77	W006:15.16	23.07	42.72
T7387.0	N52:43.41	W006:06.07	N53:05.77	W006:14.98	23.04	42.66
T7388.0	N52:43.43	W006:05.90	N53:05.77	W006:14.79	23.01	42.61
T7389.0	N52:43.46	W006:05.73	N53:05.76	W006:14.61	22.98	42.56
T7390.0	N52:43.48	W006:05.56	N53:05.76	W006:14.42	22.95	42.50
T7391.0	N52:43.51	W006:05.38	N53:05.76	W006:14.24	22.92	42.45
T7392.0	N52:43.54	W006:05.21	N53:05.76	W006:14.05	22.89	42.39
T7393.0	N52:43.56	W006:05.04	N53:05.76	W006:13.87	22.87	42.35
T7394.0	N52:43.59	W006:04.87	N53:05.78	W006:13.70	22.86	42.34
T7395.0	N52:43.61	W006:04.69	N53:05.81	W006:13.52	22.86	42.34
T7396.0	N52:43.64	W006:04.52	N53:05.83	W006:13.35	22.86	42.34
T7397.0	N52:43.66	W006:04.35	N53:05.86	W006:13.17	22.86	42.34
T7398.0	N52:43.69	W006:04.18	N53:05.89	W006:13.00	22.86	42.34
T7399.0	N52:48.96	W006:06.07	N53:05.91	W006:12.82	17.47	32.35
T7400.0	N52:48.98	W006:05.90	N53:05.94	W006:12.65	17.47	32.35
T7401.0	N52:49.01	W006:05.73	N53:05.96	W006:12.48	17.47	32.35
T7402.0	N52:49.03	W006:05.55	N53:05.99	W006:12.30	17.47	32.35
T7403.0	N52:49.06	W006:05.38	N53:06.01	W006:12.13	17.47	32.35
T7404.0	N52:49.08	W006:05.21	N53:06.04	W006:11.95	17.47	32.35
T7405.0	N52:49.11	W006:05.03	N53:06.06	W006:11.78	17.47	32.35
T7406.0	N52:49.13	W006:04.86	N53:06.09	W006:11.61	17.47	32.35
T7407.0	N52:49.16	W006:04.69	N53:06.11	W006:11.43	17.47	32.35
T7408.0	N52:49.18	W006:04.51	N53:06.14	W006:11.26	17.47	32.35
T7409.0	N52:49.21	W006:04.34	N53:06.16	W006:11.08	17.47	32.35
T7410.0	N52:49.23	W006:04.17	N53:06.19	W006:10.91	17.47	32.35
T7411.0	N52:49.26	W006:03.99	N53:06.21	W006:10.73	17.47	32.35
T7412.0	N52:49.28	W006:03.82	N53:06.24	W006:10.56	17.47	32.35
T7413.0	N52:49.31	W006:03.65	N53:06.26	W006:10.39	17.47	32.35
T7414.0	N52:49.33	W006:03.48	N53:06.29	W006:10.21	17.47	32.35
T7415.0	N52:49.36	W006:03.30	N53:06.31	W006:10.04	17.47	32.35
T7416.0	N52:49.38	W006:03.13	N53:06.34	W006:09.86	17.47	32.35
T7417.0	N52:49.41	W006:02.96	N53:06.36	W006:09.69	17.47	32.35
T7418.0	N52:49.43	W006:02.78	N53:06.39	W006:09.52	17.47	32.35
T7419.0	N52:49.46	W006:02.61	N53:05.68	W006:09.05	16.72	30.96
T7420.0	N52:49.48	W006:02.44	N53:05.68	W006:08.86	16.69	30.90
T7421.0	N52:49.51	W006:02.26	N53:05.68	W006:08.68	16.66	30.85
T7422.0	N52:49.53	W006:02.09	N53:05.68	W006:08.49	16.63	30.80
T7423.0	N52:49.55	W006:01.92	N53:05.67	W006:08.31	16.60	30.75
T7424.0	N52:49.58	W006:01.74	N53:05.67	W006:08.12	16.57	30.69
T7425.0	N52:49.60	W006:01.57	N53:05.67	W006:07.94	16.54	30.64
T7426.0	N52:49.63	W006:01.40	N53:05.67	W006:07.75	16.52	30.59
T7427.0	N52:49.65	W006:01.22	N53:05.66	W006:07.57	16.49	30.53
T7428.0	N52:52.81	W006:02.28	N53:05.66	W006:07.38	13.24	24.52
T7429.0	N52:52.83	W006:02.11	N53:05.66	W006:07.20	13.21	24.47

PLANNED SURVEY LINES
DATUM IRENET95

SEGMENT NO	START LAT	START LONG	END LAT	END LONG	LENGTH NM	LENGTH KM
T7430.0	N52:52.86	W006:01.94	N53:05.66	W006:07.01	13.18	24.41
T7431.0	N52:52.88	W006:01.76	N53:05.67	W006:06.83	13.17	24.39
T7432.0	N52:52.90	W006:01.59	N53:05.69	W006:06.66	13.17	24.39
T7433.0	N52:52.93	W006:01.42	N53:05.72	W006:06.48	13.17	24.39
T7434.0	N52:52.95	W006:01.24	N53:05.74	W006:06.31	13.17	24.40
T7435.0	N52:52.98	W006:01.07	N53:05.77	W006:06.14	13.17	24.40
T7436.0	N52:54.07	W006:01.32	N53:05.79	W006:05.96	12.07	22.35
T7437.0	N52:54.10	W006:01.14	N53:05.82	W006:05.79	12.07	22.35
T7438.0	N52:54.13	W006:00.97	N53:05.84	W006:05.61	12.07	22.35
T7439.0	N52:54.15	W006:00.80	N53:05.87	W006:05.44	12.07	22.35
T7440.0	N52:54.18	W006:00.62	N53:05.90	W006:05.27	12.07	22.35
T7441.0	N52:54.20	W006:00.45	N53:05.92	W006:05.09	12.07	22.35
T7442.0	N52:54.23	W006:00.28	N53:05.95	W006:04.92	12.07	22.35
T7443.0	N52:54.25	W006:00.10	N53:05.97	W006:04.74	12.07	22.35
T7444.0	N52:54.28	W005:59.93	N53:06.00	W006:04.57	12.06	22.34
T7445.0	N52:54.30	W005:59.76	N53:06.02	W006:04.39	12.06	22.34
T7446.0	N52:54.33	W005:59.59	N53:06.05	W006:04.22	12.06	22.34
T7447.0	N52:54.36	W005:59.41	N53:06.07	W006:04.05	12.06	22.34
T7448.0	N52:54.38	W005:59.24	N53:06.10	W006:03.87	12.06	22.34
T7449.0	N52:54.41	W005:59.07	N53:06.12	W006:03.70	12.06	22.34
T7450.0	N52:54.43	W005:58.89	N53:06.15	W006:03.52	12.06	22.34
T7451.0	N52:54.46	W005:58.72	N53:06.17	W006:03.35	12.06	22.34
T7452.0	N52:54.48	W005:58.55	N53:06.20	W006:03.17	12.06	22.33
T7453.0	N52:54.51	W005:58.37	N53:06.22	W006:03.00	12.06	22.33
T7454.0	N52:54.53	W005:58.20	N53:06.25	W006:02.83	12.06	22.33
T7455.0	N52:54.56	W005:58.03	N53:06.27	W006:02.65	12.06	22.33
T7456.0	N52:54.59	W005:57.85	N53:05.58	W006:02.19	11.31	20.95
T7457.0	N52:54.61	W005:57.68	N53:05.57	W006:02.01	11.28	20.90
T7458.0	N52:54.64	W005:57.51	N53:05.57	W006:01.82	11.25	20.84
T7459.0	N52:54.66	W005:57.33	N53:05.56	W006:01.63	11.22	20.79

Total control line length = 1789.06 nautical miles
= 3313.34 kilometers.

Total traverse line length = 17464.55 nautical miles
= 32344.35 kilometers.

Total length of all lines = 19253.61 nautical miles
= 35657.69 kilometers.

SGL

Appendix III

FEM FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7001.00	39929.70	40364.40	653084.1	660477.6	647571.7	619977.8	1010	172	2019
7002.00	40471.40	40906.80	660660.4	653277.5	620051.5	647635.5	1010	172	2019
7003.00	41030.00	41485.40	653477.7	660860.8	647677.3	620092.5	1010	172	2019
7004.00	38746.40	39197.10	661051.5	653662.7	620166.9	647739.5	1001	166	2019
7005.00	39343.10	39790.80	653879.1	661244.7	647779.7	620206.3	1001	166	2019
7006.00	39922.10	40375.20	661432.4	654047	620282.2	647842.9	1001	166	2019
7007.00	40494.20	40933.00	654248.8	661625.5	647882	620322.5	1001	166	2019
7008.00	41066.90	41511.60	661816.9	654435.6	620394.4	647946.7	1001	166	2019
7009.00	45187.50	45675.20	654634.7	662011.2	647988.7	620437.4	1001	166	2019
7010.00	41681.00	42148.40	654817	662201.3	648034.4	620496	1001	166	2019
7011.00	45791.30	46233.20	662390.9	655015.5	620571.3	648102.1	1001	166	2019
7012.00	42272.40	42723.50	662579.7	655204.5	620626.8	648151.9	1001	166	2019
7013.00	42875.90	43330.80	655406.5	662781.2	648188.6	620668	1001	166	2019
7014.00	43447.60	43891.20	662971.1	655590	620744.2	648259.1	1001	166	2019
7015.00	44040.20	44509.70	655788.4	663163.2	648296.5	620777.9	1001	166	2019
7016.00	44634.50	45079.40	663381.1	655978.6	620861.5	648364.9	1001	166	2019
7017.00	46337.40	46814.60	656173.3	663551.3	648399.3	620894.6	1001	166	2019
7018.00	53243.60	53703.70	663733	656367	620970	648465.5	1001	166	2019
7019.00	53863.80	54355.40	656560.7	663930.5	648502.8	621007.2	1001	166	2019
7020.00	37107.10	37586.10	664119.2	656754.1	621082.5	648572.3	1010	172	2019
7021.00	36547.00	36995.60	656953.6	664311.1	648607.7	621122.3	1010	172	2019
7022.00	35975.00	36438.90	664499	657143.1	621195.2	648672	1010	172	2019
7023.00	35402.40	35850.90	657336	664695.9	648707.2	621237.4	1010	172	2019
7024.00	34800.50	35281.00	664886.9	657525.1	621308.9	648775.5	1010	172	2019
7025.00	34258.80	34692.70	657721.9	665082.2	648809.7	621353.1	1010	172	2019
7026.00	33673.70	34129.00	665271.2	657917.1	621425.6	648886.4	1010	172	2019
7027.00	34327.10	34595.40	668465.3	672700.8	610278.7	594469.2	1008	171	2019
7027.10	41628.60	42108.40	665959.7	658104.9	619594.6	648931.1	1010	172	2019
7028.00	34783.50	35039.00	672887.5	668655.1	594536.5	610345.7	1008	171	2019
7028.10	42230.00	42728.80	658302	666162	648965.1	619631.1	1010	172	2019
7029.00	35163.40	35436.40	668852.4	673082.3	610381	594573.3	1008	171	2019
7029.10	42846.20	43335.20	666350.5	658493.5	619695.2	649035	1010	172	2019
7030.00	35563.60	35825.40	673278	669039.6	594640.6	610449	1008	171	2019
7030.10	43463.20	43965.60	658680.4	666550.6	649071.6	619733.9	1010	172	2019
7031.00	35938.10	36213.30	669235.8	673467.7	610486.6	594675.4	1008	171	2019
7031.10	44063.80	44544.30	666741.1	658882.3	619804.1	649136.7	1010	172	2019
7032.00	36339.10	36598.50	673665.2	669428	594740.9	610550.1	1008	171	2019
7032.10	44670.70	45180.20	659076.2	666937.5	649174.3	619836.8	1010	172	2019
7033.00	36726.30	37005.70	669621.1	673854	610583.8	594776.1	1008	171	2019
7033.10	51828.00	52354.20	659270.5	667128.3	649227.1	619885.2	1010	172	2019
7034.00	37143.20	37404.80	674053.4	669812.1	594847.2	610658.7	1008	171	2019

FEM FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7034.10	52478.20	52960.70	667313.8	659460.5	619949.5	649297	1010	172	2019
7035.00	37556.70	37844.90	670007.9	674241	610690.3	594882.3	1008	171	2019
7035.10	53103.10	53622.40	659654.4	667514.5	649328.5	619989.1	1010	172	2019
7036.00	37997.30	38253.20	674438.4	670197.8	594952.5	610757.1	1008	171	2019
7036.10	53742.20	54208.80	667712.2	659843.2	620055.3	649401.8	1010	172	2019
7037.00	38396.30	38678.00	670390.4	674643.7	610795.3	594987	1008	171	2019
7037.10	54362.50	54870.40	660040.2	667898.6	649430.6	620090.3	1010	172	2019
7038.00	38835.20	39084.70	674823	670586.2	595052.8	610865.5	1008	171	2019
7038.10	54989.40	55460.80	668090.6	660228.9	620156.4	649498.4	1010	172	2019
7039.00	39215.40	39492.40	670779.6	675018.2	610901.1	595084.2	1008	171	2019
7039.10	55584.00	56119.90	660424.2	668283.1	649538.3	620190	1010	172	2019
7040.00	39615.40	39876.30	675212.6	670968.8	595158.9	610966.3	1008	171	2019
7040.10	56237.30	56703.60	668477.5	660615.3	620262.5	649604.6	1010	172	2019
7041.00	39996.80	40278.20	671162.2	675393.9	610999	595189.4	1008	171	2019
7041.10	56791.40	57310.10	660816.3	668670.1	649643.1	620294.7	1010	172	2019
7042.00	50532.00	51270.10	675589.3	663617	595257.7	639950.9	1008	171	2019
7042.01	53836.10	54001.50	661005.7	663648.5	649691.9	639848.2	1008	171	2019
7043.00	51988.60	52645.90	664855.4	675792.1	636121.8	595299.6	1008	171	2019
7043.01	54200.90	54444.80	664870	661193.6	636046.2	649762.3	1008	171	2019
7044.00	52813.20	53729.10	675979.5	661391.2	595362	649812	1008	171	2019
7045.00	33804.70	34745.90	676173.2	661583.9	595418.1	649864.4	1012	177	2019
7046.00	34851.90	35697.60	661772.4	676370.1	649898.7	595452.1	1012	177	2019
7047.00	35888.60	36841.10	676561.1	661973.1	595519.8	649968.4	1012	177	2019
7048.00	36966.20	37842.00	662160.6	676758	649999.3	595552.1	1012	177	2019
7049.00	37998.30	38982.60	676942.7	662353.7	595622.5	650070.9	1012	177	2019
7050.00	39091.20	39978.00	662548.3	677144.9	650105.5	595659.4	1012	177	2019
7051.00	40152.00	41088.90	677335.3	662745.6	595723.8	650176.8	1012	177	2019
7052.00	41189.60	42037.90	662928.8	677528.6	650206.1	595758.9	1012	177	2019
7053.00	42190.20	43142.30	677719.9	663122.8	595830.9	650275.5	1012	177	2019
7054.00	43282.20	44147.30	663318.2	677920.4	650311.7	595867.7	1012	177	2019
7055.00	50617.90	51595.20	678112	663513.5	595936.7	650382.6	1013	177	2019
7056.00	37753.00	38693.00	663706.3	678305.7	650416.9	595967.3	1010	172	2019
7057.00	38811.60	39694.10	678479.7	663901.3	596034.8	650480.9	1010	172	2019
7058.00	50809.80	51666.40	678690.9	664099.1	596089.4	650538.9	1010	172	2019
7059.00	57851.60	58715.50	678876.4	664289.5	596142.1	650588.2	1010	172	2019
7060.00	58840.70	59801.40	664480.1	679071.6	650619.8	596173.4	1010	172	2019
7061.00	59922.10	60777.90	679259.3	664672.4	596244.9	650693.1	1010	172	2019
7062.00	52015.40	52937.30	664876.8	679462.6	650729.3	596276	1013	177	2019
7063.00	53099.30	54075.00	679652.3	665055.3	596344.4	650792.9	1013	177	2019
7064.00	54199.50	55070.10	665257.5	679848.3	650831.4	596378.7	1013	177	2019
7065.00	55239.40	56195.40	680040.5	665442	596448.4	650897	1013	177	2019

FEM FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7066.00	56322.70	57237.30	665643.7	680237.4	650935.2	596486.1	1013	177	2019
7067.00	57395.50	58355.10	680423	665834.8	596550.1	651003	1013	177	2019
7068.00	58459.20	59334.40	666033.5	680623.8	651039.2	596590.1	1013	177	2019
7069.00	62233.80	63086.10	680810.5	666218.7	596656.3	651103.4	1003	168	2019
7070.00	61118.30	62095.90	666409.8	681004.7	651139.6	596692	1003	168	2019
7071.00	60113.50	60974.30	681185.5	666610.3	596759.5	651211.9	1003	168	2019
7072.00	58994.60	59987.20	666800.6	681393.7	651243.1	596796.9	1003	168	2019
7073.00	57994.10	58840.10	681579.4	666990	596862.9	651313.6	1003	168	2019
7074.00	56713.40	57866.30	665119.3	681777.6	659074.9	596897.8	1003	168	2019
7075.00	55645.70	56588.50	681981.5	665308.7	596969.7	659146.2	1003	168	2019
7076.00	54350.70	55525.80	665503	682165.5	659184	597001.4	1003	168	2019
7077.00	53234.50	54211.90	682305.8	665694.8	597056.8	659245.4	1003	168	2019
7078.00	47266.70	48375.00	665890.1	682550.3	659288.4	597111.6	1003	168	2019
7079.00	46191.30	47133.30	682749.1	666087.3	597175.3	659355	1003	168	2019
7080.00	44924.20	46052.20	666280.5	682938.9	659390	597208.6	1003	168	2019
7081.00	43821.50	44775.90	683127.5	666467.1	597277.5	659454.6	1003	168	2019
7082.00	42653.60	43694.40	666662.9	682812.3	659489.8	599225.8	1003	168	2019
7083.00	41588.00	42512.10	683004.2	666852.3	599300.1	659553.7	1003	168	2019
7084.00	40340.50	41425.00	667060.9	683199.2	659598.1	599335.3	1003	168	2019
7085.00	39270.70	40210.10	683388.2	667239.1	599404.5	659664.6	1003	168	2019
7086.00	43958.00	44908.40	683578.9	667436	599453.3	659717.7	1006	169	2019
7087.00	45041.40	46056.20	667631.3	683781.8	659750.8	599492.1	1006	169	2019
7088.00	46205.20	47189.20	683965.7	667824.3	599559.8	659816.7	1006	169	2019
7089.00	47312.80	48343.70	668012.6	684164	659855.5	599597.6	1006	169	2019
7090.00	48468.60	49429.00	684350.7	668206.9	599658.7	659921.4	1006	169	2019
7091.00	49578.10	50602.70	668403	684548.6	659958.9	599698.5	1006	169	2019
7092.00	50740.90	51714.80	684734.8	668592.9	599763	660026.6	1006	169	2019
7093.00	51859.80	52895.60	668787.1	684939.5	660058	599801.3	1006	169	2019
7094.00	53023.00	53990.00	685123	668977.1	599873.3	660128.7	1006	169	2019
7095.00	54123.20	55154.20	669189	685319.4	660165	599906.9	1006	169	2019
7096.00	60100.90	61063.10	685512.5	669353.7	599976.2	660227.3	1006	169	2019
7097.00	61226.00	62322.80	669559.9	685707.8	660264.3	600007.5	1006	169	2019
7098.00	62468.00	63436.30	685895.5	669742.2	600078.2	660330.7	1006	169	2019
7099.00	31295.90	32607.00	686091.1	665286.7	600134.8	677771	1017	183	2019
7100.00	32730.90	33944.30	665480.1	686289.2	677811.6	600166.2	1017	183	2019
7101.00	34093.90	35453.10	686475.9	665676.7	600232.7	677880.2	1017	183	2019
7102.00	35581.50	36808.40	665871.3	686678.4	677911.3	600273.1	1017	183	2019
7103.00	36943.90	38328.20	686863.2	666066	600343.5	677981	1017	183	2019
7104.00	38423.20	39651.70	666257.3	687061.3	678016.9	600379.1	1017	183	2019
7105.00	39760.40	41090.90	687246.9	666450.9	600446.6	678088.3	1017	183	2019
7106.00	36036.70	37357.90	666645.5	687447.1	678120.8	600482.4	1024	190	2019

FEM FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7107.00	60304.10	61587.00	666840.4	687640.2	678175.2	600529.9	1017	183	2019
7108.00	58887.30	60184.20	687827.2	667023.1	600599.4	678238.3	1017	183	2019
7109.00	41195.00	42417.40	667225.3	688029.9	678275.8	600640	1017	183	2019
7110.00	48901.90	50170.60	667419.2	688220.9	678326.1	600692.8	1017	183	2019
7111.00	47446.10	48777.70	688407.9	667608.3	600756.9	678398.7	1017	183	2019
7112.00	32237.00	33619.30	688603.3	667797.1	600808.6	678447.5	1016	182	2019
7113.00	33779.40	34994.20	668012.2	688800.1	678484.5	600846.1	1016	182	2019
7114.00	35123.70	36532.70	688982.9	668184.2	600913.7	678551.8	1016	182	2019
7115.00	36682.20	37893.00	668377.7	689184.5	678587.2	600947.3	1016	182	2019
7116.00	38027.70	39414.90	689372.8	668566.2	601013.8	678650.7	1016	182	2019
7117.00	39555.60	40754.90	668769.3	689572.5	678690.6	601052.9	1016	182	2019
7118.00	40876.60	42275.90	689757.7	668952.7	601121.8	678754.5	1016	182	2019
7119.00	42428.90	43621.40	669155.4	689957.3	678794.6	601159	1016	182	2019
7120.00	43748.50	45165.10	690145	669342.7	601227.9	678860.1	1016	182	2019
7121.00	45320.00	46513.30	669542.6	690342.6	678900.3	601262.1	1016	182	2019
7122.00	50291.10	51621.90	690529.6	669738	601333.5	678971	1017	183	2019
7123.00	51766.70	53066.50	669924.2	690729.9	679005.9	601365.1	1017	183	2019
7124.00	53207.40	54512.30	690914.4	670116.2	601435.3	679070.8	1017	183	2019
7125.00	54618.40	55906.40	670308.9	691109.3	679105.3	601467.8	1017	183	2019
7126.00	56035.70	57361.40	691300.5	670510	601541.6	679173.5	1017	183	2019
7127.00	57475.20	58765.60	670697.5	691500	679209.3	601576.6	1017	183	2019
7128.01	41720.10	42993.80	693764.6	670885.9	593853	679272.5	1036	205	2019
7129.00	43142.90	44578.90	671087.7	693974.4	679315.3	593895.9	1036	205	2019
7130.00	32167.60	33512.30	671274.5	694170.9	679358.3	593942.9	1044	213	2019
7131.00	33681.20	35125.50	694359.6	671471.6	594013	679434.2	1044	213	2019
7132.00	35261.30	36595.10	671666.2	694554.8	679471.3	594049.1	1044	213	2019
7133.00	59660.60	61167.70	694736.5	671872	594115.5	679537.5	1013	177	2019
7134.00	37605.50	38979.30	694934.7	672050.2	594170.5	679584.9	1024	190	2019
7135.00	39145.00	40663.90	672245.7	695133.4	679621.4	594204.3	1024	190	2019
7136.00	40818.60	42143.80	695320.9	672435.5	594275.7	679693.3	1024	190	2019
7137.00	31541.00	32321.00	695515.3	683524.1	594325.6	639070.9	1024	190	2019
7137.01	42754.80	43918.10	665391.3	683552.9	706774.2	638968.6	1024	190	2019
7138.00	43422.20	45146.50	665581	695713.3	706829.8	594365.2	1026	193	2019
7139.00	45304.00	47282.60	695901.9	665769.8	594435.9	706895.2	1026	193	2019
7140.00	47432.00	49165.40	665961.7	696099.1	706927.7	594471.5	1026	193	2019
7141.00	49300.10	51300.60	696286.1	666158.1	594536.9	706993.8	1026	193	2019
7142.00	51441.00	53179.70	666359.1	696483.1	707033.6	594570.3	1026	193	2019
7143.00	34558.30	36449.40	696668.9	666543.7	594638.4	707102.7	1034	201	2019
7144.00	36595.70	38318.50	666742.5	696870.3	707135.4	594676.2	1034	201	2019
7145.00	38478.90	40323.30	697062.2	666929.9	594747.8	707207.1	1034	201	2019
7146.00	40477.80	42241.00	667127.8	697255.5	707240.9	594782.3	1034	201	2019

FEM FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7147.00	42392.70	44225.00	697442.9	667316.8	594852.9	707308.9	1034	201	2019
7148.00	44376.40	46119.50	667512.4	697636.4	707342.2	594882.8	1034	201	2019
7149.00	46265.70	47377.30	697825.9	679629.5	594954.7	662876.9	1034	201	2019
7149.01	34211.40	34928.10	667704.7	679662.3	707391.1	662769.1	1036	205	2019
7150.00	53416.00	55269.60	698025	667895	595005.2	707462.3	1034	201	2019
7151.00	55424.20	57249.00	668089.5	698219.1	707496.1	595040.8	1034	201	2019
7152.00	57383.60	59223.20	698401.8	668284.6	595108.8	707565.4	1034	201	2019
7153.00	59376.70	61172.20	668476.2	698604.6	707601.5	595145.2	1034	201	2019
7154.00	61357.60	63177.60	698792.3	668672.6	595211.2	707669.6	1034	201	2019
7155.00	63312.10	65101.30	668858.9	698992.4	707701.3	595249.2	1034	201	2019
7156.00	65257.90	66358.40	699179.6	680974.8	595317.6	663238.1	1034	201	2019
7156.01	35091.40	35780.20	681006.7	669396.1	663144.4	706495	1036	205	2019
7157.00	32315.50	34084.60	699381.6	669604.9	595369.5	706498.6	1036	205	2019
7158.00	35941.00	37769.00	669812.9	699567.5	706476	595407.6	1036	205	2019
7159.00	37906.10	39587.70	699762.2	670011.6	595470.6	706498.4	1036	205	2019
7160.00	39716.30	41561.30	670228.3	699964.1	706481.8	595512.4	1036	205	2019
7161.00	55978.90	57880.20	700147.5	670432.7	595580.8	706492.6	1042	212	2019
7162.00	57997.40	59701.80	670641.2	700344.8	706474.8	595611	1042	212	2019
7163.00	59842.90	61039.90	700537.5	682338	595685	663599.9	1042	212	2019
7163.01	34888.00	35589.90	670851.8	682366.9	706480.1	663494.1	1046	214	2019
7164.00	61222.40	62251.70	682532.2	700727.1	663636.9	595719	1042	212	2019
7164.01	35837.90	36493.90	682552.5	671052	663560.9	706492.5	1046	214	2019
7165.00	29104.10	30950.90	700919.1	671258.4	595786.4	706491.2	1046	214	2019
7166.00	31103.50	32816.90	671471.9	701121.4	706478.1	595819.8	1046	214	2019
7167.00	32985.80	33862.30	701304.3	687249.8	595892.7	648354.4	1046	214	2019
7167.01	44594.70	44738.50	684662.1	687274	657998.4	648242.8	1054	227	2019
7167.05	34011.40	34769.60	684685.2	671671.3	657919.4	706494.8	1046	214	2019
7168.00	30377.50	32183.70	701502.2	671881.3	595942	706495.7	1042	212	2019
7169.00	34177.40	35829.70	672087.3	701698.3	706492.9	595977.8	1042	212	2019
7170.00	35988.90	37873.70	701883.5	672278.1	596048.4	706562.3	1042	212	2019
7171.00	37994.00	39678.40	672474.3	702083.4	706599.1	596085.1	1042	212	2019
7172.00	39815.10	41685.00	702270	672662.4	596154.1	706667.6	1042	212	2019
7173.00	41803.20	43488.60	672859.7	702465.6	706701.5	596188.8	1042	212	2019
7174.00	48176.40	50086.40	702660.2	673056.8	596259	706774.6	1042	212	2019
7175.00	50214.60	51929.90	673246.5	702853.7	706805.1	596288.9	1042	212	2019
7176.00	52079.80	54005.30	703074	673432.3	596370.3	706873.5	1042	212	2019
7177.00	54126.30	55850.00	673629.5	703240.6	706906.9	596393.6	1042	212	2019
7178.00	36814.90	38621.10	703428.5	673830.6	596464.8	706982.8	1044	213	2019
7179.00	42466.40	44227.10	674010.3	703630.9	707009.8	596502.6	1044	213	2019
7180.00	49739.20	51567.40	703858.1	674206.9	596579.6	707079.2	1044	213	2019
7181.00	51708.80	52758.80	674399.8	692051.9	707116.5	641241	1044	213	2019

FEM FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7181.01	44885.30	45099.10	692034	695672.1	641334.5	627720.1	1054	227	2019
7181.05	52970.40	53474.50	695652.3	704007.3	627814.4	596604.4	1044	213	2019
7182.00	53644.60	55439.30	704203.6	674591.5	596675.5	707185.9	1044	213	2019
7183.00	55565.50	57313.80	674788.2	704399.3	707218.9	596712.3	1044	213	2019
7184.00	57481.40	59263.40	704588.1	674983.8	596776.1	707290.7	1044	213	2019
7185.00	59394.40	61112.60	675173	704787.5	707323.5	596817.5	1044	213	2019
7186.00	61290.80	62170.20	704975.1	690404.5	596885.3	651272.1	1044	213	2019
7186.01	36689.60	37521.40	690430.4	675367.3	651179.9	707392.1	1047	216	2019
7187.00	62344.70	63221.00	690081.9	705171.7	653241.6	596918.4	1044	213	2019
7187.01	35585.70	36547.10	675566.4	690115.7	707432.3	653143.5	1047	216	2019
7188.00	33736.00	35429.40	705360.5	675754.5	596985.4	707497.8	1047	216	2019
7189.00	38060.90	39954.40	675951.9	705563	707532.2	597021.6	1047	216	2019
7190.00	40093.40	41367.50	705744.5	682895	597094.2	682386.4	1047	216	2019
7190.01	43220.10	43342.50	682917.7	680823.1	682292.3	690115.1	1071	257	2019
7190.05	41480.50	41740.80	680843.4	676138.9	690019.7	707599.4	1047	216	2019
7191.00	41933.30	43844.60	676336.3	705942.2	707639.3	597124.6	1047	216	2019
7192.00	43992.40	44987.50	705606	687418.3	599137.1	667036.3	1047	216	2019
7192.01	36706.60	37403.40	676532.8	687449.7	707687.8	666929.7	1049	218	2019
7193.00	45154.90	46363.40	687097.1	705807.3	669002.8	599174.4	1047	216	2019
7193.02	35470.20	36119.70	687120.2	677052.5	668926.9	706492	1050	219	2019
7194.00	34893.50	36538.70	705997.8	677253.3	599250.3	706491.8	1049	218	2019
7195.00	38886.30	39810.90	691626.2	706199.4	653651.1	599280.4	1049	218	2019
7195.01	34273.80	35111.90	677476.6	691653.8	706476.4	653560.3	1050	219	2019
7196.00	32360.80	34122.10	706384.9	677676.9	599348.4	706489.2	1050	219	2019
7197.00	36242.10	37940.90	677882.7	706578	706475.3	599388	1050	219	2019
7198.00	30684.00	32373.80	706771.6	678077.2	599452.9	706487.1	1048	217	2019
7199.00	32531.20	34287.80	678303.9	706966.6	706475.7	599489.1	1048	217	2019
7200.00	34467.70	36151.40	707154.8	678497.8	599558.1	706488.1	1048	217	2019
7201.00	36306.60	38091.80	678718.6	707351.8	706476.3	599593.1	1048	217	2019
7202.00	38276.20	39907.30	707537	678921.2	599664.4	706491.8	1048	217	2019
7203.01	40848.10	42616.70	679138.4	707744.2	706478	599696.5	1069	256	2019
7204.00	38086.70	39874.30	707923.9	679330.4	599765	706494.3	1050	219	2019
7205.00	40017.90	41733.00	679547.2	708125.8	706473.7	599802.3	1050	219	2019
7206.01	31350.90	33119.20	708315.1	679744.5	599870.2	706492.9	1051	224	2019
7207.00	42758.20	43428.50	697053.5	708513	642683.1	599908.1	1050	219	2019
7207.01	35062.30	36086.20	697069.4	679938.8	642605.5	706548.4	1052	225	2019
7208.00	33237.80	34987.70	680141.5	708703.6	706582.7	599956.8	1051	224	2019
7209.00	35158.70	36927.70	708892.6	680328.7	600022.6	706649.2	1051	224	2019
7210.00	37046.40	38724.70	680523.1	709094.6	706687.6	600062.5	1051	224	2019
7211.00	38885.60	40661.40	709282.2	680712.4	600130.4	706755.8	1051	224	2019
7212.00	40794.20	42541.00	680909.5	709475.2	706791.7	600161.9	1051	224	2019

FEM FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7213.00	36202.80	37978.10	681101.6	709675.9	706843	600216	1052	225	2019
7214.00	38150.80	39872.80	709864.6	681287.6	600280.7	706907.2	1052	225	2019
7215.00	39979.50	41746.10	681493.8	710057.9	706946.8	600319.1	1052	225	2019
7216.00	41916.00	42617.70	710253.5	698268.1	600388.9	645093.9	1052	225	2019
7216.01	51167.00	52136.20	681700	698298.5	707002.9	644986.6	1053	226	2019
7217.00	42869.30	43678.30	697946.9	710439.9	647062.2	600421.2	1052	225	2019
7217.01	52543.30	53248.90	697968.1	686555.2	646987.2	689580.6	1053	226	2019
7217.02	38710.50	38991.50	681876.4	686584.4	707047.2	689472.5	1054	227	2019
7218.00	49320.20	49755.90	710635.1	703318.1	600490.3	627809	1053	226	2019
7218.01	51535.60	51603.10	703342	702276.3	627717.6	631675.4	1071	257	2019
7218.05	49814.20	51051.30	702302.1	682065.3	631582.4	707115.9	1053	226	2019
7219.00	53425.70	54821.10	686940.2	710833.8	689670.7	600529.3	1053	226	2019
7219.01	39727.00	40025.50	686969.8	682254.2	689589.2	707165.3	1054	227	2019
7220.00	32888.60	34697.40	711016.2	682456.2	600592.3	707221.7	1054	227	2019
7221.00	34859.50	36554.90	682647.1	711215.9	707254.5	600626.9	1054	227	2019
7222.00	36692.20	38545.00	711403.2	682839.1	600696.5	707319.6	1054	227	2019
7223.00	40207.40	41847.10	683038.4	711603.8	707360.7	600733	1054	227	2019
7224.00	42010.40	43811.20	711794	683229.4	600805.5	707429	1054	227	2019
7225.00	38849.90	40726.50	711992.5	683418.8	600853.6	707481.9	1069	256	2019
7226.00	36834.40	38615.80	683610.4	712185.5	707512.7	600887.1	1069	256	2019
7227.00	34714.50	36660.70	712375.2	683805.1	600958.6	707582	1069	256	2019
7228.00	32736.90	34488.50	683999.3	712570.1	707617.1	600996.1	1069	256	2019
7229.00	30632.70	32573.90	712757.8	684198.5	601061.9	707691.3	1069	256	2019
7230.00	55204.50	56934.70	684390.2	712954.7	707723	601096.7	1068	254	2019
7231.00	53129.80	55043.10	713146.4	684919.4	601166.4	706486.8	1068	254	2019
7232.00	51196.80	52911.90	685139.8	713339.1	706472	601199.5	1068	254	2019
7233.00	49168.00	51046.30	713526.7	685335.4	601265.3	706480.9	1068	254	2019
7234.00	47299.00	48997.30	685546.6	713732.9	706467.7	601308.1	1068	254	2019
7235.00	45235.90	47137.50	713917	685758.9	601371.7	706485.9	1068	254	2019
7236.00	52289.70	54180.20	685973.5	714114.8	706466	601408.5	1059	236	2019
7237.00	50529.40	52138.10	714303	686171.5	601480.3	706479.7	1059	236	2019
7238.00	41713.10	43579.10	686378.8	714497.4	706468.4	601512.3	1059	236	2019
7239.00	39971.20	41560.50	714688.8	686586.2	601581.6	706480.5	1059	236	2019
7240.00	30371.00	32003.00	714879.5	686791.7	601631.3	706479.5	1058	233	2019
7241.00	35376.30	37218.70	687000	715082.5	706462	601665.9	1058	233	2019
7242.00	37327.90	38903.90	715271.7	687206.6	601737.9	706483.6	1058	233	2019
7243.00	39067.50	40960.30	687422.4	715468.3	706466.3	601769.8	1058	233	2019
7244.00	41144.90	42371.00	695919.8	715655.4	675504.7	601818.5	1057	231	2019
7244.01	32160.70	32710.10	687616.4	695945.3	706516.1	675416.4	1058	233	2019
7245.00	39719.60	40975.60	715848.8	695066.3	601895.1	679435.5	1057	231	2019
7245.01	32973.70	33378.20	695092.5	687799	679346.9	706581.8	1058	233	2019

FEM FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7246.00	38606.10	39587.10	699936.3	716046.7	662085.3	601928.2	1057	231	2019
7246.01	33547.60	34344.70	688000.2	699952.4	706620.8	661997	1058	233	2019
7247.00	37480.90	38451.10	716239	700116.8	601995.1	662156	1057	231	2019
7247.01	34589.90	35266.40	700141	688189	662058.6	706684.8	1058	233	2019
7248.00	30008.30	31715.30	716425.6	688382.5	602044.2	706734.8	1057	231	2019
7249.00	31902.50	33568.90	688576.3	716624.8	706773.3	602080.8	1057	231	2019
7250.00	33732.50	35497.60	716811.7	688768.2	602150.6	706841.5	1057	231	2019
7251.00	35668.70	36281.40	688962.1	699362.2	706874.5	668052.9	1057	231	2019
7251.01	52106.80	52235.20	701431.3	699343.9	660336.6	668156.2	1071	257	2019
7251.05	36407.40	37355.80	701405.6	717010.4	660416	602186.7	1057	231	2019
7252.00	30100.90	31786.30	717196.4	689156.9	602250.4	706945.4	1056	230	2019
7253.00	31975.60	33711.40	689349.4	717395.5	706981.7	602290.1	1056	230	2019
7254.00	33857.50	35557.40	717587	689557.4	602357.8	707053.5	1056	230	2019
7255.00	35722.50	37420.70	689732.4	717779	707083.9	602395.7	1056	230	2019
7256.00	43768.80	45547.00	717976.2	689925.8	602462.7	707148.6	1040	209	2019
7257.00	45701.90	47350.60	690121.6	718167.1	707185.8	602498.2	1040	209	2019
7258.00	37793.40	38646.20	712662.9	698097.7	623833	678181.9	1056	230	2019
7258.01	36562.70	37148.70	690314.2	698135.2	707237.4	678073.9	1059	236	2019
7259.00	38823.70	39734.00	697788.7	712851	680146	623868.4	1056	230	2019
7259.01	32926.00	33342.50	697801.9	690503.5	680068.8	707302.6	1059	236	2019
7260.00	39869.40	40742.50	713045	698490.8	623936	678280.7	1056	230	2019
7260.01	32212.70	32753.00	690704.4	698520.9	707342.7	678174.5	1059	236	2019
7261.00	40934.30	41861.40	698166.8	713248.1	680249.1	623971.7	1056	230	2019
7261.01	31643.50	32045.20	698189.9	690898.4	680171.4	707410.6	1059	236	2019
7262.00	33513.70	34984.00	691091.1	713443.2	707444.6	624023.3	1059	236	2019
7263.00	35114.10	36416.80	713622.8	691272.3	624094.6	707510.6	1059	236	2019
7264.00	37990.40	39485.70	691477.6	713824.4	707548.2	624130.1	1059	236	2019
7265.00	31539.60	32806.50	691663.6	714012.9	707598.3	624179.4	1038	208	2019
7266.00	32948.30	34302.50	713687.1	691861.7	626175.9	707666.7	1038	208	2019
7267.00	34416.60	35661.60	692051.5	713891	707705.2	626217.1	1038	208	2019
7268.00	35803.50	37143.40	714076.1	692244.6	626279.7	707771.8	1038	208	2019
7269.00	37335.30	38556.00	692800.1	714269.9	706473.6	626317.5	1038	208	2019
7270.00	38702.70	40035.70	714461.8	693004.7	626390.8	706489.2	1038	208	2019
7271.00	40193.90	41428.50	693215	714657.8	706466.7	626424	1038	208	2019
7272.00	48250.20	49557.30	714845.7	693410.7	626490.8	706486.9	1038	208	2019
7273.00	49720.90	51011.40	693621.4	715042.6	706470.1	626526.2	1038	208	2019
7274.00	51144.90	52449.70	715227	693833.1	626590.8	706485.1	1038	208	2019
7275.00	52632.80	53947.10	694053.4	715430.3	706467.1	626628.5	1038	208	2019
7276.00	54092.00	55372.70	715615.7	694241	626698.1	706484.7	1038	208	2019
7277.00	55543.90	56830.00	694454.7	715818.5	706467.6	626735.4	1038	208	2019
7278.00	56973.00	58250.50	715999.5	694653.6	626802.3	706486.8	1038	208	2019

FEM FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7279.00	59167.50	60437.30	694887.9	716207.7	706470.2	626841.7	1038	208	2019
7280.00	47753.20	49169.90	716389.6	695074.3	626903	706483.8	1040	209	2019
7281.00	49293.70	50532.10	695273.6	716587.9	706495	626944.7	1040	209	2019
7282.00	50682.50	52041.20	716764.9	695457	627006.4	706560.8	1040	209	2019
7283.00	29993.60	31102.20	716972.3	699819.1	627059.5	691064	1038	208	2019
7283.01	58460.70	58698.60	695657.8	699850.5	706600.3	690955.7	1038	208	2019
7284.00	49247.20	50533.40	716153.6	695848.3	630877.2	706669.4	1023	188	2019
7285.00	50682.60	51905.20	696049.3	716354.3	706703.9	630915	1023	188	2019
7286.00	52040.50	53308.00	716542.8	696240.3	630988.2	706771.3	1023	188	2019
7287.00	53469.80	54649.10	696435.3	716733.4	706802.8	631025.5	1023	188	2019
7288.00	54778.60	56037.60	716924.4	696625.6	631098.7	706875.8	1023	188	2019
7289.00	56212.60	57401.70	696822.4	717125.1	706907	631140.2	1023	188	2019
7290.00	44554.10	45715.80	717302.2	697010.3	631209.5	706976.8	1037	207	2019
7291.00	45878.30	47181.30	697210.2	717505	707016	631248.7	1037	207	2019
7292.00	47312.30	48103.10	717694.4	704150.5	631317.9	681864.7	1037	207	2019
7292.01	55195.70	55599.10	697399.8	704176.7	707066.8	681760.6	1062	238	2019
7293.00	48638.50	49862.40	697591.2	717884.8	707116	631360.5	1037	207	2019
7294.00	30204.20	31052.20	718077.9	703505	631434.9	685836.8	1059	236	2019
7294.01	55843.70	56167.00	703515.8	697786.6	685746.6	707181.8	1062	238	2019
7295.00	30758.10	32023.40	718271.2	697979.7	631488.1	707236.8	1029	195	2019
7296.00	32145.60	33395.60	698172	718470.4	707272.6	631526.2	1029	195	2019
7297.00	33554.80	34794.80	718651.2	698363.7	631594.9	707342.7	1029	195	2019
7298.00	34933.70	36199.00	698553.3	718853.5	707371.3	631636.2	1029	195	2019
7299.00	36342.90	37585.60	719038.2	698753.2	631709	707441.3	1029	195	2019
7300.00	37731.30	38952.80	698946.9	719238.4	707480.9	631749.7	1029	195	2019
7301.00	39095.80	40367.10	719427.5	699138.2	631814.7	707545.8	1029	195	2019
7302.00	40514.90	41724.60	699334.9	719621.5	707579.4	631858.4	1029	195	2019
7303.00	41871.70	43103.30	719810.7	699527.8	631927.8	707651.9	1029	195	2019
7304.00	43235.70	44357.90	699720.5	718983.1	707689.3	635795.3	1029	195	2019
7305.00	52476.90	53671.30	719170.7	699908.4	635859.5	707752.2	1029	195	2019
7306.00	53842.50	55000.10	700456.5	719366.4	706469.8	635896.3	1029	195	2019
7307.00	55134.50	56309.30	719553	700663.7	635962.8	706485.9	1029	195	2019
7308.00	56475.40	57582.10	700870	719752.5	706470.8	635998.7	1029	195	2019
7309.00	57726.90	58900.30	719942	701078.5	636072.2	706485.3	1029	195	2019
7310.00	59050.80	60158.20	701290.5	720137	706471.1	636108.8	1029	195	2019
7311.00	60284.20	61401.20	720327.7	701494.3	636172.5	706487.8	1029	195	2019
7312.00	61548.30	62644.40	701698.3	720523.4	706474.9	636211	1029	195	2019
7313.00	62769.50	63482.20	720718.2	709242.8	636281.5	679096.7	1029	195	2019
7313.01	54666.50	55073.50	701908.6	709271.3	706476.9	678984.8	1040	209	2019
7314.00	50034.90	51133.80	720903.7	702101.6	636334	706489.5	1037	207	2019
7315.00	51288.20	52414.30	702319	721096.6	706475.6	636365.7	1037	207	2019

FEM FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7316.00	52231.30	53257.50	702525.8	720251.2	706473.1	640327.2	1040	209	2019
7317.00	53411.40	54519.90	720438.4	702730	640399.8	706491.8	1040	209	2019
7318.00	38406.70	39350.90	702950.3	718525.1	706483.9	648333.3	1046	214	2019
7318.01	59537.50	59676.40	718501.2	720634.1	648425.4	640434.4	1062	238	2019
7319.00	54739.00	55746.20	720829.3	703131.2	640502.2	706543.4	1059	236	2019
7320.00	56379.50	57321.30	706982	721020.7	692962.8	640534.9	1059	236	2019
7320.01	31080.40	31284.40	703330.5	707000.6	706586.3	692871.8	1062	238	2019
7321.00	57459.70	58173.80	721211.6	708721.2	640602.4	687234.1	1059	236	2019
7321.01	30651.00	30941.20	708753	703515	687144.6	706647.2	1062	238	2019
7322.00	58356.80	59226.80	708394	721408.4	689204.9	640639.1	1059	236	2019
7322.01	31556.90	31822.90	708423.2	703712.6	689122.5	706699.7	1062	238	2019
7323.00	59357.70	60080.10	721596.9	709108	640712.3	687335.8	1059	236	2019
7323.01	31999.50	32295.40	703912.7	709142.3	706737.3	687229	1062	238	2019
7324.00	60287.10	61160.60	708789.8	721796.8	689308.8	640748.6	1059	236	2019
7324.01	32561.20	32825.00	708809	704097	689230.4	706808.3	1062	238	2019
7325.00	32978.60	34048.70	704295.1	721990.3	706837.3	640798.3	1062	238	2019
7326.00	34199.60	35267.90	722173.1	704481.2	640867.8	706906.7	1062	238	2019
7327.00	35414.10	35809.60	704688.2	711462.5	706946.4	681642.2	1062	238	2019
7327.01	53498.70	54184.60	722366.1	711444.2	640917.2	681748.8	1067	253	2019
7328.00	35933.10	36322.40	711657	704869	681708.1	707013.3	1062	238	2019
7328.01	52500.30	53251.20	711630	722562	681787.5	640952.4	1067	253	2019
7329.00	36493.30	36897.00	705059	711846.9	707048.9	681743.7	1062	238	2019
7329.01	51574.40	52273.90	722756.7	711816.9	641019	681854.3	1067	253	2019
7330.00	37092.00	37481.70	712043.2	705257.5	681812.7	707116.8	1062	238	2019
7330.01	50608.70	51335.00	712022.7	722952.2	681887.7	641054.9	1067	253	2019
7331.00	37636.10	38027.20	705454	712233.5	707151.9	681851.4	1062	238	2019
7331.01	49719.30	50429.20	723143.8	712201	641123.8	681957.1	1067	253	2019
7332.00	52881.20	53645.70	710848	723340.6	687787	641163.7	1061	237	2019
7332.01	38307.50	38603.90	710863.9	705638.9	687710.7	707219.8	1062	238	2019
7333.00	51590.70	52154.30	723527.9	714148.5	641229.6	676260.1	1061	237	2019
7333.01	52509.70	52700.70	714163.3	711041.1	676173.8	687851.6	1061	237	2019
7333.02	38747.70	39049.00	705839.2	711066.1	707256.7	687748.2	1062	238	2019
7334.00	50694.80	51439.40	711245.8	723732.9	687893.2	641265.9	1061	237	2019
7334.01	39263.40	39550.60	711258.8	706025	687815.9	707323	1062	238	2019
7335.00	49736.00	50498.60	723917	711426.1	641335.7	687954.7	1061	237	2019
7335.01	39700.10	40007.50	706229.1	711451.7	707361.1	687853.5	1062	238	2019
7336.00	48816.60	49591.20	711623.9	724113.4	687991.1	641368.3	1061	237	2019
7336.01	40218.70	40517.60	711645.2	706413.8	687919.6	707428.2	1062	238	2019
7337.00	47903.10	48666.60	724296.3	711814.7	641434.4	688058.4	1061	237	2019
7337.01	40667.40	40983.20	706621.4	711845.3	707462.6	687952.6	1062	238	2019
7338.00	47008.10	47768.40	712013.8	724499.1	688099.7	641477	1061	237	2019

FEM FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7338.01	41221.50	41523.30	712034.6	706800.5	688016.9	707528.2	1062	238	2019
7339.00	46083.30	46826.90	724685.4	712195.8	641545.5	688166.5	1061	237	2019
7339.01	41670.90	41979.80	706997.9	712225.6	707563.6	688058.6	1062	238	2019
7340.00	45209.60	45922.10	713428.3	724884.7	684337.8	641578.6	1061	237	2019
7340.01	56366.70	56725.10	707194.7	713450	707616.2	684247.8	1062	238	2019
7341.00	30730.90	31522.30	721963	709995.9	653253.8	697926.1	1027	194	2019
7341.01	41483.10	41630.70	707388.9	710028.3	707674.1	697822.1	1027	194	2019
7342.00	61906.60	62775.90	707575.1	722162.3	707719.6	653285.6	1027	194	2019
7343.00	60826.20	61772.30	722349.2	707767.3	653357	707789.6	1027	194	2019
7344.00	59850.40	60694.90	708323.4	722547.9	706476.2	653390	1027	194	2019
7345.00	58771.40	59720.70	722734.9	708534.1	653462.3	706497.1	1027	194	2019
7346.00	57797.60	58641.40	708742.3	722934.9	706476.8	653498.8	1027	194	2019
7347.00	56733.50	57660.20	723119.9	708950.1	653565.6	706498.4	1027	194	2019
7348.00	55756.20	56585.20	709157.2	723323.4	706478.1	653601.5	1027	194	2019
7349.00	54683.70	55614.30	723512.7	709354.5	653673.1	706495.6	1027	194	2019
7350.00	53730.40	54552.50	709571.7	723707.8	706476.1	653710.2	1027	194	2019
7351.00	52693.30	53614.60	723902	709774.1	653779.5	706492.4	1027	194	2019
7352.00	51740.10	52549.70	709984.9	724090.8	706475.1	653813.4	1027	194	2019
7353.00	50635.10	51603.50	724284.1	710187	653881.2	706491.6	1027	194	2019
7354.00	41933.60	42722.00	710411.5	724479.3	706480.5	653919.6	1027	194	2019
7355.00	40467.30	41327.90	724671.5	710604.3	653989.3	706496.7	1027	194	2019
7356.00	39506.50	40296.00	710835.1	724861.1	706522.3	654021.8	1027	194	2019
7357.00	38447.80	39405.50	725054.3	710990.1	654093.1	706583.3	1027	194	2019
7358.00	37443.90	38310.90	711208.4	725250.9	706619.5	654126.7	1027	194	2019
7359.00	36439.90	37324.10	725436.5	711377.3	654199.5	706685.3	1027	194	2019
7360.00	35469.60	36263.70	711581.3	725630.8	706724.2	654237.4	1027	194	2019
7361.00	34458.20	35363.70	724803	711759.7	658106.5	706788	1027	194	2019
7362.00	33543.00	34308.80	711991.9	725000.3	706830.1	658141.4	1027	194	2019
7363.00	32626.00	33451.20	725188.8	712151	658208.3	706890.3	1027	194	2019
7364.00	31744.20	32477.50	712368.6	725389.9	706936.5	658244.6	1027	194	2019
7365.00	62849.70	63650.60	712540.7	725576.6	706978.7	658290.9	1021	186	2019
7366.00	61901.80	62702.80	725771.5	712730.2	658359.4	707046.1	1021	186	2019
7367.00	60947.60	61712.10	712926.5	725965.3	707083.3	658394.5	1021	186	2019
7368.00	60039.70	60826.90	726159.1	713114.2	658461.1	707151	1021	186	2019
7369.00	59094.70	59898.60	713316.7	726352	707185.2	658491.1	1021	186	2019
7370.00	58127.90	58950.50	726542.7	713497.9	658561.7	707256.3	1021	186	2019
7371.00	57162.70	57889.10	713695.6	725699	707284.7	662485.3	1021	186	2019
7372.00	56254.90	57015.20	725892.5	713893.6	662554.7	707358.6	1021	186	2019
7373.00	55443.90	56144.20	714076.5	726084.2	707385.7	662593.1	1021	186	2019
7374.00	54598.30	55332.10	726273.5	714275.7	662662.8	707456.4	1021	186	2019
7375.00	53710.20	54441.50	714475.2	726467.5	707493.7	662701.9	1021	186	2019

FEM FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7376.00	52838.70	53583.90	726657.7	714658.6	662775.9	707563.8	1021	186	2019
7377.00	43319.60	44050.10	714863.5	726858.5	707599.6	662810.9	1021	186	2019
7378.00	42469.30	43206.70	727062.4	715051.8	662887.2	707668.9	1021	186	2019
7379.00	35905.10	36645.20	715247.5	727233.2	707706.7	662918.6	1021	186	2019
7380.00	35079.20	35787.40	726916.6	715438.6	664926.7	707769.1	1021	186	2019
7381.00	34254.40	34920.00	715989.7	727104	706478.2	664962.2	1021	186	2019
7382.00	33426.80	34130.80	727298.5	716187.2	665031.2	706493.1	1021	186	2019
7383.00	56749.20	57448.60	716408.3	727495.8	706482.5	665068.9	1019	185	2019
7384.00	55933.80	56610.30	727683	716602.6	665137.7	706494.8	1019	185	2019
7385.00	55107.30	55783.90	716811.3	727879.8	706482.7	665176.7	1019	185	2019
7386.00	54282.40	54967.50	728070.2	717012	665240.7	706498.1	1019	185	2019
7387.00	53466.00	54145.60	717146.3	728262.9	706463.3	665278.9	1019	185	2019
7388.00	52676.20	53337.60	728452.8	717425.7	665348.4	706497.6	1019	185	2019
7389.00	51841.10	52539.40	717613.8	728651.1	706480.7	665382.4	1019	185	2019
7390.00	51032.80	51701.00	728843.8	717843.7	665460.4	706504.6	1019	185	2019
7391.00	50197.60	50890.30	718069.2	729035.3	706494.4	665492.5	1019	185	2019
7392.00	49384.10	50031.40	729231.3	718258.7	665560.1	706508.8	1019	185	2019
7393.00	48516.90	49227.70	718470.5	729425.5	706498.7	665597.9	1019	185	2019
7394.00	47714.40	48376.80	729615.2	718655.2	665669.6	706564.1	1019	185	2019
7395.00	46851.40	47553.50	718856.7	729807	706596.4	665706	1019	185	2019
7396.00	46020.50	46726.30	729999	719044.8	665776.9	706665.4	1019	185	2019
7397.00	36749.70	37421.50	730185.5	719238.9	665826.2	706717.4	1021	186	2019
7398.00	37554.40	38213.70	719434.8	730389.3	706757	665865.9	1021	186	2019
7399.00	38395.50	38892.20	727993.5	719629	675584.5	706824.4	1021	186	2019
7400.00	39007.80	39562.10	719865.6	728187.9	706872	675615.4	1021	186	2019
7401.00	39707.80	40240.20	728375.7	720013.6	675685.3	706930.1	1021	186	2019
7402.00	40374.90	40878.60	720212.1	728574.8	706962.6	675725	1021	186	2019
7403.00	41018.70	41490.60	728761.9	720397.4	675787.3	707025.6	1021	186	2019
7404.00	41615.70	42167.60	720597.4	728961.3	707064.1	675823.1	1021	186	2019
7405.00	33350.70	33858.40	729145.9	720779.4	675893.3	707134.4	1032	199	2019
7406.00	33998.70	34489.50	720980.7	729345.6	707165.5	675927.9	1032	199	2019
7407.00	34652.50	35169.60	729537	721168.8	675993.1	707234.7	1032	199	2019
7408.00	35318.20	35818.00	721367.7	729734.5	707271.1	676027.9	1032	199	2019
7409.00	35938.50	36456.50	729920.2	721552.4	676096.1	707339.4	1032	199	2019
7410.00	36594.70	37084.00	721756.5	730112.8	707377.5	676133.9	1032	199	2019
7411.00	37240.30	37760.00	730304.4	721947.5	676200.8	707447.6	1032	199	2019
7412.00	37916.40	38437.50	722140.2	730507.6	707480.2	676235.3	1032	199	2019
7413.00	38562.00	39067.00	730694.3	722324.7	676302.2	707548.1	1032	199	2019
7414.00	39212.80	39714.00	722530.4	730893.4	707581.3	676339.2	1032	199	2019
7415.01	31032.60	31530.80	731087.4	722712.7	676408.8	707649.1	1041	210	2019
7416.00	31665.20	32196.60	722908.6	731277.9	707686.9	676442.9	1041	210	2019

FEM FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7417.00	32333.90	32822.50	731467.9	723097.5	676511.3	707756.8	1041	210	2019
7418.00	32945.70	33461.60	723295.5	731664.5	707785.3	676551.3	1041	210	2019
7419.00	33630.30	34086.00	731856.3	723849.2	676613.2	706510.9	1041	210	2019
7420.00	34234.40	34746.70	724057.6	732052.6	706494.6	676650.3	1041	210	2019
7421.00	34893.40	35360.80	732243.1	724261.3	676720.8	706507.3	1041	210	2019
7422.00	35484.60	35977.80	724473.6	732441.2	706497.9	676752.5	1041	210	2019
7423.00	36153.70	36612.20	732625.1	724677.7	676825.5	706516.6	1041	210	2019
7424.00	36730.00	37235.90	724892.4	732825.8	706501.6	676860.2	1041	210	2019
7425.00	37374.40	37843.40	733017.7	725087.8	676924.5	706512.8	1041	210	2019
7426.00	37973.20	38490.20	725308.9	733209.9	706500	676959.1	1041	210	2019
7427.00	38649.50	39112.70	733394.7	725504.9	677030.4	706517.7	1041	210	2019
7428.00	39230.10	39639.80	725709.9	732054.1	706500.2	682827.6	1041	210	2019
7429.00	39771.50	40148.30	732245.9	725918.3	682894	706515.8	1041	210	2019
7430.00	40292.80	40680.40	726130.2	732442	706501.6	682921.8	1041	210	2019
7431.00	40820.90	41182.40	732635.6	726318.7	682990.7	706543.3	1041	210	2019
7432.00	32494.80	32775.70	726513.1	731223.1	706581.8	689005.4	1032	199	2019
7432.01	39869.20	39966.00	732826.5	731198.6	683045.4	689114.1	1032	199	2019
7433.00	31951.30	32348.00	733017.7	726711.2	683092.1	706653.4	1032	199	2019
7434.00	31433.20	31802.50	726906.1	733217.3	706685.1	683124.4	1032	199	2019
7435.00	30899.40	31302.20	733409.9	727096	683189.6	706755.4	1032	199	2019
7436.00	63324.40	63710.10	727297.5	733073.2	706788.8	685201	1024	190	2019
7437.00	62893.50	63217.00	733267	727480.8	685273.5	706857.1	1024	190	2019
7438.00	62415.00	62785.50	727677.8	733460	706891.4	685308.2	1024	190	2019
7439.00	61943.70	62278.40	733654.7	727867	685375.6	706960.3	1024	190	2019
7440.00	61444.60	61820.50	728065.3	733843.8	706993.6	685415	1024	190	2019
7441.00	60986.50	61311.00	734032.5	728252.6	685483.4	707064.9	1024	190	2019
7442.00	60441.60	60836.20	728449.2	734225.9	707103.3	685518.7	1024	190	2019
7443.00	59973.50	60318.70	734425.4	728637.4	685590	707168.7	1024	190	2019
7444.00	59455.40	59835.40	728838	734611.9	707204.8	685625.6	1024	190	2019
7445.00	59004.80	59327.80	734799.7	729027.5	685696	707274	1024	190	2019
7446.00	58463.30	58862.40	729224.7	735002.1	707307.5	685728.1	1024	190	2019
7447.00	57982.40	58312.10	735191.1	729412.3	685797.8	707376.7	1024	190	2019
7448.00	57458.10	57833.60	729608.3	735387.7	707408.3	685836.5	1024	190	2019
7449.00	56980.00	57301.10	735579.2	729799.1	685908.2	707475.8	1024	190	2019
7450.00	56442.60	56838.50	729993	735776.8	707511.6	685940.2	1024	190	2019
7451.00	52963.40	53287.60	735962.9	730179.2	686014.8	707577.4	1024	190	2019
7452.00	53515.30	53928.60	730380.2	736159.8	707613	686046.2	1024	190	2019
7453.00	54065.70	54387.20	736347.2	730571.1	686113.6	707682.7	1024	190	2019
7454.00	54527.30	54930.90	730767.2	736539.4	707717.5	686152.8	1024	190	2019
7455.00	55085.70	55413.50	736731.9	730963.4	686224.8	707785.2	1024	190	2019
7456.00	55531.20	55915.50	731509.8	736928.7	706495.5	686260.6	1024	190	2019

FEM FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7457.00	56041.90	56337.30	737121.7	731715.1	686329	706505.9	1024	190	2019
7458.00	52516.20	52855.20	731923.9	737317.7	706491.1	686366.9	1024	190	2019
7459.00	52046.40	52351.00	737503	732127.6	686431.6	706508.4	1024	190	2019
701.00	38859.40	39082.30	706011.6	693554.1	597420.7	594083.6	1003	168	2019
702.00	38178.40	38563.10	693056.9	718258.2	596022.5	602766.8	1003	168	2019
703.00	37609.40	38094.50	717722.7	692519.6	604707.2	597938.7	1003	168	2019
704.00	36822.90	36982.40	672519.2	683228.8	594623.6	597518.5	1003	168	2019
704.10	37117.20	37500.10	692017.5	717223.1	599878.6	606637.1	1003	168	2019
705.00	42074.40	42760.70	671994	716705.7	596575.8	608562.2	1006	169	2019
706.00	42873.70	43639.70	716172.3	671457.3	610492	598513.2	1006	169	2019
707.00	32129.90	32913.80	670956.5	715672.9	600445.6	612434.8	1019	185	2019
708.00	33019.30	33748.60	715136.9	670422.9	614358.4	602371.9	1019	185	2019
709.00	44445.50	45211.80	669920.4	714639.3	604310.9	616293.6	1019	185	2019
710.00	33873.80	34632.70	669399.5	714115.4	606244.7	618224.9	1019	185	2019
711.00	34771.20	35494.90	713587.1	668870	620151.2	608167.1	1019	185	2019
712.00	44715.70	45471.70	713069.7	668348.5	622076.9	610101.8	1021	186	2019
713.00	32074.60	32786.80	670746	714107	612816.3	624438.5	1021	186	2019
714.00	42363.00	43241.70	717056.2	670212.7	627292.1	614732.3	1048	217	2019
715.00	64129.40	64870.40	716532	669689	629228.1	616677.6	1021	186	2019
716.00	51578.20	52405.00	669194.6	719896.8	618607.2	632194.3	1021	186	2019
717.00	30005.10	30898.40	719365.5	665762.8	634123.7	619761	1052	225	2019
718.00	64501.40	65522.80	721166.4	660220.2	636680.8	620347.8	1024	190	2019
719.00	31128.70	32101.60	659718.5	720663.7	622269	638616	1052	225	2019
720.00	57718.30	58788.30	724960.2	659181.9	641834.6	624209.9	1023	188	2019
721.00	32881.90	33962.50	658686.5	724455.5	626149.2	643770.4	1024	190	2019
722.00	34112.90	35237.60	723926.3	658148	645699.7	628078.2	1024	190	2019
723.00	44633.20	45645.50	723403.5	657631.3	647632.6	630009.4	1029	195	2019
724.00	60887.70	61920.40	722892.1	657111.3	649561.1	631945.9	1038	208	2019
725.00	62880.50	63932.50	722371.9	656595.6	651492.9	633878.7	1027	194	2019
726.00	42862.80	44023.60	725717.8	656073.6	654461.1	635808.6	1027	194	2019
727.00	49306.00	50459.90	655574.7	725211.7	637741.8	656399.3	1027	194	2019
728.00	64031.70	65133.90	726612.5	655044	658845.7	639668.7	1029	195	2019
729.00	50767.50	51994.40	654539.7	726109.3	641604.6	660776.4	1029	195	2019
730.00	34128.80	34537.60	654025.2	679131.2	643539.2	650262.9	1052	225	2019
730.01	48553.10	49356.90	679042.4	727356.5	650251.2	663182.9	1059	236	2019
731.00	40435.90	41766.20	730484	653487.2	666094.3	645464	1032	199	2019
732.00	32659.50	33960.60	729968.4	652974.1	668021.8	647401.4	1052	225	2019
733.00	57128.90	58158.30	729445.3	666554.7	669958.1	653104.2	1062	238	2019
734.00	41793.70	42778.10	728928.3	666041.3	671888.3	655026.3	1041	210	2019
735.00	61673.50	62675.30	728413.5	665520.5	673811.9	656972.8	1059	236	2019
736.00	41977.10	43156.90	733482.3	665005.6	677244.9	658903	1058	233	2019

FEM FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
737.00	42378.40	43401.10	732984.1	669321.1	679183	662129.2	1038	208	2019
738.00	55589.50	56643.50	732478.8	668799.2	681116.5	664057.8	1040	209	2019
739.00	53998.40	55220.70	733480.7	668280.1	683456.5	665991.7	1071	257	2019
740.01	41534.90	42802.50	737596.4	667762.4	686631.7	667923.6	1071	257	2019
741.00	54685.30	55922.90	737081.5	667248.8	688564.8	669854.5	1067	253	2019
742.00	47837.90	48686.00	684419.6	736576.8	676523.2	690499.6	1062	238	2019
742.01	58499.30	58775.80	666747.9	684516.1	671790.6	676554.2	1062	238	2019
743.00	40260.50	41354.70	666226.1	736062.3	673731.5	692434.5	1071	257	2019
744.00	48841.70	49997.30	735527.6	665692.3	694357.5	675652.8	1062	238	2019
745.00	50089.90	51175.70	665191.1	735025	677581.8	696298.2	1062	238	2019
746.00	32364.20	33417.10	734495.5	671999.7	698221.7	681480	1066	253	2019
747.00	38795.30	39953.80	733975.5	671482.4	700155.4	683417.5	1071	257	2019
748.00	51376.00	52400.50	733461.6	670967.1	702081.2	685348.3	1062	238	2019
749.00	52521.90	53489.00	670471.1	732954.7	687278.7	704030.9	1062	238	2019
750.00	53652.80	54655.60	732425.1	669931.4	705944.5	689214.5	1062	238	2019
751.00	36885.10	37882.40	669429.3	731140.5	691153.8	707703.1	1046	214	2019
752.00	38959.10	39828.00	668911.9	723480.6	693084.5	707694.1	1044	213	2019
753.00	40001.30	40741.60	715605.6	668380.1	707654.7	695013.1	1044	213	2019
754.00	40854.60	41500.40	667877.1	707957.5	696940.7	707680.7	1044	213	2019
755.00	41661.90	42174.00	700086.8	667341.7	707639.1	698866.8	1044	213	2019
756.00	32451.00	32858.30	666839.7	692435.8	700812	707660.6	1042	212	2019
757.00	33043.10	33359.80	684556.3	666309.8	707628.5	702736.2	1042	212	2019
758.00	33471.60	33644.80	665809.3	676720.2	704674.7	707596.8	1042	212	2019
759.00	33918.70	33982.10	669037.5	665273.5	707607	706594.7	1042	212	2019

MAGNETIC FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7001.00	39929.50	40364.30	653080.7	660476	647584.5	619984	1010	172	2019
7002.00	40471.20	40906.80	660664	653277.5	620038.7	647635.5	1010	172	2019
7003.00	41029.80	41485.30	653474.4	660859.1	647689.9	620098.7	1010	172	2019
7004.00	38746.20	39197.10	661055.3	653662.7	620154.2	647739.5	1001	166	2019
7005.00	39342.90	39790.70	653877	661243.1	647791	620212.7	1001	166	2019
7006.00	39921.90	40375.20	661435.7	654047	620269.9	647842.9	1001	166	2019
7007.00	40494.00	40932.90	654245.7	661623.9	647894.8	620328.8	1001	166	2019
7008.00	41066.70	41511.60	661820.3	654435.6	620382.7	647946.7	1001	166	2019
7009.00	45187.40	45675.10	654632.9	662009.9	647994.8	620442.8	1001	166	2019
7010.00	41680.70	42148.40	654811.9	662201.3	648052.7	620496	1001	166	2019
7011.00	45791.10	46233.20	662394.1	655015.5	620558.2	648102.1	1001	166	2019
7012.00	42272.20	42723.50	662582.8	655204.5	620614.9	648151.9	1001	166	2019
7013.00	42875.60	43330.80	655400.8	662781.2	648207.6	620668	1001	166	2019
7014.00	43447.30	43891.20	662976.8	655590	620724.8	648259.1	1001	166	2019
7015.00	44040.00	44509.60	655785	663161.6	648308.7	620783.7	1001	166	2019
7016.00	44634.10	45079.30	663390.4	655980.4	620838.4	648358.6	1001	166	2019
7017.00	46337.20	46814.50	656170.2	663549.8	648411.4	620900.1	1001	166	2019
7018.00	53243.40	53703.70	663736.3	656367	620958.6	648465.5	1001	166	2019
7019.00	53863.50	54355.30	656556.3	663929.1	648518.8	621012.5	1001	166	2019
7020.00	37106.90	37586.00	664122.4	656755.7	621070.2	648566	1010	172	2019
7021.00	36546.80	36995.50	656950.6	664309.5	648619.9	621128.8	1010	172	2019
7022.00	35974.80	36438.90	664502.5	657143.1	621182.7	648672	1010	172	2019
7023.00	35402.20	35850.80	657332.6	664694.3	648719.4	621243.6	1010	172	2019
7024.00	34800.30	35281.00	664890.3	657525.1	621296.9	648775.5	1010	172	2019
7025.00	34258.50	34692.70	657717	665082.2	648828.9	621353.1	1010	172	2019
7026.00	33673.50	34128.90	665274.7	657918.8	621414	648880.2	1010	172	2019
7027.00	34326.90	34595.40	668462	672700.8	610290.7	594469.2	1008	171	2019
7027.10	41628.40	42108.40	665963.5	658104.9	619580.8	648931.1	1010	172	2019
7028.00	34783.30	35038.90	672890.9	668656.7	594523.5	610339.5	1008	171	2019
7028.10	42229.70	42728.80	658297.2	666162	648983.5	619631.1	1010	172	2019
7029.00	35163.20	35436.40	668848.8	673082.3	610393.9	594573.3	1008	171	2019
7029.10	42846.00	43335.20	666354.1	658493.5	619682.6	649035	1010	172	2019
7030.00	35563.30	35825.30	673282.8	669041.3	594621.5	610443	1008	171	2019
7030.10	43463.00	43965.60	658676.7	666550.6	649084	619733.9	1010	172	2019
7031.00	35937.90	36213.30	669232.8	673467.7	610498.3	594675.4	1008	171	2019
7031.10	44063.50	44544.30	666746.5	658882.3	619784.3	649136.7	1010	172	2019
7032.00	36338.90	36598.50	673669.2	669428	594728.8	610550.1	1008	171	2019
7032.10	44670.50	45180.20	659073	666937.5	649186	619836.8	1010	172	2019
7033.00	36726.00	37005.60	669615.9	673852.6	610601.3	594781.5	1008	171	2019
7033.10	51827.70	52354.10	659266.4	667127	649243.2	619890.6	1010	172	2019
7034.00	37143.00	37404.70	674057.1	669813.7	594834.7	610652.6	1008	171	2019

MAGNETIC FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7034.10	52478.10	52960.60	667315.6	659462.3	619942.5	649290.7	1010	172	2019
7035.00	37556.50	37844.90	670004.9	674241	610702.1	594882.3	1008	171	2019
7035.10	53102.80	53622.40	659649.9	667514.5	649345.1	619989.1	1010	172	2019
7036.00	37997.00	38253.20	674443.3	670197.8	594934.2	610757.1	1008	171	2019
7036.10	53742.00	54208.70	667715.8	659844.8	620041.8	649395.6	1010	172	2019
7037.00	38396.10	38678.00	670387.4	674643.7	610806.6	594987	1008	171	2019
7037.10	54362.20	54870.30	660036.2	667897.2	649447.7	620095.8	1010	172	2019
7038.00	38835.00	39084.60	674826.6	670587.9	595040.5	610859.5	1008	171	2019
7038.10	54989.20	55460.80	668094.4	660228.9	620142.9	649498.4	1010	172	2019
7039.00	39215.20	39492.30	670776.7	675016.6	610912.4	595090.1	1008	171	2019
7039.10	55583.80	56119.80	660421.2	668281.6	649549.6	620195.5	1010	172	2019
7040.00	39615.20	39876.30	675216.2	670968.8	595145.7	610966.3	1008	171	2019
7040.10	56237.10	56703.60	668481	660615.3	620249	649604.6	1010	172	2019
7041.00	39996.50	40278.10	671157.6	675392.1	611016.6	595195.1	1008	171	2019
7041.10	56791.20	57310.00	660813.9	668668.8	649653.7	620300.2	1010	172	2019
7042.00	50531.80	51270.10	675592.5	663617	595245.5	639950.9	1008	171	2019
7042.01	53835.90	54001.40	661002.2	663646.9	649703.9	639854.4	1008	171	2019
7043.00	51988.30	52645.90	664848.9	675792.1	636144	595299.6	1008	171	2019
7043.01	54201.00	54444.70	664868.5	661195.1	636052.1	649756.5	1008	171	2019
7044.00	52813.00	53729.10	675982.8	661391.2	595349.9	649812	1008	171	2019
7045.00	33804.40	34745.90	676177.5	661583.9	595400.7	649864.4	1012	177	2019
7046.00	34851.70	35697.60	661768.3	676370.1	649912.3	595452.1	1012	177	2019
7047.00	35888.40	36841.00	676564.3	661974.4	595508.1	649963	1012	177	2019
7048.00	36965.90	37841.90	662155.5	676756.4	650019.5	595558	1012	177	2019
7049.00	37998.10	38982.60	676945.5	662353.7	595611.1	650070.9	1012	177	2019
7050.00	39091.00	39978.00	662544.6	677144.9	650118.4	595659.4	1012	177	2019
7051.00	40151.80	41088.80	677338.4	662747.1	595712.3	650171	1012	177	2019
7052.00	41189.30	42037.80	662921.6	677527	650225.2	595765.3	1012	177	2019
7053.00	42189.90	43142.30	677724.4	663122.8	595813.1	650275.5	1012	177	2019
7054.00	43282.00	44147.30	663314.4	677920.4	650324.7	595867.7	1012	177	2019
7055.00	50617.60	51595.10	678116.4	663515.1	595920.7	650376.8	1013	177	2019
7056.00	37752.80	38692.90	663703.1	678304.2	650428.9	595972.6	1010	172	2019
7057.00	38811.40	39694.10	678483.1	663901.3	596021.8	650480.9	1010	172	2019
7058.00	50809.60	51666.30	678694.4	664100.8	596076.9	650532.6	1010	172	2019
7059.00	57851.40	58715.50	678880	664289.5	596128.9	650588.2	1010	172	2019
7060.00	58840.40	59801.30	664476	679070	650635.5	596179.3	1010	172	2019
7061.00	59921.90	60777.80	679262.2	664674	596230.9	650687.2	1010	172	2019
7062.00	52015.20	52937.20	664873.9	679461	650741.1	596282	1013	177	2019
7063.00	53099.10	54075.00	679655.2	665055.3	596333.2	650792.9	1013	177	2019
7064.00	54199.30	55070.00	665254.2	679846.6	650843.8	596385	1013	177	2019
7065.00	55239.20	56195.40	680043.5	665442	596437.2	650897	1013	177	2019

MAGNETIC FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7066.00	56322.50	57237.30	665640.8	680237.4	650946.2	596486.1	1013	177	2019
7067.00	57395.30	58355.00	680425.7	665836.4	596539.8	650997	1013	177	2019
7068.00	58459.00	59334.40	666030.2	680623.8	651051.6	596590.1	1013	177	2019
7069.00	62233.60	63086.10	680814.2	666218.7	596642.7	651103.4	1003	168	2019
7070.00	61118.00	62095.80	666404.9	681003.2	651156.7	596697.6	1003	168	2019
7071.00	60113.30	60974.20	681189.9	666612	596746.6	651205.2	1003	168	2019
7072.00	58994.30	59987.10	666795.9	681392.2	651260.5	596802.6	1003	168	2019
7073.00	57993.90	58840.10	681583.1	666990	596849.6	651313.6	1003	168	2019
7074.00	56713.10	57866.20	665114.1	681776.1	659092.7	596903.2	1003	168	2019
7075.00	55645.50	56588.40	681986.4	665310.5	596956.7	659139.4	1003	168	2019
7076.00	54350.50	55525.70	665500	682164.2	659195.8	597006.6	1003	168	2019
7077.00	53234.50	54211.90	682305.8	665694.8	597056.8	659245.4	1003	168	2019
7078.00	47266.50	48375.00	665887	682550.3	659299.9	597111.6	1003	168	2019
7079.00	46191.10	47133.20	682752.9	666089	597162	659348.4	1003	168	2019
7080.00	44924.00	46052.10	666277.3	682937.4	659401.9	597214.1	1003	168	2019
7081.00	43821.30	44775.90	683131.6	666467.1	597263.8	659454.6	1003	168	2019
7082.00	42653.40	43694.30	666659.5	682810.7	659502.1	599231.7	1003	168	2019
7083.00	41587.70	42512.10	683009.4	666852.3	599281	659553.7	1003	168	2019
7084.00	40340.30	41425.00	667058	683199.2	659609.7	599335.3	1003	168	2019
7085.00	39270.50	40210.00	683392.1	667240.7	599389.7	659658	1003	168	2019
7086.00	43957.80	44908.30	683582	667437.7	599440.6	659711.7	1006	169	2019
7087.00	45041.20	46056.20	667628.2	683781.8	659762.3	599492.1	1006	169	2019
7088.00	46204.90	47189.20	683970.6	667824.3	599541.4	659816.7	1006	169	2019
7089.00	47312.60	48343.70	668009.2	684164	659868.4	599597.6	1006	169	2019
7090.00	48468.40	49428.90	684354	668208.5	599646.2	659915.1	1006	169	2019
7091.00	49577.90	50602.70	668399.8	684548.6	659971.4	599698.5	1006	169	2019
7092.00	50740.70	51714.70	684738	668594.6	599750.7	660020.5	1006	169	2019
7093.00	51859.50	52895.50	668781.9	684938	660075.7	599806.9	1006	169	2019
7094.00	53022.80	53989.90	685126.4	668978.9	599860.3	660122.3	1006	169	2019
7095.00	54123.00	55154.20	669183.2	685319.4	660176.2	599906.9	1006	169	2019
7096.00	60100.70	61063.10	685516.1	669353.7	599963.3	660227.3	1006	169	2019
7097.00	61225.70	62322.70	669555.3	685706.4	660282.2	600013	1006	169	2019
7098.00	62467.80	63436.30	685898.7	669742.2	600064.6	660330.7	1006	169	2019
7099.00	31295.60	32607.00	686096	665286.7	600116.7	677771	1017	183	2019
7100.00	32730.70	33944.20	665476.7	686287.5	677824.8	600172.4	1017	183	2019
7101.00	34093.70	35453.00	686479	665678.2	600221.2	677874.4	1017	183	2019
7102.00	35581.30	36808.40	665867.7	686678.4	677924.2	600273.1	1017	183	2019
7103.00	36943.60	38328.20	686868.2	666066	600325.1	677981	1017	183	2019
7104.00	38423.00	39651.70	666253.6	687061.3	678030.1	600379.1	1017	183	2019
7105.00	39760.10	41090.80	687252	666452.6	600427.8	678082.1	1017	183	2019
7106.00	36036.50	37357.90	666642.3	687447.1	678133.7	600482.4	1024	190	2019

MAGNETIC FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7107.00	60303.90	61586.90	666836.9	687638.4	678188.3	600536.3	1017	183	2019
7108.00	58887.10	60184.20	687830.7	667023.1	600587.1	678238.3	1017	183	2019
7109.00	41194.80	42417.40	667222.2	688029.9	678289.2	600640	1017	183	2019
7110.00	48901.70	50170.60	667415.7	688220.9	678339.1	600692.8	1017	183	2019
7111.00	47445.90	48777.60	688411.4	667610	600744.4	678392.6	1017	183	2019
7112.00	32236.80	33619.20	688606.3	667798.6	600797	678441.6	1016	182	2019
7113.00	33779.20	34994.20	668008.2	688800.1	678497.5	600846.1	1016	182	2019
7114.00	35123.50	36532.60	688985.9	668185.6	600902.6	678546.4	1016	182	2019
7115.00	36682.00	37892.90	668373.5	689182.9	678600.9	600953.5	1016	182	2019
7116.00	38027.60	39414.90	689374.3	668566.2	601007.9	678650.7	1016	182	2019
7117.00	39555.40	40754.80	668766.2	689570.8	678704.4	601059.3	1016	182	2019
7118.00	40876.40	42275.90	689760.9	668952.7	601109.4	678754.5	1016	182	2019
7119.01	30645.50	31005.20	682655	676936.7	628384.9	649728.8	1044	213	2019
7119.03	43205.30	43621.40	682634.1	689957.3	628474.7	601159	1016	182	2019
7119.04	42428.70	42877.90	669152.3	676955.4	678808.5	649635.3	1016	182	2019
7120.00	43748.30	45165.10	690147.8	669342.7	601216.1	678860.1	1016	182	2019
7121.00	45319.90	46513.20	669540.4	690340.9	678907.2	601268.6	1016	182	2019
7122.00	50290.90	51621.70	690532.6	669741.1	601321.3	678960.2	1017	183	2019
7123.00	51766.60	53066.40	669923.3	690728.2	679012.6	601370.9	1017	183	2019
7124.00	53207.20	54512.20	690918	670117.7	601422.5	679064.8	1017	183	2019
7125.00	54618.20	55906.30	670305.3	691107.7	679118.1	601473.6	1017	183	2019
7126.00	56035.50	57361.30	691303.8	670511.7	601528.7	679167.4	1017	183	2019
7127.00	57475.00	58765.60	670694.1	691500	679221.7	601576.6	1017	183	2019
7128.01	41720.00	42993.80	693766.6	670885.9	593845.5	679272.5	1036	205	2019
7129.00	43142.70	44578.90	671084.5	693974.4	679327.4	593895.9	1036	205	2019
7130.00	32167.30	33512.20	671269.3	694169.3	679379.2	593948.9	1044	213	2019
7131.00	33681.00	35125.40	694362.9	671473.2	594000.6	679428.4	1044	213	2019
7132.00	35261.20	36595.00	671664.5	694553.1	679477.8	594055.3	1044	213	2019
7133.00	59660.40	61167.60	694739.4	671873.4	594104.4	679531.2	1013	177	2019
7134.00	37605.30	38979.30	694938.4	672050.2	594156.5	679584.9	1024	190	2019
7135.00	39144.80	40663.80	672242.7	695131.9	679633.5	594209.8	1024	190	2019
7136.00	40818.40	42143.70	695324.4	672437.1	594262.4	679687.1	1024	190	2019
7137.00	31540.80	32320.90	695518.5	683525.5	594313.8	639064.9	1024	190	2019
7137.01	42754.60	43918.00	665388	683551.4	706786.7	638974.5	1024	190	2019
7138.00	43422.10	45146.50	665579.2	695713.3	706836.5	594365.2	1026	193	2019
7139.00	45303.70	47282.50	695906.8	665771.5	594417.5	706889.3	1026	193	2019
7140.00	47431.80	49165.40	665958.3	696099.1	706941.1	594471.5	1026	193	2019
7141.01	31335.00	31615.60	682781.1	678092.7	644974.6	662456.9	1044	213	2019
7141.03	49299.80	50181.10	696290.7	682745.2	594520.1	645070.9	1026	193	2019
7141.04	50491.00	51300.60	678113.3	666158.1	662361.2	706993.8	1026	193	2019
7142.00	51440.80	53179.60	666355.7	696481.4	707046.7	594576.6	1026	193	2019

MAGNETIC FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7143.00	34558.10	36449.30	696672.1	666545.3	594626.8	707096.4	1034	201	2019
7144.00	36595.50	38318.50	666739.1	696870.3	707148	594676.2	1034	201	2019
7145.00	38478.60	40323.20	697066.8	666931.6	594729	707200.8	1034	201	2019
7146.00	40477.60	42241.00	667124.6	697255.5	707253.6	594782.3	1034	201	2019
7147.00	42392.40	44224.90	697447.9	667318.5	594833.2	707302.4	1034	201	2019
7148.00	44376.20	46119.40	667509.1	697634.8	707354.9	594889	1034	201	2019
7149.00	46265.50	47377.10	697829	679632.8	594942.5	662865	1034	201	2019
7149.01	34211.10	34928.00	667699.8	679660.7	707409.2	662775.1	1036	205	2019
7150.00	53415.80	55269.60	698028.7	667895	594992.3	707462.3	1034	201	2019
7151.00	55423.90	57248.90	668084.7	698217.6	707513.3	595046.8	1034	201	2019
7152.00	57383.40	59223.20	698405.1	668284.6	595096.3	707565.4	1034	201	2019
7153.00	59376.50	61172.10	668473	698602.9	707613.8	595151.3	1034	201	2019
7154.00	61357.40	63177.60	698795.6	668672.6	595198.4	707669.6	1034	201	2019
7155.00	63311.80	65101.20	668854.1	698990.9	707719.3	595255.3	1034	201	2019
7156.00	65257.70	66358.30	699183.2	680976.6	595304.8	663231.9	1034	201	2019
7156.01	35091.30	35780.20	681008.4	669396.1	663138.1	706495	1036	205	2019
7157.00	32315.30	34084.50	699385	669606.6	595356.3	706492.3	1036	205	2019
7158.00	35940.70	37769.00	669808.3	699567.5	706492.8	595407.6	1036	205	2019
7159.00	37906.00	39587.60	699764	670013.4	595463.6	706491.9	1036	205	2019
7160.00	39716.10	41561.30	670225	699964.1	706493.9	595512.4	1036	205	2019
7161.00	55978.70	57880.20	700150.8	670432.7	595568	706492.6	1042	212	2019
7162.00	57997.10	59701.70	670636.4	700343.1	706494.2	595617	1042	212	2019
7163.00	59842.70	61039.80	700540.9	682339.5	595672.3	663594	1042	212	2019
7163.01	34887.80	35589.70	670848.3	682363.7	706493.2	663506.4	1046	214	2019
7164.00	61222.20	62251.60	682528.7	700725.4	663650.5	595725.4	1042	212	2019
7164.01	35837.80	36493.90	682554.2	671052	663554.4	706492.5	1046	214	2019
7165.00	29103.90	30950.90	700922.8	671258.4	595773.6	706491.2	1046	214	2019
7166.00	31103.30	32816.80	671468.5	701119.5	706490.6	595826.3	1046	214	2019
7167.00	32985.60	33862.20	701307.6	687251.3	595880.6	648348.6	1046	214	2019
7167.01	34011.30	34769.50	684687	671673.1	657913	706488.7	1046	214	2019
7167.02	44594.60	44738.30	684660.2	687270	658005.1	648257	1054	227	2019
7168.00	30377.30	32183.60	701505.3	671883	595930.9	706489.1	1042	212	2019
7169.00	34177.10	35829.60	672081.8	701696.6	706513	595984.2	1042	212	2019
7170.00	35988.70	37873.70	701886.7	672278.1	596036.1	706562.3	1042	212	2019
7171.00	37993.80	39678.40	672471	702083.4	706612.2	596085.1	1042	212	2019
7172.00	39814.90	41685.00	702273.3	672662.4	596141.4	706667.6	1042	212	2019
7173.00	41803.00	43488.60	672856.3	702465.6	706715.2	596188.8	1042	212	2019
7174.00	48176.20	50086.30	702663.5	673058.5	596246.3	706768.6	1042	212	2019
7175.00	50214.40	51929.80	673243.2	702852	706818.3	596295.1	1042	212	2019
7176.00	52079.40	54005.30	703085	673432.3	596346.8	706873.5	1042	212	2019
7177.00	54126.00	55849.90	673624.1	703239.1	706926.3	596399.5	1042	212	2019

MAGNETIC FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7178.00	36814.70	38621.00	703431.9	673832.6	596452.1	706976.2	1044	213	2019
7179.00	42466.10	44227.10	674005	703630.9	707029.3	596502.6	1044	213	2019
7180.00	49738.80	51567.40	703867.9	674206.9	596555.8	707079.2	1044	213	2019
7181.00	51708.60	53474.40	674396	704005.7	707130	596610.8	1044	213	2019
7182.00	53644.40	55439.30	704207	674591.5	596662.6	707185.9	1044	213	2019
7183.00	55565.30	57313.80	674784.5	704399.3	707232.4	596712.3	1044	213	2019
7184.00	57481.20	59263.30	704591.4	674985.4	596763.3	707284.4	1044	213	2019
7185.00	59394.20	61112.60	675169.5	704787.5	707336.4	596817.5	1044	213	2019
7186.00	61290.60	62170.10	704978.5	690406.1	596872.6	651265.5	1044	213	2019
7186.01	36689.50	37521.40	690432.3	675367.3	651173.2	707392.1	1047	216	2019
7187.00	62344.60	63220.90	690080.3	705169.9	653247.5	596925.2	1044	213	2019
7187.01	35585.50	36546.90	675563.6	690112.9	707443.6	653154.5	1047	216	2019
7188.00	33735.80	35429.30	705363.8	675756.3	596972.6	707491.1	1047	216	2019
7189.00	38060.70	39954.30	675948.2	705561.5	707544.1	597027.1	1047	216	2019
7190.00	40093.20	41367.30	705748.3	682898.7	597079.5	682372.6	1047	216	2019
7190.01	41480.40	41740.80	680845.4	676138.9	690013	707599.4	1047	216	2019
7190.02	43219.90	43342.30	682921.1	680826.5	682279.4	690101.6	1071	257	2019
7191.00	41933.10	43844.50	676333.1	705940.7	707651.6	597130	1047	216	2019
7192.00	43992.30	44987.40	705608	687420.2	599130	667029.3	1047	216	2019
7192.01	36706.40	37403.30	676529.7	687448.1	707699.7	666935.4	1049	218	2019
7193.00	45154.80	46363.30	687095.6	705805.8	669008.5	599180.3	1047	216	2019
7193.02	35470.00	36119.60	687123.5	677054	668915.4	706486.3	1050	219	2019
7194.00	34893.20	36538.60	706002.9	677255.1	599231.2	706485	1049	218	2019
7195.00	38886.20	39810.80	691624.5	706197.8	653657.3	599286.3	1049	218	2019
7195.01	34273.60	35111.80	677473.3	691652.2	706489.2	653566.8	1050	219	2019
7196.00	32360.60	34122.10	706388.1	677676.9	599336.1	706489.2	1050	219	2019
7197.00	36241.90	37940.90	677879.5	706578	706487	599388	1050	219	2019
7198.00	30683.80	32373.80	706775.7	678077.2	599440.8	706487.1	1048	217	2019
7199.01	43732.60	45672.20	678301.4	706963.5	706487.6	599490.5	1071	257	2019
7200.00	34467.50	36151.40	707158.4	678497.8	599544.5	706488.1	1048	217	2019
7201.00	36306.40	38091.80	678715.5	707351.8	706487.6	599593.1	1048	217	2019
7202.00	38276.00	39907.30	707540.5	678921.2	599650.4	706491.8	1048	217	2019
7203.01	40847.90	42616.70	679135	707744.2	706490.2	599696.5	1069	256	2019
7204.00	38086.50	39874.20	707927.4	679332	599752.4	706488.3	1050	219	2019
7205.00	40017.60	41733.00	679542.5	708125.8	706491.5	599802.3	1050	219	2019
7206.01	31350.60	33119.20	708319.7	679744.5	599852.4	706492.9	1051	224	2019
7207.00	42758.00	43428.50	697050.2	708513	642695.1	599908.1	1050	219	2019
7207.01	35062.30	36086.10	697069.4	679940.5	642605.5	706541.9	1052	225	2019
7208.00	33237.50	34987.70	680136.5	708703.6	706599.2	599956.8	1051	224	2019
7209.00	35158.50	36927.70	708895.7	680328.7	600010.3	706649.2	1051	224	2019
7210.00	37046.20	38724.70	680519.9	709094.6	706699.4	600062.5	1051	224	2019

MAGNETIC FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7211.00	38885.30	40661.30	709287.2	680714.1	600111.5	706749.7	1051	224	2019
7212.00	40794.00	42540.90	680906.6	709473.7	706802.6	600167.7	1051	224	2019
7213.00	36202.60	37978.10	681098.3	709675.9	706855.4	600216	1052	225	2019
7214.00	38150.60	39872.80	709867.9	681287.6	600267.8	706907.2	1052	225	2019
7215.00	39979.30	41746.10	681490.7	710057.9	706958.8	600319.1	1052	225	2019
7216.00	41915.80	42617.60	710257.2	698270.1	600375.3	645087	1052	225	2019
7216.01	51166.90	52136.10	681698.3	698296.7	707008.7	644993.2	1053	226	2019
7217.00	42869.10	43678.20	697944.2	710438.3	647073.1	600426.8	1052	225	2019
7217.01	52543.20	53248.80	697969.6	686556.8	646981.7	689574.3	1053	226	2019
7217.02	38710.30	38991.40	681873.4	686582.8	707060	689479	1054	227	2019
7218.00	49320.00	51051.30	710638.6	682065.3	600477.4	707115.9	1053	226	2019
7219.00	53425.70	54821.10	686940.2	710833.8	689670.7	600529.3	1053	226	2019
7219.01	39726.80	40025.50	686973.1	682254.2	689577.1	707165.3	1054	227	2019
7220.00	32888.40	34697.30	711019.4	682458	600580	707215.3	1054	227	2019
7221.00	34859.30	36554.80	682643.5	711214.4	707267.3	600632.8	1054	227	2019
7222.00	36692.00	38545.00	711406.6	682839.1	600684.6	707319.6	1054	227	2019
7223.00	40207.20	41847.10	683035.3	711603.8	707372.1	600733	1054	227	2019
7224.00	42010.10	43811.10	711799.3	683231	600786.5	707423.2	1054	227	2019
7225.00	38849.70	40726.40	711995.2	683420.4	600842.7	707476.1	1069	256	2019
7226.00	36834.10	38615.70	683606.1	712183.8	707530.5	600893.6	1069	256	2019
7227.00	34714.20	36660.70	712379.6	683805.1	600942.4	707582	1069	256	2019
7228.00	32736.60	34488.50	683993.6	712570.1	707633.3	600996.1	1069	256	2019
7229.00	30632.40	32573.80	712762.3	684200.2	601046.4	707685.4	1069	256	2019
7230.00	55204.30	56934.70	684387	712954.7	707735.3	601096.7	1068	254	2019
7231.00	53129.60	55043.10	713149.6	684919.4	601154.5	706486.8	1068	254	2019
7232.00	51196.60	52911.80	685136.4	713337.6	706484.2	601205.3	1068	254	2019
7233.00	49167.80	51046.40	713530	685333.9	601252.9	706486.6	1068	254	2019
7234.00	47298.80	48997.30	685543.1	713732.9	706480	601308.1	1068	254	2019
7235.00	45235.70	47137.40	713919.9	685760.2	601360.1	706480.9	1068	254	2019
7236.00	52289.40	54180.20	685969	714114.8	706482.5	601408.5	1059	236	2019
7237.00	50529.20	52138.10	714307	686171.5	601466.4	706479.7	1059	236	2019
7238.00	41712.90	43579.10	686375.8	714497.4	706479.5	601512.3	1059	236	2019
7239.00	39971.00	41560.50	714692.9	686586.2	601566.1	706480.5	1059	236	2019
7240.00	30370.80	32003.00	714883.6	686791.7	601617.8	706479.5	1058	233	2019
7241.00	35376.00	37218.60	686995.5	715081	706479.9	601671.6	1058	233	2019
7242.00	37327.70	38903.80	715275.3	687208.5	601724	706476.8	1058	233	2019
7243.00	39067.30	40960.20	687419.1	715466.8	706477.5	601775.4	1058	233	2019
7244.00	41144.80	42370.90	695918.2	715653.9	675511	601824.3	1057	231	2019
7244.01	32160.50	32710.00	687613.5	695943.8	706526.3	675422	1058	233	2019
7245.00	39719.30	40975.50	715854	695068.1	601875.9	679429.2	1057	231	2019
7245.01	32973.60	33378.10	695094.3	687800.8	679340.2	706574.6	1058	233	2019

MAGNETIC FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7246.00	38605.90	39587.10	699932.7	716046.7	662097.8	601928.2	1057	231	2019
7246.01	33547.40	34344.60	687997.4	699950.7	706631.4	662003.3	1058	233	2019
7247.00	37480.70	38451.00	716242.3	700118.5	601982.4	662149.6	1057	231	2019
7247.01	34589.90	35266.40	700141	688189	662058.6	706684.8	1058	233	2019
7248.00	30008.10	31715.30	716428.8	688382.5	602031.7	706734.8	1057	231	2019
7249.00	31902.30	33568.80	688573.2	716623.3	706785.4	602086.7	1057	231	2019
7250.00	33732.30	35497.50	716815	688769.7	602138.2	706835	1057	231	2019
7251.00	35668.40	37355.80	688957	717010.4	706892.2	602186.7	1057	231	2019
7252.00	30100.80	31786.20	717198.1	689158.6	602243.8	706938.8	1056	230	2019
7253.00	31975.40	33711.40	689346.4	717395.5	706993.4	602290.1	1056	230	2019
7254.00	33857.30	35557.30	717590.3	689559.1	602344.3	707046.8	1056	230	2019
7255.00	35722.30	37420.70	689729.5	717779	707095.1	602395.7	1056	230	2019
7256.00	43768.60	45547.00	717979.5	689925.8	602450.3	707148.6	1040	209	2019
7257.00	45701.70	47350.60	690118.2	718167.1	707198.7	602498.2	1040	209	2019
7258.00	37793.20	38646.00	712666.1	698101.2	623820.1	678168.8	1056	230	2019
7258.01	36562.40	37148.60	690310.1	698133.7	707252.2	678079.5	1059	236	2019
7259.00	38823.50	39734.00	697785.3	712851	680158.3	623868.4	1056	230	2019
7259.01	32926.00	33342.50	697801.9	690503.5	680068.8	707302.6	1059	236	2019
7260.00	39869.20	40742.40	713048.8	698492.2	623922.1	678274.5	1056	230	2019
7260.01	32212.50	32752.90	690701.9	698519.4	707353.6	678180.3	1059	236	2019
7261.00	40934.10	41861.30	698163.6	713246.5	680261.2	623977.6	1056	230	2019
7261.01	31643.50	32045.10	698189.9	690900.1	680171.4	707403.9	1059	236	2019
7262.00	33513.40	34983.90	691087	713441.5	707459.5	624029.1	1059	236	2019
7263.00	35113.90	36416.80	713626.5	691272.3	624080.4	707510.6	1059	236	2019
7264.00	37990.10	39485.70	691473.8	713824.4	707563.4	624130.1	1059	236	2019
7265.00	31539.40	32806.40	691660.1	714011.3	707611	624185.6	1038	208	2019
7266.00	32948.10	34302.50	713690.5	691861.7	626163.8	707666.7	1038	208	2019
7267.00	34416.40	35661.60	692048.4	713891	707717.5	626217.1	1038	208	2019
7268.00	35803.30	37143.30	714079.3	692246.3	626267.4	707765.4	1038	208	2019
7269.00	37335.20	38555.90	692798.2	714268.2	706480.4	626324	1038	208	2019
7270.00	38702.40	40035.60	714466.7	693006.3	626372.4	706483.1	1038	208	2019
7271.00	40193.60	41428.50	693209.6	714657.8	706485.9	626424	1038	208	2019
7272.00	48250.00	49557.20	714849.2	693412.3	626477.9	706480.6	1038	208	2019
7273.00	49720.70	51011.30	693617.3	715041.2	706483.1	626531.6	1038	208	2019
7274.00	51144.80	52449.70	715228.7	693833.1	626584.4	706485.1	1038	208	2019
7275.00	52632.60	53947.00	694050	715428.8	706480	626634	1038	208	2019
7276.00	54091.80	55372.70	715619.2	694241	626684.9	706484.7	1038	208	2019
7277.00	55543.60	56830.00	694449.6	715818.5	706486.2	626735.4	1038	208	2019
7278.00	56972.80	58250.40	716003.2	694655.4	626789.1	706480.7	1038	208	2019
7279.00	59167.30	60437.30	694884.4	716207.7	706484.6	626841.7	1038	208	2019
7280.00	47753.10	49169.90	716391.4	695074.3	626896.3	706483.8	1040	209	2019

MAGNETIC FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7281.00	49293.50	50532.10	695270	716587.9	706508.1	626944.7	1040	209	2019
7282.00	50682.40	52041.20	716766.5	695457	626999.1	706560.8	1040	209	2019
7283.00	29993.40	31102.10	716975.5	699820.5	627047.4	691058.7	1038	208	2019
7283.01	58460.50	58698.40	695653.9	699847	706613.7	690969.4	1038	208	2019
7284.00	49247.00	50533.30	716157	695849.7	630865	706664	1023	188	2019
7285.00	50682.40	51905.10	696045.6	716352.7	706717.6	630921.1	1023	188	2019
7286.00	52040.30	53308.00	716546.3	696240.3	630975.6	706771.3	1023	188	2019
7287.00	53469.60	54649.00	696431.4	716731.6	706816.9	631032.1	1023	188	2019
7288.00	54778.40	56037.50	716927.6	696627.2	631087	706869.9	1023	188	2019
7289.00	56212.40	57401.70	696819	717125.1	706920.8	631140.2	1023	188	2019
7290.00	44553.90	45715.80	717305.6	697010.3	631196	706976.8	1037	207	2019
7291.00	45878.10	47181.20	697207.2	717503.4	707027	631254.4	1037	207	2019
7292.00	47312.10	48494.30	717697.6	697399.3	631304.8	707075.7	1037	207	2019
7293.00	48638.30	49862.40	697587.8	717884.8	707128.6	631360.5	1037	207	2019
7294.00	30203.90	31052.10	718083.4	703506.5	631414.7	685830.4	1059	236	2019
7294.01	55843.60	56167.00	703517.6	697786.6	685740.4	707181.8	1062	238	2019
7295.00	30757.80	32023.40	718275.5	697979.7	631471.1	707236.8	1029	195	2019
7296.00	32145.40	33395.60	698168.7	718470.4	707285.4	631526.2	1029	195	2019
7297.00	33554.60	34794.70	718654	698365.3	631583.7	707336.9	1029	195	2019
7298.00	34933.40	36199.00	698548.6	718853.5	707390.9	631636.2	1029	195	2019
7299.00	36342.70	37585.60	719041.5	698753.2	631696.8	707441.3	1029	195	2019
7300.00	37731.10	38952.80	698943.5	719238.4	707494.2	631749.7	1029	195	2019
7301.00	39095.60	40367.10	719430.5	699138.2	631803.3	707545.8	1029	195	2019
7302.00	40514.70	41724.60	699330.7	719621.5	707593.4	631858.4	1029	195	2019
7303.00	41871.50	43103.20	719813.8	699529.4	631916	707645.8	1029	195	2019
7304.00	43235.60	44357.90	699718.7	718983.1	707696.6	635795.3	1029	195	2019
7305.00	52476.70	53671.30	719174	699908.4	635847	707752.2	1029	195	2019
7306.00	53842.30	55000.00	700453.2	719364.7	706482	635902.7	1029	195	2019
7307.00	55134.30	56309.30	719556	700663.7	635951.3	706485.9	1029	195	2019
7308.00	56475.20	57582.00	700866.3	719750.9	706483.4	636004.8	1029	195	2019
7309.00	57726.60	58900.30	719947	701078.5	636054.1	706485.3	1029	195	2019
7310.00	59050.60	60158.20	701287.1	720137	706484.8	636108.8	1029	195	2019
7311.00	60284.00	61401.20	720331.1	701494.3	636160.1	706487.8	1029	195	2019
7312.00	61548.10	62644.30	701694.9	720521.7	706486.9	636217.3	1029	195	2019
7313.00	62769.20	63482.10	720722.9	709244.2	636263.7	679091	1029	195	2019
7313.01	54666.30	55073.30	701904.7	709268.3	706490.2	678996.9	1040	209	2019
7314.00	50034.70	51133.80	720907.2	702101.6	636321.1	706489.5	1037	207	2019
7315.00	51288.00	52414.20	702315.4	721095	706487.9	636371.9	1037	207	2019
7316.00	52231.10	53257.40	702522.4	720249.6	706486	640333.1	1040	209	2019
7317.00	53411.20	54519.90	720442	702730	640385.9	706491.8	1040	209	2019
7318.00	38406.60	39350.70	702948.9	718522.7	706490	648344.1	1046	214	2019

MAGNETIC FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7318.01	59537.30	59676.40	718497.9	720634.1	648437.1	640434.4	1062	238	2019
7319.00	54738.80	55746.20	720832.9	703131.2	640489.1	706543.4	1059	236	2019
7320.00	56379.40	57321.20	706980.6	721019.2	692968.6	640540.5	1059	236	2019
7320.01	31080.30	31284.30	703328.7	706998.7	706592.6	692878.7	1062	238	2019
7321.00	57459.50	58173.70	721215.1	708723.1	640590.2	687227.3	1059	236	2019
7321.01	30650.90	30941.20	708754.8	703515	687138	706647.2	1062	238	2019
7322.00	58356.60	59226.70	708390.7	721406.8	689216.8	640644.9	1059	236	2019
7322.01	31557.00	31822.90	708421.7	703712.6	689128.8	706699.7	1062	238	2019
7323.00	59357.50	60080.00	721600	709109.8	640699.3	687329.1	1059	236	2019
7323.01	31999.30	32295.30	703908.8	709140.6	706750.6	687235.6	1062	238	2019
7324.00	60286.90	61160.60	708787	721796.8	689319.6	640748.6	1059	236	2019
7324.01	32561.20	32824.90	708809	704098.8	689230.4	706801.3	1062	238	2019
7325.00	32978.30	34048.70	704289.5	721990.3	706857	640798.3	1062	238	2019
7326.00	34199.30	35267.90	722177.9	704481.2	640849.7	706906.7	1062	238	2019
7327.00	35413.90	35809.40	704685.3	711459.3	706958.6	681655.1	1062	238	2019
7327.01	53498.50	54184.50	722369.5	711445.7	640905	681742.9	1067	253	2019
7328.00	35933.00	36322.30	711658.7	704870.7	681701.7	707006.6	1062	238	2019
7328.01	52500.20	53251.10	711628.5	722560.6	681793.5	640957.8	1067	253	2019
7329.00	36493.10	36896.80	705056	711843.7	707060.6	681755.8	1062	238	2019
7329.01	51574.20	52273.80	722760.1	711818.3	641007	681848.5	1067	253	2019
7330.00	37092.00	37481.60	712043.2	705259.2	681812.7	707109.8	1062	238	2019
7330.01	50608.40	51334.90	712017.1	722950.8	681905.1	641060.2	1067	253	2019
7331.00	37635.90	38027.10	705450.7	712231.9	707164.5	681857.9	1062	238	2019
7331.01	49719.10	50429.10	723147.3	712202.3	641111.7	681951.6	1067	253	2019
7332.00	52881.10	53645.70	710846.3	723340.6	687793.6	641163.7	1061	237	2019
7332.01	38307.40	38603.80	710865.8	705640.9	687703.7	707212.8	1062	238	2019
7333.00	51590.50	52154.20	723531.7	714150.6	641215.7	676253.6	1061	237	2019
7333.01	52509.60	52700.60	714165	711043	676167.3	687845.2	1061	237	2019
7333.02	38747.50	39048.90	705836.1	711064.5	707269.2	687754.4	1062	238	2019
7334.00	50694.70	51439.30	711244	723731.4	687899.4	641271.6	1061	237	2019
7334.01	39263.30	39550.60	711260.6	706025	687808.9	707323	1062	238	2019
7335.00	49735.80	50498.50	723920.4	711427.8	641323	687948.3	1061	237	2019
7335.01	39699.90	40007.50	706225.9	711451.7	707373.3	687853.5	1062	238	2019
7336.00	48816.50	49591.10	711622.2	724111.9	687997.6	641373.9	1061	237	2019
7336.01	40218.50	40517.50	711648.6	706415.6	687906.4	707421.6	1062	238	2019
7337.00	47903.00	48666.60	724298.2	711814.7	641427.6	688058.4	1061	237	2019
7337.01	40667.20	40983.00	706618.2	711842.4	707475.5	687963.6	1062	238	2019
7338.00	47008.00	47768.40	712011.9	724499.1	688105.9	641477	1061	237	2019
7338.01	41221.50	41523.30	712034.6	706800.5	688016.9	707528.2	1062	238	2019
7339.00	46083.10	46826.70	724689	712199.5	641531.9	688152.5	1061	237	2019
7339.01	41670.70	41979.70	706994.5	712224	707576.1	688064.9	1062	238	2019

MAGNETIC FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7340.00	45209.40	45922.00	713425.4	724883.3	684348.8	641583.9	1061	237	2019
7340.01	56366.50	56725.00	707191.4	713448.5	707628.8	684253.6	1062	238	2019
7341.00	30730.60	31522.20	721967.9	709997.2	653236.1	697921.1	1027	194	2019
7341.01	41483.00	41630.60	707387.1	710026.5	707680.9	697828.5	1027	194	2019
7342.00	61906.40	62775.80	707571.4	722160.4	707733.7	653292.2	1027	194	2019
7343.00	60826.00	61772.20	722352.4	707768.8	653344.4	707784.1	1027	194	2019
7344.00	59850.20	60694.80	708320.1	722546.3	706489.4	653396.1	1027	194	2019
7345.00	58771.20	59720.60	722737.8	708535.5	653450.8	706492.4	1027	194	2019
7346.00	57797.40	58641.40	708738.7	722934.9	706489.7	653498.8	1027	194	2019
7347.00	56733.30	57660.10	723123.1	708951.4	653553.4	706493.3	1027	194	2019
7348.00	55756.00	56585.10	709153.5	723321.8	706491.4	653607.8	1027	194	2019
7349.00	54683.40	55614.20	723517.5	709356	653656.1	706490.3	1027	194	2019
7350.00	53730.20	54552.50	709568.1	723707.8	706490	653710.2	1027	194	2019
7351.00	52693.00	53614.60	723906.5	709774.1	653762.4	706492.4	1027	194	2019
7352.00	51739.90	52549.60	709981.1	724089.1	706489.1	653819.6	1027	194	2019
7353.00	50634.90	51603.50	724287	710187	653870	706491.6	1027	194	2019
7354.00	41933.50	42722.00	710409.7	724479.3	706487.8	653919.6	1027	194	2019
7355.00	40467.10	41327.80	724674.9	710605.8	653977.1	706490.8	1027	194	2019
7356.00	39506.50	40295.90	710835.1	724859.1	706522.3	654028.2	1027	194	2019
7357.00	38447.50	39405.40	725059.4	710991.7	654077.5	706577.7	1027	194	2019
7358.00	37443.80	38310.80	711206.6	725249.4	706626.8	654132.5	1027	194	2019
7359.00	36439.70	37324.00	725439.8	711378.6	654187.3	706680.3	1027	194	2019
7360.00	35469.50	36263.70	711580	725630.8	706731	654237.4	1027	194	2019
7361.00	34458.00	35363.60	724806	711761.1	658095.6	706782.8	1027	194	2019
7362.00	33542.90	34308.70	711990.2	724998.6	706837.2	658147.8	1027	194	2019
7363.00	32625.80	33451.20	725192.1	712151	658196.2	706890.3	1027	194	2019
7364.00	31744.20	32477.50	712368.6	725389.9	706936.5	658244.6	1027	194	2019
7365.00	62849.50	63650.50	712537.1	725575.2	706991.7	658296.3	1021	186	2019
7366.00	61901.60	62702.80	725774.9	712730.2	658345.7	707046.1	1021	186	2019
7367.00	60947.40	61712.00	712923	725963.6	707097.4	658400.6	1021	186	2019
7368.00	60039.50	60826.80	726163	713115.7	658448.1	707145.1	1021	186	2019
7369.00	59094.50	59898.50	713312.8	726350.5	707197.9	658496.6	1021	186	2019
7370.00	58127.70	58950.40	726545.9	713499.6	658548.4	707250	1021	186	2019
7371.00	57162.50	57889.10	713691.4	725699	707299.6	662485.3	1021	186	2019
7372.00	56254.70	57015.10	725896.1	713895.2	662541.7	707353	1021	186	2019
7373.00	55443.70	56144.10	714073.6	726082.7	707401.9	662598.7	1021	186	2019
7374.00	54598.10	55332.10	726277.5	714275.7	662649.2	707456.4	1021	186	2019
7375.00	53710.00	54441.40	714471.3	726466	707507.7	662707.4	1021	186	2019
7376.00	52838.50	53583.90	726661.2	714658.6	662763	707563.8	1021	186	2019
7377.00	43319.40	44050.00	714860.1	726857.1	707612.9	662816.2	1021	186	2019
7378.00	42469.10	43206.60	727066.1	715053.2	662872.7	707663.5	1021	186	2019

MAGNETIC FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7379.00	35905.00	36645.10	715245.7	727231.8	707713.4	662924.1	1021	186	2019
7380.00	35079.00	35787.40	726920.1	715438.6	664914.2	707769.1	1021	186	2019
7381.00	34254.20	34919.90	715986.3	727102.6	706491.9	664967.5	1021	186	2019
7382.00	33426.60	34130.80	727302.1	716187.2	665017.9	706493.1	1021	186	2019
7383.00	56749.00	57448.50	716404.9	727494.3	706495.6	665074.5	1019	185	2019
7384.00	55933.60	56610.30	727686.6	716602.6	665124.1	706494.8	1019	185	2019
7385.00	55107.10	55783.90	716807.6	727879.8	706497	665176.7	1019	185	2019
7386.00	54282.30	54967.50	728071.9	717012	665233.9	706498.1	1019	185	2019
7387.00	53465.50	54145.50	717130.4	728261.4	706500	665284.6	1019	185	2019
7388.00	52676.00	53337.60	728456.8	717425.7	665335.1	706497.6	1019	185	2019
7389.00	51840.80	52539.30	717608.1	728649.5	706497.9	665387.9	1019	185	2019
7390.00	51032.50	51700.90	728849.1	717845.1	665439.8	706499.5	1019	185	2019
7391.00	50197.50	50890.30	718067.6	729035.3	706501.2	665492.5	1019	185	2019
7392.00	49383.90	50031.30	729234.8	718260.5	665546.1	706502.3	1019	185	2019
7393.00	48516.70	49227.60	718467.1	729424	706511.2	665603.3	1019	185	2019
7394.00	47714.20	48376.70	729618.8	718656.8	665656.5	706557.9	1019	185	2019
7395.00	46851.20	47553.50	718852.8	729807	706609.3	665706	1019	185	2019
7396.00	46020.20	46726.30	730004	719044.8	665758.3	706665.4	1019	185	2019
7397.00	36749.50	37421.50	730187.9	719238.9	665813.9	706717.4	1021	186	2019
7398.00	37554.30	38213.70	719433	730389.3	706764.1	665865.9	1021	186	2019
7399.00	38395.30	38892.10	727997	719630.8	675570.9	706818.2	1021	186	2019
7400.00	39007.80	39562.00	719865.6	728186.6	706872	675620.5	1021	186	2019
7401.00	39707.60	40240.10	728378.8	720015.3	675672.6	706924.1	1021	186	2019
7402.00	40374.80	40878.60	720210.2	728574.8	706969.8	675725	1021	186	2019
7403.00	41018.60	41490.60	728763.8	720397.4	675780.1	707025.6	1021	186	2019
7404.00	41615.50	42167.50	720595.8	728959.8	707076.7	675828.7	1021	186	2019
7405.00	33350.50	33858.30	729149.1	720781.2	675880.8	707127.7	1032	199	2019
7406.00	33998.50	34489.40	720976.9	729343.9	707179.3	675934	1032	199	2019
7407.00	34652.30	35169.60	729540.3	721168.8	675980.8	707234.7	1032	199	2019
7408.00	35318.00	35817.90	721364.5	729732.8	707284.1	676034.2	1032	199	2019
7409.00	35938.30	36456.40	729923.3	721554.2	676083.8	707332.6	1032	199	2019
7410.00	36594.50	37083.90	721753.4	730111.1	707389.6	676140.4	1032	199	2019
7411.00	37240.10	37759.90	730307.6	721949.2	676188.4	707441.2	1032	199	2019
7412.00	37916.20	38437.40	722136.5	730506.1	707493.1	676241.2	1032	199	2019
7413.00	38561.80	39066.90	730697.7	722326.5	676289.7	707541.8	1032	199	2019
7414.00	39212.60	39713.90	722526.9	730891.7	707594.4	676345.3	1032	199	2019
7415.01	31032.40	31530.80	731091.3	722712.7	676395.8	707649.1	1041	210	2019
7416.00	31665.00	32196.50	722905.4	731276.4	707699.4	676448.7	1041	210	2019
7417.00	32333.70	32822.40	731471.5	723099.3	676498.2	707750.1	1041	210	2019
7418.00	32945.40	33461.60	723290.6	731664.5	707803.8	676551.3	1041	210	2019
7419.00	33630.10	34086.00	731859.9	723849.2	676600	706510.9	1041	210	2019

MAGNETIC FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7420.00	34234.20	34746.70	724054.6	732052.6	706506.4	676650.3	1041	210	2019
7421.00	34893.10	35360.80	732248	724261.3	676701.4	706507.3	1041	210	2019
7422.00	35484.40	35977.70	724470.4	732439.6	706510.7	676758.3	1041	210	2019
7423.00	36153.40	36612.10	732630.5	724679.5	676805.3	706510.1	1041	210	2019
7424.00	36729.90	37235.90	724891	732825.8	706507.6	676860.2	1041	210	2019
7425.00	37374.20	37843.40	733021.1	725087.8	676911.1	706512.8	1041	210	2019
7426.00	37973.00	38490.10	725305.5	733208.5	706512	676964.9	1041	210	2019
7427.00	38649.30	39112.60	733398.1	725506.8	677017.4	706510.9	1041	210	2019
7428.00	39229.90	39639.80	725706.3	732054.1	706512	682827.6	1041	210	2019
7429.00	39771.20	40148.30	732251.3	725918.3	682874.2	706515.8	1041	210	2019
7430.00	40292.60	40680.30	726127	732440.4	706513.5	682927.7	1041	210	2019
7431.00	40820.70	41182.40	732639	726318.7	682978.2	706543.3	1041	210	2019
7432.00	32494.60	32775.70	726509.2	731223.1	706593.8	689005.4	1032	199	2019
7432.01	39868.90	39965.80	732831.5	731202.2	683026.9	689100.9	1032	199	2019
7433.00	31951.10	32347.90	733021	726712.8	683080	706647.5	1032	199	2019
7434.00	31433.00	31802.40	726902.8	733215.6	706697.8	683130.9	1032	199	2019
7435.00	30899.20	31302.10	733412.9	727097.6	683177.5	706750.1	1032	199	2019
7436.00	63324.20	63710.00	727293.3	733071.6	706801.6	685206.7	1024	190	2019
7437.00	62893.30	63216.90	733270.4	727482.5	685259.2	706850.2	1024	190	2019
7438.00	62414.80	62785.50	727674.6	733460	706903.1	685308.2	1024	190	2019
7439.00	61943.50	62278.30	733658.6	727868.7	685361.8	706953.5	1024	190	2019
7440.00	61444.30	61820.50	728060.8	733843.8	707011	685415	1024	190	2019
7441.00	60986.30	61310.90	734036.2	728254.5	685469.8	707058	1024	190	2019
7442.00	60441.40	60836.10	728446.1	734224.5	707114.5	685524.1	1024	190	2019
7443.00	59973.30	60318.60	734429	728639.1	685577.5	707162.7	1024	190	2019
7444.00	59455.20	59835.30	728834.7	734610.4	707216.8	685631	1024	190	2019
7445.00	59004.60	59327.70	734803.8	729029	685681.2	707268	1024	190	2019
7446.00	58463.10	58862.30	729221.5	735000.6	707318.9	685733.1	1024	190	2019
7447.00	57982.30	58312.00	735192.9	729413.8	685790.2	707370.8	1024	190	2019
7448.00	57457.90	57833.50	729605.2	735386.2	707420.2	685842	1024	190	2019
7449.00	56979.80	57301.10	735582.7	729799.1	685894.7	707475.8	1024	190	2019
7450.00	56442.30	56838.40	729988.9	735775.5	707529	685945.3	1024	190	2019
7451.00	52963.20	53287.60	735966.8	730179.2	686001	707577.4	1024	190	2019
7452.00	53514.90	53928.50	730375.2	736158.4	707632.2	686051.5	1024	190	2019
7453.00	54065.60	54387.20	736349.1	730571.1	686106.6	707682.7	1024	190	2019
7454.00	54527.00	54930.80	730762.6	736538	707733.8	686157.8	1024	190	2019
7455.00	55085.50	55413.50	736735.5	730963.4	686210.5	707785.2	1024	190	2019
7456.00	55530.90	55915.50	731505.5	736928.7	706511	686260.6	1024	190	2019
7457.00	56041.70	56337.30	737125.5	731715.1	686315.4	706505.9	1024	190	2019
7458.00	52515.90	52855.20	731919.8	737317.7	706506.8	686366.9	1024	190	2019
7459.00	52046.30	52350.90	737504.8	732129.3	686424.8	706501.8	1024	190	2019

MAGNETIC FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
701.00	38859.20	39082.20	706022.7	693559.7	597423.6	594085.2	1003	168	2019
702.00	38178.20	38563.10	693043.8	718258.2	596019.6	602766.8	1003	168	2019
703.00	37609.10	38094.40	717738.3	692524.8	604711.4	597940.1	1003	168	2019
704.00	36822.50	36982.30	672491	683222.2	594619	597516.7	1003	168	2019
704.10	37117.00	37500.10	692004.4	717223.1	599875.2	606637.1	1003	168	2019
705.00	42074.10	42760.70	671975.8	716705.7	596569.2	608562.2	1006	169	2019
706.00	42873.50	43639.70	716184.6	671457.3	610495.4	598513.2	1006	169	2019
707.00	32129.60	32913.70	670939.2	715667.1	600440.9	612433.3	1019	185	2019
708.00	33019.10	33748.60	715149.7	670422.9	614361.8	602371.9	1019	185	2019
709.00	44445.20	45211.70	669902.4	714633.7	604305.9	616292.2	1019	185	2019
710.00	33873.60	34632.70	669386.3	714115.4	606241.5	618224.9	1019	185	2019
711.00	34771.00	35494.90	713599.8	668870	620154.7	608167.1	1019	185	2019
712.00	44715.60	45471.70	713076.3	668348.5	622077.9	610101.8	1021	186	2019
713.00	32074.30	32786.80	670729.6	714107	612812	624438.5	1021	186	2019
714.01	57504.80	58381.10	717067.7	670214.8	627294.7	614739	1068	254	2019
715.00	64129.10	64870.30	716549.8	669695.4	629233	616679.3	1021	186	2019
716.00	51578.00	52405.00	669181.7	719896.8	618604.1	632194.3	1021	186	2019
717.00	30004.90	30898.40	719377.2	665762.8	634126.8	619761	1052	225	2019
718.00	64501.20	65522.80	721178.3	660220.2	636684.6	620347.8	1024	190	2019
719.00	31128.40	32101.50	659701.3	720657.4	622264.8	638614.2	1052	225	2019
720.00	57718.10	58788.20	724972.9	659188	641838.4	624211.4	1023	188	2019
721.00	32881.60	33962.50	658667.9	724455.5	626144.3	643770.4	1024	190	2019
722.00	34112.70	35237.50	723937.9	658154.5	645702.8	628080.1	1024	190	2019
723.00	44633.00	45645.50	723417.6	657631.3	647636.3	630009.4	1029	195	2019
724.00	60887.60	61920.30	722898.8	657117.2	649562.7	631947.5	1038	208	2019
725.00	62880.30	63932.50	722384.3	656595.6	651496.4	633878.7	1027	194	2019
726.00	42862.60	44023.50	725731	656079.3	654464.7	635810.2	1027	194	2019
727.00	49305.80	50459.90	655563.7	725211.7	637738.8	656399.3	1027	194	2019
728.00	64031.50	65133.90	726625.8	655044	658849.2	639668.7	1029	195	2019
729.00	50767.30	51994.40	654526.7	726109.3	641601.1	660776.4	1029	195	2019
730.00	34128.60	34537.50	654013.2	679124.3	643535.9	650261.3	1052	225	2019
730.01	48552.90	49356.80	679030.7	727350.3	650247.6	663181.3	1059	236	2019
731.00	40435.60	41766.10	730500.4	653493	666099	645465.5	1032	199	2019
732.00	32659.30	33960.60	729980.7	652974.1	668025	647401.4	1052	225	2019
733.00	57128.60	58158.30	729463.2	666554.7	669962.8	653104.2	1062	238	2019
734.00	41793.50	42778.10	728941.9	666041.3	671891.3	655026.3	1041	210	2019
735.00	61673.40	62675.20	728420.3	665526.7	673813.7	656974.4	1059	236	2019
736.00	41976.80	43156.90	733498.6	665005.6	677248.9	658903	1058	233	2019
737.00	42378.20	43401.10	732996.9	669321.1	679186.5	662129.2	1038	208	2019
738.00	55589.20	56643.40	732495.9	668805	681121.4	664059.5	1040	209	2019
739.00	53998.20	55220.60	733491.3	668285.2	683459.4	665993.1	1071	257	2019

MAGNETIC FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
740.00	41534.60	42802.40	737611.9	667767.8	686635.7	667925.1	1071	257	2019
741.00	54685.10	55922.90	737093.3	667248.8	688568	669854.5	1067	253	2019
742.00	47837.90	48686.00	684419.6	736576.8	676523.2	690499.6	1062	238	2019
742.01	58499.10	58775.70	666734.9	684509.7	671787.2	676552.5	1062	238	2019
743.00	40260.30	41354.60	666212.8	736055.8	673727.8	692432.7	1071	257	2019
744.00	48841.50	49997.20	735538.5	665698	694360.6	675654.4	1062	238	2019
745.00	50089.70	51175.70	665177.2	735025	677578.2	696298.2	1062	238	2019
746.00	32364.00	33417.00	734507.5	672005.7	698224.9	681481.6	1066	253	2019
747.00	38795.10	39953.70	733986.2	671488.2	700158.3	683418.9	1071	257	2019
748.00	51375.90	52400.50	733468.1	670967.1	702082.9	685348.3	1062	238	2019
749.00	52521.60	53489.00	670450.6	732954.7	687273.7	704030.9	1062	238	2019
750.00	53652.60	54655.60	732438.1	669931.4	705948	689214.5	1062	238	2019
751.00	36884.90	37882.50	669416.6	731146	691150.7	707705.4	1046	214	2019
752.00	38958.90	39828.00	668898.6	723480.6	693080.9	707694.1	1044	213	2019
753.00	40001.00	40741.60	715624.8	668380.1	707659.7	695013.1	1044	213	2019
754.00	40854.40	41500.40	667864.7	707957.5	696937.4	707680.7	1044	213	2019
755.00	41661.70	42173.90	700100.4	667347.9	707642.7	698868.5	1044	213	2019
756.00	32450.80	32858.30	666827.3	692435.8	700809	707660.6	1042	212	2019
757.00	33042.80	33359.80	684575.1	666309.8	707634.2	702736.2	1042	212	2019
758.00	33471.40	33644.70	665796.9	676714	704671.2	707595.1	1042	212	2019
759.00	33918.50	33982.10	669049.3	665273.5	707610	706594.7	1042	212	2019

SPECTROMETER FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7001.00	39929.50	40363.50	653080.7	660462.7	647584.5	620034.2	1010	172	2019
7002.00	40471.50	40906.50	660658.7	653282.3	620057.8	647616.6	1010	172	2019
7003.00	41030.50	41484.50	653486.1	660845	647646	620148.2	1010	172	2019
7004.00	38746.50	39196.50	661049.8	653672.4	620173.2	647703.4	1001	166	2019
7005.00	39343.50	39790.50	653883.6	661240	647757	620225.4	1001	166	2019
7006.00	39922.50	40374.50	661426	654059.9	620306.8	647801	1001	166	2019
7007.00	40494.50	40932.50	654253.4	661617.6	647862.9	620354	1001	166	2019
7008.00	41067.50	41511.50	661806.8	654437.1	620429.7	647941.3	1001	166	2019
7009.00	45187.50	45674.50	654634.6	662001.8	647988.7	620475.4	1001	166	2019
7010.00	41681.50	42148.50	654825.7	662202.8	648004	620490.3	1001	166	2019
7011.00	45791.50	46232.50	662387.7	655026.7	620584.4	648059.9	1001	166	2019
7012.00	42272.50	42723.50	662578.3	655204.6	620632.7	648151.9	1001	166	2019
7013.00	42876.50	43330.50	655417.5	662776.7	648150.5	620684.6	1001	166	2019
7014.00	43447.50	43890.50	662973	655602.4	620737.7	648216.4	1001	166	2019
7015.00	44040.50	44509.50	655793.4	663160	648278.3	620789.5	1001	166	2019
7016.00	44634.50	45078.50	663381.2	655994.7	620861.4	648308.3	1001	166	2019
7017.00	46337.50	46814.50	656174.9	663549.8	648393.3	620900.2	1001	166	2019
7018.00	53243.50	53703.50	663734.6	656370.4	620964.3	648453.2	1001	166	2019
7019.00	53863.50	54354.50	656556.3	663917.7	648518.8	621055.1	1001	166	2019
7020.00	37107.50	37585.50	664112.9	656763.8	621106.9	648534.9	1010	172	2019
7021.00	36547.50	36995.50	656960.8	664309.6	648577.1	621128.8	1010	172	2019
7022.00	35975.50	36438.50	664490.7	657149.4	621226.6	648647.5	1010	172	2019
7023.00	35402.50	35850.50	657337.7	664689.3	648701	621262.3	1010	172	2019
7024.00	34800.50	35280.50	664887	657532.3	621308.9	648747.7	1010	172	2019
7025.00	34258.50	34692.50	657717	665079.1	648828.9	621365.2	1010	172	2019
7026.00	33673.50	34128.50	665274.7	657925.3	621414.1	648855.3	1010	172	2019
7027.00	34327.50	34595.50	668471.8	672702.3	610254.8	594463.2	1008	171	2019
7027.10	41628.50	42108.50	665961.8	658103.2	619587.8	648937.2	1010	172	2019
7028.00	34783.50	35038.50	672887.5	668662.8	594536.4	610314.7	1008	171	2019
7028.10	42230.50	42728.50	658309.9	666157.8	648934.5	619647	1010	172	2019
7029.00	35163.50	35436.50	668854.2	673084	610374.7	594567.4	1008	171	2019
7029.10	42846.50	43334.50	666345.4	658504.7	619714.1	648994.4	1010	172	2019
7030.00	35563.50	35824.50	673279.6	669054.5	594634.2	610395.2	1008	171	2019
7030.10	43463.50	43965.50	658686	666549.1	649053.1	619739.6	1010	172	2019
7031.00	35938.50	36212.50	669241.5	673455.2	610463.4	594723.1	1008	171	2019
7031.10	44063.50	44543.50	666746.5	658894.5	619784.2	649088.9	1010	172	2019
7032.00	36339.50	36598.50	673657.3	669427.9	594765.2	610550.2	1008	171	2019
7032.10	44670.50	45179.50	659073	666926.9	649186	619875.6	1010	172	2019
7033.00	36726.50	37005.50	669624.4	673851.1	610572.2	594787	1008	171	2019
7033.10	51828.50	52353.50	659277.4	667119.1	649200.3	619923.1	1010	172	2019
7034.00	37143.50	37404.50	674047.9	669817	594865.9	610640.3	1008	171	2019

SPECTROMETER FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7034.10	52478.50	52960.50	667308.6	659464.1	619970.5	649284.3	1010	172	2019
7035.00	37556.50	37844.50	670004.9	674234.9	610702.1	594905.3	1008	171	2019
7035.10	53103.50	53621.50	659660.4	667500.5	649306.4	620039.7	1010	172	2019
7036.00	37997.50	38252.50	674435.2	670207.5	594964.7	610715.8	1008	171	2019
7036.10	53742.50	54208.50	667706.9	659848	620075.6	649383.3	1010	172	2019
7037.00	38396.50	38677.50	670393.4	674632	610784	595013.9	1008	171	2019
7037.10	54362.50	54869.50	660040.3	667886.3	649430.6	620140.2	1010	172	2019
7038.00	38835.50	39084.50	674817.5	670589.6	595071.4	610853.4	1008	171	2019
7038.10	54989.50	55460.50	668088.8	660234	620163.2	649478.9	1010	172	2019
7039.00	39215.50	39491.50	670781	675003.6	610895.4	595137.9	1008	171	2019
7039.10	55584.50	56119.50	660431.9	668277.2	649510.2	620211.8	1010	172	2019
7040.00	39615.50	39875.50	675210.8	670981.2	595165.4	610919.2	1008	171	2019
7040.10	56237.50	56703.50	668474	660616.8	620276.1	649598.5	1010	172	2019
7041.00	39996.50	40277.50	671157.7	675381.4	611016.6	595229.3	1008	171	2019
7041.10	56791.50	57309.50	660817.5	668662.5	649637.9	620327.7	1010	172	2019
7042.00	50532.50	51269.50	675581.5	663627	595288.2	639913.9	1008	171	2019
7042.01	53836.50	54000.50	661012.8	663633.1	649667.9	639909.4	1008	171	2019
7043.00	51988.50	52645.50	664853.3	675785.3	636129.3	595324	1008	171	2019
7043.01	54201.50	54444.50	664860.9	661198.2	636082	649744.9	1008	171	2019
7044.00	52813.50	53728.50	675974.5	661399.9	595380.1	649778.5	1008	171	2019
7045.00	33804.50	34745.50	676176.1	661589.6	595406.5	649841.7	1012	177	2019
7046.00	34852.50	35697.50	661784.4	676368.3	649858.2	595458.7	1012	177	2019
7047.00	35888.50	36840.50	676562.7	661980.6	595513.9	649936.1	1012	177	2019
7048.00	36966.50	37841.50	662165.7	676749.8	649979.2	595581.4	1012	177	2019
7049.00	37998.50	38982.50	676939.9	662355.1	595633.9	650065.7	1012	177	2019
7050.00	39091.50	39977.50	662553.7	677136.6	650086.2	595689.7	1012	177	2019
7051.00	40152.50	41088.50	677327.7	662751.9	595752.8	650153.7	1012	177	2019
7052.00	41189.50	42037.50	662926.2	677521.9	650212.4	595784.6	1012	177	2019
7053.00	42190.50	43141.50	677715.2	663135.2	595848.7	650231.7	1012	177	2019
7054.00	43282.50	44146.50	663323.8	677906.8	650292.1	595915.5	1012	177	2019
7055.00	50617.50	51594.50	678117.9	663524.6	595915.4	650341.5	1013	177	2019
7056.00	37753.50	38692.50	663714.6	678298.2	650386.8	595994	1010	172	2019
7057.00	38811.50	39693.50	678481.5	663911.3	596028.3	650445.2	1010	172	2019
7058.00	50809.50	51665.50	678696.1	664114.5	596070.6	650482.1	1010	172	2019
7059.00	57851.50	58715.50	678878.2	664289.5	596135.5	650588.2	1010	172	2019
7060.00	58840.50	59800.50	664477.4	679056.8	650630.2	596226.2	1010	172	2019
7061.00	59922.50	60777.50	679253.2	664678.9	596272.9	650669.6	1010	172	2019
7062.00	52015.50	52936.50	664878.4	679449.7	650723.4	596324.2	1013	177	2019
7063.00	53099.50	54074.50	679649.3	665063	596355.5	650764.3	1013	177	2019
7064.00	54199.50	55069.50	665257.5	679838.2	650831.5	596416.7	1013	177	2019
7065.00	55239.50	56195.50	680039	665440.6	596454	650902.7	1013	177	2019

SPECTROMETER FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7066.00	56322.50	57236.50	665640.7	680224.4	650946.2	596533.3	1013	177	2019
7067.00	57395.50	58354.50	680423	665844.1	596550	650967.2	1013	177	2019
7068.00	58459.50	59334.50	666038.4	680625.5	651020.6	596584.1	1013	177	2019
7069.00	62233.50	63085.50	680816	666228.9	596635.8	651064.2	1003	168	2019
7070.00	61118.50	62095.50	666413.2	680998.9	651128.3	596714.2	1003	168	2019
7071.00	60113.50	60973.50	681185.7	666623.5	596759.6	651158.3	1003	168	2019
7072.00	58994.50	59986.50	666799.1	681383.1	651248.9	596837.2	1003	168	2019
7073.00	57994.50	58839.50	681572.2	666999.5	596889.6	651275.3	1003	168	2019
7074.00	56713.50	57865.50	665121	681765.9	659068.9	596940.8	1003	168	2019
7075.00	55645.50	56588.50	681986.5	665308.7	596956.7	659146.2	1003	168	2019
7076.00	54350.50	55525.50	665500	682161.6	659195.8	597017.1	1003	168	2019
7077.00	53234.50	54211.50	682306	665702.1	597056.9	659219	1003	168	2019
7078.00	47266.50	48374.50	665887.1	682542.2	659299.9	597141.1	1003	168	2019
7079.00	46191.50	47132.50	682745.2	666101.1	597188.6	659302.3	1003	168	2019
7080.00	44924.50	46051.50	666285.1	682928.3	659372.1	597246.8	1003	168	2019
7081.00	43821.50	44775.50	683127.6	666473.5	597277.5	659429.2	1003	168	2019
7082.00	42653.50	43693.50	666661.1	682798.2	659496	599278.6	1003	168	2019
7083.00	41588.50	42511.50	682995.5	666862.8	599332	659515.3	1003	168	2019
7084.00	40340.50	41424.50	667060.8	683191.2	659598.1	599363.5	1003	168	2019
7085.00	39270.50	40209.50	683392.1	667248.7	599389.6	659625.4	1003	168	2019
7086.00	43958.50	44907.50	683571.3	667450.8	599485.1	659663.3	1006	169	2019
7087.00	45041.50	46055.50	667632.9	683770.2	659744.9	599533	1006	169	2019
7088.00	46205.50	47188.50	683960.8	667836.2	599578.2	659774.8	1006	169	2019
7089.00	47312.50	48343.50	668007.5	684161	659874.9	599608.9	1006	169	2019
7090.00	48468.50	49428.50	684352.4	668214.9	599652.5	659890.2	1006	169	2019
7091.00	49578.50	50602.50	668409.6	684546	659933.8	599709.5	1006	169	2019
7092.00	50741.50	51714.50	684725	668598	599799.8	660008.4	1006	169	2019
7093.00	51859.50	52895.50	668782	684938	660075.7	599807	1006	169	2019
7094.00	53023.50	53989.50	685114.5	668986.1	599905.9	660096.7	1006	169	2019
7095.00	54123.50	55153.50	669196.7	685308.6	660148.1	599947.3	1006	169	2019
7096.00	60101.50	61062.50	685501.5	669366.6	600014.7	660189.7	1006	169	2019
7097.00	61226.50	62322.50	669567.5	685703.4	660234.7	600024.1	1006	169	2019
7098.00	62468.50	63435.50	685887.6	669754.7	600112.1	660283.5	1006	169	2019
7099.00	31295.50	32606.50	686097.6	665294.9	600110.6	677741.7	1017	183	2019
7100.00	32731.50	33943.50	665490.7	686275.5	677772.1	600216.2	1017	183	2019
7101.00	34094.50	35452.50	686466.4	665685.7	600267.3	677845.4	1017	183	2019
7102.00	35581.50	36808.50	665871.3	686680	677911.3	600266.8	1017	183	2019
7103.00	36943.50	38327.50	686869.8	666077.7	600319	677939.9	1017	183	2019
7104.00	38423.50	39651.50	666263	687058.1	677997.2	600391.4	1017	183	2019
7105.00	39760.50	41090.50	687245.3	666457.6	600452.9	678063.8	1017	183	2019
7106.00	36036.50	37357.50	666642.3	687441.6	678133.7	600504.2	1024	190	2019

SPECTROMETER FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7107.00	60304.50	61586.50	666847.5	687631.5	678149.1	600562	1017	183	2019
7108.00	58887.50	60183.50	687823.7	667034.7	600611.8	678193.7	1017	183	2019
7109.00	41195.50	42417.50	667233.2	688031.4	678242.4	600634.2	1017	183	2019
7110.00	48902.50	50170.50	667429.7	688219.5	678287.1	600698.2	1017	183	2019
7111.00	47446.50	48777.50	688401	667611.6	600781.8	678386.5	1017	183	2019
7112.00	32237.50	33618.50	688595.6	667809.6	600837.5	678400.6	1016	182	2019
7113.00	33779.50	34993.50	668014.2	688789.2	678478	600889.4	1016	182	2019
7114.00	35123.50	36532.50	688985.9	668187.1	600902.6	678541	1016	182	2019
7115.00	36682.50	37892.50	668384	689176.3	678566.6	600978.6	1016	182	2019
7116.00	38027.50	39414.50	689375.9	668572.1	601002	678629	1016	182	2019
7117.00	39555.50	40754.50	668767.8	689565.8	678697.5	601078.5	1016	182	2019
7118.00	40876.50	42275.50	689759.3	668958.3	601115.6	678732.4	1016	182	2019
7119.00	42429.50	43621.50	669165.7	689959.1	678753.1	601152.6	1016	182	2019
7120.00	43748.50	45164.50	690145	669351.7	601227.9	678826.8	1016	182	2019
7121.00	45320.50	46512.50	669552.7	690328.9	678865.2	601313.8	1016	182	2019
7122.00	50291.50	51621.50	690523.4	669744.2	601357.9	678949.4	1017	183	2019
7123.00	51766.50	53066.50	669922.5	690729.8	679019.4	601365.1	1017	183	2019
7124.00	53207.50	54511.50	690912.8	670128	601441.7	679022.9	1017	183	2019
7125.00	54618.50	55905.50	670310.8	691095	679099	601519.8	1017	183	2019
7126.00	56035.50	57360.50	691303.7	670524.7	601528.7	679118.8	1017	183	2019
7127.00	57475.50	58765.50	670702.5	691498.5	679190.7	601582.4	1017	183	2019
7128.01	41720.50	42993.50	693756.8	670891.1	593883.3	679253	1036	205	2019
7129.00	43143.50	44578.50	671097.1	693968.4	679278.9	593919.6	1036	205	2019
7130.00	32167.50	33511.50	671272.8	694158.3	679365.3	593990.9	1044	213	2019
7131.00	33681.50	35125.50	694354.7	671471.5	594031.7	679434.2	1044	213	2019
7132.00	35261.50	36594.50	671669.9	694544.7	679458.3	594086.1	1044	213	2019
7133.00	59660.50	61167.50	694737.9	671874.7	594109.9	679524.9	1013	177	2019
7134.00	37605.50	38978.50	694934.7	672062.5	594170.5	679538.8	1024	190	2019
7135.00	39145.50	40663.50	672253.4	695127.5	679591	594226.4	1024	190	2019
7136.00	40818.50	42143.50	695322.6	672440.3	594269	679674.6	1024	190	2019
7137.00	31541.50	32320.50	695507.4	683531.2	594355	639040.8	1024	190	2019
7137.01	42754.50	43917.50	665386.3	683543.7	706792.9	639003.7	1024	190	2019
7138.00	43422.50	45146.50	665586.3	695713.2	706809.4	594365.2	1026	193	2019
7139.00	45304.50	47282.50	695893.7	665771.5	594466.5	706889.3	1026	193	2019
7140.00	47432.50	49165.50	665970.4	696100.7	706894.2	594464.9	1026	193	2019
7141.00	49300.50	51300.50	696280	666159.8	594559.3	706987.9	1026	193	2019
7142.00	51441.50	53179.50	666367.5	696479.6	707000.7	594583	1026	193	2019
7143.00	34558.50	36448.50	696665.8	666557.7	594649.9	707046.2	1034	201	2019
7144.00	36595.50	38318.50	666739.1	696870.3	707148.1	594676.2	1034	201	2019
7145.00	38478.50	40322.50	697068.4	666943.4	594722.8	707156.8	1034	201	2019
7146.00	40477.50	42240.50	667122.9	697247.9	707260	594811.1	1034	201	2019

SPECTROMETER FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7147.00	42392.50	44224.50	697446.2	667325.4	594839.7	707276.5	1034	201	2019
7148.00	44376.50	46119.50	667514.1	697636.4	707335.8	594882.8	1034	201	2019
7149.00	46265.50	47376.50	697829	679642.3	594942.5	662829.4	1034	201	2019
7149.01	34211.50	34927.50	667706.4	679652.8	707385.1	662805.5	1036	205	2019
7150.00	53416.50	55269.50	698015.8	667896.7	595037.4	707455.9	1034	201	2019
7151.00	55424.50	57248.50	668094.2	698211.4	707479	595070.5	1034	201	2019
7152.00	57383.50	59222.50	698403.5	668297.2	595102.6	707519.6	1034	201	2019
7153.00	59376.50	61171.50	668472.9	698593.3	707613.8	595187.9	1034	201	2019
7154.00	61357.50	63177.50	698793.9	668674.4	595204.8	707663.3	1034	201	2019
7155.00	63312.50	65100.50	668865.3	698979.9	707677.1	595298	1034	201	2019
7156.00	65258.50	66357.50	699169	680991.1	595355.9	663182.4	1034	201	2019
7156.01	35091.50	35779.50	681005.2	669407.7	663150.7	706451.3	1036	205	2019
7157.00	32315.50	34084.50	699381.6	669606.6	595369.5	706492.3	1036	205	2019
7158.00	35941.50	37768.50	669820.5	699559	706447.9	595437.4	1036	205	2019
7159.00	37906.50	39587.50	699755.1	670015.1	595498.6	706485.5	1036	205	2019
7160.00	39716.50	41560.50	670231.6	699952	706469.8	595559.2	1036	205	2019
7161.00	55979.50	57879.50	700137.5	670443.2	595619.5	706452.4	1042	212	2019
7162.00	57997.50	59701.50	670642.8	700339.6	706468.4	595629	1042	212	2019
7163.00	59843.50	61039.50	700527.2	682344.1	595723.2	663576.3	1042	212	2019
7163.01	34888.50	35589.50	670860.5	682360.4	706447.3	663518.7	1046	214	2019
7164.00	61222.50	62251.50	682534	700723.7	663630.2	595731.7	1042	212	2019
7164.01	35838.50	36493.50	682542.5	671059	663599.8	706466.2	1046	214	2019
7165.00	29104.50	30950.50	700911.7	671265.2	595811.9	706466.8	1046	214	2019
7166.00	31103.50	32816.50	671471.8	701114.1	706478.1	595845.6	1046	214	2019
7167.00	32985.50	33861.50	701309.2	687262.4	595874.5	648308.4	1046	214	2019
7167.01	34011.50	34769.50	684683.4	671673.1	657925.9	706488.7	1046	214	2019
7167.02	44594.50	44737.50	684658.3	687254	658011.8	648314	1054	227	2019
7168.00	30377.50	32183.50	701502.2	671884.8	595942	706482.6	1042	212	2019
7169.00	34177.50	35829.50	672089.2	701695	706486.2	595990.6	1042	212	2019
7170.00	35989.50	37873.50	701874.1	672281.3	596085.3	706550.5	1042	212	2019
7171.00	37994.50	39678.50	672482.7	702085.1	706566	596078.9	1042	212	2019
7172.00	39815.50	41684.50	702263.2	672670.4	596179.5	706638.3	1042	212	2019
7173.00	41803.50	43488.50	672864.7	702464.1	706680.8	596194.8	1042	212	2019
7174.00	48176.50	50085.50	702658.5	673071.6	596265.4	706720.2	1042	212	2019
7175.00	50214.50	51929.50	673244.9	702847.1	706811.7	596313.6	1042	212	2019
7176.00	52079.50	54004.50	703082.2	673443.1	596352.6	706832	1042	212	2019
7177.00	54126.50	55849.50	673633.1	703232.9	706894	596423.2	1042	212	2019
7178.00	36815.50	38620.50	703418.2	673842.6	596503.1	706943.4	1044	213	2019
7179.00	42466.50	44226.50	674012.1	703620.9	707003.2	596540.4	1044	213	2019
7180.00	49739.50	51567.50	703850.6	674205.3	596597.4	707085.1	1044	213	2019
7181.00	51708.50	53474.50	674394.1	704007.3	707136.6	596604.4	1044	213	2019

SPECTROMETER FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7182.00	53644.50	55438.50	704205.3	674604.5	596669	707139	1044	213	2019
7183.00	55565.50	57313.50	674788.2	704394.1	707218.9	596731	1044	213	2019
7184.00	57481.50	59262.50	704586.4	674998.6	596782.5	707233.6	1044	213	2019
7185.00	59394.50	61112.50	675174.9	704785.7	707317.2	596824.1	1044	213	2019
7186.00	61290.50	62169.50	704980.1	690415.7	596866.3	651225.8	1044	213	2019
7186.01	36689.50	37521.50	690432.3	675365.6	651173.2	707398.9	1047	216	2019
7187.00	62344.50	63220.50	690078.7	705162.5	653253.4	596952.2	1044	213	2019
7187.01	35585.50	36546.50	675563.6	690107.4	707443.6	653176.5	1047	216	2019
7188.00	33736.50	35428.50	705352.3	675771.2	597017.3	707437.6	1047	216	2019
7189.00	38061.50	39953.50	675961.3	705549.5	707496.3	597070.9	1047	216	2019
7190.00	40093.50	41366.50	705742.5	682913.6	597101.6	682317.6	1047	216	2019
7190.01	41480.50	41740.50	680843.4	676144.3	690019.8	707579.5	1047	216	2019
7190.02	43220.50	43341.50	682910.8	680839.8	682318	690047.8	1071	257	2019
7191.00	41933.50	43844.50	676339.6	705940.7	707626.9	597130	1047	216	2019
7192.00	43992.50	44987.50	705604.1	687418.3	599144.1	667036.3	1047	216	2019
7192.01	36706.50	37402.50	676531.2	687436	707693.7	666981.3	1049	218	2019
7193.00	45155.50	46362.50	687106	705793.3	668968.5	599227	1047	216	2019
7193.02	35470.50	36119.50	687115.4	677055.5	668944.1	706480.6	1050	219	2019
7194.00	34893.50	36538.50	705997.7	677256.8	599250.3	706478.3	1049	218	2019
7195.00	38886.50	39810.50	691629.7	706193	653638.6	599304.1	1049	218	2019
7195.01	34273.50	35111.50	677471.5	691647.3	706495.6	653586.2	1050	219	2019
7196.00	32360.50	34121.50	706389.7	677686	599330	706454.3	1050	219	2019
7197.00	36242.50	37940.50	677889.2	706571.6	706451.9	599411.7	1050	219	2019
7198.00	30684.50	32373.50	706761.7	678082.9	599483	706468.2	1048	217	2019
7199.00	32531.50	34287.50	678307.7	706961.5	706459.5	599507.9	1048	217	2019
7200.00	34467.50	36151.50	707158.4	678496.2	599544.5	706494.8	1048	217	2019
7201.00	36306.50	38091.50	678717	707347.6	706481.9	599610	1048	217	2019
7202.00	38276.50	39906.50	707531.7	678936	599685.3	706439.9	1048	217	2019
7203.00	40074.50	41869.50	679130.1	707732.7	706481	599724.8	1048	217	2019
7204.00	38086.50	39873.50	707927.4	679343.5	599752.4	706446.2	1050	219	2019
7205.00	40017.50	41732.50	679541	708118.1	706497.4	599832.1	1050	219	2019
7206.01	31351.50	33118.50	708305.9	679757.8	599905.9	706448.7	1051	224	2019
7207.00	42758.50	43428.50	697058.3	708513	642665.3	599908.1	1050	219	2019
7207.01	35062.50	36085.50	697065.8	679950.6	642618.2	706503.4	1052	225	2019
7208.00	33237.50	34987.50	680136.5	708700.5	706599.1	599968.1	1051	224	2019
7209.00	35158.50	36927.50	708895.7	680331.7	600010.3	706636.8	1051	224	2019
7210.00	37046.50	38724.50	680524.7	709091.5	706681.7	600074.9	1051	224	2019
7211.00	38885.50	40660.50	709283.9	680727.6	600124.1	706700.7	1051	224	2019
7212.00	40794.50	42540.50	680913.9	709467.4	706775.2	600190.7	1051	224	2019
7213.00	36202.50	37977.50	681096.6	709666.1	706861.7	600251.6	1052	225	2019
7214.00	38151.50	39872.50	709852.9	681292.2	600325.9	706888.9	1052	225	2019

SPECTROMETER FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7215.00	39979.50	41745.50	681493.8	710048.1	706946.8	600354.8	1052	225	2019
7216.00	41916.50	42617.50	710244.4	698272.1	600423	645080.1	1052	225	2019
7216.01	51167.50	52135.50	681707.7	698286.3	706973.8	645033.5	1053	226	2019
7217.00	42869.50	43677.50	697949.5	710427.4	647051.3	600466.5	1052	225	2019
7217.01	52543.50	53248.50	697964.8	686561.6	646998.1	689555.7	1053	226	2019
7217.02	38710.50	38991.50	681876.5	686584.4	707047.2	689472.5	1054	227	2019
7218.00	49320.50	51050.50	710629.8	682079	600509.6	707067.4	1053	226	2019
7219.00	53426.50	54820.50	686956.1	710823.3	689618.8	600565.3	1053	226	2019
7219.01	39727.50	40025.50	686961.7	682254.2	689619.7	707165.3	1054	227	2019
7220.00	32888.50	34696.50	711017.8	682472	600586.1	707164.5	1054	227	2019
7221.00	34859.50	36554.50	682647	711209.9	707254.5	600650.5	1054	227	2019
7222.00	36692.50	38544.50	711398.2	682847.4	600714.5	707288.1	1054	227	2019
7223.00	40207.50	41846.50	683039.9	711593.9	707355.1	600770	1054	227	2019
7224.00	42010.50	43810.50	711792.3	683240.4	600811.8	707388.1	1054	227	2019
7225.00	38850.50	40726.50	711984.2	683418.8	600886.4	707481.9	1069	256	2019
7226.00	36834.50	38615.50	683612.1	712180.4	707506.9	600906.5	1069	256	2019
7227.00	34714.50	36660.50	712375.2	683808.4	600958.6	707570.1	1069	256	2019
7228.00	32736.50	34488.50	683991.9	712570.1	707638.7	600996.1	1069	256	2019
7229.00	30632.50	32573.50	712760.8	684205	601051.5	707667.9	1069	256	2019
7230.00	55204.50	56934.50	684390.2	712951.5	707723	601108.9	1068	254	2019
7231.00	53129.50	55042.50	713151.3	684928.9	601148.6	706451	1068	254	2019
7232.00	51196.50	52911.50	685134.8	713333.1	706490.2	601222.4	1068	254	2019
7233.00	49168.50	51045.50	713518.7	685348	601296.1	706435.2	1068	254	2019
7234.00	47299.50	48996.50	685555.3	713719.6	706436.9	601356.4	1068	254	2019
7235.00	45236.50	47137.50	713908.3	685758.9	601406.3	706485.8	1068	254	2019
7236.00	52289.50	54179.50	685970.5	714104.6	706477	601444.5	1059	236	2019
7237.00	50529.50	52137.50	714300.9	686182.8	601487.3	706439.5	1059	236	2019
7238.00	41713.50	43578.50	686384.9	714488.5	706446.2	601545.6	1059	236	2019
7239.00	39971.50	41560.50	714682.7	686586.1	601604.9	706480.5	1059	236	2019
7240.00	30371.50	32002.50	714869.4	686801	601665	706445.6	1058	233	2019
7241.00	35376.50	37218.50	687003	715079.4	706450.1	601677.3	1058	233	2019
7242.00	37328.50	38903.50	715260.8	687214	601779.3	706456.2	1058	233	2019
7243.00	39067.50	40959.50	687422.3	715456.5	706466.2	601814.5	1058	233	2019
7244.00	41145.50	42370.50	695929	715647.8	675467	601847.6	1057	231	2019
7244.01	32160.50	32709.50	687613.4	695936	706526.3	675450.3	1058	233	2019
7245.00	39719.50	40975.50	715850.5	695068.1	601888.6	679429.3	1057	231	2019
7245.01	32973.50	33377.50	695096.1	687811.7	679333.5	706531.6	1058	233	2019
7246.00	38606.50	39586.50	699943.3	716037.2	662060.3	601963.5	1057	231	2019
7246.01	33547.50	34344.50	687998.8	699948.9	706626.2	662009.7	1058	233	2019
7247.00	37481.50	38450.50	716228.9	700126.8	602033.2	662117.3	1057	231	2019
7247.01	34590.50	35265.50	700129	688204.1	662099	706624.2	1058	233	2019

SPECTROMETER FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7248.00	30008.50	31714.50	716422.3	688396.9	602056.6	706682.9	1057	231	2019
7249.00	31902.50	33568.50	688576.3	716618.6	706773.3	602104.3	1057	231	2019
7250.00	33732.50	35497.50	716811.7	688769.7	602150.6	706835	1057	231	2019
7251.00	35668.50	37355.50	688958.7	717005.3	706886.3	602205.3	1057	231	2019
7252.00	30101.50	31785.50	717186.5	689170.2	602289.9	706892.6	1056	230	2019
7253.00	31975.50	33711.50	689347.9	717397.2	706987.5	602284.1	1056	230	2019
7254.00	33857.50	35556.50	717587	689572.1	602357.8	706992.8	1056	230	2019
7255.00	35722.50	37420.50	689732.5	717776	707083.8	602407.9	1056	230	2019
7256.00	43768.50	45546.50	717981.2	689933.7	602444.1	707119.3	1040	209	2019
7257.00	45702.50	47350.50	690131.9	718165.5	707147.1	602504.3	1040	209	2019
7258.00	37793.50	38645.50	712661.2	698110	623839.5	678136.1	1056	230	2019
7258.01	36562.50	37148.50	690311.5	698132.2	707247.3	678085	1059	236	2019
7259.00	38823.50	39733.50	697785.1	712843.4	680158.4	623897.2	1056	230	2019
7259.01	32926.50	33342.50	697793.3	690503.5	680101.9	707302.6	1059	236	2019
7260.00	39869.50	40742.50	713043	698490.7	623942.9	678280.7	1056	230	2019
7260.01	32212.50	32752.50	690701.8	698513.2	707353.5	678203.5	1059	236	2019
7261.00	40934.50	41860.50	698169.9	713233.3	680237	624024.9	1056	230	2019
7261.01	31643.50	32044.50	698189.9	690910.6	680171.5	707363.6	1059	236	2019
7262.00	33513.50	34983.50	691088.3	713434.9	707454.5	624052.3	1059	236	2019
7263.00	35114.50	36416.50	713615.4	691277.7	624122.7	707490.6	1059	236	2019
7264.00	37990.50	39485.50	691478.9	713821.2	707543.1	624141.8	1059	236	2019
7265.00	31539.50	32806.50	691661.9	714012.9	707604.7	624179.4	1038	208	2019
7266.00	32948.50	34302.50	713683.7	691861.7	626188	707666.7	1038	208	2019
7267.00	34416.50	35661.50	692050	713889.1	707711.4	626223.6	1038	208	2019
7268.00	35803.50	37142.50	714076.1	692260.2	626279.7	707714.1	1038	208	2019
7269.00	37335.50	38555.50	692803.8	714261.5	706460	626349.9	1038	208	2019
7270.00	38702.50	40035.50	714465.1	693007.9	626378.5	706477.1	1038	208	2019
7271.00	40194.50	41428.50	693226	714657.9	706428.5	626424	1038	208	2019
7272.00	48250.50	49556.50	714840.4	693423.6	626510.1	706436.5	1038	208	2019
7273.00	49721.50	51011.50	693634	715044.1	706431.4	626520.8	1038	208	2019
7274.00	51145.50	52449.50	715216.5	693836.4	626629.6	706472.3	1038	208	2019
7275.00	52632.50	53946.50	694048.1	715421.4	706486.4	626661.3	1038	208	2019
7276.00	54092.50	55372.50	715606.7	694244.5	626731	706471.9	1038	208	2019
7277.00	55544.50	56829.50	694464.8	715810.3	706430.4	626763.8	1038	208	2019
7278.00	56973.50	58250.50	715990.3	694653.5	626835.3	706486.7	1038	208	2019
7279.00	59167.50	60436.50	694887.8	716195.8	706470.2	626886.4	1038	208	2019
7280.00	47753.50	49169.50	716384.2	695081	626923	706460.5	1040	209	2019
7281.00	49293.50	50531.50	695270	716579.1	706508.2	626978.2	1040	209	2019
7282.00	50682.50	52040.50	716764.9	695468.7	627006.4	706519.3	1040	209	2019
7283.00	29993.50	31101.50	716973.9	699828.8	627053.4	691027	1038	208	2019
7283.01	58460.50	58698.50	695653.9	699848.8	706613.8	690962.6	1038	208	2019

SPECTROMETER FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7284.00	49247.50	50532.50	716148.5	695861.5	630895.4	706620.5	1023	188	2019
7285.00	50682.50	51904.50	696047.4	716342.7	706710.7	630957.9	1023	188	2019
7286.00	52040.50	53307.50	716542.8	696248.3	630988.2	706742	1023	188	2019
7287.00	53469.50	54648.50	696429.5	716723.1	706824	631064.6	1023	188	2019
7288.00	54778.50	56037.50	716926	696627.2	631092.9	706869.9	1023	188	2019
7289.00	56212.50	57401.50	696820.8	717121.7	706913.9	631153.1	1023	188	2019
7290.00	44554.50	45715.50	717295.4	697015.5	631236.6	706957.6	1037	207	2019
7291.00	45878.50	47180.50	697213.1	717492	707005.1	631294.4	1037	207	2019
7292.00	47312.50	48493.50	717691.1	697412.1	631331	707026.3	1037	207	2019
7293.00	48638.50	49862.50	697591.2	717886.8	707115.9	631354.1	1037	207	2019
7294.00	30204.50	31051.50	718072.4	703515.7	631455	685792	1059	236	2019
7294.01	55843.50	56166.50	703519.4	697795.3	685734.3	707149.9	1062	238	2019
7295.00	30758.50	32022.50	718265.4	697995.5	631510.8	707181	1029	195	2019
7296.00	32145.50	33395.50	698170.3	718468.8	707279	631532.2	1029	195	2019
7297.00	33554.50	34794.50	718655.5	698368.5	631578.1	707325.1	1029	195	2019
7298.00	34933.50	36198.50	698550.2	718845.3	707384.4	631666.2	1029	195	2019
7299.00	36343.50	37585.50	719028.3	698754.9	631745.5	707435	1029	195	2019
7300.00	37731.50	38952.50	698950.3	719233.4	707467.5	631768.6	1029	195	2019
7301.00	39095.50	40366.50	719432	699148.1	631797.6	707508.7	1029	195	2019
7302.00	40515.50	41724.50	699347.1	719619.9	707537.3	631864.7	1029	195	2019
7303.00	41871.50	43102.50	719813.8	699540.8	631916	707603.2	1029	195	2019
7304.00	43235.50	44357.50	699716.8	718975.7	707704	635822.1	1029	195	2019
7305.00	52477.50	53670.50	719160.8	699922	635897	707703.4	1029	195	2019
7306.00	53842.50	54999.50	700456.5	719356.4	706469.8	635934.8	1029	195	2019
7307.00	55134.50	56308.50	719553	700676.9	635962.8	706435.9	1029	195	2019
7308.00	56475.50	57581.50	700871.8	719742.7	706464.5	636035.6	1029	195	2019
7309.00	57727.50	58899.50	719932.1	701093.1	636108.4	706431.2	1029	195	2019
7310.00	59050.50	60157.50	701285.3	720126.2	706491.6	636154.2	1029	195	2019
7311.00	60284.50	61400.50	720322.6	701506.1	636191	706441.9	1029	195	2019
7312.00	61548.50	62643.50	701701.7	720508.3	706462.9	636268	1029	195	2019
7313.00	62769.50	63481.50	720718.2	709252.9	636281.5	679056.5	1029	195	2019
7313.01	54666.50	55072.50	701908.6	709256.2	706476.9	679045.3	1040	209	2019
7314.00	50035.50	51133.50	720893.2	702106.1	636372.8	706470.6	1037	207	2019
7315.00	51288.50	52413.50	702324.4	721083.9	706457	636415.5	1037	207	2019
7316.00	52231.50	53257.50	702529.3	720251.2	706460.2	640327.2	1040	209	2019
7317.00	53411.50	54519.50	720436.5	702736	640406.7	706469.8	1040	209	2019
7318.00	38406.50	39350.50	702947.5	718520.3	706496.1	648354.9	1046	214	2019
7318.01	59537.50	59676.50	718501.2	720635.5	648425.4	640428.8	1062	238	2019
7319.00	54739.50	55745.50	720820.1	703144.8	640534.7	706492.9	1059	236	2019
7320.00	56379.50	57320.50	706982	721009.1	692962.8	640579.9	1059	236	2019
7320.01	31080.50	31283.50	703332.3	706983.4	706579.9	692933.7	1062	238	2019

SPECTROMETER FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7321.00	57459.50	58173.50	721215	708727	640590.2	687213.5	1059	236	2019
7321.01	30651.50	30940.50	708743.5	703527.9	687177.6	706601.8	1062	238	2019
7322.00	58356.50	59226.50	708389.1	721403.7	689222.7	640656.7	1059	236	2019
7322.01	31557.50	31822.50	708413.8	703719.8	689160.2	706672.5	1062	238	2019
7323.00	59357.50	60079.50	721600	709118.8	640699.3	687295.5	1059	236	2019
7323.01	31999.50	32294.50	703912.6	709126.4	706737.2	687287.6	1062	238	2019
7324.00	60287.50	61160.50	708795.3	721795.2	689287.2	640754.3	1059	236	2019
7324.01	32561.50	32824.50	708803.6	704105.9	689250.7	706773.3	1062	238	2019
7325.00	32978.50	34048.50	704293.2	721987	706843.9	640810.7	1062	238	2019
7326.00	34199.50	35267.50	722174.7	704489.4	640861.8	706878.2	1062	238	2019
7327.00	35414.50	35809.50	704694.4	711460.8	706922.1	681648.6	1062	238	2019
7327.01	53498.50	54184.50	722369.6	711445.6	640905	681742.9	1067	253	2019
7328.00	35933.50	36321.50	711650	704885	681733.4	706953.2	1062	238	2019
7328.01	52500.50	53250.50	711633.2	722552.2	681775.6	640989.6	1067	253	2019
7329.00	36493.50	36896.50	705062	711839	707037.2	681774.1	1062	238	2019
7329.01	51574.50	52273.50	722755	711822.5	641025	681831.4	1067	253	2019
7330.00	37092.50	37481.50	712034	705260.9	681845	707102.8	1062	238	2019
7330.01	50608.50	51334.50	712018.9	722945.3	681899.3	641081.5	1067	253	2019
7331.00	37636.50	38026.50	705460.6	712221.9	707126.8	681896.3	1062	238	2019
7331.01	49719.50	50428.50	723140.3	712210.1	641136	681918.5	1067	253	2019
7332.00	52881.50	53645.50	710853.2	723337.8	687767.3	641174.9	1061	237	2019
7332.01	38307.50	38603.50	710864	705646.7	687710.7	707191.9	1062	238	2019
7333.00	51590.50	52153.50	723531.7	714164.7	641215.7	676207.7	1061	237	2019
7333.01	52509.50	52700.50	714166.6	711045	676160.8	687838.9	1061	237	2019
7333.02	38747.50	39048.50	705836	711058	707269.3	687779.1	1062	238	2019
7334.00	50695.50	51438.50	711258.5	723719.3	687849.2	641317.4	1061	237	2019
7334.01	39263.50	39550.50	711257	706027	687822.9	707315.8	1062	238	2019
7335.00	49736.50	50498.50	723908.6	711427.8	641367.4	687948.3	1061	237	2019
7335.01	39700.50	40007.50	706235.4	711451.7	707336.6	687853.5	1062	238	2019
7336.00	48816.50	49590.50	711622.2	724103	687997.6	641407.3	1061	237	2019
7336.01	40218.50	40517.50	711648.6	706415.5	687906.4	707421.6	1062	238	2019
7337.00	47903.50	48666.50	724288.8	711816.6	641461.5	688052.3	1061	237	2019
7337.01	40667.50	40982.50	706623	711835.2	707456.1	687991	1062	238	2019
7338.00	47008.50	47768.50	712021.2	724500.6	688075	641471.3	1061	237	2019
7338.01	41221.50	41522.50	712034.6	706815.9	688016.9	707474.3	1062	238	2019
7339.00	46083.50	46826.50	724681.7	712203.3	641559	688138.5	1061	237	2019
7339.01	41671.50	41979.50	707008.1	712220.8	707526.3	688077.5	1062	238	2019
7340.00	45209.50	45921.50	713426.9	724876.4	684343.3	641610.4	1061	237	2019
7340.01	56366.50	56724.50	707191.5	713440.8	707628.8	684282.4	1062	238	2019
7341.00	30730.50	31521.50	721969.5	710006.9	653230.2	697886.2	1027	194	2019
7341.01	41483.50	41630.50	707395.8	710024.8	707646.9	697835	1027	194	2019

SPECTROMETER FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7342.00	61906.50	62775.50	707573.3	722154.8	707726.6	653312	1027	194	2019
7343.00	60826.50	61771.50	722344.5	707779	653375.8	707745.8	1027	194	2019
7344.00	59850.50	60694.50	708325.2	722541.4	706469.6	653414.6	1027	194	2019
7345.00	58771.50	59720.50	722733.4	708536.8	653468	706487.6	1027	194	2019
7346.00	57797.50	58640.50	708740.5	722920.8	706483.2	653554	1027	194	2019
7347.00	56733.50	57659.50	723120	708959.1	653565.6	706463.1	1027	194	2019
7348.00	55756.50	56584.50	709162.8	723312.5	706458.1	653645.7	1027	194	2019
7349.00	54683.50	55613.50	723515.9	709366.2	653661.7	706453.1	1027	194	2019
7350.00	53730.50	54552.50	709573.6	723707.7	706469.1	653710.1	1027	194	2019
7351.00	52693.50	53614.50	723898.8	709775.6	653790.9	706486.7	1027	194	2019
7352.00	51740.50	52549.50	709992.4	724087.5	706447.2	653825.7	1027	194	2019
7353.00	50635.50	51603.50	724278.3	710187	653903.5	706491.6	1027	194	2019
7354.00	41933.50	42721.50	710409.7	724471	706487.9	653951	1027	194	2019
7355.00	40467.50	41327.50	724668.1	710610.1	654001.6	706473	1027	194	2019
7356.00	39506.50	40295.50	710835.1	724851.4	706522.3	654053.8	1027	194	2019
7357.00	38447.50	39405.50	725059.6	710990.2	654077.5	706583.3	1027	194	2019
7358.00	37444.50	38310.50	711219.4	725244.7	706575.9	654150	1027	194	2019
7359.00	36440.50	37323.50	725426.4	711385.3	654236.1	706654.8	1027	194	2019
7360.00	35469.50	36263.50	711580.1	725627.2	706731.1	654250.7	1027	194	2019
7361.00	34458.50	35363.50	724798.6	711762.5	658122.9	706777.6	1027	194	2019
7362.00	33543.50	34308.50	712000.7	724995.2	706794.7	658160.7	1027	194	2019
7363.00	32626.50	33450.50	725180.7	712161.8	658238.4	706853.9	1027	194	2019
7364.00	31744.50	32477.50	712374.2	725389.9	706913.2	658244.6	1027	194	2019
7365.00	62849.50	63650.50	712537.1	725575.2	706991.7	658296.3	1021	186	2019
7366.00	61901.50	62702.50	725776.7	712735	658338.9	707026.6	1021	186	2019
7367.00	60947.50	61711.50	712924.8	725955.4	707090.4	658431.1	1021	186	2019
7368.00	60039.50	60826.50	726163	713120.3	658448.1	707127.3	1021	186	2019
7369.00	59094.50	59898.50	713312.8	726350.5	707197.9	658496.6	1021	186	2019
7370.00	58128.50	58950.50	726533.2	713498	658601.6	707256.4	1021	186	2019
7371.00	57162.50	57888.50	713691.4	725690.2	707299.7	662517.4	1021	186	2019
7372.00	56255.50	57014.50	725881.6	713904.2	662593.8	707319.3	1021	186	2019
7373.00	55444.50	56143.50	714087.1	726073.6	707337.1	662632.2	1021	186	2019
7374.00	54598.50	55331.50	726269.5	714285.9	662676.4	707418.6	1021	186	2019
7375.00	53710.50	54441.50	714481.1	726467.5	707472.9	662701.9	1021	186	2019
7376.00	52838.50	53583.50	726661.2	714664.8	662763	707541.7	1021	186	2019
7377.00	43319.50	44049.50	714861.8	726849.9	707606.3	662842.6	1021	186	2019
7378.00	42469.50	43206.50	727058	715054.6	662901.5	707658	1021	186	2019
7379.00	35905.50	36644.50	715254.8	727222.9	707680.1	662957.3	1021	186	2019
7380.00	35079.50	35787.50	726911.3	715436.9	664945.5	707774.9	1021	186	2019
7381.00	34254.50	34919.50	715991.5	727096.9	706471.4	664988.9	1021	186	2019
7382.00	33426.50	34130.50	727303.9	716191.6	665011.3	706476	1021	186	2019

SPECTROMETER FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7383.00	56749.50	57448.50	716413.4	727494.3	706462.9	665074.5	1019	185	2019
7384.00	55933.50	56609.50	727688.4	716614	665117.2	706453.6	1019	185	2019
7385.00	55107.50	55783.50	716815.2	727873.4	706468.5	665199	1019	185	2019
7386.00	54282.50	54967.50	728068.4	717012	665247.6	706498.1	1019	185	2019
7387.00	53465.50	54145.50	717130.7	728261.4	706500.1	665284.6	1019	185	2019
7388.00	52676.50	53337.50	728446.9	717427.2	665368.4	706492.3	1019	185	2019
7389.00	51841.50	52538.50	717621.9	728637.3	706457.7	665431.8	1019	185	2019
7390.00	51032.50	51700.50	728849.1	717850.8	665439.8	706478.7	1019	185	2019
7391.00	50197.50	50889.50	718067.6	729023	706501.2	665535.9	1019	185	2019
7392.00	49384.50	50030.50	729224.1	718274.2	665588	706450.4	1019	185	2019
7393.00	48517.50	49227.50	718480.6	729422.5	706461.1	665608.7	1019	185	2019
7394.00	47714.50	48376.50	729613.5	718660.2	665676	706545.5	1019	185	2019
7395.00	46851.50	47553.50	718858.6	729807	706589.9	665706	1019	185	2019
7396.00	46020.50	46725.50	729999	719056.4	665776.9	706620.4	1019	185	2019
7397.00	36749.50	37421.50	730187.4	719239	665813.8	706717.4	1021	186	2019
7398.00	37554.50	38213.50	719436.8	730386.2	706750	665877.6	1021	186	2019
7399.00	38395.50	38891.50	727993.5	719641.4	675584.5	706781.3	1021	186	2019
7400.00	39008.50	39561.50	719864.3	728179.7	706826.6	675646.3	1021	186	2019
7401.00	39707.50	40239.50	728380.3	720025.2	675666.2	706888.1	1021	186	2019
7402.00	40375.50	40878.50	720223.4	728573.2	706919.7	675730.8	1021	186	2019
7403.00	41018.50	41490.50	728765.7	720399.1	675773	707019.3	1021	186	2019
7404.00	41615.50	42167.50	720596	728959.8	707076.7	675828.7	1021	186	2019
7405.00	33350.50	33857.50	729149.2	720794.9	675880.8	707074.2	1032	199	2019
7406.00	33998.50	34489.50	720976.9	729345.6	707179.3	675927.9	1032	199	2019
7407.00	34652.50	35169.50	729537	721170.6	675993.1	707228.4	1032	199	2019
7408.00	35318.50	35817.50	721372.5	729726.1	707251.8	676059.2	1032	199	2019
7409.00	35938.50	36456.50	729920.2	721552.5	676096.1	707339.3	1032	199	2019
7410.00	36594.50	37083.50	721753.4	730104.3	707389.6	676166.2	1032	199	2019
7411.00	37240.50	37759.50	730301.2	721956.1	676213.1	707415.3	1032	199	2019
7412.00	37916.50	38437.50	722142	730507.5	707473.8	676235.3	1032	199	2019
7413.00	38562.50	39066.50	730685.9	722333.5	676333.4	707516.4	1032	199	2019
7414.00	39212.50	39713.50	722525	730885.1	707600.9	676369.5	1032	199	2019
7415.01	31032.50	31530.50	731089.4	722717.6	676402.3	707629.3	1041	210	2019
7416.00	31665.50	32196.50	722913.2	731276.4	707668.1	676448.7	1041	210	2019
7417.00	32334.50	32822.50	731457.2	723097.5	676550.6	707756.8	1041	210	2019
7418.00	32945.50	33461.50	723292.3	731662.7	707797.6	676557.6	1041	210	2019
7419.00	33630.50	34085.50	731852.6	723858.3	676626.3	706477.6	1041	210	2019
7420.00	34234.50	34746.50	724059.2	732049.5	706488.7	676662.2	1041	210	2019
7421.00	34893.50	35360.50	732241.4	724267	676727.2	706487.4	1041	210	2019
7422.00	35484.50	35977.50	724471.9	732436.4	706504.2	676770	1041	210	2019
7423.00	36153.50	36611.50	732628.7	724690.1	676812	706471.2	1041	210	2019

SPECTROMETER FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
7424.00	36730.50	37235.50	724899.5	732819.3	706471.4	676884.4	1041	210	2019
7425.00	37374.50	37843.50	733016	725085.9	676931.2	706519.3	1041	210	2019
7426.00	37973.50	38489.50	725313.9	733199.6	706481.9	676999.5	1041	210	2019
7427.00	38649.50	39112.50	733394.7	725508.6	677030.3	706504	1041	210	2019
7428.00	39230.50	39639.50	725717	732049.1	706476.8	682845.3	1041	210	2019
7429.00	39771.50	40147.50	732245.9	725933.1	682894	706462.9	1041	210	2019
7430.00	40292.50	40679.50	726125.4	732427.3	706519.5	682974.9	1041	210	2019
7431.00	40821.50	41182.50	732625.4	726316.5	683028.3	706550.1	1041	210	2019
7432.00	32494.50	32775.50	726507.4	731219.6	706599.8	689018.4	1032	199	2019
7432.01	39869.50	39965.50	732821.4	731207.4	683063.9	689081.1	1032	199	2019
7433.00	31951.50	32347.50	733014.4	726719	683104.2	706623.8	1032	199	2019
7434.00	31433.50	31802.50	726911	733217.3	706666	683124.4	1032	199	2019
7435.00	30899.50	31301.50	733408.3	727106.9	683195.6	706718.4	1032	199	2019
7436.00	63324.50	63709.50	727299.4	733063.7	706782.4	685235	1024	190	2019
7437.00	62893.50	63216.50	733267	727489.5	685273.5	706822.6	1024	190	2019
7438.00	62415.50	62785.50	727685.7	733460	706862.2	685308.2	1024	190	2019
7439.00	61943.50	62277.50	733658.6	727882.6	685361.8	706899.5	1024	190	2019
7440.00	61444.50	61820.50	728063.8	733843.8	706999.4	685415	1024	190	2019
7441.00	60986.50	61310.50	734032.4	728262.1	685483.4	707030.6	1024	190	2019
7442.00	60441.50	60835.50	728447.6	734216.4	707108.9	685556.1	1024	190	2019
7443.00	59973.50	60318.50	734425.3	728640.7	685590	707156.6	1024	190	2019
7444.00	59455.50	59834.50	728839.6	734598.2	707198.8	685674	1024	190	2019
7445.00	59004.50	59327.50	734806	729032.2	685673.9	707256.1	1024	190	2019
7446.00	58463.50	58861.50	729228	734989	707296.1	685773.5	1024	190	2019
7447.00	57982.50	58311.50	735189.2	729421.5	685805.4	707341.3	1024	190	2019
7448.00	57458.50	57833.50	729614.7	735386.2	707384.6	685842	1024	190	2019
7449.00	56980.50	57300.50	735570.4	729808.5	685942	707441.8	1024	190	2019
7450.00	56442.50	56838.50	729991.7	735776.8	707517.4	685940.2	1024	190	2019
7451.00	52963.50	53287.50	735960.9	730180.7	686021.7	707571.6	1024	190	2019
7452.00	53515.50	53928.50	730382.8	736158.4	707603.5	686051.5	1024	190	2019
7453.00	54065.50	54386.50	736351.1	730582.5	686099.5	707639	1024	190	2019
7454.00	54527.50	54930.50	730770.2	736533.8	707706.7	686173	1024	190	2019
7455.00	55085.50	55413.50	736735.5	730963.3	686210.5	707785.2	1024	190	2019
7456.00	55531.50	55915.50	731514.1	736928.7	706480.1	686260.6	1024	190	2019
7457.00	56042.50	56336.50	737110.2	731730	686369.8	706453	1024	190	2019
7458.00	52516.50	52854.50	731927.9	737305.9	706475.4	686410.1	1024	190	2019
7459.00	52046.50	52350.50	737501.2	732136.4	686438.3	706475.6	1024	190	2019
701.00	38859.50	39081.50	706006	693598.6	597419.2	594096.2	1003	168	2019
702.00	38178.50	38562.50	693063.4	718218.8	596024	602756.8	1003	168	2019
703.00	37609.50	38094.50	717717.5	692519.6	604705.8	597938.7	1003	168	2019
704.00	36822.50	36981.50	672490.9	683169.6	594619.4	597502.4	1003	168	2019

SPECTROMETER FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
704.10	37117.50	37499.50	692037.2	717183.2	599883.7	606626.4	1003	168	2019
705.00	42074.50	42760.50	672000.1	716692.6	596578	608558.7	1006	169	2019
706.00	42873.50	43639.50	716184.6	671469.2	610495.4	598516.3	1006	169	2019
707.00	32129.50	32913.50	670933.5	715655.3	600439.3	612430.1	1019	185	2019
708.00	33019.50	33748.50	715124.1	670428.7	614355	602373.5	1019	185	2019
709.00	44445.50	45211.50	669920.4	714622.4	604310.9	616289.2	1019	185	2019
710.00	33873.50	34632.50	669379.8	714103.8	606239.8	618221.9	1019	185	2019
711.00	34771.50	35494.50	713568	668893.2	620146	608173.5	1019	185	2019
712.00	44715.50	45471.50	713083.1	668359.3	622078.6	610104.7	1021	186	2019
713.00	32074.50	32786.50	670740.6	714088.4	612814.8	624433.6	1021	186	2019
714.00	42363.50	43241.50	717029.4	670224.7	627284.5	614735.8	1048	217	2019
715.00	64129.50	64869.50	716526.1	669747.1	629226.4	616693.5	1021	186	2019
716.00	51578.50	52404.50	669214.1	719867.6	618612.1	632186.6	1021	186	2019
717.00	30005.50	30898.50	719342	665757.1	634117.6	619759.5	1052	225	2019
718.00	64501.50	65522.50	721160.3	660238	636679.2	620352.8	1024	190	2019
719.00	31128.50	32101.50	659707.1	720657.3	622266.3	638614.3	1052	225	2019
720.00	57718.50	58787.50	724947.4	659230.7	641831.1	624222.3	1023	188	2019
721.00	32881.50	33962.50	658661.6	724455.5	626142.7	643770.4	1024	190	2019
722.00	34113.50	35237.50	723891.4	658154.5	645690.5	628080.1	1024	190	2019
723.00	44633.50	45645.50	723382.5	657631.3	647627	630009.4	1029	195	2019
724.00	60887.50	61919.50	722905.5	657163.8	649564.4	631961.3	1038	208	2019
725.00	62880.50	63932.50	722372	656595.6	651492.9	633878.7	1027	194	2019
726.00	42862.50	44023.50	725737.6	656079.3	654466.5	635810.3	1027	194	2019
727.00	49306.50	50459.50	655602.2	725189.3	637749.1	656393.3	1027	194	2019
728.00	64031.50	65133.50	726625.8	655071	658849.2	639675.8	1029	195	2019
729.00	50767.50	51994.50	654539.7	726114.8	641604.6	660777.7	1029	195	2019
730.00	34128.50	34537.50	654007.3	679124.4	643534.4	650261.2	1052	225	2019
730.01	48553.50	49356.50	679065.9	727331.8	650258.2	663176.4	1059	236	2019
731.00	40435.50	41765.50	730505.7	653527.5	666101.1	645474.7	1032	199	2019
732.00	32659.50	33960.50	729968.4	652979.7	668021.8	647402.9	1052	225	2019
733.00	57129.50	58157.50	729409.7	666601.7	669948.4	653117.4	1062	238	2019
734.00	41793.50	42777.50	728941.9	666079.2	671891.2	655036.1	1041	210	2019
735.00	61673.50	62674.50	728413.5	665570.7	673811.8	656985.6	1059	236	2019
736.00	41977.50	43156.50	733460.6	665029.2	677239.6	658909	1058	233	2019
737.00	42378.50	43400.50	732977.7	669358.4	679181.3	662139.5	1038	208	2019
738.00	55589.50	56643.50	732478.8	668799.2	681116.6	664057.8	1040	209	2019
739.00	53998.50	55220.50	733475.3	668290.4	683455.1	665994.6	1071	257	2019
740.00	41534.50	42802.50	737617.1	667762.4	686637	667923.6	1071	257	2019
741.00	54685.50	55922.50	737069.6	667271	688561.5	669860.3	1067	253	2019
742.00	47838.50	48685.50	684457.5	736547.7	676533.6	690491.7	1062	238	2019
742.01	58499.50	58775.50	666760.9	684497	671794	676549.1	1062	238	2019

SPECTROMETER FLOWN LINES – Tellus A7 Block
IRENET95, Irish Transverse Mercator

LINE	START TIME (seconds)	END TIME (seconds)	START X (m)	END X (m)	START Y (m)	END Y (m)	FLIGHT	DAY	YEAR
743.00	40260.50	41354.50	666226.1	736049.1	673731.5	692431	1071	257	2019
744.00	48841.50	49996.50	735538.5	665737.9	694360.6	675665.6	1062	238	2019
745.00	50090.50	51175.50	665232.7	735013.3	677592.8	696295.3	1062	238	2019
746.00	32364.50	33416.50	734477.4	672035.9	698216.7	681490	1066	253	2019
747.00	38795.50	39953.50	733964.8	671499.6	700152.4	683421.7	1071	257	2019
748.00	51376.50	52400.50	733429	670967.1	702072.7	685348.3	1062	238	2019
749.00	52521.50	53488.50	670443.8	732925.2	687272.1	704023.2	1062	238	2019
750.00	53652.50	54655.50	732444.6	669937.7	705949.8	689216.1	1062	238	2019
751.00	36885.50	37882.50	669454.7	731145.9	691160	707705.6	1046	214	2019
752.00	38959.50	39827.50	668938.4	723450.5	693091.7	707685.4	1044	213	2019
753.00	40001.50	40741.50	715592.7	668385.8	707651.5	695014.7	1044	213	2019
754.00	40854.50	41500.50	667870.9	707964.4	696939	707682.6	1044	213	2019
755.00	41662.50	42173.50	700046	667372.9	707628.4	698875.1	1044	213	2019
756.00	32451.50	32857.50	666870.7	692384.5	700819.6	707646.5	1042	212	2019
757.00	33043.50	33359.50	684531.2	666327.6	707620.9	702740.8	1042	212	2019
758.00	33471.50	33644.50	665803.1	676701.6	704673	707591.7	1042	212	2019
759.00	33918.50	33981.50	669049.3	665308.6	707610	706603.7	1042	212	2019

Appendix IV

Equipment List

PART	Serial No.	Description	Manufacturer
Aircraft C-GSGF	DHC-6-642	Twin Otter Series 300, DE HAVILLAND	DE HAVILLAND
Laser Profilometer	9994938	LD90-3300VHS-FLP 11-28VDC laser rangefinder. 1-400m capability	Riegl
RadarTranceiver	4403206	TRA-3000	FreeFlight Systems
Collins Radar Altimeter	7497	860F-1 Radio Altimeter 0-2500ft	Collins
Barometric Sensor	1347373	HONEYWELL MODEL TJE Absolute Pressure Sensor	HONEYWELL
Data Acquisition Computer	CDAC-13	CPCI Data Acquisition computer	SGL
GPS Receiver	DAB06340038	OEMV-3, 72-ch, L1/L2	Novatel
Spectrometer detector 5-Pack	5444	RSX-5	Radiation Solutions Inc
Electromagnetics System	SG-FEM	SGL 4 frequency vertically mounted EM system (912 3005 11962 24510)	SGL
Spectrometer detector 5-Pack	5557	RSX-5	Radiation Solutions Inc
Spectrometer detector 5-Pack	5558	RSX-5	Radiation Solutions Inc
Spectrometer detector 5-Pack	5632	RSX-5	Radiation Solutions Inc
Magnetometer Sensor	75368-C1576	model G-822A, Sensor S/N C1576	Geometrics
Fluxgate Magnetometer	487	TFM100G2-1E	Billingsley Aerospace and Deence
SGRef Station	M-SGREF-62	CPCI ground station - 28Vdc input	SGL
GPS Receiver	DAB13020013	OEMV-3, 72-ch, L1/L2	Novatel
GPS Antenna	NZT07260011	Model 702L,L1/L2 Kinematic GPS Ant.	Novatel
Magnetometer Sensor	75215-C377	model G-822A, Sensor S/N C377	Geometrics
SGRef Station	M-SGREF-59	CPCI ground station - 28Vdc input	SGL
GPS Receiver	DAB14070001	OEMV-3, 72-ch, L1/L2	Novatel
GPS Antenna	NZT07260023	Model 702,L1/L2 Kinematic GPS Ant.	Novatel
Magnetometer Sensor	75409-C3235	model G-822A, Sensor S/N C3235	Geometrics

SGL

Appendix V

GEOPHYSICAL SURVEY AIRCRAFT

de Havilland DHC-6 Twin Otter

Registration	C-GSGF
Serial #	642

The de Havilland DHC-6 Twin Otter is an all metal, high wing, twin-engine, short takeoff and landing (STOL) aircraft. The Twin Otter is powered by two Pratt & Whitney Canada PT6A-27 engines. These engines drive a constant speed, fully feathering, reversible propeller. The PT6 turbine engines provide ample power for climbing over steep terrain, working at altitudes up to 7,000 m and can withstand frequent rapid power changes. The aircraft is highly maneuverable, rugged in design and can be flown at speeds from 80 to 160 knots. The low stall speeds and abundant available power make the Twin Otter a safe and effective aircraft for surveys requiring drape flying over rough topography, low air speeds or flights at high altitude. The aircraft has fixed gear, extendable flaps and manually adjustable trim tabs on the primary controls for the roll and pitch axes and full rudder trim for the yaw axis. The aircraft is equipped with full de-icing equipment and sufficient avionics for instrument flying including a flight control system. Supplementary fuel can be added for transoceanic flight. The Twin Otter is certified for IFR flights in known icing conditions.

GEOPHYSICAL SURVEYING

The SGL Twin Otter is fully equipped for airborne magnetic, gravity, radiometric and frequency-domain EM surveys. EM fields are measured with the SGL frequency-domain EM system (**SGFEM**). The four-frequency EM transmitter is located in the right wingtip EM pod, and the receiver is located in the left wingtip EM pod. The magnetic field is measured by one sensor mounted in a stinger that is rigidly attached to the tail of the aircraft, and a second sensor can be mounted in the left wingtip EM pod. Gravity surveys are performed using SGL's state-of-the-art **AIRGrav** system. The Twin Otter can carry up to 63 litres of detector crystals for gamma-ray spectrometer surveys.

DE HAVILLAND DHC-6 TWIN OTTER SPECIFICATIONS

Crew Capacity:
- 2 pilots, 1 operator (optional)

Fuselage:
- semi-monocoque

Wings:
- strut braced, high wing
- outboard ailerons and trim tab, full span flaps

Tail:
- conventional stabilizers
- elevator and rudder with trim tabs

Power Plant:
- Pratt & Whitney Canada PT6A-27, 680 shp, free-turbine gas engine, overhaul 3,600 hours
- three-blade, fully-feathering, constant-speed, reversible propeller, overhaul 3,000 hours or 5 years

Systems:
- dual flight controls with IFR instruments and avionics
- 2-axis autopilot
- full airframe and propeller de-icing

Dimensions:

Wing span	65 ft	19.8 m
Exterior length	51 ft 9 in	15.8 m
Exterior height	19 ft 6 in	5.94 m
Interior usable length	18 ft 5 in	5.61 m
Interior usable width	4 ft 4 in	1.32 m
Interior height	4 ft 11 in	1.5 m
Usable fuel capacity	385 US gal	1,455 l

Weights:

Empty	8,100 lb	3,674 kg
Maximum take-off	12,500 lb	5,670 kg

Performance (2,000 ft ASL, standard day, maximum take-off weight, 1,900 rpm, 1,375 ft-lb tq):

Range, maximum range power (plus reserve)	920 nm	1,704 km
Cruise speed at maximum range power	170 kt	315 km/h
Fuel flow at maximum range power	50 US gal/h	189 l/h
Stall airspeed, landing configuration	58 kt	107 km/h
Service ceiling	25,000 ft	7,620 m
Minimum required runway length	2,500 ft	762 m
Rate of climb	1,600 ft/min	488 m/min
Maximum sustained climb gradient	650 ft/nm	107 m/km

Type of Aviation Fuel: Jet A, A-1, B, JP-1, 4, 5, 8

Maximum Endurance: 8 hours plus 1 hour reserve at maximum range power

GEOPHYSICAL CAPABILITIES

SGFEM, frequency-domain EM

AIRGrav, SGL airborne gravimeter

Magnetic total field

Horizontal magnetic gradient

Gamma-ray spectrometer, up to 63 litres (3,840 in^3) of detector crystals

SGMethane, methane gas sensing

Additional Features:
- Tail stinger 6.8 m long and 22 cm in diameter, capable of housing a 1 kg sensor
- HF radio
- Video camera mount with 23 cm diameter glass covered opening in the belly of the aircraft
- Two instrument racks, standard 48 cm (19 in) width
- Radar altimeter, 0-750 m
- Electrical power capacity, 28 VDC at 200 amp
- Static inverters, 115 VAC - 400 Hz, 110 VAC - 60 Hz
- GPS receiver and antenna

SGL

Appendix VI

SANDER GEOPHYSICS AIRBORNE GEOPHYSICAL SURVEY

260 Hunt Club Road, Ottawa, ON K1V 1C1 Canada Tel: +1 613-521-9626 Fax: +1 613-521-0215 www.sgl.com

SURVEY DETAILS			
Survey Name	Tellus	**Client Name**	Geological Survey of Ireland
Survey Location	Waterford, Ireland	**Contact Name**	Jim Hodgson
Project Code	GSI___19.IRL	**Contact Phone**	+353 1678 2742
Total km	35658	**Client Address**	Beggar's Bush, Haddington Road, Dublin 4, Ireland
Line Spacing	200 m by 2000 m		
Survey Type	MAG/SPEC/FEM	**Email**	jim.hodgson@gsi.ie / tellus@gsi.ie

SURVEY PRODUCTION SUMMARY			
Production This Week (km)	456.1	**Total km Flown to Date**	456.1
Total Remaining (km)	35201.9	**km Reflown This Week**	0.0
Percent Complete (%)	1.3	**Flight Time This Week (h)**	6.3
Prod km/Day This Week	65.2	**Prod km/Flt Hour This Week**	72.4

WEEKLY PRODUCTION

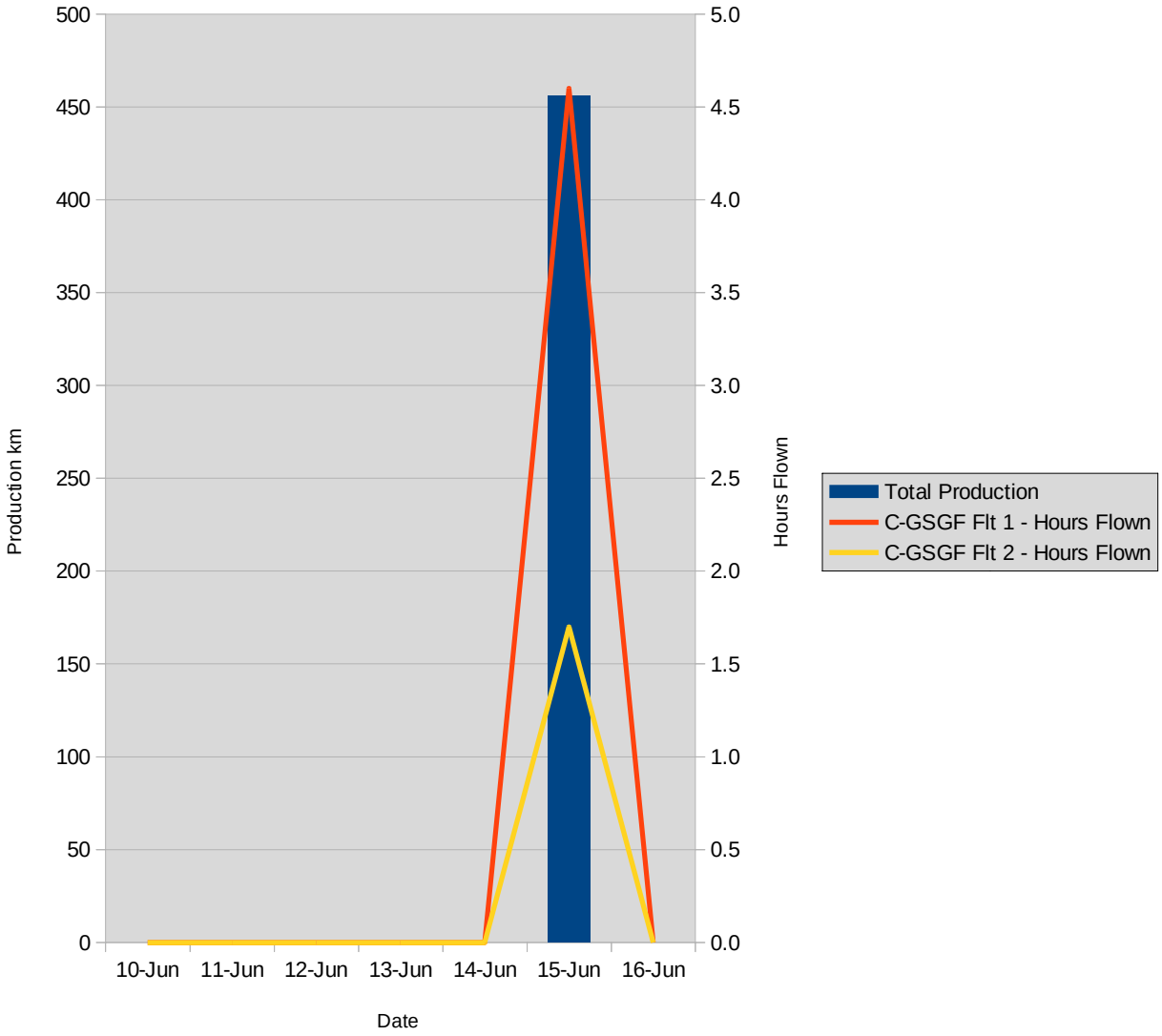
Week 1		Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production (km)	Reflown (km)
TOTALS			**6.3**	**16.0**	**0.0**	**456.1**	**0.0**
10-Jun	**Monday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather			**Remarks**	See Week 45 Tellus 2018-2019 A5-A6 Blocks.pdf			
Geomag							
11-Jun	**Tuesday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather			**Remarks**	See Week 45 Tellus 2018-2019 A5-A6 Blocks.pdf			
Geomag							
12-Jun	**Wednesday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather			**Remarks**	See Week 45 Tellus 2018-2019 A5-A6 Blocks.pdf			
Geomag							
13-Jun	**Thursday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather			**Remarks**	See Week 45 Tellus 2018-2019 A5-A6 Blocks.pdf			
Geomag							
14-Jun	**Friday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather			**Remarks**	See Week 45 Tellus 2018-2019 A5-A6 Blocks.pdf			
Geomag							
15-Jun	**Saturday**		**6.3**	**16.0**	**0.0**	**456.1**	**0.0**
	C-GSGF Flt 1	1	4.6	14.0	0.0	399.2	0.0
	C-GSGF Flt 2	2	1.7	2.0	0.0	56.9	0.0
Weather	Partly sunny, rain showers		**Remarks**	Production for Tellus 2019 A7 block commences.			
Geomag	quiet						
16-Jun	**Sunday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Partly sunny, heavy rains showers		**Remarks**	No flight due to weather.			
Geomag	quiet						
Comments	Production in A7 has commenced.						

Signed Alison McCleary

PERSONNEL ON SITE THIS WEEK						
Name	**Position**	**Arrival This Week**	**Departure This Week**	**On Site?**	**No. of Days On Site This Week**	**No. of Days on Site To Date**
Alison McCleary	Crew Chief	15-Jun-19		ON SITE	2	2
Steve Gebhardt	Lead Pilot	15-Jun-19		ON SITE	2	2
Jean Deschenes	Pilot	15-Jun-19		ON SITE	2	2
Ania Smetny-Sowa	Geophysicist	15-Jun-19		ON SITE	2	2
John Burnham	AME	15-Jun-19		ON SITE	2	2
Angella Farr	Geophysicist				0	0
Craig McMahon	Technician				0	0

HSE Statistics	This Week	Project Totals
SGL Person Hours	75	75
Inductions		0
Near Miss		0
First Aid Case (FAC)		0
Medical Treatment Case (MTC)		0
Restricted Work Case (RWC)		0
Lost Time Injuries (LTI)		0
Safety Meetings		0
GSI PR Complaints		0

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



SANDER GEOPHYSICS AIRBORNE GEOPHYSICAL SURVEY

260 Hunt Club Road, Ottawa, ON K1V 1C1 Canada Tel: +1 613-521-9626 Fax: +1 613-521-0215 www.sgl.com

SURVEY DETAILS			
Survey Name	Tellus	**Client Name**	Geological Survey of Ireland
Survey Location	Waterford, Ireland	**Contact Name**	Jim Hodgson
Project Code	GSI___19.IRL	**Contact Phone**	+353 1678 2742
Total km	35658	**Client Address**	Beggar's Bush, Haddington Road, Dublin 4, Ireland
Line Spacing	200 m by 2000 m		
Survey Type	MAG/SPEC/FEM	**Email**	jim.hodgson@gsi.ie / tellus@gsi.ie

SURVEY PRODUCTION SUMMARY			
Production This Week (km)	3545.7	**Total km Flown to Date**	4001.8
Total Remaining (km)	31656.2	**km Reflown This Week**	0.0
Percent Complete (%)	11.2	**Flight Time This Week (h)**	29.1
Prod km/Day This Week	506.5	**Prod km/Flt Hour This Week**	121.8

WEEKLY PRODUCTION

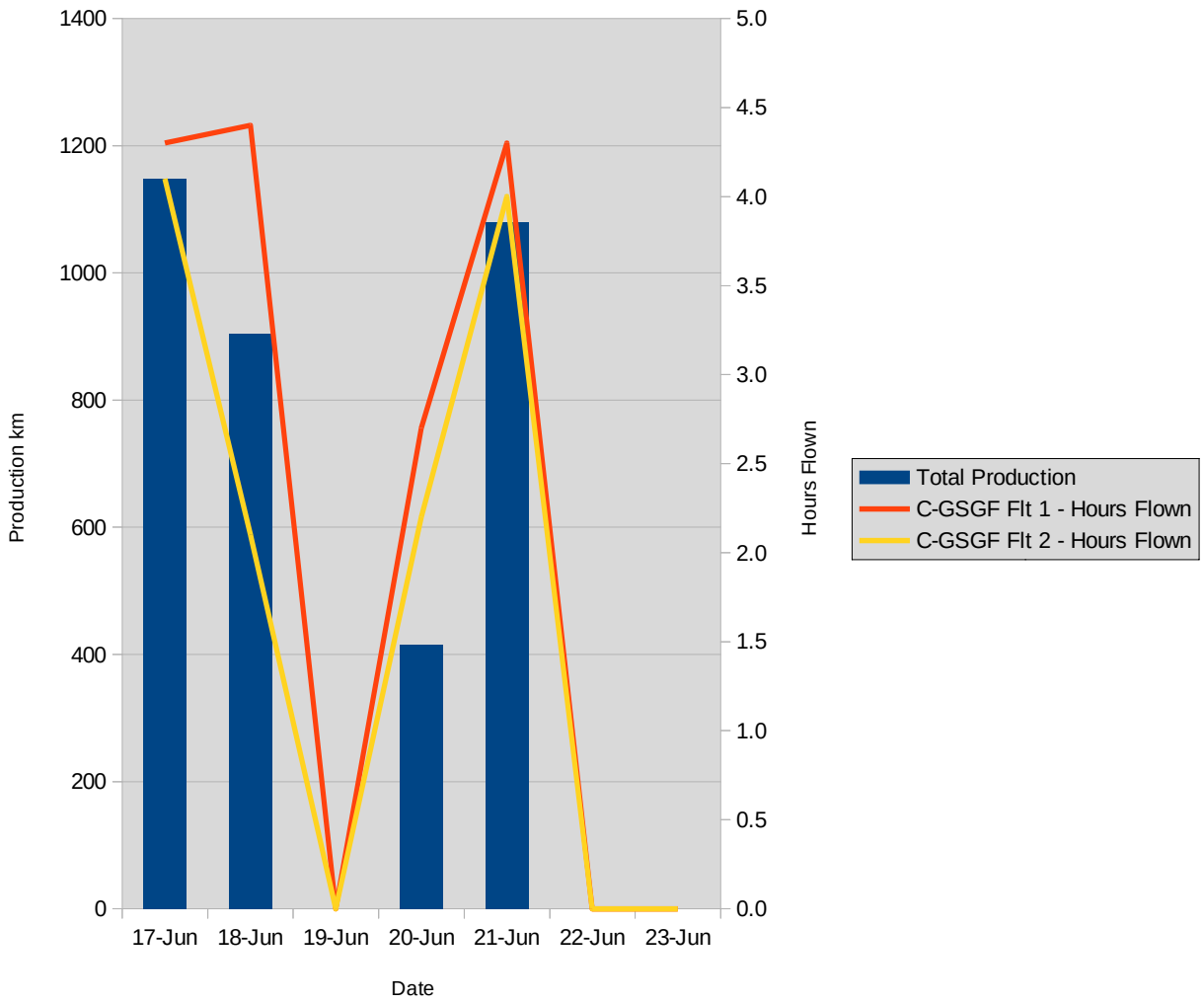
Week 2		Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production (km)	Reflown (km)
TOTALS			**29.1**	**86.0**	**0.0**	**3545.7**	**0.0**
17-Jun	**Monday**		**8.4**	**22.0**	**0.0**	**1148.6**	**0.0**
	C-GSGF Flt 1	3	4.3	13.0	0.0	609.3	0.0
	C-GSGF Flt 2	4	4.1	9.0	0.0	539.3	0.0
Weather	Partly sunny, windy		**Remarks**	Two full production flights completed.			
Geomag	quiet						
18-Jun	**Tuesday**		**7.5**	**15.0**	**0.0**	**903.7**	**0.0**
	C-GSGF Flt 1	5	1.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2	6	4.4	12.0	0.0	716.5	0.0
	C-GSGF Flt 3	7	2.1	3.0	0.0	187.2	0.0
Weather	Partly sunny, calm		**Remarks**	Initial flight was aborted due to technical difficulties with the survey system. Full production flight followed by partial due to airport hours.			
Geomag	quiet						
19-Jun	**Wednesday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Partly sunny, heavy rain showers		**Remarks**	No flight due to weather. One ground station moved from Count Kerry to County Waterford.			
Geomag	quiet						
20-Jun	**Thursday**		**4.9**	**18.0**	**0.0**	**414.7**	**0.0**
	C-GSGF Flt 1	8	2.7	15.0	0.0	245.6	0.0
	C-GSGF Flt 2	9	2.2	3.0	0.0	169.1	0.0
Weather	Partly sunny, rain showers		**Remarks**	Both flights aborted due to heavy rain.			
Geomag	quiet						
21-Jun	**Friday**		**8.3**	**31.0**	**0.0**	**1078.7**	**0.0**
	C-GSGF Flt 1	10	4.3	18.0	0.0	579.8	0.0
	C-GSGF Flt 2	11	4.0	13.0	0.0	498.9	0.0
Weather	Partly sunny, rain showers in pm.		**Remarks**	Two full production flights completed.			
Geomag	unsettled						
22-Jun	**Saturday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, foggy, windy		**Remarks**	No flight due to weather.			
Geomag	quiet						
23-Jun	**Sunday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Heavy rain all day		**Remarks**	No flight due to weather.			
Geomag	quiet						
Comments	A solid start to the A7 block, over 4000 lkm completed to date. Well done to all.						

Signed Alison McCleary

PERSONNEL ON SITE THIS WEEK						
Name	**Position**	**Arrival This Week**	**Departure This Week**	**On Site?**	**No. of Days On Site This Week**	**No. of Days on Site To Date**
Alison McCleary	Crew Chief			ON SITE	7	9
Steve Gebhardt	Lead Pilot			ON SITE	7	9
Jean Deschenes	Pilot			ON SITE	7	9
Ania Smetny-Sowa	Geophysicist			ON SITE	7	9
John Burnham	AME			ON SITE	7	9
Angella Farr	Geophysicist				0	0
Craig McMahon	Technician				0	0
Mike McDonald	AME				0	0

HSE Statistics	This Week	Project Totals
SGL Person Hours	262.5	337.5
Inductions		0
Near Miss		0
First Aid Case (FAC)		0
Medical Treatment Case (MTC)		0
Restricted Work Case (RWC)		0
Lost Time Injuries (LTI)		0
Safety Meetings		0
GSI PR Complaints	1	1

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



SANDER GEOPHYSICS AIRBORNE GEOPHYSICAL SURVEY

260 Hunt Club Road, Ottawa, ON K1V 1C1 Canada Tel: +1 613-521-9626 Fax: +1 613-521-0215 www.sgl.com

SURVEY DETAILS			
Survey Name	Tellus	**Client Name**	Geological Survey of Ireland
Survey Location	Waterford, Ireland	**Contact Name**	Jim Hodgson
Project Code	GSI___19.IRL	**Contact Phone**	+353 1678 2742
Total km	35658	**Client Address**	Beggar's Bush, Haddington Road, Dublin 4, Ireland
Line Spacing	200 m by 2000 m		
Survey Type	MAG/SPEC/FEM	**Email**	jim.hodgson@gsi.ie / tellus@gsi.ie

SURVEY PRODUCTION SUMMARY			
Production This Week (km)	1103.1	**Total km Flown to Date**	5104.9
Total Remaining (km)	30553.1	**km Reflown This Week**	0.0
Percent Complete (%)	14.3	**Flight Time This Week (h)**	10.7
Prod km/Day This Week	157.6	**Prod km/Flt Hour This Week**	103.1

WEEKLY PRODUCTION

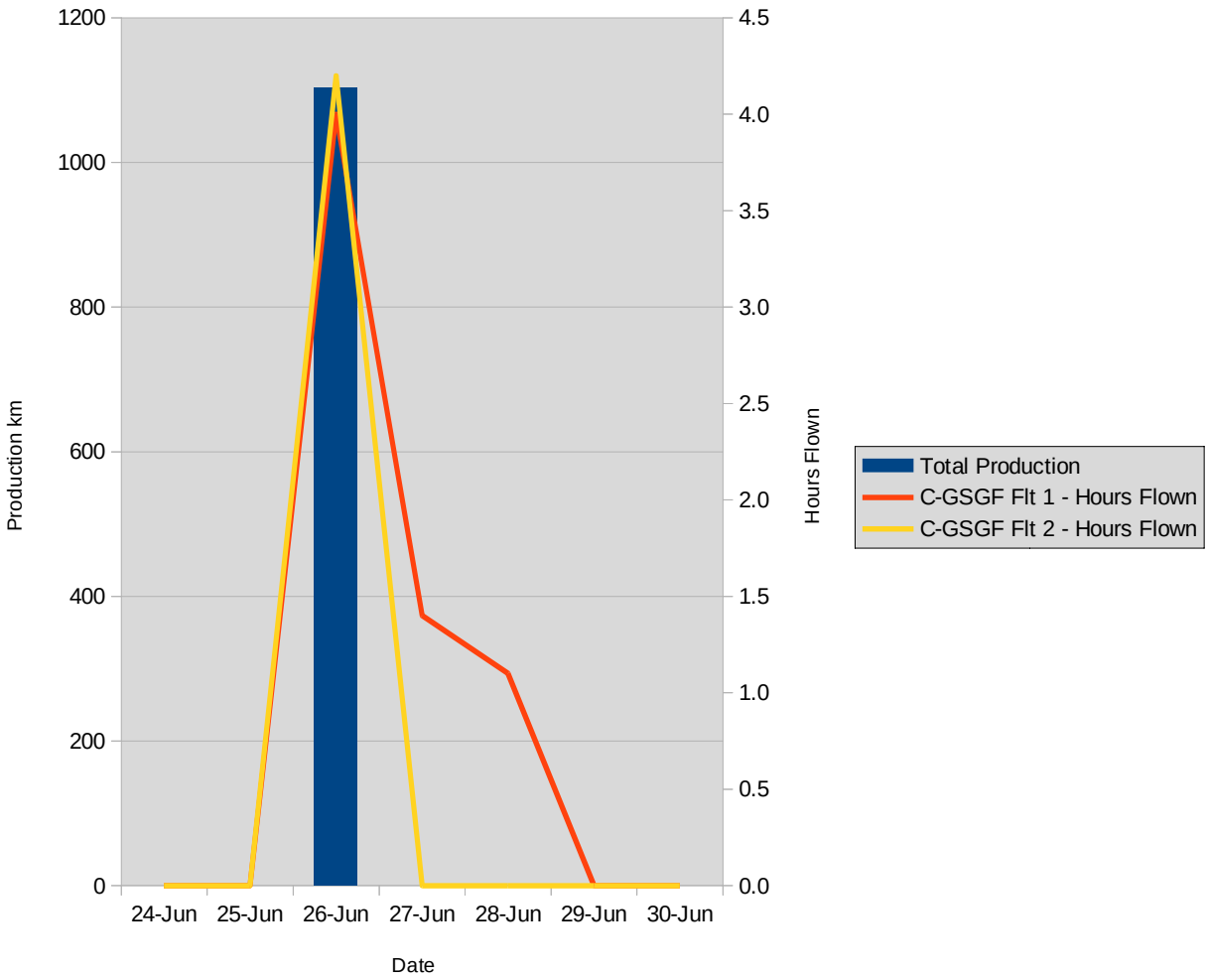
Week 3		Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production (km)	Reflown (km)
TOTALS			**10.7**	**19.0**	**0.0**	**1103.1**	**0.0**
24-Jun	**Monday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Partly sunny, windy, heavy rain		**Remarks**	No flight due to weather.			
Geomag	quiet						
25-Jun	**Tuesday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, fog, heavy rain showers		**Remarks**	No flight due to weather.			
Geomag	quiet						
26-Jun	**Wednesday**		**8.2**	**19.0**	**0.0**	**1103.1**	**0.0**
	C-GSGF Flt 1	12	4.0	10.0	0.0	563.7	0.0
	C-GSGF Flt 2	13	4.2	9.0	0.0	539.4	0.0
Weather	Partly sunny, windy, above 20C		**Remarks**	Two full production flights completed.			
Geomag	unsettled						
27-Jun	**Thursday**		**1.4**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1	14	1.4	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Hazy, very windy, 29C		**Remarks**	Heading test completed. Too windy for surveying.			
Geomag	quiet						
28-Jun	**Friday**		**1.1**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1	15	1.1	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, fog, rain showers		**Remarks**	No production due to weather. Aircraft ferried from Kerry to Waterford airport. Crew mobilizes to Waterford.			
Geomag	quiet						
29-Jun	**Saturday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Thunderstorms, strong winds		**Remarks**	Mobilization to Waterford completed. No flight due to weather. Maintenance on aircraft completed.			
Geomag	quiet						
30-Jun	**Sunday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Strong winds, overcast		**Remarks**	No flight due to weather.			
Geomag	quiet						
Comments	Strong winds and unsettled weather prevent more than one day of surveying this week. Mobilization to Waterford completed.						

Signed Alison McCleary

PERSONNEL ON SITE THIS WEEK						
Name	**Position**	**Arrival This Week**	**Departure This Week**	**On Site?**	**No. of Days On Site This Week**	**No. of Days on Site To Date**
Alison McCleary	Crew Chief			ON SITE	7	16
Steve Gebhardt	Lead Pilot			ON SITE	7	16
Jean Deschenes	Pilot			ON SITE	7	16
Ania Smetny-Sowa	Geophysicist		28-Jun-19	ON SITE	5	14
John Burnham	AME			ON SITE	7	16
Angella Farr	Geophysicist	24-Jun-19		ON SITE	7	7
Craig McMahon	Technician	28-Jun-19		ON SITE	3	3
Mike McDonald	AME				0	0
Charles Dicks	Pilot				0	0

HSE Statistics	This Week	Project Totals
SGL Person Hours	322.5	660
Inductions	1	1
Near Miss		0
First Aid Case (FAC)		0
Medical Treatment Case (MTC)		0
Restricted Work Case (RWC)		0
Lost Time Injuries (LTI)		0
Safety Meetings		0
GSI PR Complaints		1

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



SANDER GEOPHYSICS AIRBORNE GEOPHYSICAL SURVEY

260 Hunt Club Road, Ottawa, ON K1V 1C1 Canada Tel: +1 613-521-9626 Fax: +1 613-521-0215 www.sgl.com

SURVEY DETAILS			
Survey Name	Tellus	**Client Name**	Geological Survey of Ireland
Survey Location	Waterford, Ireland	**Contact Name**	Jim Hodgson
Project Code	GSI___19.IRL	**Contact Phone**	+353 1678 2742
Total km	35658	**Client Address**	Beggar's Bush, Haddington Road, Dublin 4, Ireland
Line Spacing	200 m by 2000 m		
Survey Type	MAG/SPEC/FEM	**Email**	jim.hodgson@gsi.ie / tellus@gsi.ie

SURVEY PRODUCTION SUMMARY			
Production This Week (km)	4937.9	**Total km Flown to Date**	10042.8
Total Remaining (km)	25615.2	**km Reflown This Week**	0.0
Percent Complete (%)	28.2	**Flight Time This Week (h)**	33.2
Prod km/Day This Week	705.4	**Prod km/Flt Hour This Week**	148.7

WEEKLY PRODUCTION

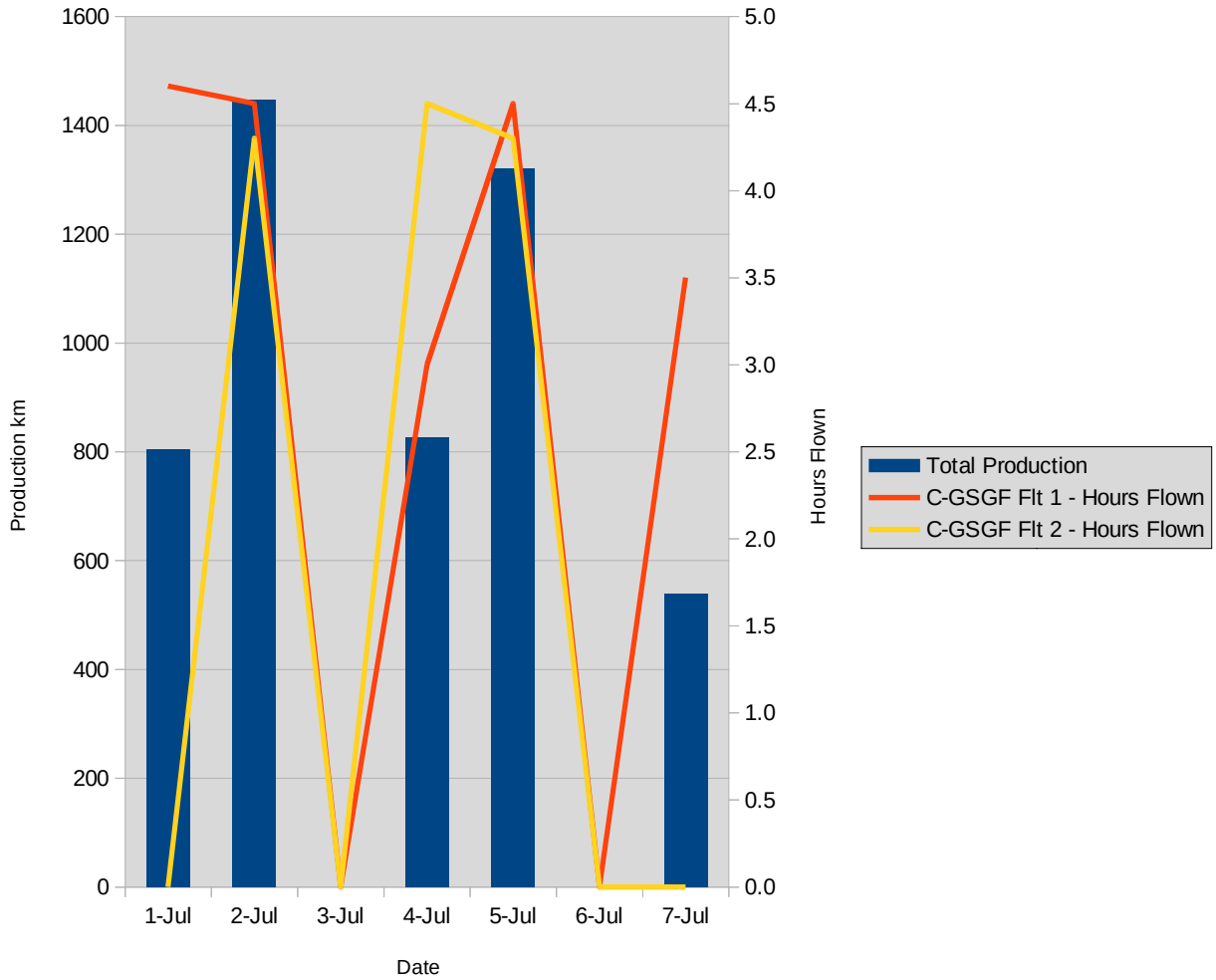
Week 4		Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production (km)	Reflown (km)
TOTALS			**33.2**	**84.0**	**0.0**	**4937.9**	**0.0**
1-Jul	**Monday**		**4.6**	**10.0**	**0.0**	**803.8**	**0.0**
	C-GSGF Flt 1	16	4.6	10.0	0.0	803.8	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Partly sunny, warm		**Remarks**	Full production flight. Second flight cancelled due to sick pilot.			
Geomag	unsettled						
2-Jul	**Tuesday**		**8.8**	**18.0**	**0.0**	**1446.8**	**0.0**
	C-GSGF Flt 1	17	4.5	8.0	0.0	643.0	0.0
	C-GSGF Flt 2	18	4.3	10.0	0.0	803.8	0.0
Weather	Overcast, calm, warm		**Remarks**	Two full production flights completed.			
Geomag	unsettled						
3-Jul	**Wednesday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Sunny, calm, warm		**Remarks**	No flight due to legal complaint filed with IAA. We addressed issues raised by the IAA with regards to the complaint.			
Geomag	unsettled						
4-Jul	**Thursday**		**7.5**	**19.0**	**0.0**	**827.2**	**0.0**
	C-GSGF Flt 1	19	3.0	4.0	0.0	185.2	0.0
	C-GSGF Flt 2	20	4.5	15.0	0.0	642.0	0.0
Weather	Sunny, calm, warm		**Remarks**	Training flight in am. Full production flight in pm.			
Geomag	unsettled						
5-Jul	**Friday**		**8.8**	**30.0**	**0.0**	**1321.2**	**0.0**
	C-GSGF Flt 1	21	4.5	16.0	0.0	639.4	0.0
	C-GSGF Flt 2	22	4.3	14.0	0.0	681.8	0.0
Weather	Sunny, calm, warm		**Remarks**	Two full production flights completed.			
Geomag	unsettled						
6-Jul	**Saturday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, rain, mist		**Remarks**	No flight due to weather. Crew safety meeting, all present.			
Geomag	unsettled						
7-Jul	**Sunday**		**3.5**	**7.0**	**0.0**	**538.9**	**0.0**
	C-GSGF Flt 1	23	3.5	7.0	0.0	538.9	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, fog, mist		**Remarks**	Flight delayed due to fog. Flight in afternoon.			
Geomag	unsettled						
Comments	This week marks the 3rd most productive week for Tellus Ireland projects to date.						

Signed Alison McCleary

PERSONNEL ON SITE THIS WEEK						
Name	**Position**	**Arrival This Week**	**Departure This Week**	**On Site?**	**No. of Days On Site This Week**	**No. of Days on Site To Date**
Alison McCleary	Crew Chief			ON SITE	7	23
Steve Gebhardt	Lead Pilot			ON SITE	7	23
Jean Deschenes	Pilot			ON SITE	7	23
Ania Smetny-Sowa	Geophysicist				0	14
John Burnham	AME		1-Jul-19	ON SITE	1	17
Angella Farr	Geophysicist			ON SITE	7	14
Craig McMahon	Technician			ON SITE	7	10
Mike McDonald	AME	2-Jul-19		ON SITE	6	6
Charles Dicks	Pilot	2-Jul-19		ON SITE	6	6

HSE Statistics	This Week	Project Totals
SGL Person Hours	360	1020
Inductions	1	2
Near Miss		0
First Aid Case (FAC)		0
Medical Treatment Case (MTC)		0
Restricted Work Case (RWC)		0
Lost Time Injuries (LTI)		0
Safety Meetings	1	1
GSI PR Complaints	1	2

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



SANDER GEOPHYSICS AIRBORNE GEOPHYSICAL SURVEY

260 Hunt Club Road, Ottawa, ON K1V 1C1 Canada Tel: +1 613-521-9626 Fax: +1 613-521-0215 www.sgl.com

SURVEY DETAILS			
Survey Name	Tellus	**Client Name**	Geological Survey of Ireland
Survey Location	Waterford, Ireland	**Contact Name**	Jim Hodgson
Project Code	GSI___19.IRL	**Contact Phone**	+353 1678 2742
Total km	35658	**Client Address**	Beggar's Bush, Haddington Road, Dublin 4, Ireland
Line Spacing	200 m by 2000 m		
Survey Type	MAG/SPEC/FEM	**Email**	jim.hodgson@gsi.ie / tellus@gsi.ie

SURVEY PRODUCTION SUMMARY			
Production This Week (km)	4910.2	**Total km Flown to Date**	14953.0
Total Remaining (km)	20705.0	**km Reflown This Week**	0.0
Percent Complete (%)	41.9	**Flight Time This Week (h)**	31.7
Prod km/Day This Week	701.5	**Prod km/Flt Hour This Week**	154.9

WEEKLY PRODUCTION

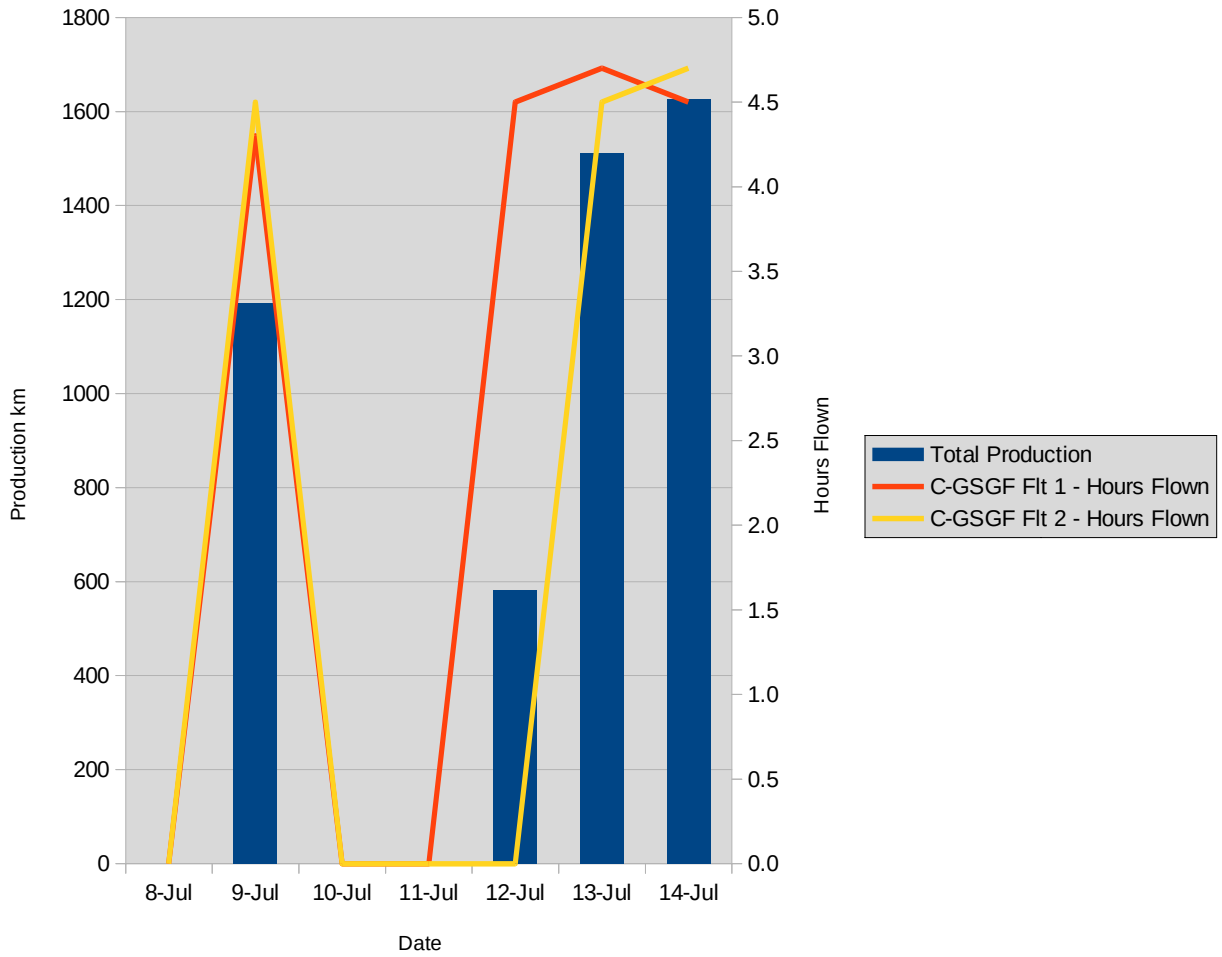
Week 5		Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production (km)	Reflown (km)
TOTALS			**31.7**	**85.0**	**0.0**	**4910.2**	**0.0**
8-Jul	**Monday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, fog, mist		**Remarks**	No flight due to weather.			
Geomag	unsettled						
9-Jul	**Tuesday**		**8.8**	**32.0**	**0.0**	**1191.7**	**0.0**
	C-GSGF Flt 1	24	4.3	7.0	0.0	598.3	0.0
	C-GSGF Flt 2	25	4.5	25.0	0.0	593.4	0.0
Weather	Overcast, partly sunny, sunny		**Remarks**	Two full production flights			
Geomag	unsettled						
10-Jul	**Wednesday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, fog, mist		**Remarks**	No flight due to weather.			
Geomag	unsettled						
11-Jul	**Thursday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, fog, mist, heavy rain		**Remarks**	No flight due to weather.			
Geomag	micropulsations						
12-Jul	**Friday**		**4.5**	**5.0**	**0.0**	**582.2**	**0.0**
	C-GSGF Flt 1	26	4.5	5.0	0.0	582.2	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, fog, partly sunny		**Remarks**	Flight delayed due to weather. A full flight completed.			
Geomag	micropulsations						
13-Jul	**Saturday**		**9.2**	**27.0**	**0.0**	**1510.7**	**0.0**
	C-GSGF Flt 1	27	4.7	13.0	0.0	710.6	0.0
	C-GSGF Flt 2	28	4.5	14.0	0.0	800.1	0.0
Weather	Overcast, fog, partly sunny		**Remarks**	Two full production flights			
Geomag	unsettled						
14-Jul	**Sunday**		**9.2**	**21.0**	**0.0**	**1625.6**	**0.0**
	C-GSGF Flt 1	29	4.5	11.0	0.0	848.3	0.0
	C-GSGF Flt 2	30	4.7	10.0	0.0	777.3	0.0
Weather	Sunny		**Remarks**	Two full production flights			
Geomag	unsettled						
Comments	Another very productive week.						

Signed Alison McCleary

PERSONNEL ON SITE THIS WEEK						
Name	**Position**	**Arrival This Week**	**Departure This Week**	**On Site?**	**No. of Days On Site This Week**	**No. of Days on Site To Date**
Alison McCleary	Crew Chief			ON SITE	7	30
Steve Gebhardt	Lead Pilot			ON SITE	7	30
Jean Deschenes	Pilot		14-Jul-19	ON SITE	7	30
Ania Smetny-Sowa	Geophysicist				0	14
John Burnham	AME				0	17
Angella Farr	Geophysicist			ON SITE	7	21
Craig McMahon	Technician		11-Jul-19	ON SITE	4	14
Mike McDonald	AME			ON SITE	7	13
Charles Dicks	Pilot			ON SITE	7	13
George Sakgaev	Pilot	14-Jul-19		ON SITE	1	1

HSE Statistics	This Week	Project Totals
SGL Person Hours	352.5	1372.5
Inductions		2
Near Miss		0
First Aid Case (FAC)		0
Medical Treatment Case (MTC)		0
Restricted Work Case (RWC)		0
Lost Time Injuries (LTI)		0
Safety Meetings		1
GSI PR Complaints	1	3

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



SANDER GEOPHYSICS AIRBORNE GEOPHYSICAL SURVEY

260 Hunt Club Road, Ottawa, ON K1V 1C1 Canada Tel: +1 613-521-9626 Fax: +1 613-521-0215 www.sgl.com

SURVEY DETAILS			
Survey Name	Tellus	**Client Name**	Geological Survey of Ireland
Survey Location	Waterford, Ireland	**Contact Name**	Jim Hodgson
Project Code	GSI___19.IRL	**Contact Phone**	+353 1678 2742
Total km	35658	**Client Address**	Beggar's Bush, Haddington Road, Dublin 4, Ireland
Line Spacing	200 m by 2000 m		
Survey Type	MAG/SPEC/FEM	**Email**	jim.hodgson@gsi.ie / tellus@gsi.ie

SURVEY PRODUCTION SUMMARY			
Production This Week (km)	2111.1	**Total km Flown to Date**	17064.1
Total Remaining (km)	18593.9	**km Reflown This Week**	0.0
Percent Complete (%)	47.9	**Flight Time This Week (h)**	14.8
Prod km/Day This Week	301.6	**Prod km/Flt Hour This Week**	142.6

WEEKLY PRODUCTION

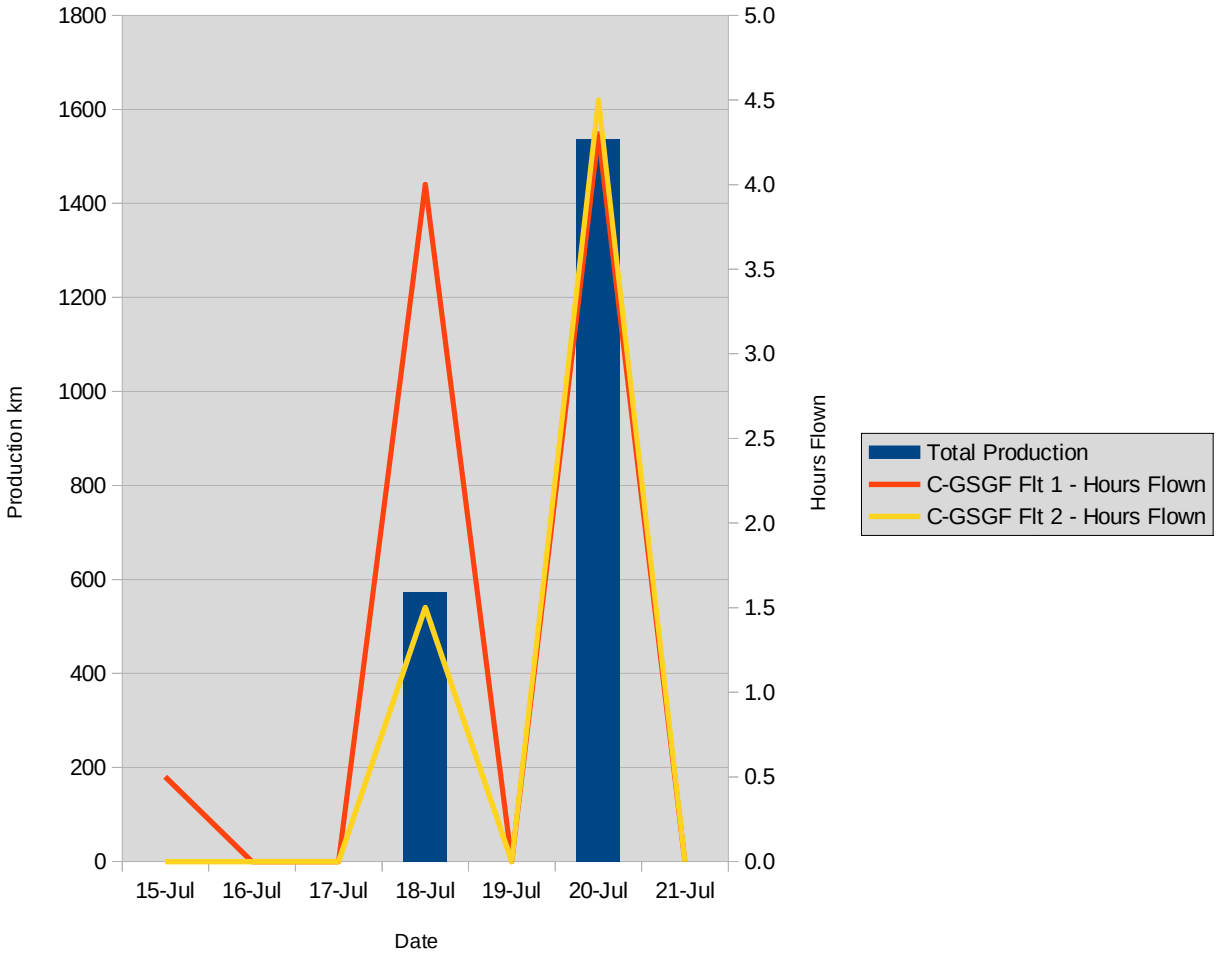
Week 6		Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production (km)	Reflown (km)
TOTALS			**14.8**	**29.5**	**0.0**	**2111.1**	**0.0**
15-Jul	**Monday**		**0.5**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1	31	0.5	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Fog, hazy, sunny		**Remarks**	Flight aborted due to thick fog in block. Routine aircraft maintenance completed.			
Geomag	unsettled						
16-Jul	**Tuesday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, ocean fog, hazy		**Remarks**	No flight due to weather			
Geomag	unsettled						
17-Jul	**Wednesday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Heavy rain, overcast, hazy		**Remarks**	No flight due to weather			
Geomag	unsettled						
18-Jul	**Thursday**		**5.5**	**16.3**	**0.0**	**573.4**	**0.0**
	C-GSGF Flt 1	32	4.0	15.0	0.0	500.8	0.0
	C-GSGF Flt 2	33	1.5	1.3	0.0	72.6	0.0
Weather	Partly sunny, windy in pm		**Remarks**	Full fight in morning. Second flight aborted due to strong winds.			
Geomag	micropulsations						
19-Jul	**Friday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, fog, hazy, rain, windy		**Remarks**	No flight due to weather			
Geomag	micropulsations						
20-Jul	**Saturday**		**8.8**	**13.2**	**0.0**	**1537.7**	**0.0**
	C-GSGF Flt 1	34	4.3	6.6	0.0	768.9	0.0
	C-GSGF Flt 2	35	4.5	6.6	0.0	768.8	0.0
Weather	Partly sunny, rain showers		**Remarks**	Two full production flights			
Geomag	micropulsations						
21-Jul	**Sunday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, fog, hazy, rain, windy		**Remarks**	No flight due to weather			
Geomag	micropulsations						
Comments	A slower week due to weather but still very good production on the sunny days.						

Signed Alison McCleary

PERSONNEL ON SITE THIS WEEK						
Name	**Position**	**Arrival This Week**	**Departure This Week**	**On Site?**	**No. of Days On Site This Week**	**No. of Days on Site To Date**
Alison McCleary	Crew Chief			ON SITE	7	37
Steve Gebhardt	Lead Pilot			ON SITE	7	37
Jean Deschenes	Pilot				0	30
Ania Smetny-Sowa	Geophysicist				0	14
John Burnham	AME				0	17
Angella Farr	Geophysicist			ON SITE	7	28
Craig McMahon	Technician				0	14
Mike McDonald	AME			ON SITE	7	20
Charles Dicks	Pilot			ON SITE	7	20
George Sakgaev	Pilot			ON SITE	7	8

HSE Statistics	This Week	Project Totals
SGL Person Hours	315	1687.5
Inductions		2
Near Miss		0
First Aid Case (FAC)		0
Medical Treatment Case (MTC)		0
Restricted Work Case (RWC)		0
Lost Time Injuries (LTI)		0
Safety Meetings		1
GSI PR Complaints		3

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



SANDER GEOPHYSICS AIRBORNE GEOPHYSICAL SURVEY

260 Hunt Club Road, Ottawa, ON K1V 1C1 Canada Tel: +1 613-521-9626 Fax: +1 613-521-0215 www.sgl.com

SURVEY DETAILS			
Survey Name	Tellus	**Client Name**	Geological Survey of Ireland
Survey Location	Waterford, Ireland	**Contact Name**	Jim Hodgson
Project Code	GSI___19.IRL	**Contact Phone**	+353 1678 2742
Total km	35658	**Client Address**	Beggar's Bush, Haddington Road, Dublin 4, Ireland
Line Spacing	200 m by 2000 m		
Survey Type	MAG/SPEC/FEM	**Email**	jim.hodgson@gsi.ie / tellus@gsi.ie

SURVEY PRODUCTION SUMMARY			
Production This Week (km)	3299.3	**Total km Flown to Date**	20363.4
Total Remaining (km)	15294.6	**km Reflown This Week**	48.3
Percent Complete (%)	57.1	**Flight Time This Week (h)**	20.5
Prod km/Day This Week	471.3	**Prod km/Flt Hour This Week**	160.9

WEEKLY PRODUCTION

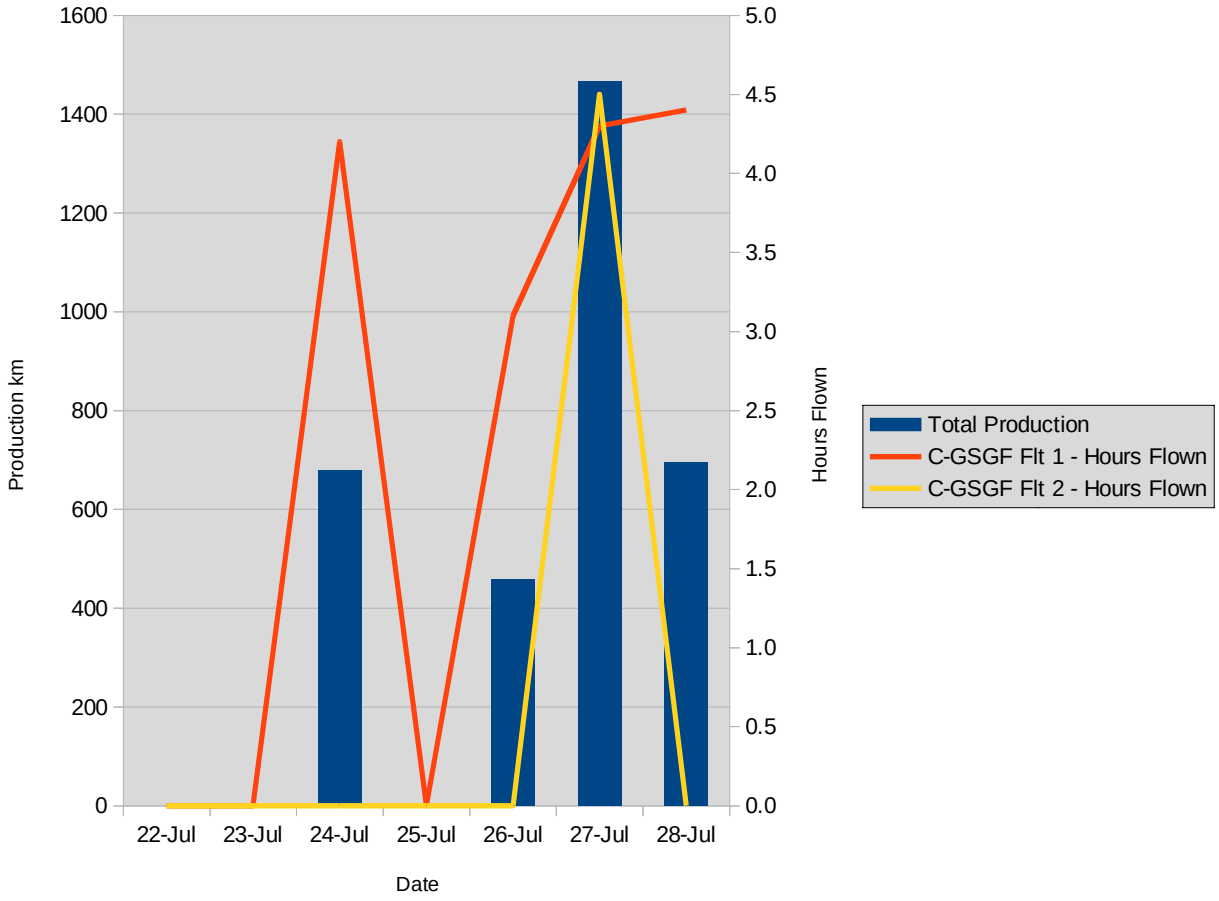
Week 7		Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production (km)	Reflown (km)
TOTALS			**20.5**	**38.7**	**0.5**	**3299.3**	**48.3**
22-Jul	**Monday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, hazy, rain, strong wind		**Remarks**	No flight due to weather.			
Geomag	micropulsations						
23-Jul	**Tuesday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, fog, hazy		**Remarks**	No flight due to weather.			
Geomag	micropulsations						
24-Jul	**Wednesday**		**4.2**	**6.3**	**0.5**	**679.3**	**48.3**
	C-GSGF Flt 1	36	4.2	6.3	0.5	679.3	48.3
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Partly sunny, hazy, windy		**Remarks**	One full production flight completed. Second flight cancelled due to weather.			
Geomag	micropulsations						
25-Jul	**Thursday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, hazy, strong winds		**Remarks**	No flight due to weather.			
Geomag	micropulsations						
26-Jul	**Friday**		**3.1**	**6.0**	**0.0**	**459.0**	**0.0**
	C-GSGF Flt 1	37	3.1	6.0	0.0	459.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Partly sunny, hazy, strong winds		**Remarks**	Morning flight delayed due to hazy conditions. Strong winds prevented a full flight in the afternoon.			
Geomag	micropulsations						
27-Jul	**Saturday**		**8.8**	**18.0**	**0.0**	**1465.8**	**0.0**
	C-GSGF Flt 1	38	4.3	9.0	0.0	736.6	0.0
	C-GSGF Flt 2	39	4.5	9.0	0.0	729.2	0.0
Weather	Partly sunny		**Remarks**	Two full production flights			
Geomag	micropulsations						
28-Jul	**Sunday**		**4.4**	**8.4**	**0.0**	**695.2**	**0.0**
	C-GSGF Flt 1	40	4.4	8.4	0.0	695.2	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Partly sunny, hazy		**Remarks**	Morning flight delayed due to hazy conditions. Full production flight completed in the afternoon.			
Geomag	micropulsations						
Comments	A busy week in Ireland.						

Signed Alison McCleary

PERSONNEL ON SITE THIS WEEK						
Name	**Position**	**Arrival This Week**	**Departure This Week**	**On Site?**	**No. of Days On Site This Week**	**No. of Days on Site To Date**
Alison McCleary	Crew Chief			ON SITE	7	44
Steve Gebhardt	Lead Pilot			ON SITE	7	44
Jean Deschenes	Pilot				0	30
Ania Smetny-Sowa	Geophysicist				0	14
John Burnham	AME				0	17
Angella Farr	Geophysicist			ON SITE	7	35
Craig McMahon	Technician				0	14
Mike McDonald	AME		28-Jul-19	ON SITE	7	27
Charles Dicks	Pilot			ON SITE	7	27
George Sakgaev	Pilot		28-Jul-19	ON SITE	7	15
Emmett Schmidt	AME	26-Jul-19		ON SITE	3	3
Scott Campbell	AME				0	0

HSE Statistics	This Week	Project Totals
SGL Person Hours	337.5	2025
Inductions	1	3
Near Miss		0
First Aid Case (FAC)		0
Medical Treatment Case (MTC)		0
Restricted Work Case (RWC)		0
Lost Time Injuries (LTI)		0
Safety Meetings		1
GSI PR Complaints		3

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



SANDER GEOPHYSICS AIRBORNE GEOPHYSICAL SURVEY

260 Hunt Club Road, Ottawa, ON K1V 1C1 Canada Tel: +1 613-521-9626 Fax: +1 613-521-0215 www.sgl.com

SURVEY DETAILS			
Survey Name	Tellus	**Client Name**	Geological Survey of Ireland
Survey Location	Waterford, Ireland	**Contact Name**	Jim Hodgson
Project Code	GSI___19.IRL	**Contact Phone**	+353 1678 2742
Total km	35658	**Client Address**	Beggar's Bush, Haddington Road, Dublin 4, Ireland
Line Spacing	200 m by 2000 m		
Survey Type	MAG/SPEC/FEM	**Email**	jim.hodgson@gsi.ie / tellus@gsi.ie

SURVEY PRODUCTION SUMMARY			
Production This Week (km)	4848.1	**Total km Flown to Date**	25211.5
Total Remaining (km)	10446.5	**km Reflown This Week**	82.6
Percent Complete (%)	70.7	**Flight Time This Week (h)**	30.2
Prod km/Day This Week	692.6	**Prod km/Flt Hour This Week**	160.5

WEEKLY PRODUCTION

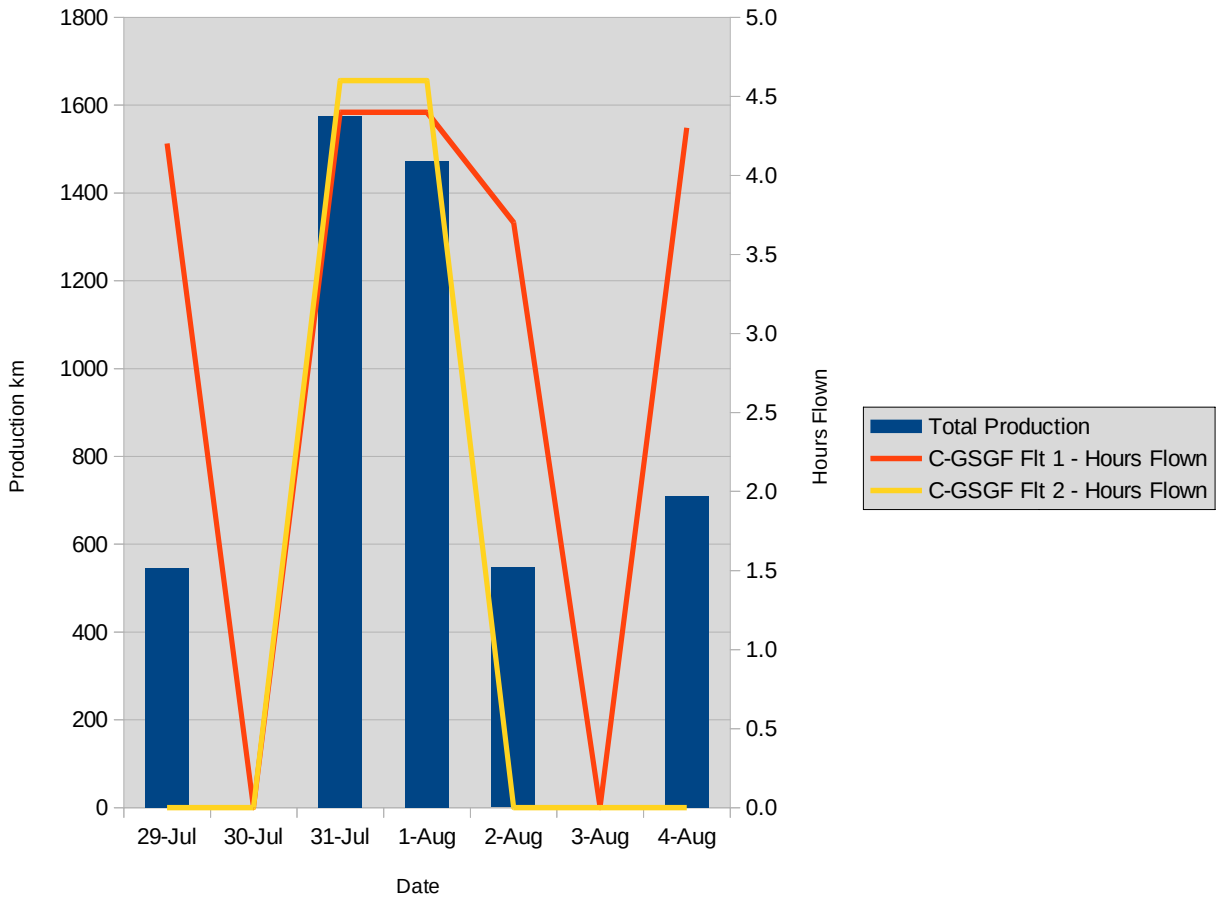
Week 8		Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production (km)	Reflown (km)
TOTALS			**30.2**	**62.2**	**1.5**	**4848.1**	**82.6**
29-Jul	**Monday**		**4.2**	**17.2**	**0.8**	**545.8**	**24.3**
	C-GSGF Flt 1	41	4.2	17.2	0.8	545.8	24.3
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, calm, rain in afternoon		**Remarks**	One full production flight completed. Second flight cancelled due to weather.			
Geomag	micropulsations						
30-Jul	**Tuesday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Rain all day		**Remarks**	No flight due to weather.			
Geomag	unsettled						
31-Jul	**Wednesday**		**9.0**	**17.2**	**0.0**	**1575.1**	**0.0**
	C-GSGF Flt 1	42	4.4	10.0	0.0	747.2	0.0
	C-GSGF Flt 2	43	4.6	7.2	0.0	827.9	0.0
Weather	Partly sunny, calm		**Remarks**	Two full production flights.			
Geomag	micropulsations						
1-Aug	**Thursday**		**9.0**	**16.0**	**0.7**	**1472.0**	**58.3**
	C-GSGF Flt 1	44	4.4	9.0	0.7	674.9	58.3
	C-GSGF Flt 2	45	4.6	7.0	0.0	797.1	0.0
Weather	Partly sunny, calm		**Remarks**	Two full production flights.			
Geomag	micropulsations						
2-Aug	**Friday**		**3.7**	**5.6**	**0.0**	**546.7**	**0.0**
	C-GSGF Flt 1	46	3.7	5.6	0.0	546.7	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Partly sunny, fog and haze		**Remarks**	Flight aborted due to fog.			
Geomag	unsettled						
3-Aug	**Saturday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Rain all day		**Remarks**	No flight due to weather.			
Geomag	unsettled						
4-Aug	**Sunday**		**4.3**	**6.2**	**0.0**	**708.5**	**0.0**
	C-GSGF Flt 1	47	4.3	6.2	0.0	708.5	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, partly sunny, rain		**Remarks**	One full production flight before the rain.			
Geomag	unsettled						
Comments	Excellent progress made in the A7 block this week.						

Signed Alison McCleary

PERSONNEL ON SITE THIS WEEK						
Name	**Position**	**Arrival This Week**	**Departure This Week**	**On Site?**	**No. of Days On Site This Week**	**No. of Days on Site To Date**
Alison McCleary	Crew Chief			ON SITE	7	51
Steve Gebhardt	Lead Pilot			ON SITE	7	51
Jean Deschenes	Pilot				0	30
Ania Smetny-Sowa	Geophysicist				0	14
John Burnham	AME				0	17
Angella Farr	Geophysicist			ON SITE	7	42
Craig McMahon	Technician				0	14
Mike McDonald	AME				0	27
Charles Dicks	Pilot			ON SITE	7	34
George Sakgaev	Pilot				0	15
Emmett Schmidt	AME			ON SITE	7	10
Scott Campbell	AME				0	0

HSE Statistics	This Week	Project Totals
SGL Person Hours	262.5	2287.5
Inductions		3
Near Miss		0
First Aid Case (FAC)		0
Medical Treatment Case (MTC)		0
Restricted Work Case (RWC)		0
Lost Time Injuries (LTI)		0
Safety Meetings		1
GSI PR Complaints		3

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



SANDER GEOPHYSICS AIRBORNE GEOPHYSICAL SURVEY

260 Hunt Club Road, Ottawa, ON K1V 1C1 Canada Tel: +1 613-521-9626 Fax: +1 613-521-0215 www.sgl.com

SURVEY DETAILS			
Survey Name	Tellus	**Client Name**	Geological Survey of Ireland
Survey Location	Waterford, Ireland	**Contact Name**	Jim Hodgson
Project Code	GSI___19.IRL	**Contact Phone**	+353 1678 2742
Total km	35658	**Client Address**	Beggar's Bush, Haddington Road, Dublin 4, Ireland
Line Spacing	200 m by 2000 m		
Survey Type	MAG/SPEC/FEM	**Email**	jim.hodgson@gsi.ie / tellus@gsi.ie

SURVEY PRODUCTION SUMMARY			
Production This Week (km)	1546.8	**Total km Flown to Date**	26758.3
Total Remaining (km)	8899.7	**km Reflown This Week**	66.3
Percent Complete (%)	75.0	**Flight Time This Week (h)**	10.4
Prod km/Day This Week	221.0	**Prod km/Flt Hour This Week**	148.7

WEEKLY PRODUCTION

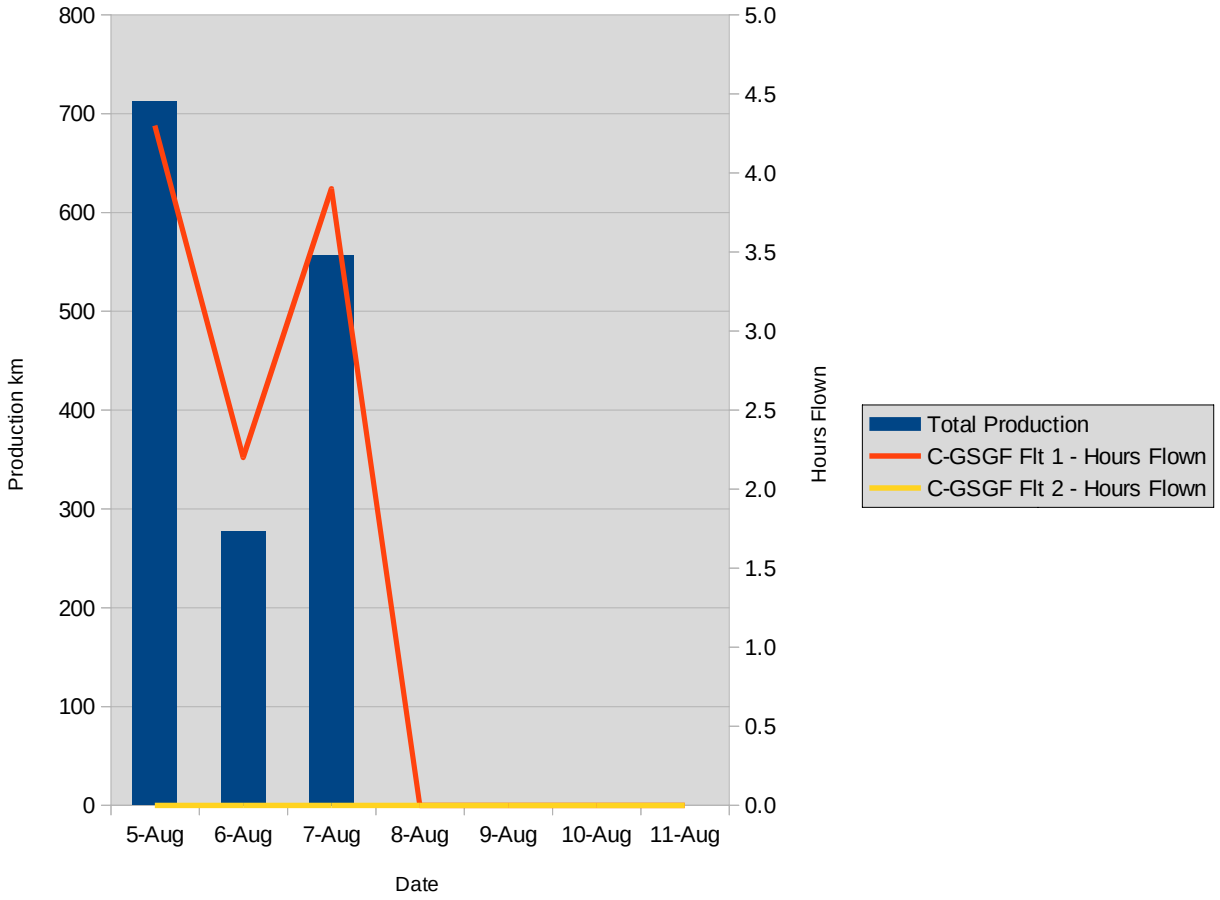
Week 9		Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production (km)	Reflown (km)
TOTALS			**10.4**	**14.6**	**0.6**	**1546.8**	**66.3**
5-Aug	**Monday**		**4.3**	**7.0**	**0.0**	**712.6**	**0.0**
	C-GSGF Flt 1	48	4.3	7.0	0.0	712.6	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Partly sunny, strong winds		**Remarks**	One full production flight completed. Second flight cancelled due to strong winds.			
Geomag	active – solar flare						
6-Aug	**Tuesday**		**2.2**	**2.5**	**0.0**	**277.5**	**0.0**
	C-GSGF Flt 1	49	2.2	2.5	0.0	277.5	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Partly sunny, strong winds, rain		**Remarks**	Flight aborted due to rain and strong winds.			
Geomag	active						
7-Aug	**Wednesday**		**3.9**	**5.1**	**0.6**	**556.7**	**66.3**
	C-GSGF Flt 1	50	3.9	5.1	0.6	556.7	66.3
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Partly sunny, heavy rain showers		**Remarks**	Flight aborted due to heavy rain showers.			
Geomag	active						
8-Aug	**Thursday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Partly sunny, fog/haze in am		**Remarks**	No flight due to sick pilot. Crew safety meeting, all present.			
Geomag	unsettled						
9-Aug	**Friday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Thunderstorms, gale		**Remarks**	No flight due to weather.			
Geomag	unsettled						
10-Aug	**Saturday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Gale continues, strong winds		**Remarks**	No flight due to weather.			
Geomag	unsettled						
11-Aug	**Sunday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Heavy rain showers all day		**Remarks**	No flight due to weather.			
Geomag	unsettled						
Comments	Slower week due to weather. Progress continues - three quarters of the way to completion.						

Signed Alison McCleary

PERSONNEL ON SITE THIS WEEK						
Name	**Position**	**Arrival This Week**	**Departure This Week**	**On Site?**	**No. of Days On Site This Week**	**No. of Days on Site To Date**
Alison McCleary	Crew Chief			ON SITE	7	58
Steve Gebhardt	Lead Pilot			ON SITE	7	58
Jean Deschenes	Pilot				0	30
Ania Smetny-Sowa	Geophysicist				0	14
John Burnham	AME				0	17
Angella Farr	Geophysicist			ON SITE	7	49
Craig McMahon	Technician				0	14
Mike McDonald	AME				0	27
Charles Dicks	Pilot			ON SITE	7	41
George Sakgaev	Pilot				0	15
Emmett Schmidt	AME			ON SITE	7	17
Scott Campbell	AME				0	0

HSE Statistics	This Week	Project Totals
SGL Person Hours	262.5	2550
Inductions		3
Near Miss		0
First Aid Case (FAC)		0
Medical Treatment Case (MTC)		0
Restricted Work Case (RWC)		0
Lost Time Injuries (LTI)		0
Safety Meetings	1	2
GSI PR Complaints	1	4

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



SANDER GEOPHYSICS AIRBORNE GEOPHYSICAL SURVEY

260 Hunt Club Road, Ottawa, ON K1V 1C1 Canada Tel: +1 613-521-9626 Fax: +1 613-521-0215 www.sgl.com

SURVEY DETAILS			
Survey Name	Tellus	**Client Name**	Geological Survey of Ireland
Survey Location	Waterford, Ireland	**Contact Name**	Jim Hodgson
Project Code	GSI___19.IRL	**Contact Phone**	+353 1678 2742
Total km	35658	**Client Address**	Beggar's Bush, Haddington Road, Dublin 4, Ireland
Line Spacing	200 m by 2000 m		
Survey Type	MAG/SPEC/FEM	**Email**	jim.hodgson@gsi.ie / tellus@gsi.ie

SURVEY PRODUCTION SUMMARY			
Production This Week (km)	2908.0	**Total km Flown to Date**	29666.3
Total Remaining (km)	5991.7	**km Reflown This Week**	56.4
Percent Complete (%)	83.2	**Flight Time This Week (h)**	19.8
Prod km/Day This Week	415.4	**Prod km/Flt Hour This Week**	146.9

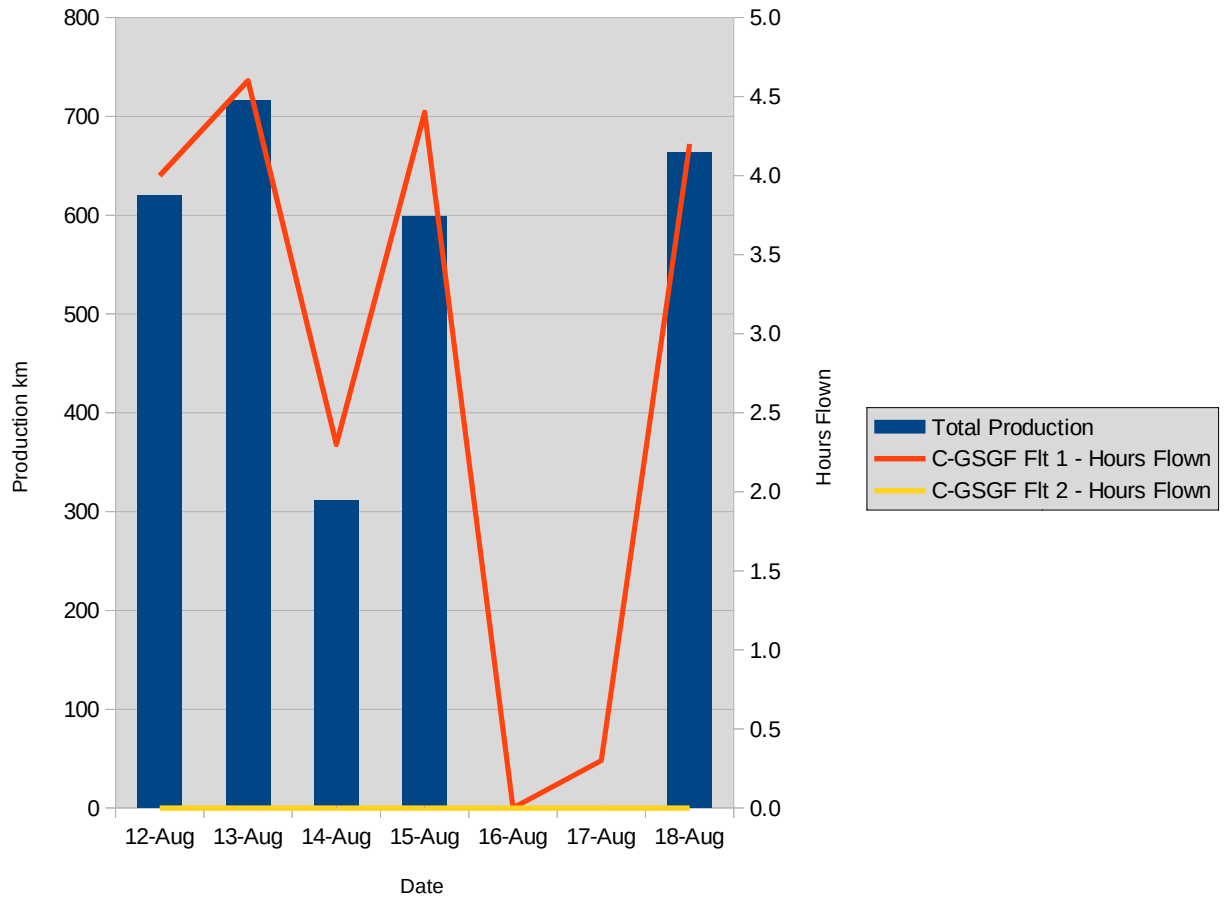
WEEKLY PRODUCTION

Week 10		Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production (km)	Reflown (km)
TOTALS			**19.8**	**28.4**	**0.1**	**2908.0**	**56.4**
12-Aug	**Monday**		**4.0**	**5.6**	**0.0**	**620.1**	**42.3**
	C-GSGF Flt 1	51	4.0	5.6	0.0	620.1	42.3
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Partly sunny, rain showers become thunderstorms		**Remarks**	Flight aborted due to thunderstorms. Second flight cancelled due to thunderstorms.			
Geomag	unsettled						
13-Aug	**Tuesday**		**4.6**	**7.8**	**0.0**	**716.2**	**0.0**
	C-GSGF Flt 1	52	4.6	7.8	0.0	716.2	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Partly sunny, rain showers		**Remarks**	One full production flight completed. Second flight cancelled due to heavy rain.			
Geomag	unsettled						
14-Aug	**Wednesday**		**2.3**	**2.8**	**0.0**	**310.9**	**0.0**
	C-GSGF Flt 1	53	2.3	2.8	0.0	310.9	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Fog, mist, rain, overcast		**Remarks**	Flight delayed due to weather. Flight aborted due to weather.			
Geomag	unsettled						
15-Aug	**Thursday**		**4.4**	**5.5**	**0.1**	**598.0**	**14.1**
	C-GSGF Flt 1	54	4.4	5.5	0.1	598.0	14.1
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Partly sunny, strong winds, gale		**Remarks**	One full production flight completed. RTE film crew and Jim from GSI onsite for filming Survey One and interview. Second flight cancelled due to strong winds.			
Geomag	unsettled						
16-Aug	**Friday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Gale, rain showers, strong winds		**Remarks**	No flight due to weather.			
Geomag	micropulsations						
17-Aug	**Saturday**		**0.3**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1	55	0.3	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Rain showers, strong winds		**Remarks**	Flight aborted due to bird strike during takeoff. Aircraft inspected and signed out by AME. Second flight cancelled due to strong winds.			
Geomag	micropulsations						
18-Aug	**Sunday**		**4.2**	**6.7**	**0.0**	**662.8**	**0.0**
	C-GSGF Flt 1	56	4.2	6.7	0.0	662.8	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, strong winds		**Remarks**	One full production flight completed. Second flight cancelled due to strong winds.			
Geomag	micropulsations						
Comments	A very good week, keeping our average lkm/week well above previous years during the Tellus project. Weather remained a challenge, pilots did well finding windows for production.						
Signed	Alison McCleary						

PERSONNEL ON SITE THIS WEEK						
Name	**Position**	**Arrival This Week**	**Departure This Week**	**On Site?**	**No. of Days On Site This Week**	**No. of Days on Site To Date**
Alison McCleary	Crew Chief			ON SITE	7	65
Steve Gebhardt	Lead Pilot			ON SITE	7	65
Jean Deschenes	Pilot				0	30
Ania Smetny-Sowa	Geophysicist				0	14
John Burnham	AME				0	17
Angella Farr	Geophysicist			ON SITE	7	56
Craig McMahon	Technician				0	14
Mike McDonald	AME				0	27
Charles Dicks	Pilot			ON SITE	7	48
George Sakgaev	Pilot				0	15
Emmett Schmidt	AME		16-Aug-19	ON SITE	5	22
Scott Campbell	AME	14-Aug-19		ON SITE	5	5

HSE Statistics	This Week	Project Totals
SGL Person Hours	285	2835
Inductions	1	4
Near Miss		0
First Aid Case (FAC)		0
Medical Treatment Case (MTC)		0
Restricted Work Case (RWC)		0
Lost Time Injuries (LTI)		0
Safety Meetings		2
GSI PR Complaints		4

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



SANDER GEOPHYSICS AIRBORNE GEOPHYSICAL SURVEY

260 Hunt Club Road, Ottawa, ON K1V 1C1 Canada Tel: +1 613-521-9626 Fax: +1 613-521-0215 www.sgl.com

SURVEY DETAILS			
Survey Name	Tellus	**Client Name**	Geological Survey of Ireland
Survey Location	Waterford, Ireland	**Contact Name**	Jim Hodgson
Project Code	GSI___19.IRL	**Contact Phone**	+353 1678 2742
Total km	35658	**Client Address**	Beggar's Bush, Haddington Road, Dublin 4, Ireland
Line Spacing	200 m by 2000 m		
Survey Type	MAG/SPEC/FEM	**Email**	jim.hodgson@gsi.ie / tellus@gsi.ie

SURVEY PRODUCTION SUMMARY			
Production This Week (km)	3104.3	**Total km Flown to Date**	32770.6
Total Remaining (km)	2887.4	**km Reflown This Week**	0.0
Percent Complete (%)	91.9	**Flight Time This Week (h)**	21.3
Prod km/Day This Week	443.5	**Prod km/Flt Hour This Week**	145.7

WEEKLY PRODUCTION

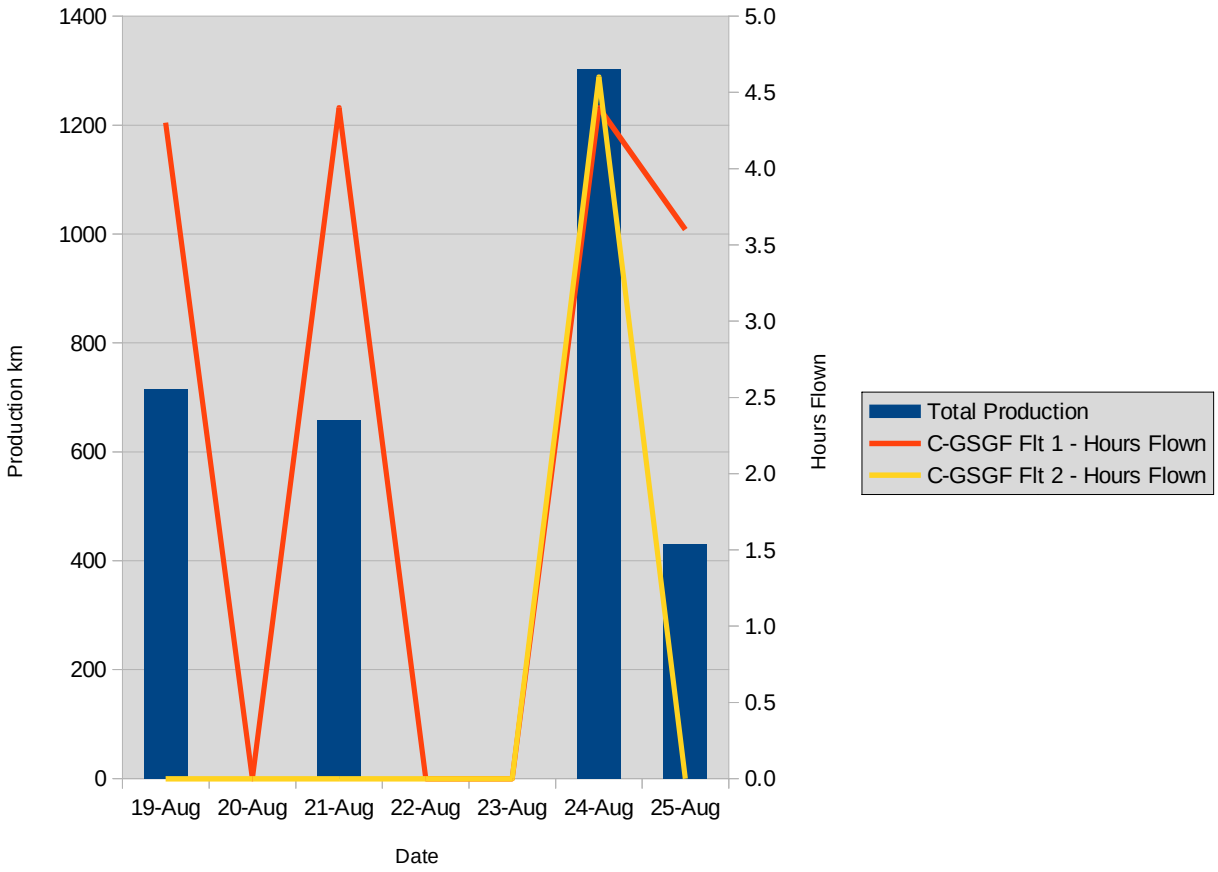
Week 11		Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production (km)	Reflown (km)
TOTALS			**21.3**	**34.6**	**0.0**	**3104.3**	**0.0**
19-Aug	**Monday**		**4.3**	**6.6**	**0.0**	**714.8**	**0.0**
	C-GSGF Flt 1	57	4.3	6.6	0.0	714.8	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Partly sunny, rain showers		**Remarks**	One full production flight completed. Rain showers in afternoon prevented second flight.			
Geomag	micropulsations						
20-Aug	**Tuesday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Heavy rain showers all day		**Remarks**	No flight due to weather.			
Geomag	micropulsations						
21-Aug	**Wednesday**		**4.4**	**6.4**	**0.0**	**657.2**	**0.0**
	C-GSGF Flt 1	58	4.4	6.4	0.0	657.2	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	partly sunny, rain, strong winds		**Remarks**	One full production flight completed. Second flight cancelled due to rain and strong winds.			
Geomag	unsettled						
22-Aug	**Thursday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Fog, mist, strong winds, ocean fog		**Remarks**	No flight due to weather.			
Geomag	unsettled						
23-Aug	**Friday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, fog, mist, strong winds		**Remarks**	No flight due to weather.			
Geomag	unsettled						
24-Aug	**Saturday**		**9.0**	**15.3**	**0.0**	**1301.5**	**0.0**
	C-GSGF Flt 1	59	4.4	6.9	0.0	649.1	0.0
	C-GSGF Flt 2	60	4.6	8.4	0.0	652.4	0.0
Weather	Partly sunny, hazy, strong winds		**Remarks**	Two full production flights completed.			
Geomag	unsettled						
25-Aug	**Sunday**		**3.6**	**6.3**	**0.0**	**430.8**	**0.0**
	C-GSGF Flt 1	61	3.6	6.3	0.0	430.8	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Fog, partly sunny on coast		**Remarks**	Fog in the morning. One production flight completed in afternoon, working around fog.			
Geomag	quiet						
Comments	A very good week. If weather holds only one week left to complete the A7 block.						

Signed Alison McCleary

PERSONNEL ON SITE THIS WEEK						
Name	**Position**	**Arrival This Week**	**Departure This Week**	**On Site?**	**No. of Days On Site This Week**	**No. of Days on Site To Date**
Alison McCleary	Crew Chief			ON SITE	7	72
Steve Gebhardt	Lead Pilot			ON SITE	7	72
Jean Deschenes	Pilot				0	30
Ania Smetny-Sowa	Geophysicist				0	14
John Burnham	AME				0	17
Angella Farr	Geophysicist			ON SITE	7	63
Craig McMahon	Technician				0	14
Mike McDonald	AME				0	27
Charles Dicks	Pilot			ON SITE	7	55
George Sakgaev	Pilot				0	15
Emmett Schmidt	AME				0	22
Scott Campbell	AME			ON SITE	7	12
Steven Hyde	Pilot				0	0

HSE Statistics	This Week	Project Totals
SGL Person Hours	262.5	3097.5
Inductions		4
Near Miss		0
First Aid Case (FAC)		0
Medical Treatment Case (MTC)		0
Restricted Work Case (RWC)		0
Lost Time Injuries (LTI)		0
Safety Meetings		2
GSI PR Complaints		4

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



SANDER GEOPHYSICS AIRBORNE GEOPHYSICAL SURVEY

260 Hunt Club Road, Ottawa, ON K1V 1C1 Canada Tel: +1 613-521-9626 Fax: +1 613-521-0215 www.sgl.com

SURVEY DETAILS			
Survey Name	Tellus	**Client Name**	Geological Survey of Ireland
Survey Location	Waterford, Ireland	**Contact Name**	Jim Hodgson
Project Code	GSI___19.IRL	**Contact Phone**	+353 1678 2742
Total km	35658	**Client Address**	Beggar's Bush, Haddington Road, Dublin 4, Ireland
Line Spacing	200 m by 2000 m		
Survey Type	MAG/SPEC/FEM	**Email**	jim.hodgson@gsi.ie / tellus@gsi.ie

SURVEY PRODUCTION SUMMARY			
Production This Week (km)	1047.6	**Total km Flown to Date**	33818.2
Total Remaining (km)	1839.8	**km Reflown This Week**	26.2
Percent Complete (%)	94.8	**Flight Time This Week (h)**	9.4
Prod km/Day This Week	149.7	**Prod km/Flt Hour This Week**	111.4

WEEKLY PRODUCTION

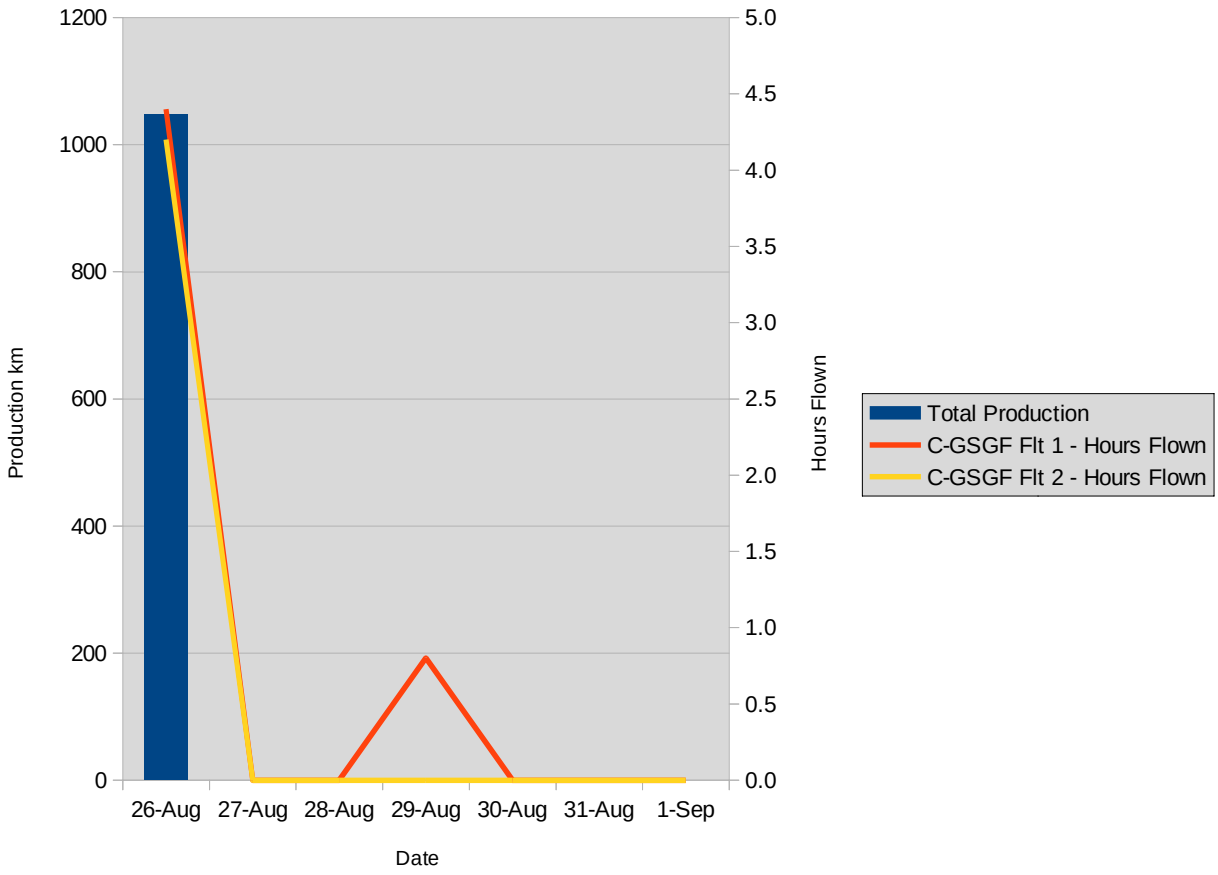
Week 12		Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production (km)	Reflown (km)
TOTALS			**9.4**	**15.5**	**0.3**	**1047.6**	**26.2**
26-Aug	**Monday**		**8.6**	**15.5**	**0.3**	**1047.6**	**26.2**
	C-GSGF Flt 1	62	4.4	7.7	0.0	517.1	0.0
	C-GSGF Flt 2	63	4.2	7.8	0.3	530.5	26.2
Weather	Sunny, ocean fog east coast		**Remarks**	Two full production flights completed.			
Geomag	unsettled						
27-Aug	**Tuesday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Partly sunny, rain in late pm		**Remarks**	Bird strike damage discovered during morning walk around. No flight, maintenance underway.			
Geomag	unsettled						
28-Aug	**Wednesday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Partly sunny, windy in pm		**Remarks**	Damage more severe than expected. Maintenance continues. Logistics and part sourcing underway. Plane will move to Weston.			
Geomag	unsettled						
29-Aug	**Thursday**		**0.8**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1	64	0.8	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, rain showers, windy		**Remarks**	Aircraft ferried to Weston Airport for maintenance.			
Geomag	unsettled						
30-Aug	**Friday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, hazy, windy		**Remarks**	Additional AME arrives.			
Geomag	unsettled						
31-Aug	**Saturday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Sunny and very windy		**Remarks**	Aircraft maintenance commences.			
Geomag	unsettled						
1-Sep	**Sunday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Sunny and windy		**Remarks**	Aircraft maintenance continues. AME structures specialist arrives.			
Geomag	unsettled						
Comments	On Tuesday morning significant damage was discovered on the LH wing of the aircraft before flight. Aircraft was ferried to Weston Airport on Thursday for maintenance. Three AMEs are onsite. Parts should be shipped on Tuesday (Monday is a holiday in Canada). If all goes well aircraft will be ferried back to Waterford on Saturday.						

Signed Alison McCleary

PERSONNEL ON SITE THIS WEEK						
Name	**Position**	**Arrival This Week**	**Departure This Week**	**On Site?**	**No. of Days On Site This Week**	**No. of Days on Site To Date**
Alison McCleary	Crew Chief			ON SITE	7	79
Steve Gebhardt	Lead Pilot			ON SITE	7	79
Jean Deschenes	Pilot				0	30
Ania Smetny-Sowa	Geophysicist				0	14
John Burnham	AME				0	17
Angella Farr	Geophysicist		27-Aug-19	ON SITE	2	65
Craig McMahon	Technician				0	14
Mike McDonald	AME				0	27
Charles Dicks	Pilot		31-Aug-19	ON SITE	6	61
George Sakgaev	Pilot				0	15
Emmett Schmidt	AME				0	22
Scott Campbell	AME			ON SITE	7	19
Steven Hyde	Pilot	27-Aug-19		ON SITE	6	6
Darren McBeth	AME	30-Aug-19		ON SITE	3	3
Roger Knott	AME specialist	1-Sep-19		ON SITE	1	1

HSE Statistics	This Week	Project Totals
SGL Person Hours	262.5	3360
Inductions	3	7
Near Miss		0
First Aid Case (FAC)		0
Medical Treatment Case (MTC)		0
Restricted Work Case (RWC)		0
Lost Time Injuries (LTI)		0
Safety Meetings		2
GSI PR Complaints		4

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



SANDER GEOPHYSICS AIRBORNE GEOPHYSICAL SURVEY

260 Hunt Club Road, Ottawa, ON K1V 1C1 Canada Tel: +1 613-521-9626 Fax: +1 613-521-0215 www.sgl.com

SURVEY DETAILS			
Survey Name	Tellus	**Client Name**	Geological Survey of Ireland
Survey Location	Waterford, Ireland	**Contact Name**	Jim Hodgson
Project Code	GSI___19.IRL	**Contact Phone**	+353 1678 2742
Total km	35658	**Client Address**	Beggar's Bush, Haddington Road, Dublin 4, Ireland
Line Spacing	200 m by 2000 m		
Survey Type	MAG/SPEC/FEM	**Email**	jim.hodgson@gsi.ie / tellus@gsi.ie

SURVEY PRODUCTION SUMMARY			
Production This Week (km)	0.0	**Total km Flown to Date**	33818.2
Total Remaining (km)	1839.8	**km Reflown This Week**	0.0
Percent Complete (%)	94.8	**Flight Time This Week (h)**	0.0
Prod km/Day This Week	0.0	**Prod km/Flt Hour This Week**	

WEEKLY PRODUCTION

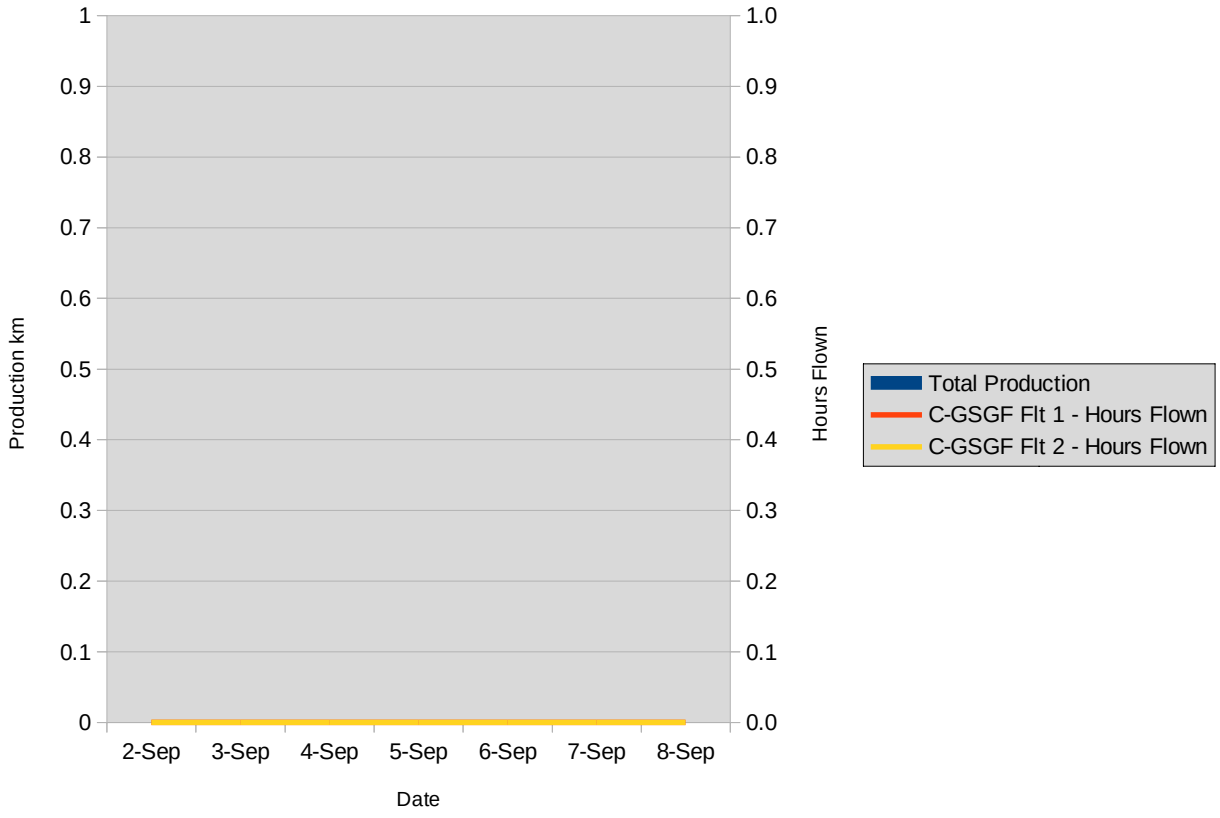
Week 13		Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production (km)	Reflown (km)
TOTALS			**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
2-Sep	**Monday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	overcast, rain, windy		**Remarks**	Maintenance on SGF continues.			
Geomag	quiet						
3-Sep	**Tuesday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	overcast, fog, mist, rain		**Remarks**	Maintenance on SGF continues. Waiting for parts by end of the day.			
Geomag	quiet						
4-Sep	**Wednesday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	overcast, fog, windy		**Remarks**	Maintenance on SGF continues. Shipment of parts arrives.			
Geomag	quiet						
5-Sep	**Thursday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	overcast and windy		**Remarks**	Maintenance on SGF continues. Waiting for parts by end of the day.			
Geomag	quiet						
6-Sep	**Friday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	overcast and windy		**Remarks**	Maintenance on SGF continues. Shipment of parts arrives.			
Geomag	quiet						
7-Sep	**Saturday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	sunny and windy		**Remarks**	Maintenance on SGF continues.			
Geomag	quiet						
8-Sep	**Sunday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	sunny and calm		**Remarks**	Maintenance on SGF continues. Aircraft signed out and ready to be ferried back to Waterford.			
Geomag	quiet						
Comments	Maintenance on SGF continues all week. Sunday late afternoon the aircraft is ready to be ferried back to Waterford. This will be done on Monday, or whenever the weather allows.						

Signed Alison McCleary

PERSONNEL ON SITE THIS WEEK						
Name	**Position**	**Arrival This Week**	**Departure This Week**	**On Site?**	**No. of Days On Site This Week**	**No. of Days on Site To Date**
Alison McCleary	Crew Chief			ON SITE	7	86
Steve Gebhardt	Lead Pilot			ON SITE	7	86
Jean Deschenes	Pilot				0	30
Ania Smetny-Sowa	Geophysicist				0	14
John Burnham	AME				0	17
Angella Farr	Geophysicist				0	65
Craig McMahon	Technician				0	14
Mike McDonald	AME				0	27
Charles Dicks	Pilot				0	61
George Sakgaev	Pilot				0	15
Emmett Schmidt	AME				0	22
Scott Campbell	AME			ON SITE	7	26
Steven Hyde	Pilot			ON SITE	7	13
Darren McBeth	AME			ON SITE	7	10
Roger Knott	AME specialist			ON SITE	7	8

HSE Statistics	This Week	Project Totals
SGL Person Hours	315	3675
Inductions		7
Near Miss		0
First Aid Case (FAC)		0
Medical Treatment Case (MTC)		0
Restricted Work Case (RWC)		0
Lost Time Injuries (LTI)		0
Safety Meetings		2
GSI PR Complaints		4

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



SANDER GEOPHYSICS AIRBORNE GEOPHYSICAL SURVEY

260 Hunt Club Road, Ottawa, ON K1V 1C1 Canada Tel: +1 613-521-9626 Fax: +1 613-521-0215 www.sgl.com

SURVEY DETAILS			
Survey Name	Tellus	**Client Name**	Geological Survey of Ireland
Survey Location	Waterford, Ireland	**Contact Name**	Jim Hodgson
Project Code	GSI___19.IRL	**Contact Phone**	+353 1678 2742
Total km	35658	**Client Address**	Beggar's Bush, Haddington Road, Dublin 4, Ireland
Line Spacing	200 m by 2000 m		
Survey Type	MAG/SPEC/FEM	**Email**	jim.hodgson@gsi.ie / tellus@gsi.ie

SURVEY PRODUCTION SUMMARY			
Production This Week (km)	1839.8	**Total km Flown to Date**	35658.0
Total Remaining (km)	0.0	**km Reflown This Week**	368.4
Percent Complete (%)	100.0	**Flight Time This Week (h)**	22.5
Prod km/Day This Week	262.8	**Prod km/Flt Hour This Week**	81.8

WEEKLY PRODUCTION

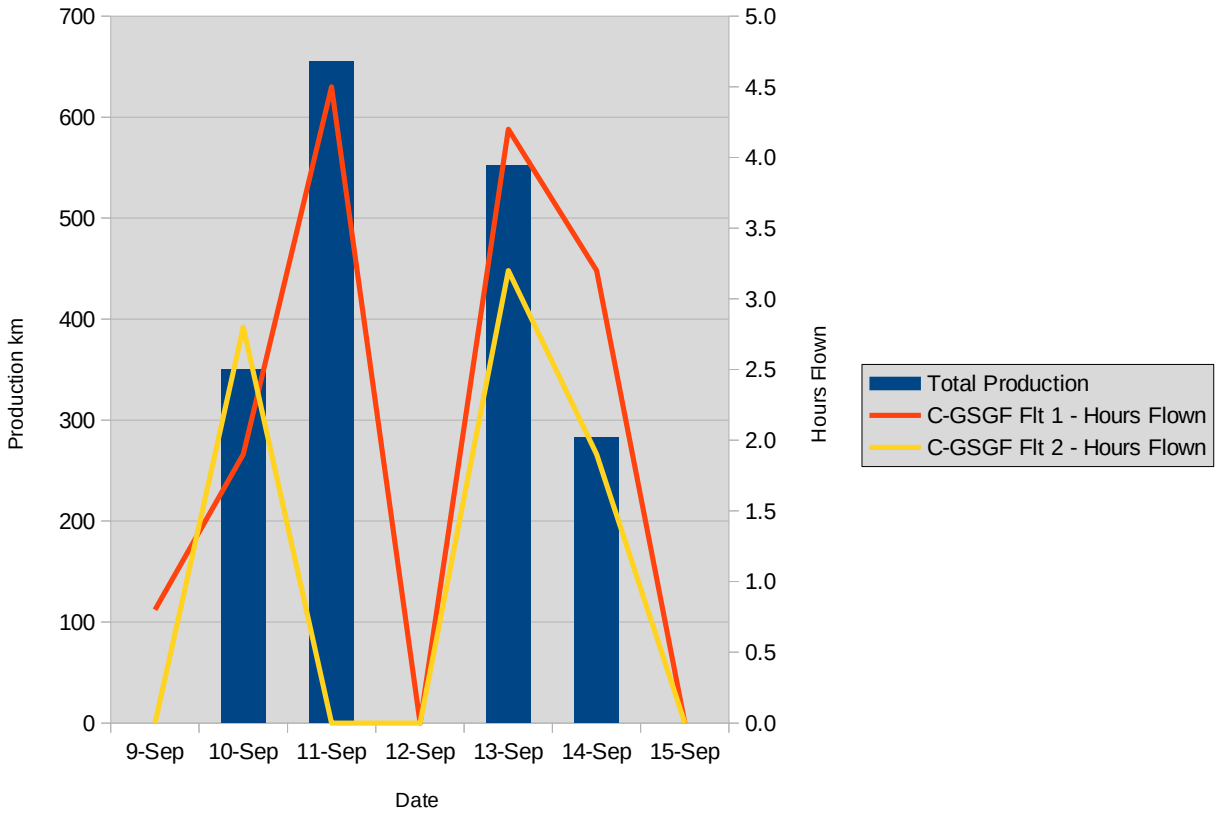
Week 14		Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production (km)	Reflown (km)
TOTALS			**22.5**	**20.1**	**3.9**	**1839.8**	**368.4**
9-Sep	**Monday**		**0.8**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1	65	0.8	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, fog, mist, strong winds		**Remarks**	Aircraft ferried from Weston Airport to Waterford Airport to complete the A7 block.			
Geomag	unsettled						
10-Sep	**Tuesday**		**4.7**	**5.0**	**0.0**	**350.0**	**0.0**
	C-GSGF Flt 1	66	1.9	1.0	0.0	64.7	0.0
	C-GSGF Flt 2	67	2.8	4.0	0.0	285.3	0.0
Weather	Fog, strong winds, rain, overcast		**Remarks**	Morning flight aborted due to extensive fog. Afternoon flight aborted due to rain and strong winds.			
Geomag	unsettled						
11-Sep	**Wednesday**		**4.5**	**6.0**	**1.0**	**655.1**	**48.5**
	C-GSGF Flt 1	68	4.5	6.0	1.0	655.1	48.5
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, fog, mist, strong winds, rain becomes sunny and calm		**Remarks**	Flight delayed due to weather. Afternoon flight was a full one.			
Geomag	unsettled						
12-Sep	**Thursday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, fog, rain		**Remarks**	No flight due to weather			
Geomag	unsettled						
13-Sep	**Friday**		**7.4**	**5.0**	**1.0**	**552.0**	**110.6**
	C-GSGF Flt 1	69	4.2	5.0	1.0	552.0	110.6
	C-GSGF Flt 2	70	3.2	0.0	0.0	0.0	0.0
Weather	Calm and sunny		**Remarks**	Full production flight in morning. Afternoon flight includes Waterford test line, magnetic compensation calibration and heading test.			
Geomag	unsettled						
14-Sep	**Saturday**		**5.1**	**4.1**	**1.9**	**282.7**	**209.3**
	C-GSGF Flt 1	71	3.2	3.1	1.0	215.2	110.8
	C-GSGF Flt 2	72	1.9	1.0	0.9	67.5	98.5
Weather	Sunny, windy in pm		**Remarks**	Morning flight delayed due to airport closure. First flight completes available lines due to time restrictions. Second flight completes A7.			
Geomag	unsettled						
15-Sep	**Sunday**		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	C-GSGF Flt 1		0.0	0.0	0.0	0.0	0.0
	C-GSGF Flt 2		0.0	0.0	0.0	0.0	0.0
Weather	Overcast, fog, calm		**Remarks**	Final field data set delivered to GSI. Demobilization commences.			
Geomag	unsettled						
Comments	Thank you to everyone who helped make Tellus A7 block an efficient, safe and successful project. The A7 block had the highest rate of production of any Tellus block to date. Well done all...until next year.						

Signed Alison McCleary

PERSONNEL ON SITE THIS WEEK						
Name	**Position**	**Arrival This Week**	**Departure This Week**	**On Site?**	**No. of Days On Site This Week**	**No. of Days on Site To Date**
Alison McCleary	Crew Chief			ON SITE	7	93
Steve Gebhardt	Lead Pilot			ON SITE	7	93
Jean Deschenes	Pilot				0	30
Ania Smetny-Sowa	Geophysicist				0	14
John Burnham	AME				0	17
Angella Farr	Geophysicist				0	65
Craig McMahon	Technician				0	14
Mike McDonald	AME				0	27
Charles Dicks	Pilot				0	61
George Sakgaev	Pilot				0	15
Emmett Schmidt	AME				0	22
Scott Campbell	AME		10-Sep-19	ON SITE	2	28
Steven Hyde	Pilot			ON SITE	7	20
Darren McBeth	AME			ON SITE	7	17
Roger Knott	AME specialist		11-Sep-19	ON SITE	3	11

HSE Statistics	This Week	Project Totals
SGL Person Hours	247.5	3922.5
Inductions		7
Near Miss		0
First Aid Case (FAC)		0
Medical Treatment Case (MTC)		0
Restricted Work Case (RWC)		0
Lost Time Injuries (LTI)		0
Safety Meetings		2
GSI PR Complaints		4

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



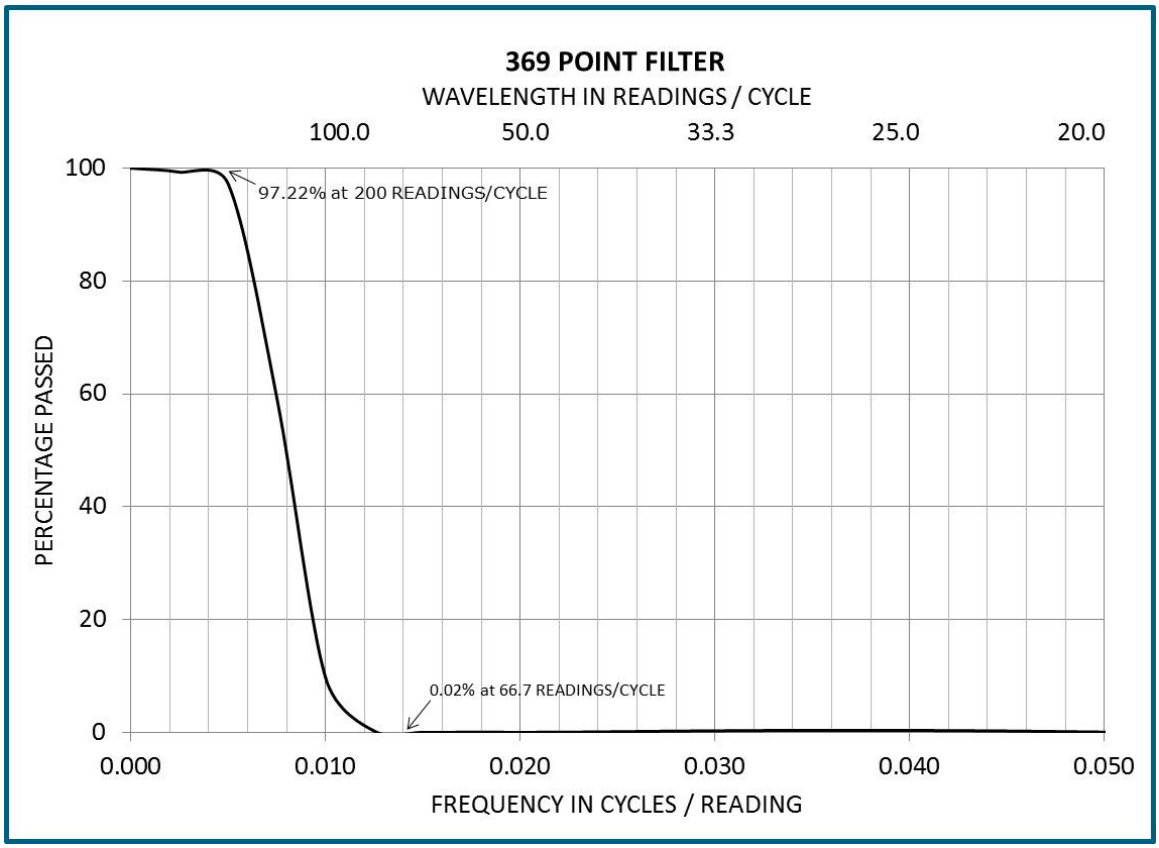
Appendix VII

21. REFLIGHT DETAILS

Line No.	Flight	Reflight Line No.	Reflight Flight No.	Reason for Reflight
714.00	1048	714.01	1068	Diurnal magnetic activity
7119.00	1016	7119.01	1044	Magnetic data
7141.00	1026	7141.01	1044	Magnetic data
7147.00	1034	7147.01	1044	Magnetic data
7181.00	1044	7181.01	1054	Frequency EM data
7195.00	1049	n/a	n/a	Diurnal magnetic activity
7199.00	1048	7199.01	1071	Diurnal magnetic activity
7203.00	1048	7203.01	1069	Diurnal magnetic activity
7218.00	1053	7218.01	1071	Frequency EM data
7251.00	1057	7251.01	1071	Frequency EM data
7292.00	1037	7292.01	1063	Frequency EM data

SGL

Appendix VIII


369 POINT FILTER
WAVELENGTH IN READINGS / CYCLE
100.0
50.0
33.3
25.0
20.0
100
80
60
40
20
0
PERCENTAGE PASSED
97.22% at 200 READINGS/CYCLE
0.02% at 66.7 READINGS/CYCLE
0.000
0.010
0.020
0.030
0.040
0.050
FREQUENCY IN CYCLES / READING

SGL

Appendix IX

GROUND STATION SELECTION – Tellus A7 Block

Reference stations selected to supply the diurnal correction to aeromagnetic data on a survey line by line basis.

LINE NUMBER	REFERENCE NUMBER
7001.00	2
7002.00	2
7003.00	2
7004.00	1
7005.00	2
7006.00	2
7007.00	2
7008.00	2
7009.00	1 & 2
7010.00	2 & 2
7011.00	2 & 2
7012.00	2 & 2
7013.00	2 & 2
7014.00	1 & 1
7015.00	2 & 2
7016.00	1 & 2
7017.00	2 & 2
7018.00	2 & 2
7019.00	2 & 2
7020.00	2 & 2
7021.00	2 & 2
7022.00	2 & 2
7023.00	2 & 3
7024.00	2
7025.00	2
7026.00	2
7027.00	2
7027.10	2
7028.00	2
7028.10	2
7029.00	2
7029.10	2
7030.00	2
7030.10	2
7031.00	2
7031.10	3
7032.00	2
7032.10	2
7033.00	2
7033.10	2

7034.00	2
7034.10	2
7035.00	2
7035.10	2
7036.00	2
7036.10	2
7037.00	2
7037.10	3
7038.00	2
7038.10	3
7039.00	2
7039.10	3
7040.00	3
7040.10	2
7041.00	2
7041.10	2
7042.00	2
7042.01	2
7043.00	2
7043.01	2
7044.00	2
7045.00	2
7046.00	2
7047.00	2
7048.00	2
7049.00	2 & 3
7050.00	2
7051.00	2
7052.00	2
7053.00	2
7054.00	2
7055.00	2 & 3
7056.00	2
7057.00	2
7058.00	2
7059.00	2 & 3
7060.00	2
7061.00	3
7062.00	2
7063.00	2
7064.00	2
7065.00	2
7066.00	2 & 3
7067.00	2
7068.00	2

7069.00	2
7070.00	2
7071.00	2
7072.00	2
7073.00	2
7074.00	2
7075.00	2
7076.00	2
7077.00	2
7078.00	2
7079.00	2
7080.00	2
7081.00	2
7082.00	1 & 2
7083.00	2
7084.00	2
7085.00	2
7086.00	2
7087.00	2
7088.00	2
7089.00	2
7090.00	2
7091.00	1 & 2
7092.00	2
7093.00	2
7094.00	2
7095.00	2
7096.00	2
7097.00	2
7098.00	2
7099.00	3
7100.00	3
7101.00	3
7102.00	3 & 4
7103.00	3 & 4
7104.00	3
7105.00	3
7106.00	5
7107.00	3
7108.00	3
7109.00	3 & 4
7110.00	3
7111.00	3
7112.00	3 & 4
7113.00	3

7114.00	3
7115.00	3
7116.00	3 & 4
7117.00	3
7118.00	3
7119.01	3 & 5
7119.03	3
7119.04	3
7120.00	3 & 4
7121.00	3
7122.00	3 & 4
7123.00	3 & 4
7124.00	3 & 4
7125.00	3 & 4
7126.00	3 & 4
7127.00	3
7128.01	3
7129.00	3 & 5
7130.00	3
7131.00	3 & 5
7132.00	5
7133.00	2 & 3
7134.00	5
7135.00	5
7136.00	5
7137.00	5
7137.01	3
7138.00	5
7139.00	5
7140.00	5
7141.01	5
7141.03	5
7141.04	5
7142.00	5
7143.00	5
7144.00	5
7145.00	3
7146.00	3 & 5
7147.00	3
7148.00	5
7149.00	3
7149.01	3
7150.00	3
7151.00	3 & 5
7152.00	5

7153.00	5
7154.00	3 & 5
7155.00	5
7156.00	5
7156.01	5
7157.00	3 & 5
7158.00	5
7159.00	5
7160.00	3
7161.00	5
7162.00	5
7163.00	3
7163.01	5
7164.00	3
7164.01	3
7165.00	5
7166.00	5
7167.00	5
7167.01	5
7167.02	5
7168.00	5
7169.00	5
7170.00	5
7171.00	5
7172.00	3 & 5
7173.00	5
7174.00	3
7175.00	5
7176.00	5
7177.00	5
7178.00	3
7179.00	3
7180.00	5
7181.00	5
7182.00	5
7183.00	5
7184.00	5
7185.00	5
7186.00	5
7186.01	5
7187.00	5
7187.01	5
7188.00	3
7189.00	3
7190.00	5

7190.01	5
7190.02	5
7191.00	5
7192.00	3 & 5
7192.01	5
7193.00	3 & 5
7193.02	5
7194.00	3
7195.00	5
7195.01	5
7196.00	3 & 5
7197.00	5
7198.00	5
7199.01	5
7200.00	3
7201.00	5
7202.00	5
7203.01	5
7204.00	5
7205.00	5
7206.01	5
7207.00	5
7207.01	5
7208.00	5
7209.00	5
7210.00	5
7211.00	5
7212.00	3
7213.00	5
7214.00	5
7215.00	5
7216.00	5
7216.01	5
7217.00	5
7217.01	5
7217.02	5
7218.00	3 & 5
7219.00	5
7219.01	3
7220.00	5
7221.00	3
7222.00	5
7223.00	3
7224.00	3 & 5
7225.00	5

7226.00	5
7227.00	5
7228.00	5
7229.00	5
7230.00	5
7231.00	5
7232.00	3
7233.00	5
7234.00	5
7235.00	3
7236.00	5
7237.00	3 & 5
7238.00	3 & 5
7239.00	3
7240.00	5
7241.00	5
7242.00	5
7243.00	3 & 5
7244.00	3 & 5
7244.01	3
7245.00	3
7245.01	5
7246.00	3
7246.01	5
7247.00	5
7247.01	5
7248.00	3 & 5
7249.00	3
7250.00	3 & 5
7251.00	5
7252.00	5
7253.00	5
7254.00	5
7255.00	5
7256.00	3
7257.00	5
7258.00	5
7258.01	5
7259.00	5
7259.01	5
7260.00	5
7260.01	5
7261.00	5
7261.01	5
7262.00	3 & 5

7263.00	5
7264.00	3
7265.00	3
7266.00	3
7267.00	3
7268.00	5
7269.00	5
7270.00	3 & 5
7271.00	3 & 5
7272.00	5
7273.00	5
7274.00	5
7275.00	5
7276.00	3
7277.00	3
7278.00	3
7279.00	3
7280.00	5
7281.00	5
7282.00	5
7283.00	3 & 5
7283.01	5
7284.00	5
7285.00	3
7286.00	3
7287.00	5
7288.00	3
7289.00	5
7290.00	3 & 5
7291.00	5
7292.00	5
7293.00	5
7294.00	5
7294.01	5
7295.00	5
7296.00	5
7297.00	5
7298.00	3 & 5
7299.00	5
7300.00	5
7301.00	5
7302.00	5
7303.00	5
7304.00	5
7305.00	3 & 5

7306.00	5
7307.00	5
7308.00	5
7309.00	3 & 5
7310.00	5
7311.00	5
7312.00	5
7313.00	5
7313.01	5
7314.00	3 & 5
7315.00	3
7316.00	3
7317.00	5
7318.00	5
7318.01	5
7319.00	5
7320.00	5
7320.01	5
7321.00	5
7321.01	5
7322.00	5
7322.01	5
7323.00	5
7323.01	5
7324.00	5
7324.01	5
7325.00	5
7326.00	5
7327.00	5
7327.01	5
7328.00	5
7328.01	5
7329.00	5
7329.01	5
7330.00	5
7330.01	5
7331.00	5
7331.01	5
7332.00	5
7332.01	5
7333.00	5
7333.01	5
7333.02	5
7334.00	5
7334.01	5

7335.00	5
7335.01	5
7336.00	5
7336.01	3 & 5
7337.00	3
7337.01	5
7338.00	5
7338.01	3
7339.00	5
7339.01	3
7340.00	5
7340.01	5
7341.00	5
7341.01	5
7342.00	5
7343.00	5
7344.00	5
7345.00	5
7346.00	5
7347.00	5
7348.00	3 & 5
7349.00	5
7350.00	5
7351.00	5
7352.00	5
7353.00	5
7354.00	5
7355.00	5
7356.00	5
7357.00	5
7358.00	5
7359.00	5
7360.00	5
7361.00	5
7362.00	5
7363.00	5
7364.00	5
7365.00	5
7366.00	5
7367.00	5
7368.00	5
7369.00	5
7370.00	5
7371.00	5
7372.00	5

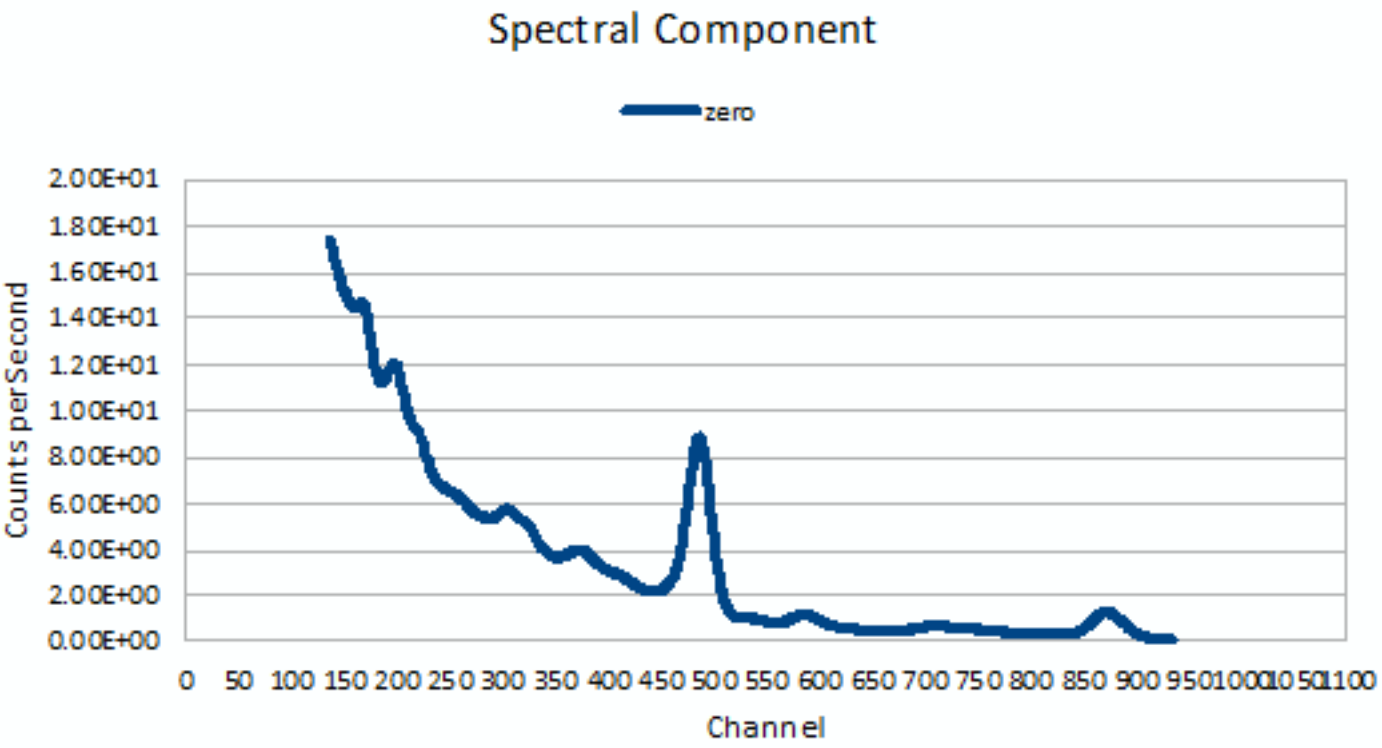
7373.00	3 & 5
7374.00	5
7375.00	5
7376.00	5
7377.00	5
7378.00	3
7379.00	5
7380.00	5
7381.00	5
7382.00	5
7383.00	5
7384.00	3 & 5
7385.00	3 & 5
7386.00	3
7387.00	5
7388.00	3
7389.00	5
7390.00	5
7391.00	5
7392.00	5
7393.00	5
7394.00	5
7395.00	5
7396.00	3
7397.00	5
7398.00	5
7399.00	5
7400.00	5
7401.00	5
7402.00	5
7403.00	5
7404.00	5
7405.00	3
7406.00	5
7407.00	3
7408.00	3
7409.00	5
7410.00	5
7411.00	5
7412.00	3
7413.00	3
7414.00	5
7415.01	5
7416.00	5
7417.00	5

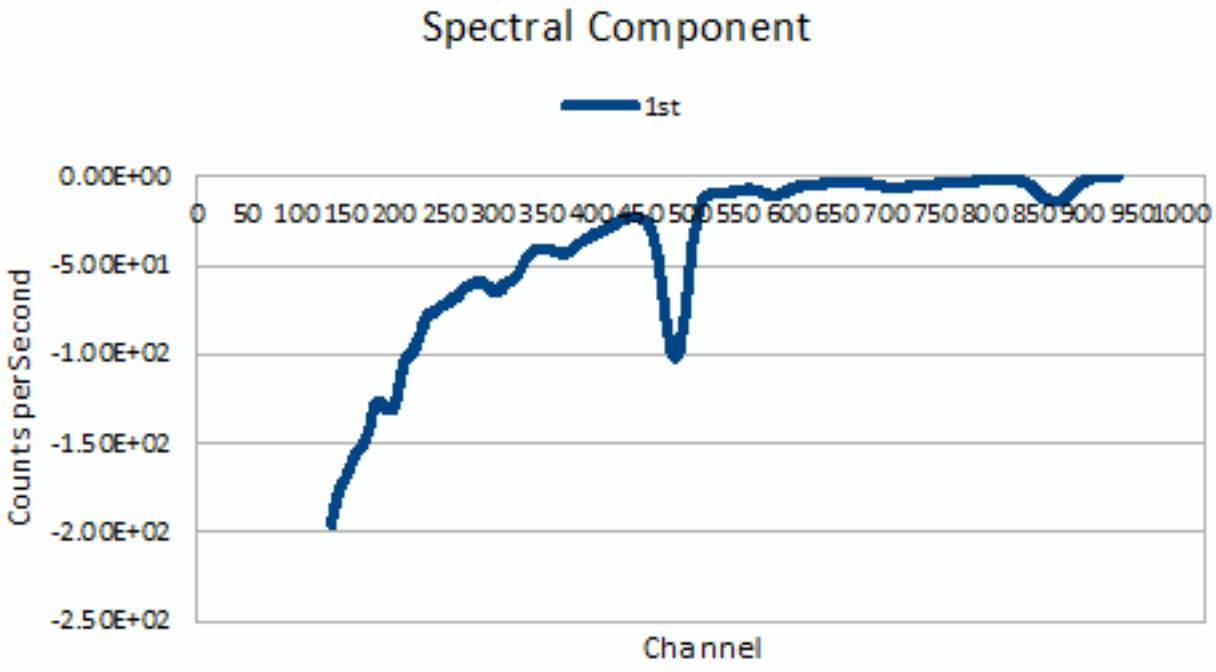
7418.00	5
7419.00	5
7420.00	5
7421.00	5
7422.00	5
7423.00	5
7424.00	5
7425.00	5
7426.00	5
7427.00	5
7428.00	5
7429.00	5
7430.00	5
7431.00	3
7432.00	5
7432.01	5
7433.00	3
7434.00	5
7435.00	5
7436.00	5
7437.00	5
7438.00	5
7439.00	5
7440.00	5
7441.00	5
7442.00	5
7443.00	5
7444.00	5
7445.00	5
7446.00	5
7447.00	5
7448.00	5
7449.00	5
7450.00	5
7451.00	5
7452.00	5
7453.00	5
7454.00	5
7455.00	5
7456.00	5
7457.00	5
7458.00	5
7459.00	3
701.00	2
702.00	2

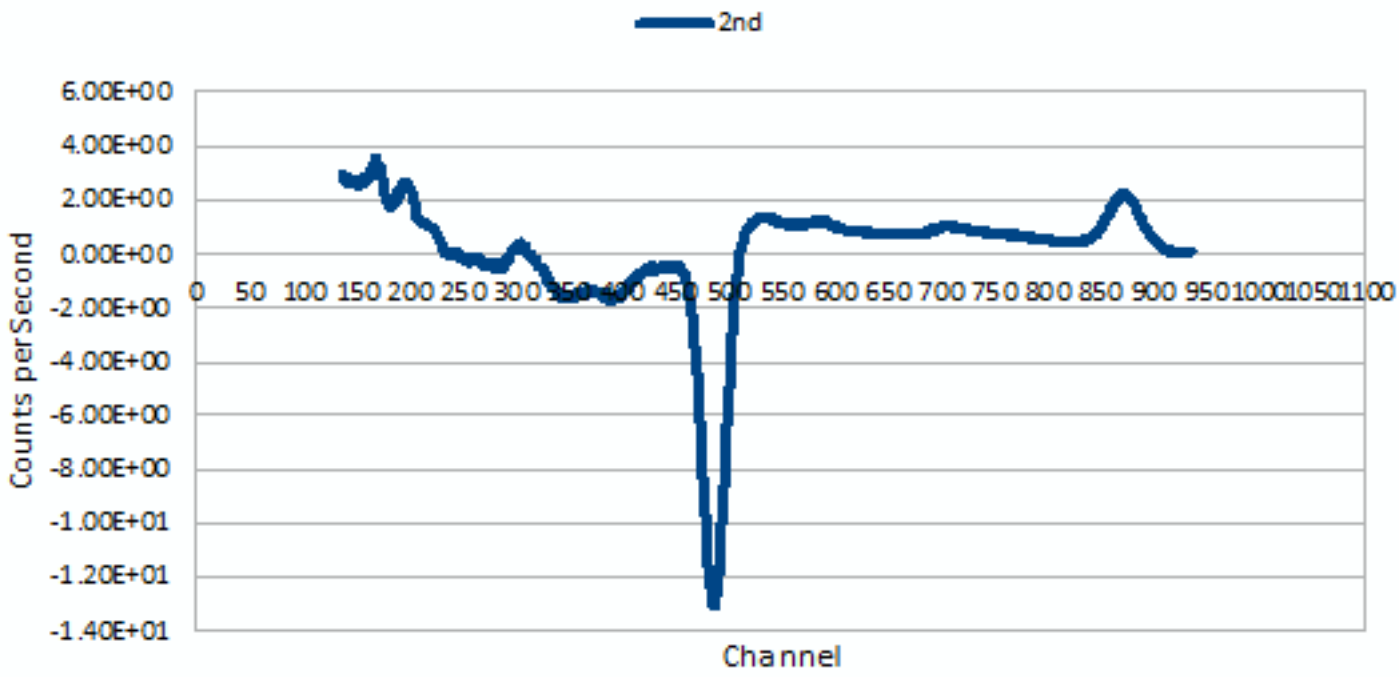
703.00	2
704.00	2
704.10	2
705.00	2
706.00	2
707.00	3 & 5
708.00	5
709.00	5
710.00	5
711.00	3 & 5
712.00	5
713.00	5
714.01	5
715.00	5
716.00	5
717.00	5
718.00	3
719.00	5
720.00	5
721.00	5
722.00	5
723.00	5
724.00	3
725.00	5
726.00	5
727.00	5
728.00	5
729.00	5
730.00	5
730.01	3
731.00	5
732.00	5
733.00	5
734.00	5
735.00	3 & 5
736.00	5
737.00	5
738.00	5
739.00	3 & 5
740.00	3 & 5
741.00	5
742.00	5
742.01	5
743.00	3 & 5
744.00	5

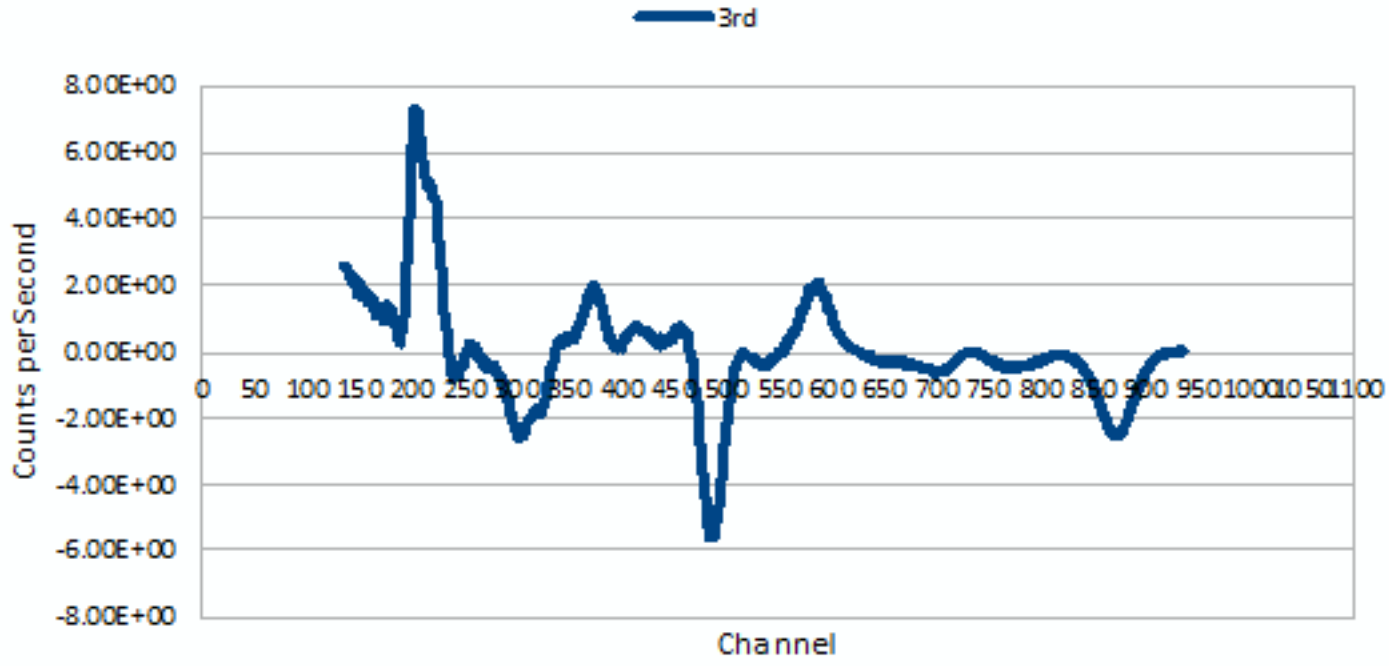
745.00	3 & 5
746.00	5
747.00	3 & 5
748.00	3
749.00	3
750.00	5
751.00	5
752.00	5
753.00	3
754.00	3
755.00	3
756.00	5
757.00	5
758.00	5
759.00	5

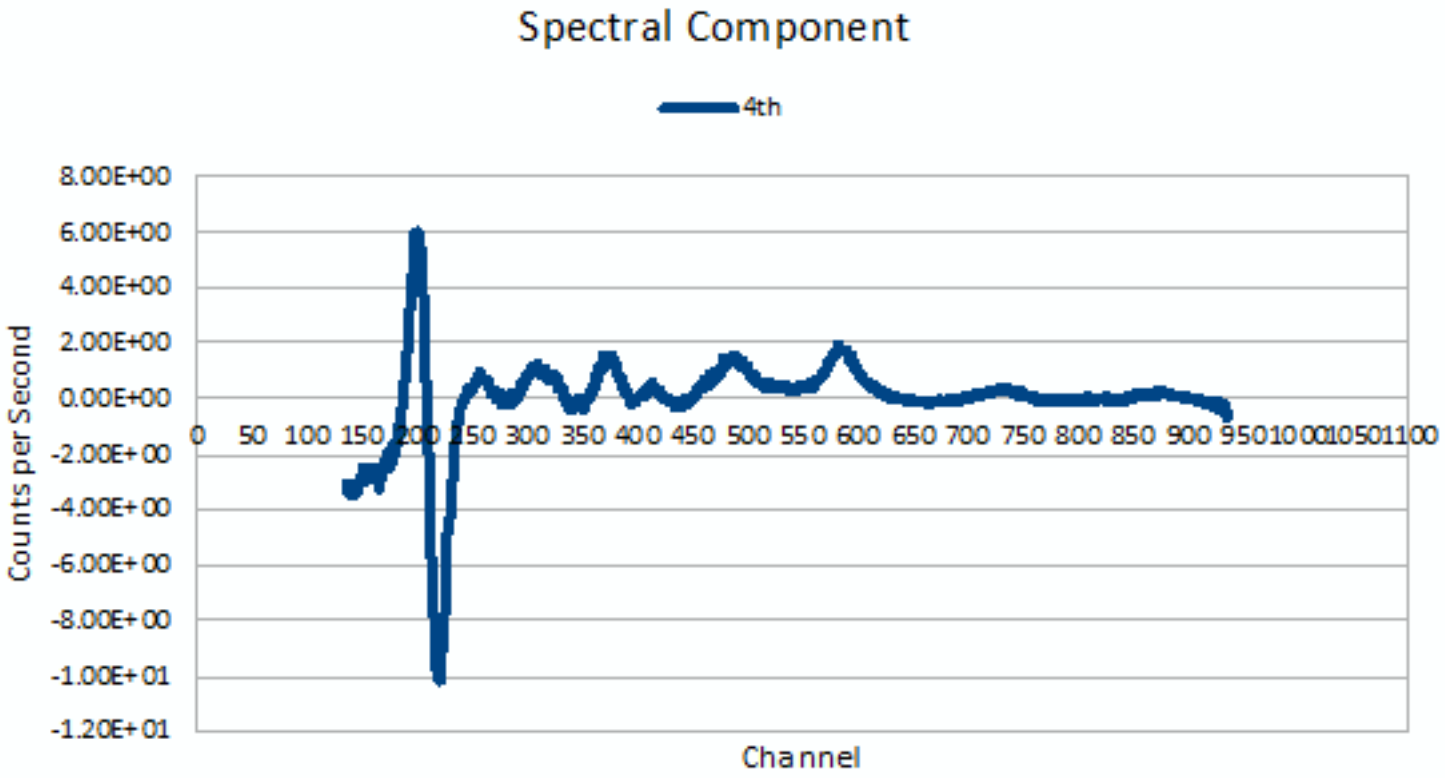
Appendix X

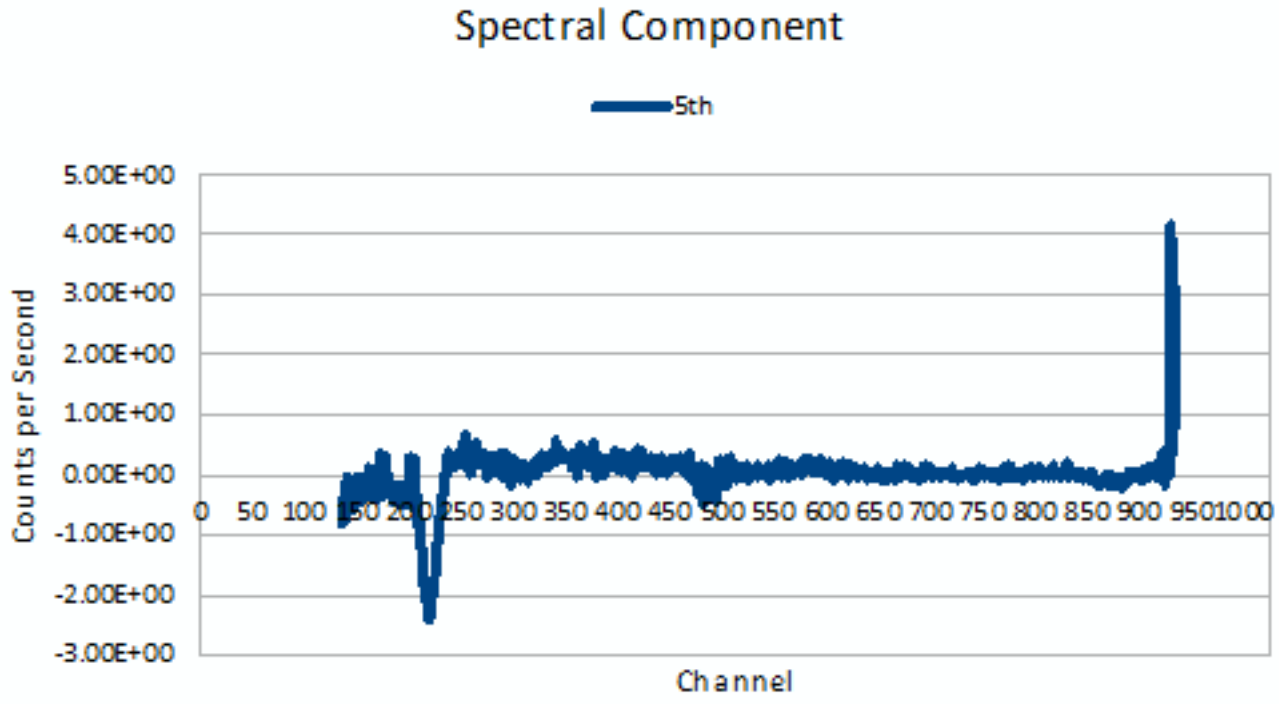

Spectral Component
zero
2.00E+01
1.80E+01
1.60E+01
1.40E+01
1.20E+01
1.00E+01
8.00E+00
6.00E+00
4.00E+00
2.00E+00
0.00E+00
Counts per Second
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100
Channel

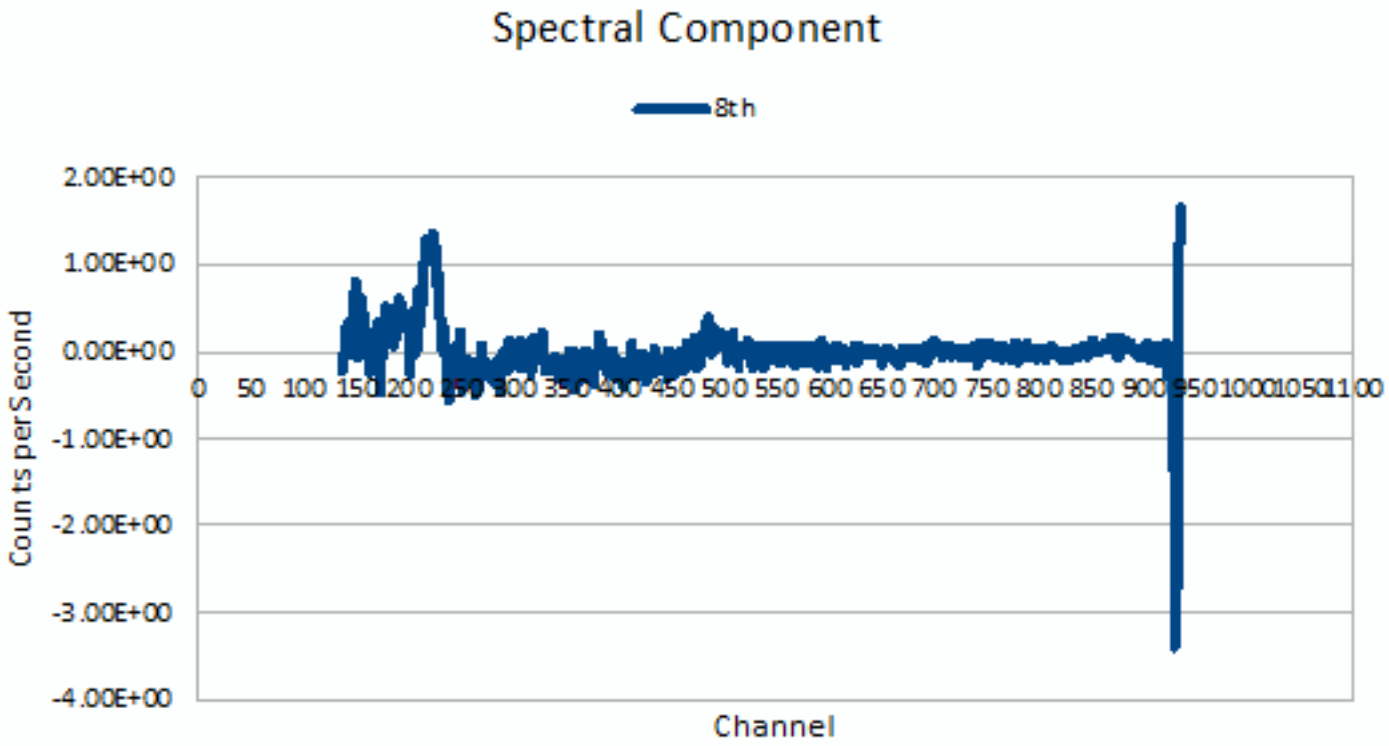

Spectral Component
1st
0.00E+00
-5.00E+01
-1.00E+02
-1.50E+02
-2.00E+02
-2.50E+02
Counts per Second
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000
Channel

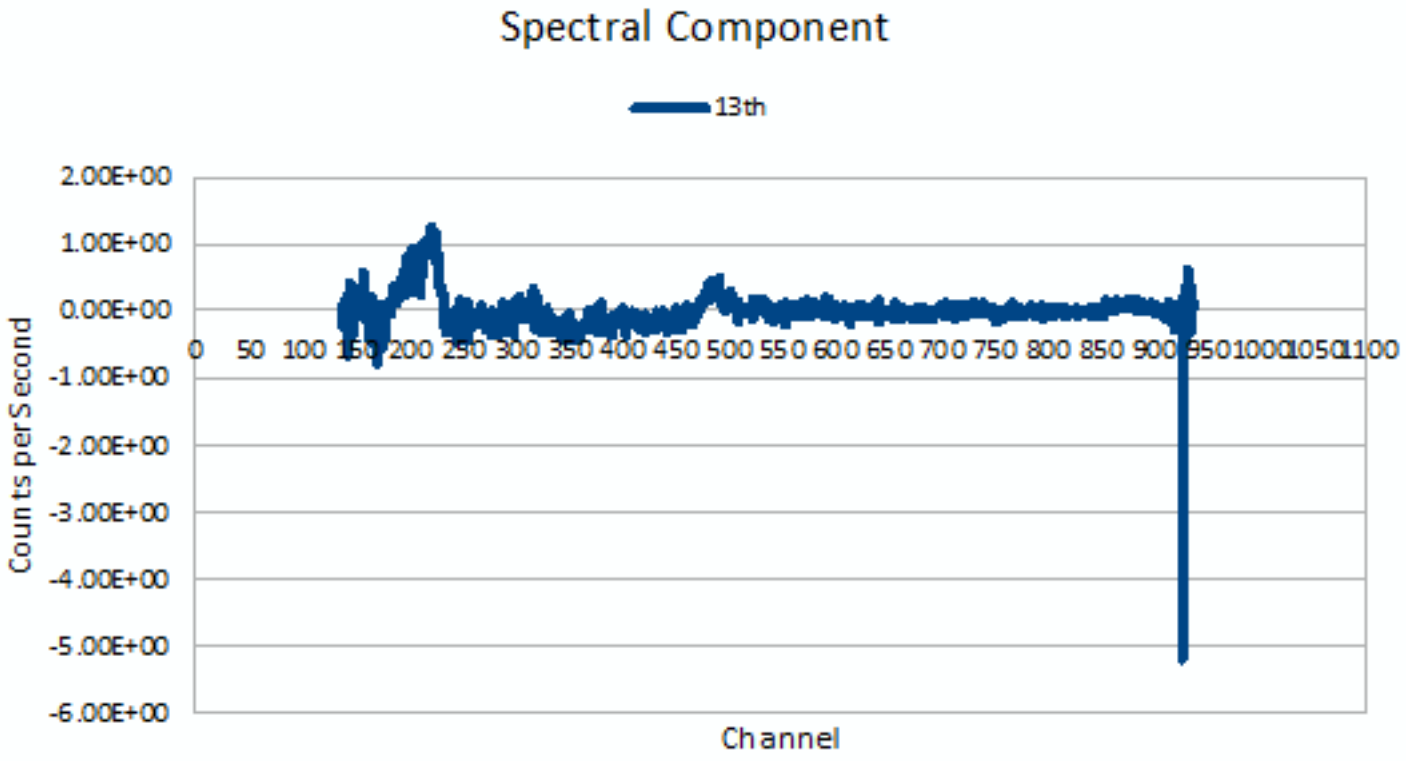

2nd
6.00E+00
4.00E+00
2.00E+00
0.00E+00
-2.00E+00
-4.00E+00
-6.00E+00
-8.00E+00
-1.00E+01
-1.20E+01
-1.40E+01
Counts perSecond
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100
Channel

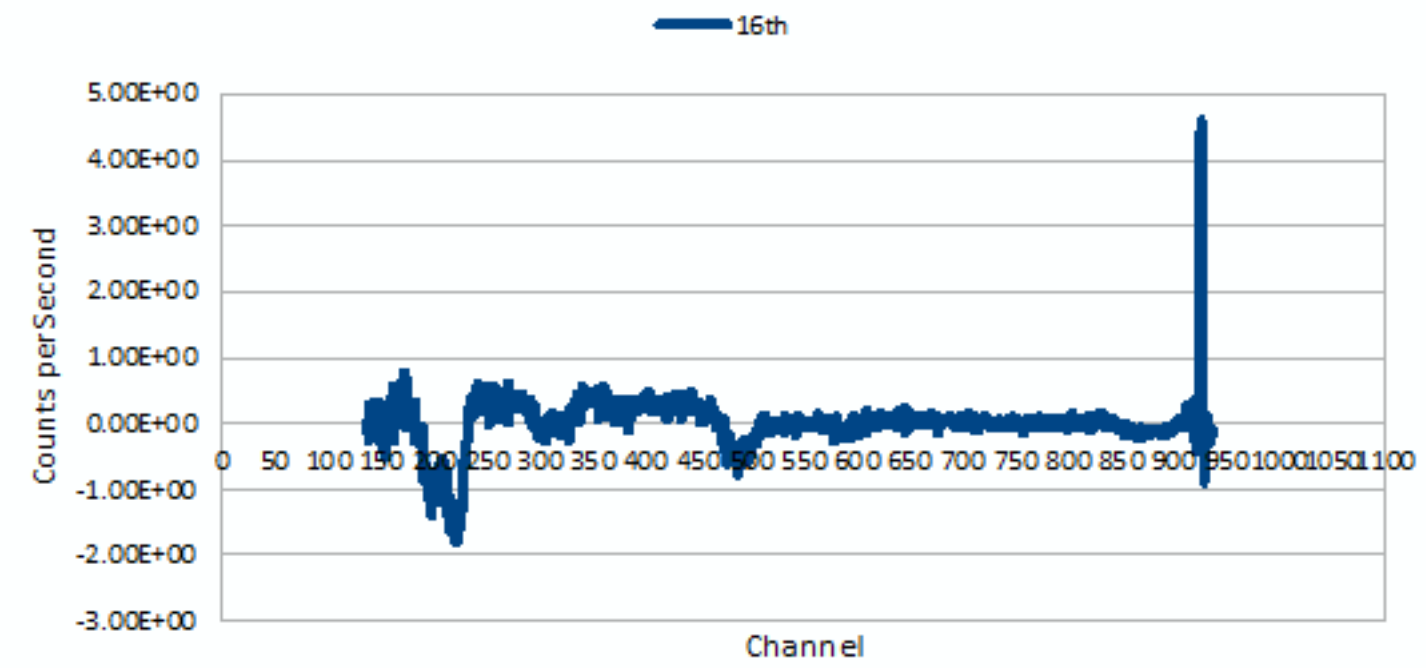

3rd
8.00E+00
6.00E+00
4.00E+00
2.00E+00
0.00E+00
-2.00E+00
-4.00E+00
-6.00E+00
-8.00E+00
Counts perSecond
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100
Channel

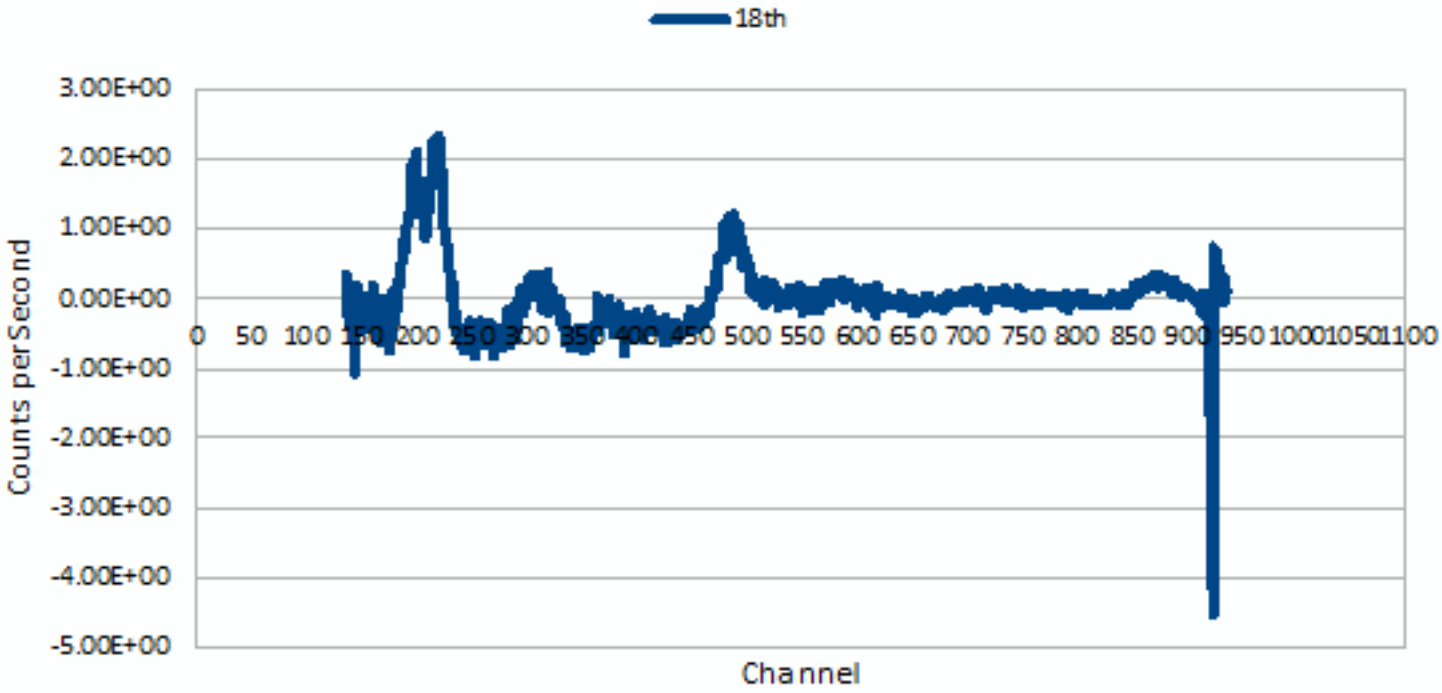

Spectral Component
4th
8.00E+00
6.00E+00
4.00E+00
2.00E+00
0.00E+00
-2.00E+00
-4.00E+00
-6.00E+00
-8.00E+00
-1.00E+01
-1.20E+01
Counts per Second
0 50 100 150 200 150 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100
Channel

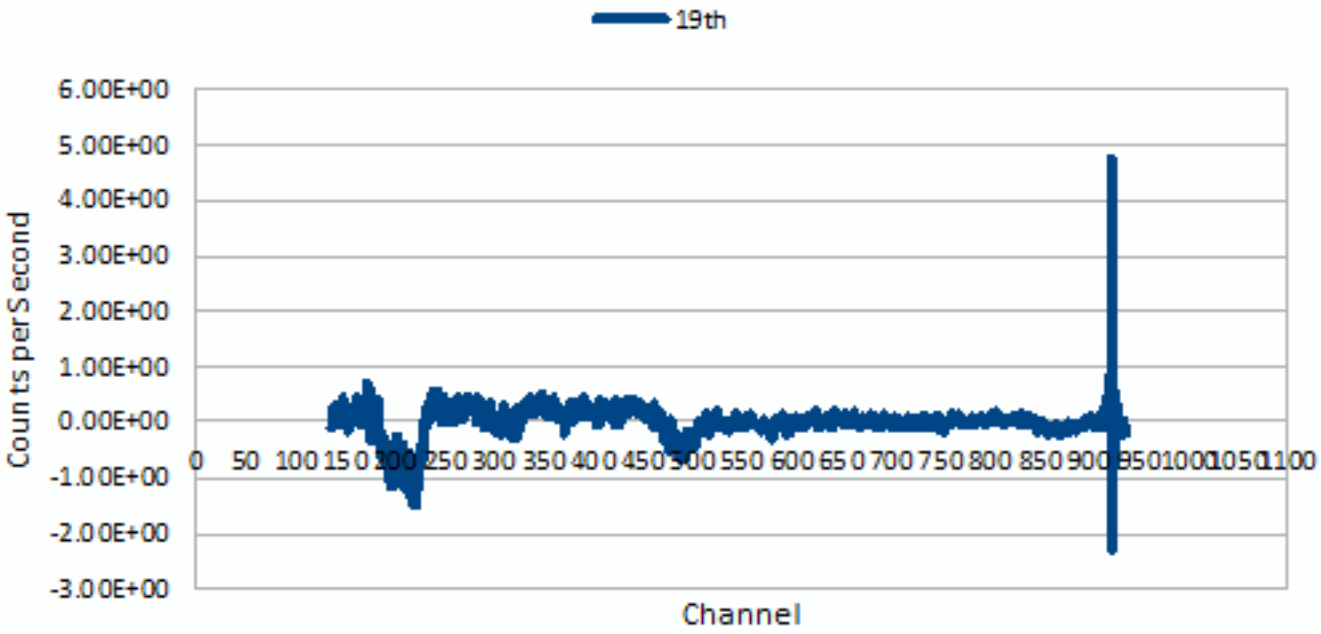

Spectral Component
5th
5.00E+00
4.00E+00
3.00E+00
2.00E+00
1.00E+00
0.00E+00
-1.00E+00
-2.00E+00
-3.00E+00
Counts per Second
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000
Channel

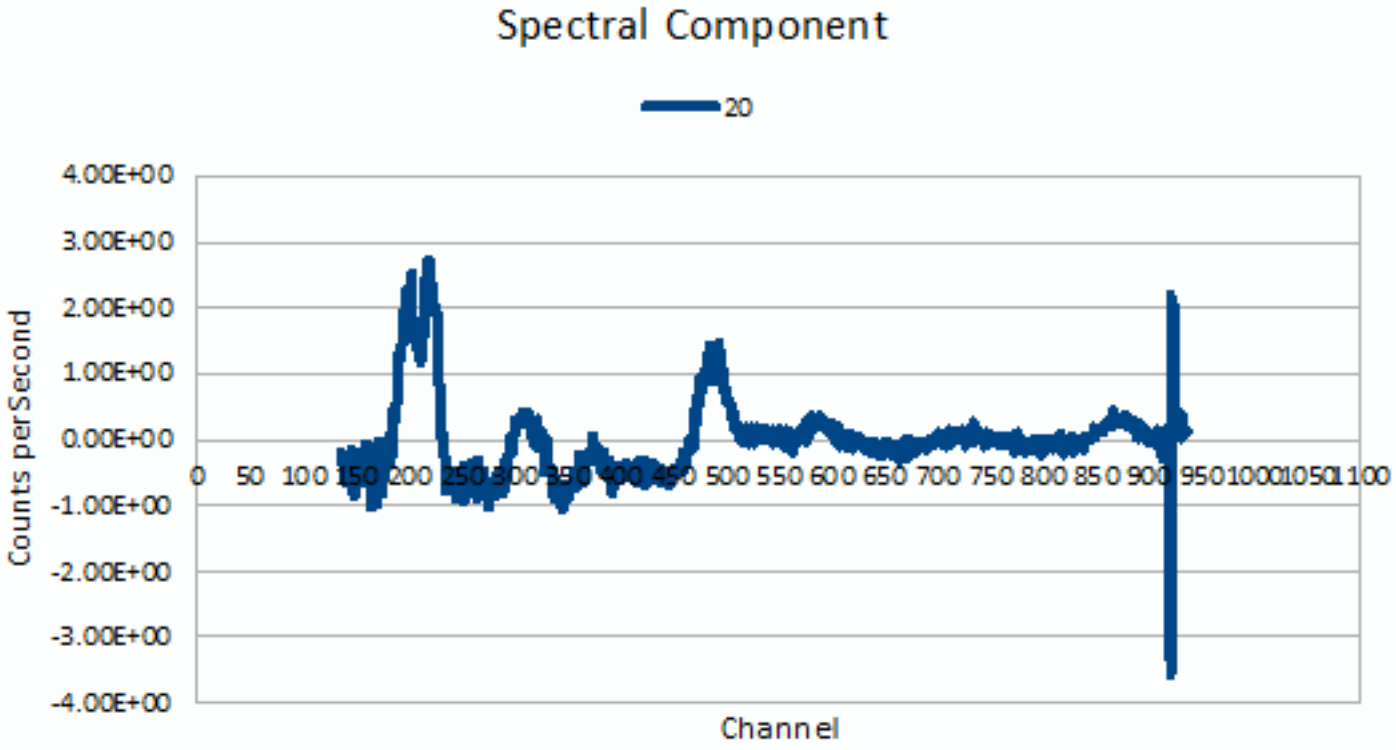

Spectral Component
8th
2.00E+00
1.00E+00
0.00E+00
-1.00E+00
-2.00E+00
-3.00E+00
-4.00E+00
Counts per Second
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100
Channel

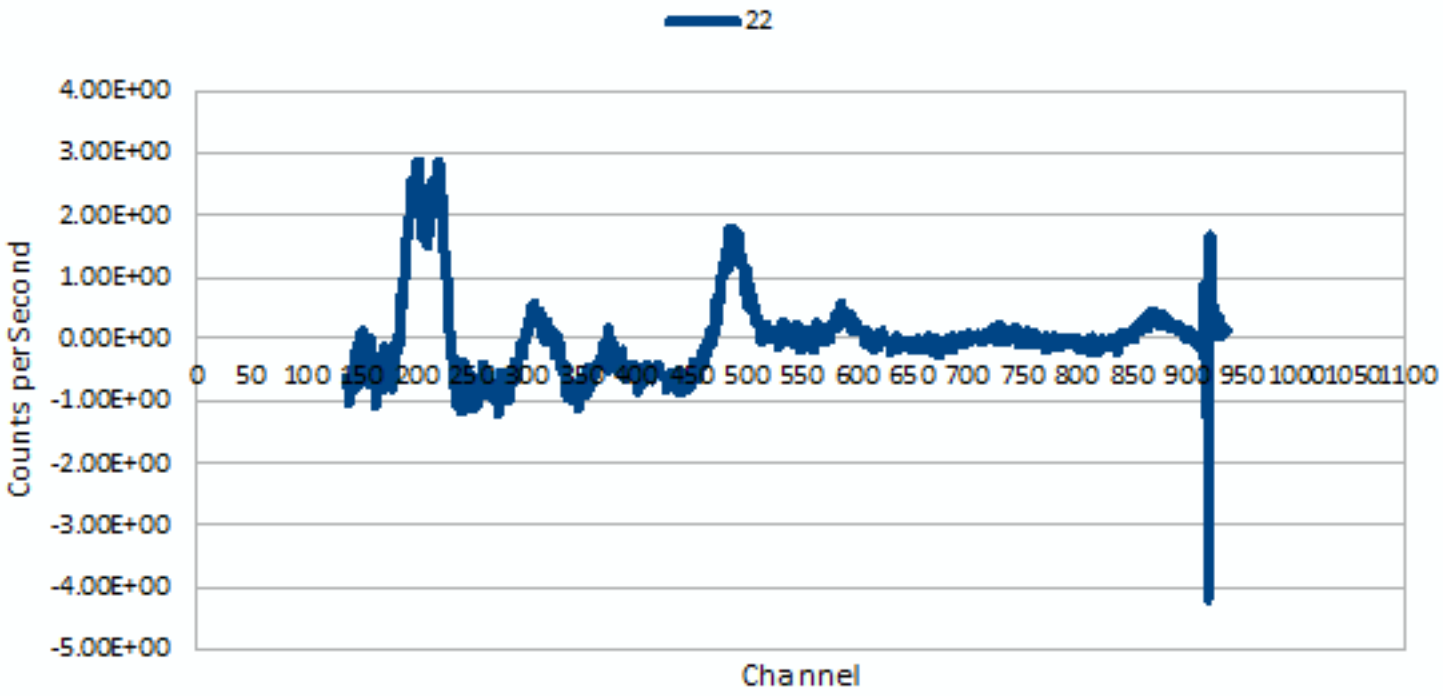

Spectral Component
13th
2.00E+00
1.00E+00
0.00E+00
-1.00E+00
-2.00E+00
-3.00E+00
-4.00E+00
-5.00E+00
-6.00E+00
Counts per Second
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100
Channel

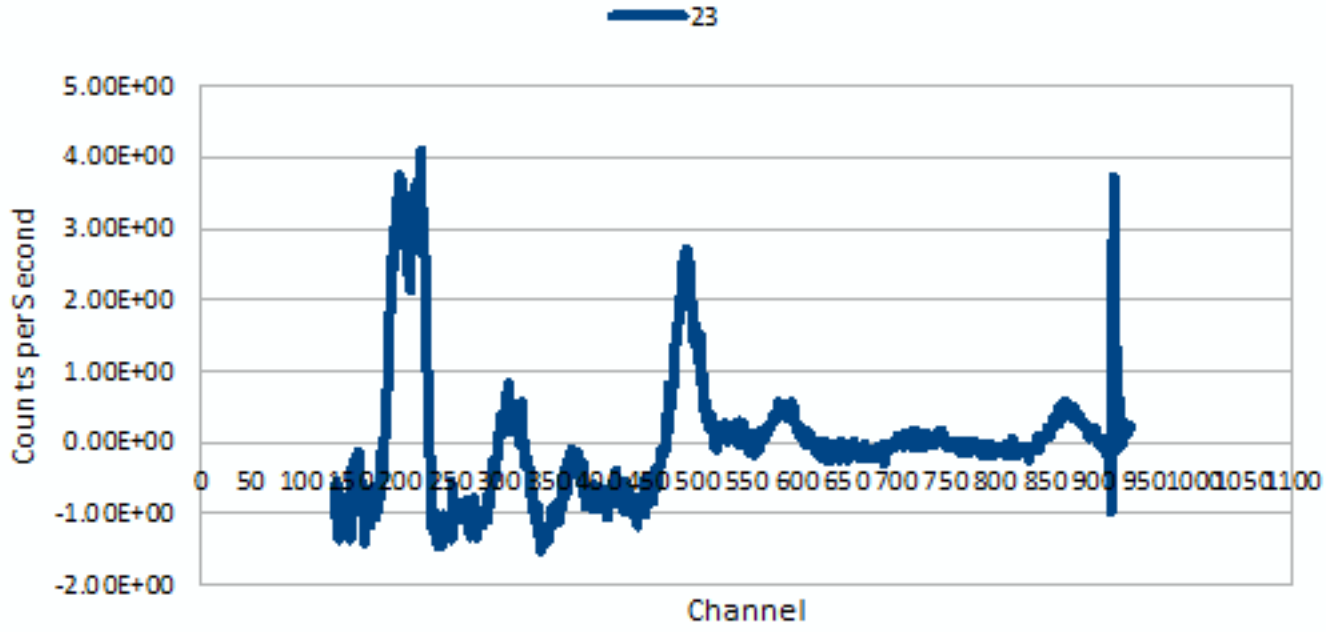

Spectral Component
16th
5.00E+00
4.00E+00
3.00E+00
2.00E+00
1.00E+00
0.00E+00
-1.00E+00
-2.00E+00
-3.00E+00
Counts perSecond
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100
Channel

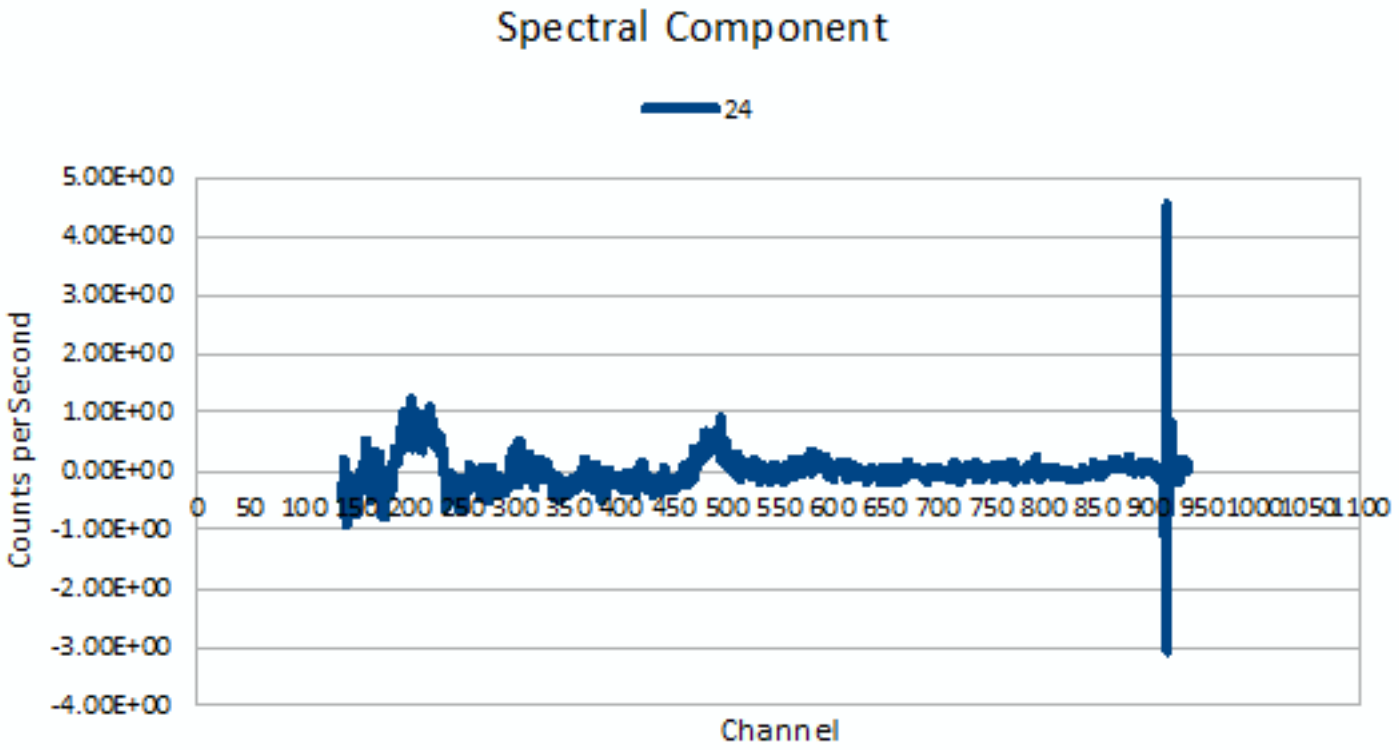

18th
3.00E+00
2.00E+00
1.00E+00
0.00E+00
-1.00E+00
-2.00E+00
-3.00E+00
-4.00E+00
-5.00E+00
Counts perSecond
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100
Channel

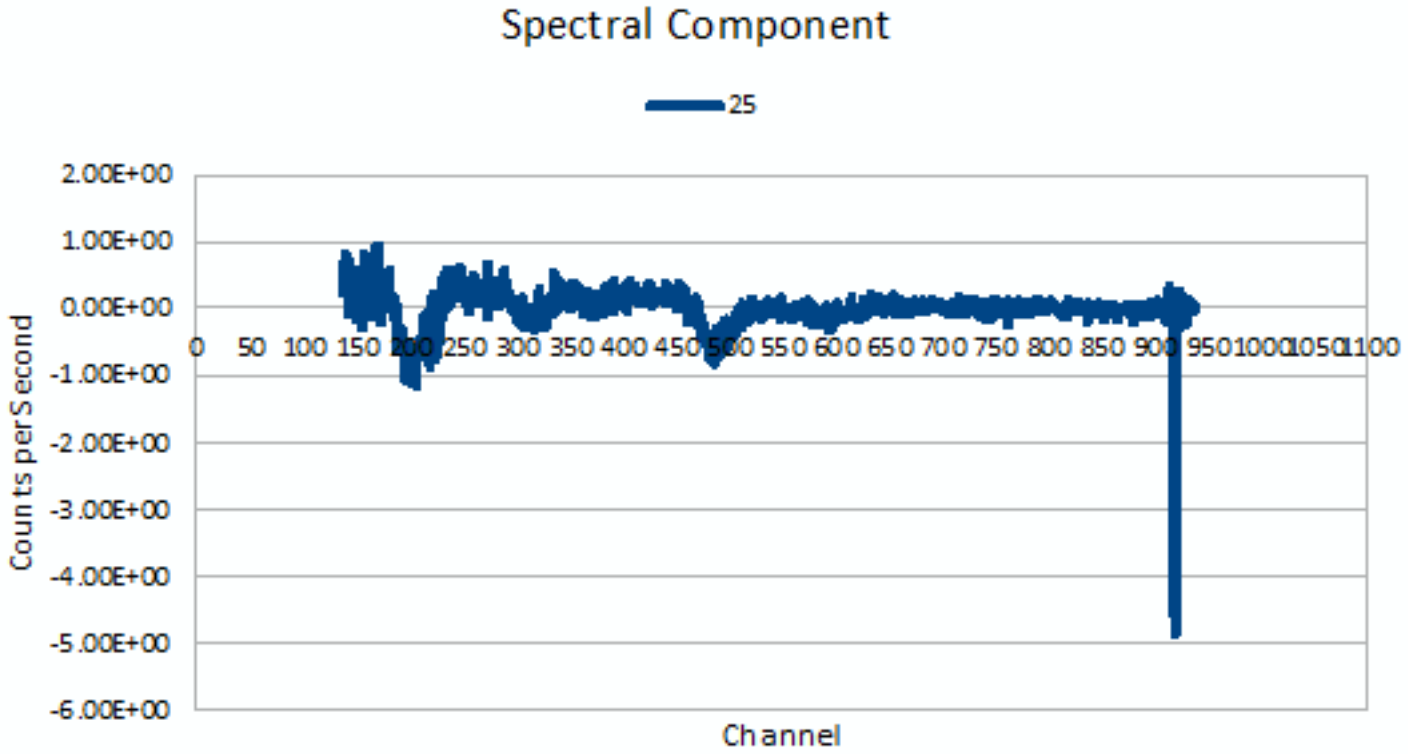

19th
6.00E+00
5.00E+00
4.00E+00
3.00E+00
2.00E+00
1.00E+00
0.00E+00
-1.00E+00
-2.00E+00
-3.00E+00
Counts per Second
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100
Channel

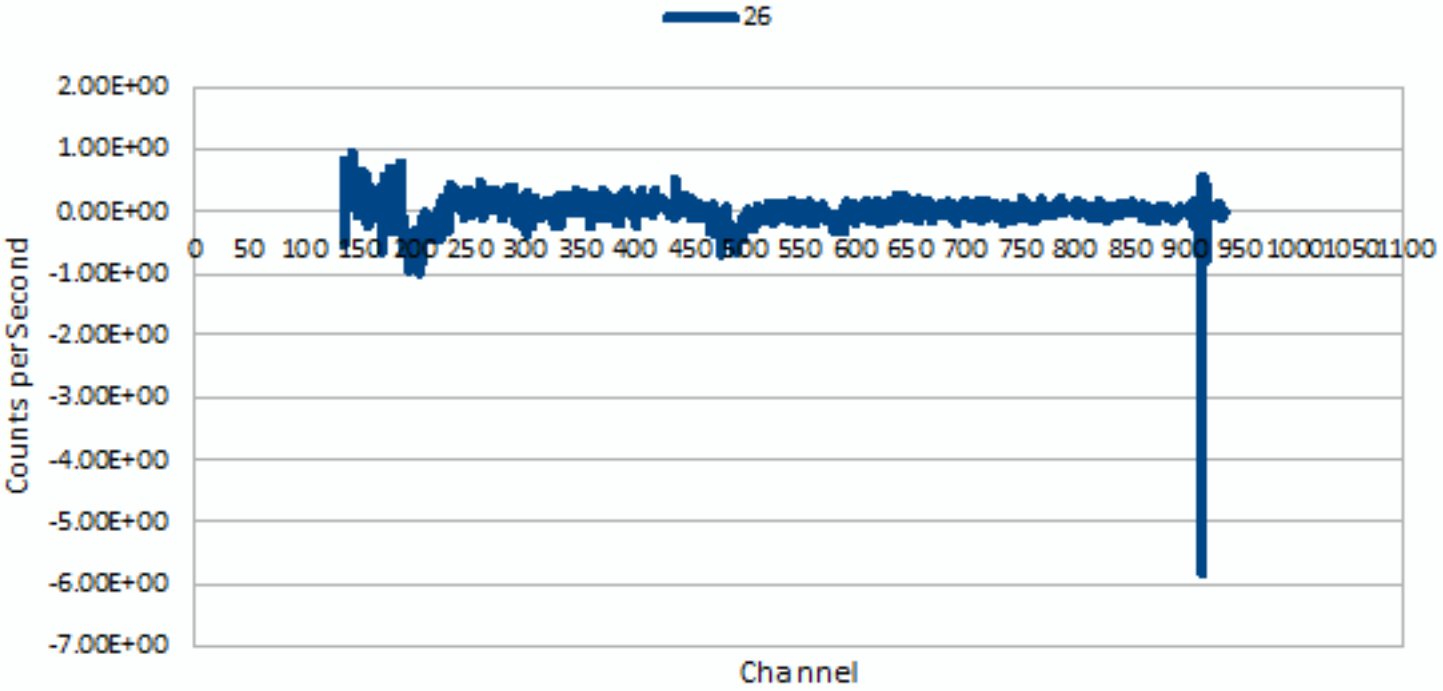

Spectral Component
20
4.00E+00
3.00E+00
2.00E+00
1.00E+00
0.00E+00
-1.00E+00
-2.00E+00
-3.00E+00
-4.00E+00
Counts per Second
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100
Channel

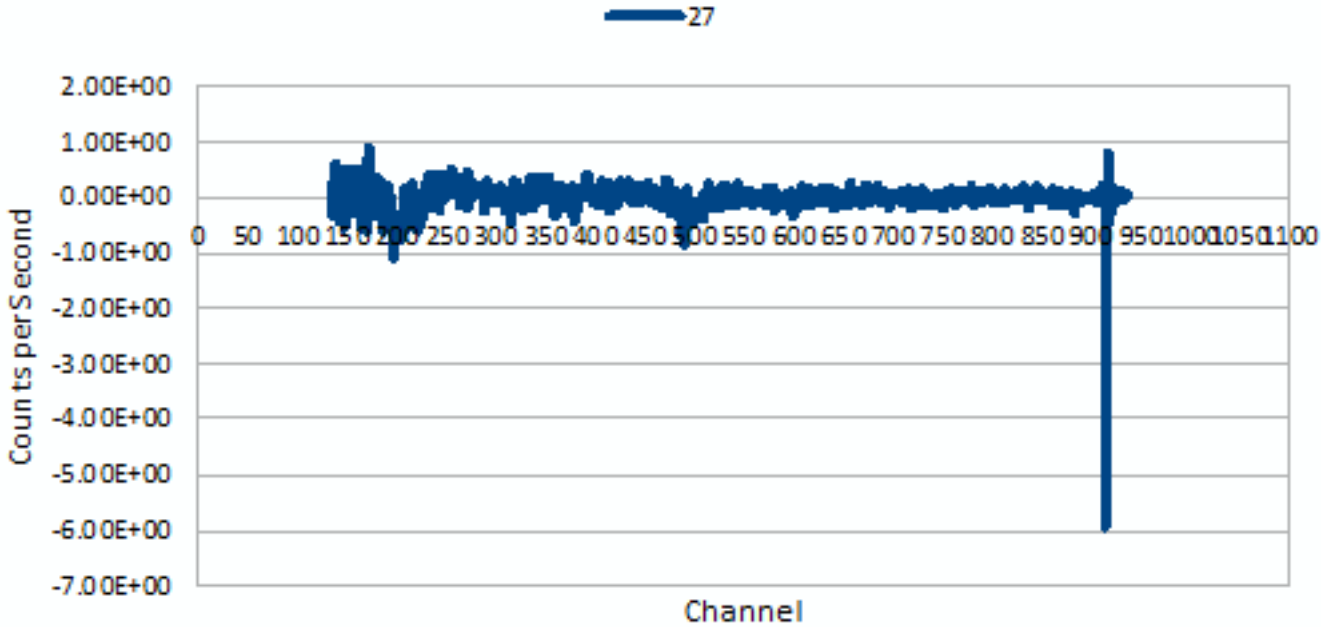

22
4.00E+00
3.00E+00
2.00E+00
1.00E+00
0.00E+00
-1.00E+00
-2.00E+00
-3.00E+00
-4.00E+00
-5.00E+00
Counts per Second
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100
Channel


23
5.00E+00
4.00E+00
3.00E+00
2.00E+00
1.00E+00
0.00E+00
-1.00E+00
-2.00E+00
Counts per Second
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100
Channel


Spectral Component
24
5.00E+00
4.00E+00
3.00E+00
2.00E+00
1.00E+00
0.00E+00
-1.00E+00
-2.00E+00
-3.00E+00
-4.00E+00
Counts per Second
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100
Channel

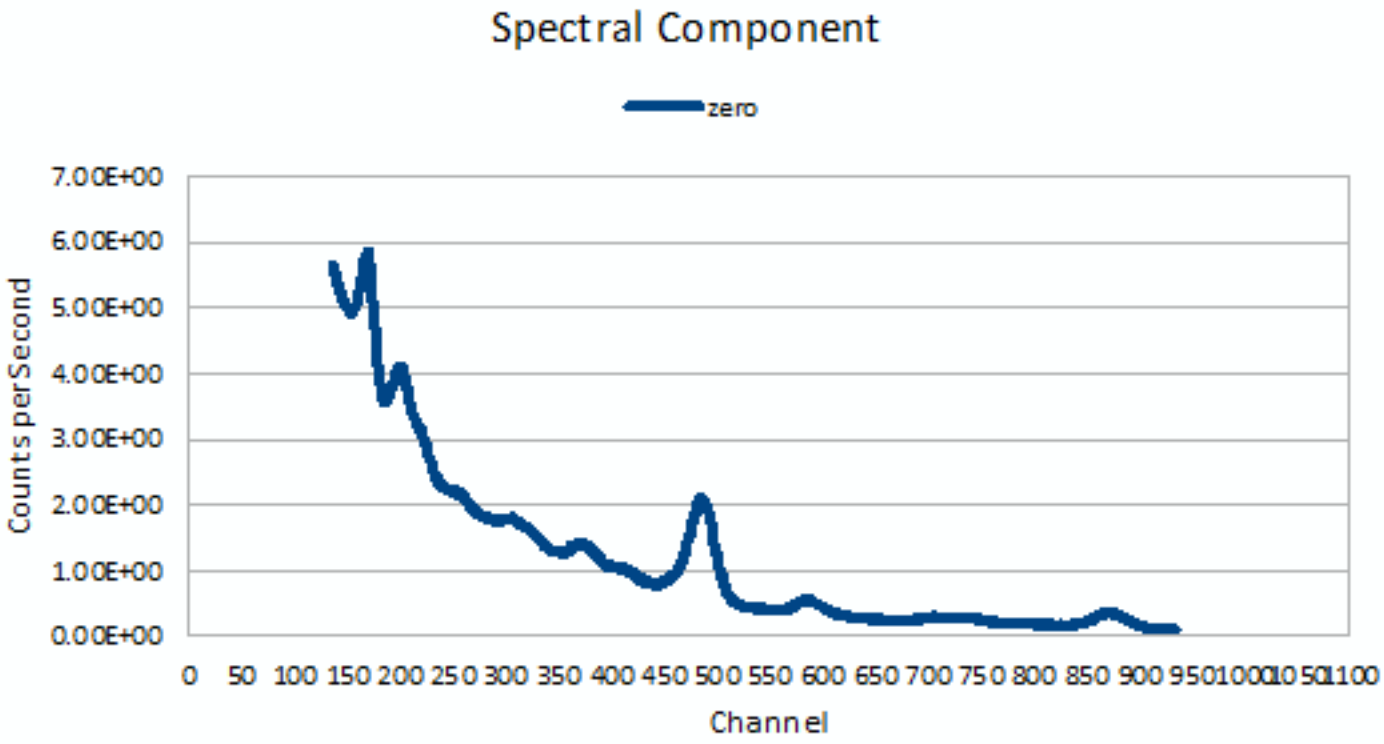

Spectral Component
25
2.00E+00
1.00E+00
0.00E+00
-1.00E+00
-2.00E+00
-3.00E+00
-4.00E+00
-5.00E+00
-6.00E+00
Counts per Second
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100
Channel

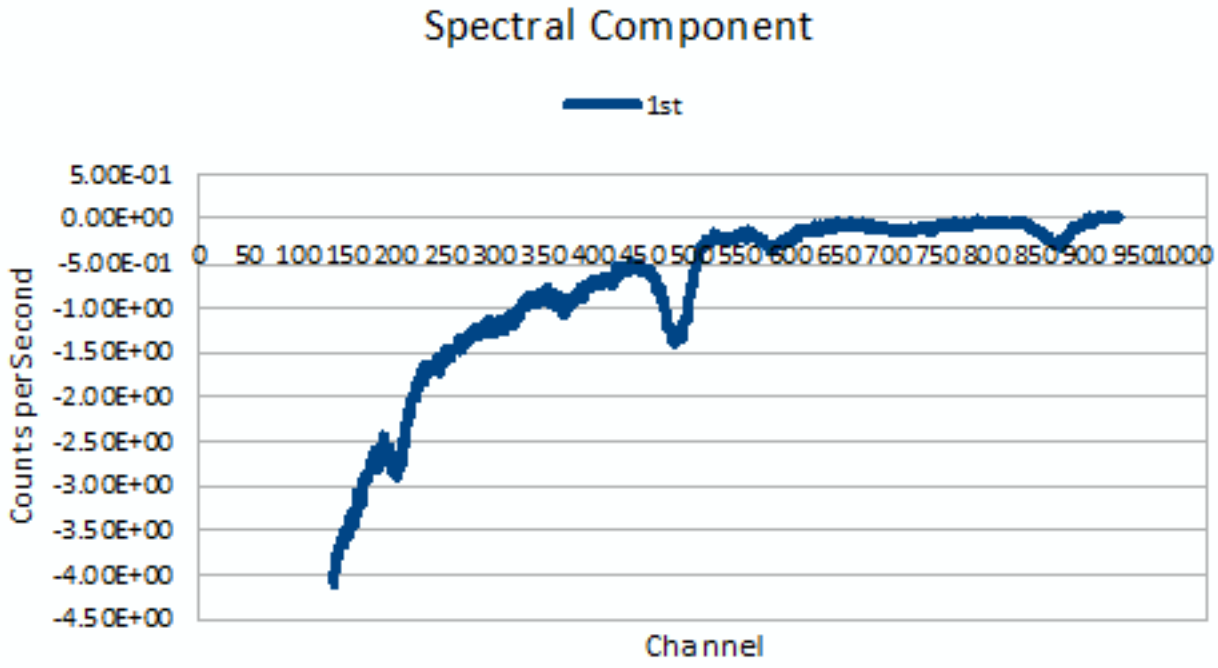

26
2.00E+00
1.00E+00
0.00E+00
-1.00E+00
-2.00E+00
-3.00E+00
-4.00E+00
-5.00E+00
-6.00E+00
-7.00E+00
Counts per Second
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100
Channel

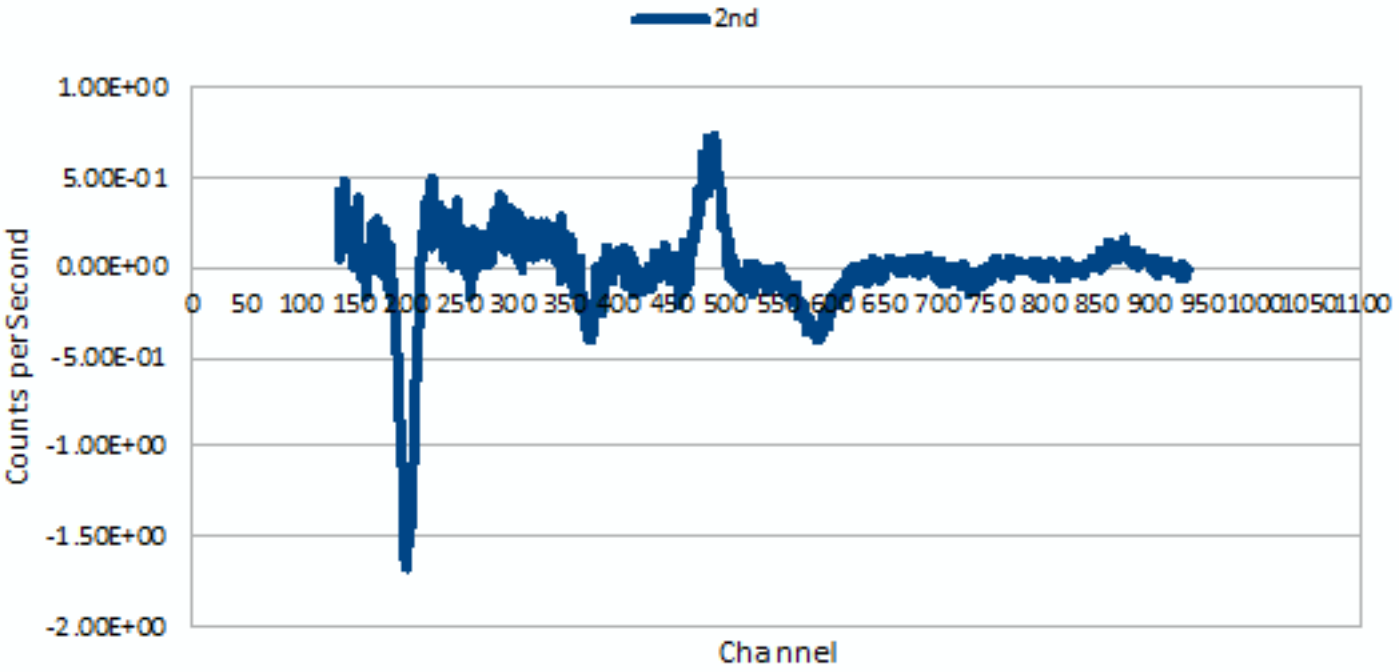

27
2.00E+00
1.00E+00
0.00E+00
-1.00E+00
-2.00E+00
-3.00E+00
-4.00E+00
-5.00E+00
-6.00E+00
-7.00E+00
Counts per Second
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100
Channel

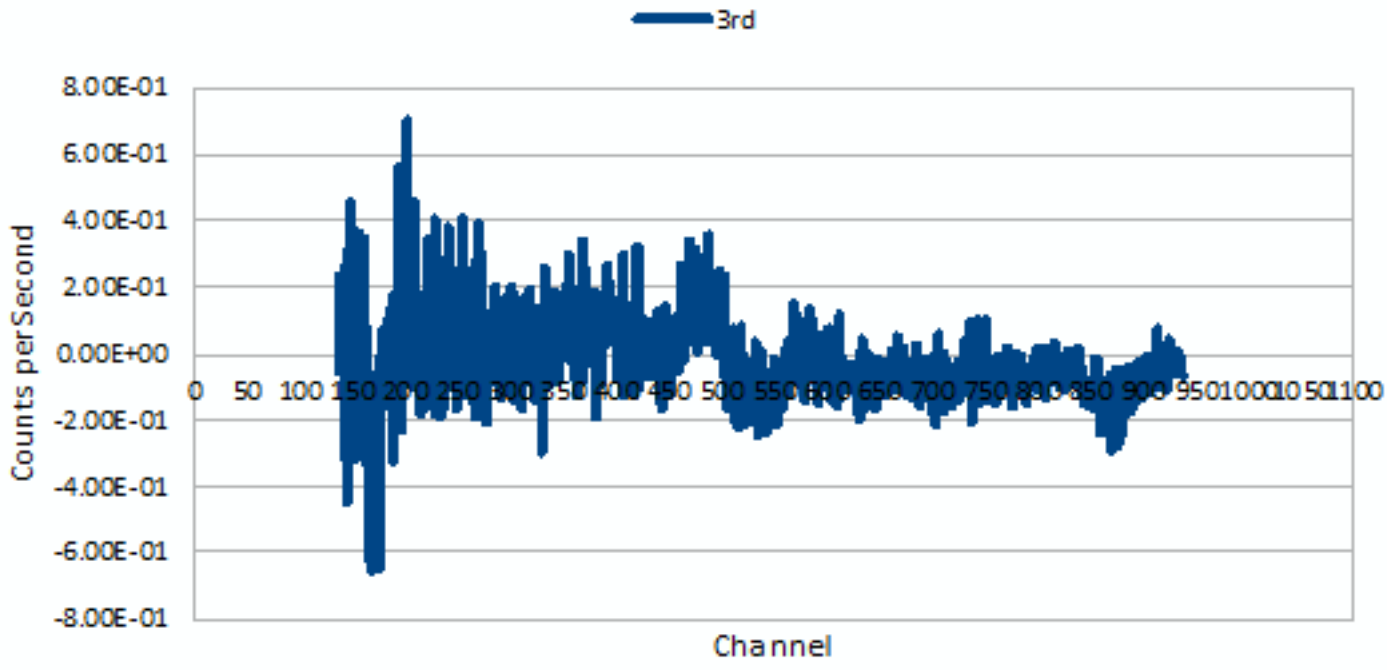
SGL

Appendix XI


Spectral Component
zero
7.00E+00
6.00E+00
5.00E+00
4.00E+00
3.00E+00
2.00E+00
1.00E+00
0.00E+00
Counts perSecond
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100
Channel


Spectral Component
1st
5.00E-01
0.00E+00
-5.00E-01
-1.00E+00
-1.50E+00
-2.00E+00
-2.50E+00
-3.00E+00
-3.50E+00
-4.00E+00
-4.50E+00
Counts perSecond
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000
Channel


2nd
1.00E+00
5.00E-01
0.00E+00
-5.00E-01
-1.00E+00
-1.50E+00
-2.00E+00
Counts perSecond
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100
Channel


3rd
8.00E-01
6.00E-01
4.00E-01
2.00E-01
0.00E+00
-2.00E-01
-4.00E-01
-6.00E-01
-8.00E-01
Counts perSecond
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100
Channel

SGL

Appendix XII

OFFSHORE RADIOMETRIC DATA LINE ADJUSTMENTS – Tellus A7 Block

Total Count adjustment (cps)	Potassium adjustment (cps)	Line Number	Start Time (seconds)	End Time seconds)
30	0.00	7042.0.0	50620.50	99999.99
30	0.00	7045.0.0	33992.50	99999.99
30	0.00	7046.0.0	00000.00	35542.50
30	0.00	7047.0.0	36068.50	99999.99
100	0.00	7049.0.0	38174.50	99999.99
30	0.00	7104.0.0	39541.50	99999.99
30	0.00	7105.0.0	00000.00	39879.50
30	0.00	7106.0.0	37224.50	99999.99
30	0.00	7158.0.0	00000.00	99999.99
30	0.05	7236.0.0	00000.00	99999.99
30	0.05	7237.0.0	00000.00	99999.99
30	0.05	7238.0.0	00000.00	99999.99
30	0.05	7239.0.0	00000.00	99999.99
30	0.00	7245.0.0	00000.00	39825.50
30	0.00	7246.0.0	39474.50	99999.99
50	0.00	7321.0.0	00000.00	99999.99
50	0.00	7322.0.0	00000.00	99999.99
50	0.00	7323.0.0	00000.00	99999.99
50	0.00	7324.0.0	00000.00	99999.99
30	0.03	7332.0.0	00000.00	99999.99
30	0.03	7333.0.0	00000.00	99999.99
30	0.03	7334.0.0	00000.00	99999.99
30	0.03	7335.0.0	00000.00	99999.99
30	0.03	7336.0.0	00000.00	99999.99
-30	0.03	7337.0.0	00000.00	48072.00
40	0.03	7338.0.0	00000.00	99999.99
30	0.03	7339.0.0	00000.00	99999.99
40	0.03	7340.0.0	00000.00	99999.99
50	0.00	7374.0.0	00000.00	99999.99
50	0.00	7387.0.0	00000.00	99999.99

SGL

Appendix XIII

Digital Video Inventory – A7 Block

Flight Line	Flight	YEAR	Data Time Start	Data Time End	Video Filename (.avi)
7001.00	1010	2019	39929.50	40364.30	T7001.0B_1010_DI
7002.00	1010	2019	40471.20	40906.80	T7002.0F_1010_DI
7003.00	1010	2019	41029.80	41485.30	T7003.0B_1010_DI
7004.00	1001	2019	38746.20	39197.10	T7004.0F_1001_DI
7005.00	1001	2019	39342.90	39790.70	T7005.0B_1001_DI
7006.00	1001	2019	39921.90	40375.20	T7006.0F_1001_DI
7007.00	1001	2019	40494.00	40932.90	T7007.0B_1001_DI
7008.00	1001	2019	41066.70	41511.60	T7008.0F_1001_DI
7009.00	1001	2019	45187.40	45675.20	T7009.0B_1001_1_DI
7010.00	1001	2019	41680.80	42148.40	T7010.0B_1001_DI
7011.00	1001	2019	45791.10	46233.20	T7011.0F_1001_DI
7012.00	1001	2019	42272.20	42723.50	T7012.0F_1001_DI
7013.00	1001	2019	42875.70	43330.80	T7013.0B_1001_DI
7014.00	1001	2019	43447.30	43891.10	T7014.0F_1001_DI
7015.00	1001	2019	44040.00	44509.60	T7015.0B_1001_DI
7016.00	1001	2019	44634.10	45079.30	T7016.0F_1001_DI
7017.00	1001	2019	46337.20	46814.50	T7017.0B_1001_DI
7018.00	1001	2019	53243.30	53703.70	T7018.0F_1001_DI
7019.00	1001	2019	53863.60	54355.30	T7019.0B_1001_DI
7020.00	1010	2019	37106.90	37586.00	T7020.0F_1010_DI
7021.00	1010	2019	36546.80	36995.50	T7021.0B_1010_DI
7022.00	1010	2019	35974.80	36438.90	T7022.0F_1010_DI
7023.00	1010	2019	35402.20	35850.80	T7023.0B_1010_DI
7024.00	1010	2019	34800.30	35281.00	T7024.0F_1010_DI
7025.00	1010	2019	34258.60	34692.70	T7025.0B_1010_DI
7026.00	1010	2019	33673.50	34128.90	T7026.0F_1010_DI
7027.00	1008	2019	34326.90	34595.40	T7027.0B_1008_DI
7027.10	1010	2019	41628.40	42108.40	T7027.1F_1010_1_DI
7028.00	1008	2019	34783.30	35038.90	T7028.0F_1008_DI
7028.10	1010	2019	42229.70	42728.80	T7028.1B_1010_DI
7029.00	1008	2019	35163.20	35436.40	T7029.0B_1008_DI
7029.10	1010	2019	42846.00	43335.20	T7029.1F_1010_DI
7030.00	1008	2019	35563.30	35825.30	T7030.0F_1008_DI
7030.10	1010	2019	43463.00	43965.60	T7030.1B_1010_DI
7031.00	1008	2019	35937.90	36213.30	T7031.0B_1008_DI
7031.10	1010	2019	44063.50	44544.30	T7031.1F_1010_DI
7032.00	1008	2019	36338.90	36598.50	T7032.0F_1008_DI
7032.10	1010	2019	44670.50	45180.20	T7032.1B_1010_DI
7033.00	1008	2019	36726.00	37005.60	T7033.0B_1008_DI
7033.10	1010	2019	51827.70	52354.10	T7033.1B_1010_DI
7034.00	1008	2019	37143.00	37404.70	T7034.0F_1008_DI
7034.10	1010	2019	52478.10	52960.60	T7034.1F_1010_DI
7035.00	1008	2019	37556.50	37844.90	T7035.0B_1008_DI
7035.10	1010	2019	53102.80	53622.40	T7035.1B_1010_DI
7036.00	1008	2019	37997.00	38253.20	T7036.0F_1008_DI
7036.10	1010	2019	53742.00	54208.70	T7036.1F_1010_DI
7037.00	1008	2019	38396.10	38678.00	T7037.0B_1008_DI

Digital Video Inventory – A7 Block

Flight Line	Flight	YEAR	Data Time Start	Data Time End	Video Filename (.avi)
7037.10	1010	2019	54362.20	54870.30	T7037.1B_1010_DI
7038.00	1008	2019	38835.00	39084.60	T7038.0F_1008_DI
7038.10	1010	2019	54989.20	55460.80	T7038.1F_1010_DI
7039.00	1008	2019	39215.20	39492.30	T7039.0B_1008_DI
7039.10	1010	2019	55583.80	56119.80	T7039.1B_1010_DI
7040.00	1008	2019	39615.20	39876.30	T7040.0F_1008_DI
7040.10	1010	2019	56237.10	56703.60	T7040.1F_1010_DI
7041.00	1008	2019	39996.50	40278.10	T7041.0B_1008_DI
7041.10	1010	2019	56791.20	57310.00	T7041.1B_1010_DI
7042.00	1008	2019	50531.80	51270.10	T7042.0F_1008_2_DI
7042.01	1008	2019	53835.90	54001.40	T7042.0B_1008_DI
7043.00	1008	2019	51988.30	52645.90	T7043.0B_1008_DI
7043.01	1008	2019	54201.00	54444.70	T7043.0F_1008_DI
7044.00	1008	2019	52813.00	53729.10	T7044.0F_1008_DI
7045.00	1012	2019	33804.40	34745.80	T7045.0F_1012_DI
7046.00	1012	2019	34851.70	35697.60	T7046.0B_1012_DI
7047.00	1012	2019	35888.40	36841.00	T7047.0F_1012_DI
7048.00	1012	2019	36965.90	37841.90	T7048.0B_1012_1_DI
7049.00	1012	2019	37998.10	38982.60	T7049.0F_1012_DI
7050.00	1012	2019	39091.00	39978.00	T7050.0B_1012_DI
7051.00	1012	2019	40151.80	41088.80	T7051.0F_1012_DI
7052.00	1012	2019	41189.30	42037.80	T7052.0B_1012_DI
7053.00	1012	2019	42189.90	43142.30	T7053.0F_1012_DI
7054.00	1012	2019	43282.00	44147.30	T7054.0B_1012_DI
7055.00	1013	2019	50617.60	51595.10	T7055.0F_1013_DI
7056.00	1010	2019	37752.80	38692.90	T7056.0B_1010_DI
7057.00	1010	2019	38811.40	39694.10	T7057.0F_1010_DI
7058.00	1010	2019	50809.60	51666.30	T7058.0F_1010_DI
7059.00	1010	2019	57851.40	58715.50	T7059.0F_1010_DI
7060.00	1010	2019	58840.40	59801.30	T7060.0B_1010_DI
7061.00	1010	2019	59921.90	60777.80	T7061.0F_1010_1_DI
7062.00	1013	2019	52015.20	52937.20	T7062.0B_1013_DI
7063.00	1013	2019	53099.10	54075.00	T7063.0F_1013_DI
7064.00	1013	2019	54199.30	55070.00	T7064.0B_1013_DI
7065.00	1013	2019	55239.20	56195.40	T7065.0F_1013_DI
7066.00	1013	2019	56322.50	57237.30	T7066.0B_1013_DI
7067.00	1013	2019	57395.30	58355.00	T7067.0F_1013_DI
7068.00	1013	2019	58459.00	59334.40	T7068.0B_1013_DI
7069.00	1003	2019	62233.60	63086.10	T7069.0F_1003_DI
7070.00	1003	2019	61118.00	62095.80	T7070.0B_1003_DI
7071.00	1003	2019	60113.30	60974.20	T7071.0F_1003_DI
7072.00	1003	2019	58994.30	59987.20	T7072.0B_1003_DI
7073.00	1003	2019	57993.90	58840.00	T7073.0F_1003_DI
7074.00	1003	2019	56713.20	57866.20	T7074.0B_1003_DI
7075.00	1003	2019	55645.50	56588.40	T7075.0F_1003_DI
7076.00	1003	2019	54350.50	55525.70	T7076.0B_1003_DI
7077.00	1003	2019	53234.50	54211.90	T7077.0F_1003_1_DI

Digital Video Inventory – A7 Block

Flight Line	Flight	YEAR	Data Time Start	Data Time End	Video Filename (.avi)
7078.00	1003	2019	47266.50	48375.00	T7078.0B_1003_DI
7079.00	1003	2019	46191.10	47133.20	T7079.0F_1003_DI
7080.00	1003	2019	44924.00	46052.10	T7080.0B_1003_DI
7081.00	1003	2019	43821.30	44775.90	T7081.0F_1003_DI
7082.00	1003	2019	42653.40	43694.30	T7082.0B_1003_DI
7083.00	1003	2019	41587.70	42512.10	T7083.0F_1003_DI
7084.00	1003	2019	40340.30	41425.00	T7084.0B_1003_DI
7085.00	1003	2019	39270.50	40210.00	T7085.0F_1003_DI
7086.00	1006	2019	43957.80	44908.30	T7086.0F_1006_DI
7087.00	1006	2019	45041.20	46056.20	T7087.0B_1006_DI
7088.00	1006	2019	46204.90	47189.20	T7088.0F_1006_DI
7089.00	1006	2019	47312.60	48343.70	T7089.0B_1006_DI
7090.00	1006	2019	48468.40	49428.90	T7090.0F_1006_DI
7091.00	1006	2019	49577.90	50602.70	T7091.0B_1006_DI
7092.00	1006	2019	50740.70	51714.70	T7092.0F_1006_DI
7093.00	1006	2019	51859.50	52895.50	T7093.0B_1006_DI
7094.00	1006	2019	53022.80	53989.90	T7094.0F_1006_DI
7095.00	1006	2019	54123.00	55154.20	T7095.0B_1006_DI
7096.00	1006	2019	60100.70	61063.10	T7096.0F_1006_DI
7097.00	1006	2019	61225.70	62322.70	T7097.0B_1006_DI
7098.00	1006	2019	62467.80	63436.30	T7098.0F_1006_DI
7099.00	1017	2019	31295.60	32607.00	T7099.0F_1017_DI
7100.00	1017	2019	32730.70	33944.20	T7100.0B_1017_DI
7101.00	1017	2019	34093.70	35453.00	T7101.0F_1017_DI
7102.00	1017	2019	35581.30	36808.40	T7102.0B_1017_DI
7103.00	1017	2019	36943.60	38328.20	T7103.0F_1017_DI
7104.00	1017	2019	38423.00	39651.70	T7104.0B_1017_DI
7105.00	1017	2019	39760.20	41090.80	T7105.0F_1017_DI
7106.00	1024	2019	36036.50	37357.90	T7106.0B_1024_DI
7107.00	1017	2019	60303.90	61586.90	T7107.0B_1017_DI
7108.00	1017	2019	58887.10	60184.20	T7108.0F_1017_DI
7109.00	1017	2019	41194.80	42417.40	T7109.0B_1017_DI
7110.00	1017	2019	48901.70	50170.60	T7110.0B_1017_1_DI
7111.00	1017	2019	47445.90	48777.60	T7111.0F_1017_DI
7112.00	1016	2019	32236.80	33619.20	T7112.0F_1016_DI
7113.00	1016	2019	33779.20	34994.20	T7113.0B_1016_DI
7114.00	1016	2019	35123.50	36532.60	T7114.0F_1016_DI
7115.00	1016	2019	36682.00	37892.90	T7115.0B_1016_DI
7116.00	1016	2019	38027.60	39414.90	T7116.0F_1016_DI
7117.00	1016	2019	39555.40	40754.80	T7117.0B_1016_DI
7118.00	1016	2019	40876.40	42275.90	T7118.0F_1016_DI
7119.00	1016	2019	42428.70	43621.40	T7119.0B_1016_DI
7119.01	1044	2019	30645.50	31005.20	T7119.0F_1044_DI
7120.00	1016	2019	43748.30	45165.10	T7120.0F_1016_DI
7121.00	1016	2019	45319.90	46513.20	T7121.0B_1016_DI
7122.00	1017	2019	50290.90	51621.70	T7122.0F_1017_DI
7123.00	1017	2019	51766.60	53066.40	T7123.0B_1017_DI

Digital Video Inventory – A7 Block

Flight Line	Flight	YEAR	Data Time Start	Data Time End	Video Filename (.avi)
7124.00	1017	2019	53207.20	54512.20	T7124.0F_1017_DI
7125.00	1017	2019	54618.20	55906.30	T7125.0B_1017_DI
7126.00	1017	2019	56035.50	57361.30	T7126.0F_1017_DI
7127.00	1017	2019	57475.00	58765.60	T7127.0B_1017_DI
7128.01	1036	2019	41720.00	42993.80	T7128.0F_1036_DI
7129.00	1036	2019	43142.70	44578.90	T7129.0B_1036_DI
7130.00	1044	2019	32167.30	33512.20	T7130.0B_1044_DI
7131.00	1044	2019	33681.00	35125.40	T7131.0F_1044_DI
7132.00	1044	2019	35261.20	36595.00	T7132.0B_1044_DI
7133.00	1013	2019	59660.40	61167.60	T7133.0F_1013_DI
7134.00	1024	2019	37605.30	38979.30	T7134.0F_1024_DI
7135.00	1024	2019	39144.80	40663.80	T7135.0B_1024_DI
7136.00	1024	2019	40818.40	42143.70	T7136.0F_1024_DI
7137.00	1024	2019	31540.80	32320.90	T7137.0F_1024_DI
7137.01	1024	2019	42754.60	43918.00	T7137.0B_1024_DI
7138.00	1026	2019	43422.10	45146.50	Unavailable
7139.00	1026	2019	45303.70	47282.50	Unavailable
7140.00	1026	2019	47431.80	49165.40	Unavailable
7141.00	1026	2019	49299.80	51300.60	Unavailable
7142.00	1026	2019	51440.80	53179.60	Unavailable
7143.00	1034	2019	34558.10	36449.30	T7143.0F_1034_DI
7144.00	1034	2019	36595.50	38318.50	T7144.0B_1034_DI
7145.00	1034	2019	38478.60	40323.20	T7145.0F_1034_DI
7146.00	1034	2019	40477.60	42241.00	T7146.0B_1034_1_DI
7147.00	1034	2019	42392.40	44224.90	T7147.0F_1034_DI
7148.00	1034	2019	44376.20	46119.40	T7148.0B_1034_DI
7149.00	1034	2019	46265.50	47377.10	T7149.0F_1034_DI
7149.01	1036	2019	34211.10	34928.00	T7149.0B_1036_DI
7150.00	1034	2019	53415.80	55269.60	T7150.0F_1034_DI
7151.00	1034	2019	55423.90	57248.90	T7151.0B_1034_DI
7152.00	1034	2019	57383.40	59223.20	T7152.0F_1034_DI
7153.00	1034	2019	59376.50	61172.10	T7153.0B_1034_DI
7154.00	1034	2019	61357.40	63177.60	T7154.0F_1034_DI
7155.00	1034	2019	63311.80	65101.20	T7155.0B_1034_DI
7156.00	1034	2019	65257.70	66358.30	T7156.0F_1034_DI
7156.01	1036	2019	35091.30	35780.20	T7156.0F_1036_DI
7157.00	1036	2019	32315.30	34084.50	T7157.0F_1036_DI
7158.00	1036	2019	35940.70	37769.00	T7158.0B_1036_DI
7159.00	1036	2019	37906.00	39587.60	T7159.0F_1036_DI
7160.00	1036	2019	39716.10	41561.30	T7160.0B_1036_DI
7161.00	1042	2019	55978.70	57880.20	T7161.0F_1042_DI
7162.00	1042	2019	57997.10	59701.70	T7162.0B_1042_DI
7163.00	1042	2019	59842.70	61039.80	T7163.0F_1042_DI
7163.01	1046	2019	34887.80	35589.70	T7163.0B_1046_DI
7164.00	1042	2019	61222.20	62251.60	T7164.0B_1042_DI
7164.01	1046	2019	35837.80	36493.90	T7164.0F_1046_DI
7165.00	1046	2019	29103.90	30950.90	T7165.0F_1046_DI

Digital Video Inventory – A7 Block

Flight Line	Flight	YEAR	Data Time Start	Data Time End	Video Filename (.avi)
7166.00	1046	2019	31103.30	32816.80	T7166.0B_1046_DI
7167.00	1046	2019	32985.60	33862.20	T7167.0F_1046_DI
7167.01	1046	2019	34011.30	34769.50	T7167.0F_1046_DI
7167.02	1054	2019	44594.60	44738.30	T7167.0B_1054_DI
7168.00	1042	2019	30377.30	32183.60	T7168.0F_1042_DI
7169.00	1042	2019	34177.10	35829.60	T7169.0B_1042_DI
7170.00	1042	2019	35988.70	37873.70	T7170.0F_1042_DI
7171.00	1042	2019	37993.80	39678.40	T7171.0B_1042_DI
7172.00	1042	2019	39814.90	41685.00	T7172.0F_1042_DI
7173.00	1042	2019	41803.00	43488.60	T7173.0B_1042_DI
7174.00	1042	2019	48176.20	50086.30	T7174.0F_1042_1_DI
7175.00	1042	2019	50214.40	51929.80	T7175.0B_1042_DI
7176.00	1042	2019	52079.40	54005.30	T7176.0F_1042_DI
7177.00	1042	2019	54126.00	55849.90	T7177.0B_1042_DI
7178.00	1044	2019	36814.70	38621.00	T7178.0F_1044_DI
7179.00	1044	2019	42466.10	44227.10	T7179.0B_1044_DI
7180.00	1044	2019	49738.80	51567.40	T7180.0F_1044_1_DI
7181.00	1044	2019	51708.60	53474.40	T7181.0B_1044_DI
7182.00	1044	2019	53644.40	55439.20	T7182.0F_1044_DI
7183.00	1044	2019	55565.30	57313.80	T7183.0B_1044_DI
7184.00	1044	2019	57481.20	59263.30	T7184.0F_1044_DI
7185.00	1044	2019	59394.20	61112.60	T7185.0B_1044_DI
7186.00	1044	2019	61290.60	62170.10	T7186.0F_1044_DI
7186.01	1047	2019	36689.50	37521.40	T7186.0F_1047_DI
7187.00	1044	2019	62344.60	63220.90	T7187.0B_1044_DI
7187.01	1047	2019	35585.50	36546.90	T7187.0B_1047_DI
7188.00	1047	2019	33735.80	35429.30	T7188.0F_1047_DI
7189.00	1047	2019	38060.70	39954.30	T7189.0B_1047_DI
7190.00	1047	2019	40093.20	41367.30	T7190.0F_1047_DI
7190.01	1047	2019	41480.40	41740.80	T7190.0F_1047_DI
7190.02	1071	2019	43219.90	43342.30	T7190.0F_1071_DI
7191.00	1047	2019	41933.10	43844.50	T7191.0B_1047_DI
7192.00	1047	2019	43992.30	44987.40	T7192.0F_1047_DI
7192.01	1049	2019	36706.40	37403.30	T7192.0B_1049_DI
7193.00	1047	2019	45154.80	46363.30	T7193.0B_1047_DI
7193.02	1050	2019	35470.00	36119.60	T7193.0F_1050_DI
7194.00	1049	2019	34893.20	36538.60	T7194.0F_1049_DI
7195.00	1049	2019	38886.20	39810.80	T7195.0B_1049_DI
7195.01	1050	2019	34273.60	35111.80	T7195.0B_1050_DI
7196.00	1050	2019	32360.60	34122.10	T7196.0F_1050_DI
7197.00	1050	2019	36241.90	37940.90	T7197.0B_1050_DI
7198.00	1048	2019	30683.80	32373.80	T7198.0F_1048_DI
7199.01	1071	2019	43732.60	45672.20	T7199.0B_1071_DI
7200.00	1048	2019	34467.50	36151.40	T7200.0F_1048_DI
7201.00	1048	2019	36306.40	38091.80	T7201.0B_1048_DI
7202.00	1048	2019	38276.00	39907.30	T7202.0F_1048_DI
7203.01	1069	2019	40847.90	42616.70	T7203.0B_1069_DI

Digital Video Inventory – A7 Block

Flight Line	Flight	YEAR	Data Time Start	Data Time End	Video Filename (.avi)
7204.00	1050	2019	38086.50	39874.20	T7204.0F_1050_DI
7205.00	1050	2019	40017.60	41733.00	T7205.0B_1050_DI
7206.01	1051	2019	31350.60	33119.20	T7206.0F_1050_DI
7207.00	1050	2019	42758.00	43428.50	T7207.0B_1050_DI
7207.01	1052	2019	35062.30	36086.10	T7207.0F_1052_DI
7208.00	1051	2019	33237.50	34987.70	T7208.0B_1051_DI
7209.00	1051	2019	35158.50	36927.70	T7209.0F_1051_DI
7210.00	1051	2019	37046.20	38724.70	T7210.0B_1051_DI
7211.00	1051	2019	38885.30	40661.30	T7211.0F_1051_DI
7212.00	1051	2019	40794.00	42540.90	T7212.0B_1051_DI
7213.00	1052	2019	36202.60	37978.10	T7213.0B_1052_DI
7214.00	1052	2019	38150.60	39872.80	T7214.0F_1052_DI
7215.00	1052	2019	39979.30	41746.10	T7215.0B_1052_DI
7216.00	1052	2019	41915.80	42617.60	T7216.0F_1052_DI
7216.01	1053	2019	51166.90	52136.10	T7216.0B_1053_DI
7217.00	1052	2019	42869.10	43678.20	T7217.0B_1052_DI
7217.01	1053	2019	52543.20	53248.80	T7217.0F_1053_1_DI
7217.02	1054	2019	38710.30	38991.40	T7217.0B_1054_DI
7218.00	1053	2019	49320.00	51051.30	T7218.0F_1053_DI
7219.00	1053	2019	53425.70	54821.10	T7219.0B_1053_DI
7219.01	1054	2019	39726.80	40025.50	T7219.0F_1054_DI
7220.00	1054	2019	32888.40	34697.30	T7220.0F_1054_DI
7221.00	1054	2019	34859.30	36554.80	T7221.0B_1054_DI
7222.00	1054	2019	36692.00	38545.00	T7222.0F_1054_DI
7223.00	1054	2019	40207.20	41847.00	T7223.0B_1054_DI
7224.00	1054	2019	42010.10	43811.10	T7224.0F_1054_DI
7225.00	1069	2019	38849.70	40726.40	T7225.0F_1069_DI
7226.00	1069	2019	36834.10	38615.70	T7226.0B_1069_1_DI
7227.00	1069	2019	34714.20	36660.70	T7227.0F_1069_DI
7228.00	1069	2019	32736.60	34488.50	T7228.0B_1069_DI
7229.00	1069	2019	30632.40	32573.80	T7229.0F_1069_DI
7230.00	1068	2019	55204.30	56934.70	T7230.0B_1068_DI
7231.00	1068	2019	53129.60	55043.10	T7231.0F_1068_DI
7232.00	1068	2019	51196.60	52911.80	T7232.0B_1068_DI
7233.00	1068	2019	49167.80	51046.40	T7233.0F_1068_DI
7234.00	1068	2019	47298.80	48997.30	T7234.0B_1068_DI
7235.00	1068	2019	45235.70	47137.40	T7235.0F_1068_DI
7236.00	1059	2019	52289.40	54180.20	T7236.0B_1059_DI
7237.00	1059	2019	50529.10	52138.10	T7237.0F_1059_DI
7238.00	1059	2019	41712.90	43579.10	T7238.0B_1059_DI
7239.00	1059	2019	39971.00	41560.50	T7239.0F_1059_DI
7240.00	1058	2019	30370.80	32003.00	T7240.0F_1058_DI
7241.00	1058	2019	35376.00	37218.60	T7241.0B_1058_DI
7242.00	1058	2019	37327.70	38903.80	T7242.0F_1058_1_DI
7243.00	1058	2019	39067.30	40960.20	T7243.0B_1058_DI
7244.00	1057	2019	41144.80	42370.90	T7244.0B_1057_DI
7244.01	1058	2019	32160.50	32710.00	T7244.0B_1058_DI

Digital Video Inventory – A7 Block

Flight Line	Flight	YEAR	Data Time Start	Data Time End	Video Filename (.avi)
7245.00	1057	2019	39719.30	40975.50	T7245.0F_1057_DI
7245.01	1058	2019	32973.60	33378.10	T7245.0F_1058_DI
7246.00	1057	2019	38605.90	39587.10	T7246.0B_1057_DI
7246.01	1058	2019	33547.40	34344.60	T7246.0B_1058_DI
7247.00	1057	2019	37480.70	38451.00	T7247.0F_1057_DI
7247.01	1058	2019	34589.90	35266.40	T7247.0F_1058_DI
7248.00	1057	2019	30008.10	31715.30	T7248.0F_1057_DI
7249.00	1057	2019	31902.30	33568.80	T7249.0B_1057_DI
7250.00	1057	2019	33732.30	35497.50	T7250.0F_1057_DI
7251.00	1057	2019	35668.40	37355.80	T7251.0B_1057_DI
7252.00	1056	2019	30100.80	31786.20	T7252.0F_1056_DI
7253.00	1056	2019	31975.40	33711.40	T7253.0B_1056_DI
7254.00	1056	2019	33857.30	35557.30	T7254.0F_1056_DI
7255.00	1056	2019	35722.30	37420.70	T7255.0B_1056_DI
7256.00	1040	2019	43768.60	45547.00	T7256.0F_1040_DI
7257.00	1040	2019	45701.70	47350.60	T7257.0B_1040_1_DI
7258.00	1056	2019	37793.20	38646.00	T7258.0F_1056_DI
7258.01	1059	2019	36562.40	37148.60	T7258.0B_1059_DI
7259.00	1056	2019	38823.50	39733.90	T7259.0B_1056_DI
7259.01	1059	2019	32926.00	33342.50	T7259.0F_1059_DI
7260.00	1056	2019	39869.20	40742.40	T7260.0F_1056_DI
7260.01	1059	2019	32212.50	32752.90	T7260.0B_1059_DI
7261.00	1056	2019	40934.10	41861.30	T7261.0B_1056_DI
7261.01	1059	2019	31643.50	32045.10	T7261.0F_1059_DI
7262.00	1059	2019	33513.40	34983.90	T7262.0B_1059_DI
7263.00	1059	2019	35113.90	36416.80	T7263.0F_1059_DI
7264.00	1059	2019	37990.10	39485.70	T7264.0B_1059_DI
7265.00	1038	2019	31539.40	32806.40	T7265.0B_1038_DI
7266.00	1038	2019	32948.10	34302.50	T7266.0F_1038_DI
7267.00	1038	2019	34416.40	35661.60	T7267.0B_1038_DI
7268.00	1038	2019	35803.30	37143.30	T7268.0F_1038_DI
7269.00	1038	2019	37335.20	38555.90	T7269.0B_1038_DI
7270.00	1038	2019	38702.40	40035.60	T7270.0F_1038_DI
7271.00	1038	2019	40193.60	41428.50	T7271.0B_1038_DI
7272.00	1038	2019	48250.00	49557.20	T7272.0F_1038_1_DI
7273.00	1038	2019	49720.70	51011.40	T7273.0B_1038_DI
7274.00	1038	2019	51144.80	52449.70	T7274.0F_1038_DI
7275.00	1038	2019	52632.60	53947.00	T7275.0B_1038_DI
7276.00	1038	2019	54091.80	55372.70	T7276.0F_1038_DI
7277.00	1038	2019	55543.60	56830.00	T7277.0B_1038_DI
7278.00	1038	2019	56972.80	58250.40	T7278.0F_1038_DI
7279.00	1038	2019	59167.30	60437.30	T7279.0B_1038_DI
7280.00	1040	2019	47753.10	49169.90	T7280.0F_1040_DI
7281.00	1040	2019	49293.50	50532.10	T7281.0B_1040_DI
7282.00	1040	2019	50682.40	52041.20	T7282.0F_1040_DI
7283.00	1038	2019	29993.40	31102.10	T7283.0F_1038_DI
7283.01	1038	2019	58460.50	58698.40	T7283.0B_1038_DI

Digital Video Inventory – A7 Block

Flight Line	Flight	YEAR	Data Time Start	Data Time End	Video Filename (.avi)
7284.00	1023	2019	49247.00	50533.30	T7284.0F_1023_DI
7285.00	1023	2019	50682.40	51905.10	T7285.0B_1023_DI
7286.00	1023	2019	52040.30	53308.00	T7286.0F_1023_DI
7287.00	1023	2019	53469.60	54649.00	T7287.0B_1023_DI
7288.00	1023	2019	54778.40	56037.50	T7288.0F_1023_DI
7289.00	1023	2019	56212.40	57401.70	T7289.0B_1023_DI
7290.00	1037	2019	44553.90	45715.80	T7290.0F_1037_DI
7291.00	1037	2019	45878.10	47181.20	T7291.0B_1037_DI
7292.00	1037	2019	47312.10	48494.30	T7292.0F_1037_DI
7293.00	1037	2019	48638.30	49862.40	T7293.0B_1037_DI
7294.00	1059	2019	30203.90	31052.10	T7294.0F_1059_DI
7294.01	1062	2019	55843.60	56167.00	T7294.0F_1062_DI
7295.00	1029	2019	30757.80	32023.40	T7295.0F_1029_DI
7296.00	1029	2019	32145.40	33395.60	T7296.0B_1029_DI
7297.00	1029	2019	33554.60	34794.70	T7297.0F_1029_DI
7298.00	1029	2019	34933.40	36199.00	T7298.0B_1029_DI
7299.00	1029	2019	36342.70	37585.60	T7299.0F_1029_DI
7300.00	1029	2019	37731.10	38952.80	T7300.0B_1029_DI
7301.00	1029	2019	39095.60	40367.10	T7301.0F_1029_DI
7302.00	1029	2019	40514.70	41724.60	T7302.0B_1029_1_DI
7303.00	1029	2019	41871.50	43103.20	T7303.0F_1029_DI
7304.00	1029	2019	43235.60	44357.90	T7304.0B_1029_DI
7305.00	1029	2019	52476.70	53671.30	T7305.0F_1029_DI
7306.00	1029	2019	53842.30	55000.00	T7306.0B_1029_DI
7307.00	1029	2019	55134.30	56309.30	T7307.0F_1029_DI
7308.00	1029	2019	56475.20	57582.00	T7308.0B_1029_DI
7309.00	1029	2019	57726.60	58900.30	T7309.0F_1029_DI
7310.00	1029	2019	59050.60	60158.20	T7310.0B_1029_DI
7311.00	1029	2019	60284.00	61401.20	T7311.0F_1029_DI
7312.00	1029	2019	61548.10	62644.40	T7312.0B_1029_DI
7313.00	1029	2019	62769.20	63482.10	T7313.0F_1029_DI
7313.01	1040	2019	54666.30	55073.30	T7313.0B_1040_DI
7314.00	1037	2019	50034.70	51133.80	T7314.0F_1037_DI
7315.00	1037	2019	51288.00	52414.20	T7315.0B_1037_DI
7316.00	1040	2019	52231.10	53257.40	T7316.0B_1040_DI
7317.00	1040	2019	53411.20	54519.90	T7317.0F_1040_DI
7318.00	1046	2019	38406.60	39350.70	T7318.0B_1046_DI
7318.01	1062	2019	59537.30	59676.40	T7318.0B_1062_DI
7319.00	1059	2019	54738.80	55746.20	T7319.0F_1059_DI
7320.00	1059	2019	56379.40	57321.20	T7320.0B_1059_DI
7320.01	1062	2019	31080.30	31284.30	T7320.0B_1062_DI
7321.00	1059	2019	57459.50	58173.70	T7321.0F_1059_DI
7321.01	1062	2019	30650.90	30941.20	T7321.0F_1062_DI
7322.00	1059	2019	58356.60	59226.70	T7322.0B_1059_DI
7322.01	1062	2019	31557.00	31822.90	T7322.0F_1062_DI
7323.00	1059	2019	59357.50	60080.00	T7323.0F_1059_DI
7323.01	1062	2019	31999.30	32295.30	T7323.0B_1062_DI

Digital Video Inventory – A7 Block

Flight Line	Flight	YEAR	Data Time Start	Data Time End	Video Filename (.avi)
7324.00	1059	2019	60286.90	61160.60	T7324.0B_1059_DI
7324.01	1062	2019	32561.20	32824.90	T7324.0F_1062_DI
7325.00	1062	2019	32978.30	34048.70	T7325.0B_1062_DI
7326.00	1062	2019	34199.30	35267.90	T7326.0F_1062_DI
7327.00	1062	2019	35413.90	35809.40	T7327.0B_1062_DI
7327.01	1067	2019	53498.50	54184.50	T7327.0F_1067_DI
7328.00	1062	2019	35933.00	36322.30	T7328.0F_1062_DI
7328.01	1067	2019	52500.20	53251.10	T7328.0B_1067_DI
7329.00	1062	2019	36493.10	36896.80	T7329.0B_1062_DI
7329.01	1067	2019	51574.20	52273.80	T7329.0F_1067_DI
7330.00	1062	2019	37092.00	37481.60	T7330.0F_1062_DI
7330.01	1067	2019	50608.40	51334.90	T7330.0B_1067_DI
7331.00	1062	2019	37635.90	38027.10	T7331.0B_1062_DI
7331.01	1067	2019	49719.10	50429.10	T7331.0F_1067_DI
7332.00	1061	2019	52881.10	53645.70	T7332.0B_1061_DI
7332.01	1062	2019	38307.40	38603.80	T7332.0F_1062_DI
7333.00	1061	2019	51590.50	52154.20	T7333.0F_1061_DI
7333.01	1061	2019	52509.50	52700.60	T7333.0F_1061_DI
7333.02	1062	2019	38747.50	39048.90	T7333.0B_1062_DI
7334.00	1061	2019	50694.70	51439.30	T7334.0B_1061_DI
7334.01	1062	2019	39263.30	39550.60	T7334.0F_1062_DI
7335.00	1061	2019	49735.80	50498.50	T7335.0F_1061_DI
7335.01	1062	2019	39699.90	40007.50	T7335.0B_1062_DI
7336.00	1061	2019	48816.50	49591.10	T7336.0B_1061_DI
7336.01	1062	2019	40218.50	40517.50	T7336.0F_1062_DI
7337.00	1061	2019	47903.00	48666.60	T7337.0F_1061_DI
7337.01	1062	2019	40667.20	40983.00	T7337.0B_1062_DI
7338.00	1061	2019	47008.00	47768.40	T7338.0B_1061_DI
7338.01	1062	2019	41221.50	41523.30	T7338.0F_1062_DI
7339.00	1061	2019	46083.10	46826.70	T7339.0F_1061_DI
7339.01	1062	2019	41670.70	41979.70	T7339.0B_1062_DI
7340.00	1061	2019	45209.40	45922.00	T7340.0B_1061_DI
7340.01	1062	2019	56366.50	56725.00	T7340.0B_1062_DI
7341.00	1027	2019	30730.60	31522.20	T7341.0F_1027_DI
7341.01	1027	2019	41483.00	41630.60	T7341.0B_1027_DI
7342.00	1027	2019	61906.40	62775.80	T7342.0B_1027_DI
7343.00	1027	2019	60826.00	61772.20	T7343.0F_1027_DI
7344.00	1027	2019	59850.20	60694.80	T7344.0B_1027_DI
7345.00	1027	2019	58771.20	59720.60	T7345.0F_1027_DI
7346.00	1027	2019	57797.40	58641.40	T7346.0B_1027_DI
7347.00	1027	2019	56733.30	57660.10	T7347.0F_1027_DI
7348.00	1027	2019	55756.00	56585.10	T7348.0B_1027_DI
7349.00	1027	2019	54683.40	55614.20	T7349.0F_1027_DI
7350.00	1027	2019	53730.20	54552.50	T7350.0B_1027_DI
7351.00	1027	2019	52693.00	53614.60	T7351.0F_1027_DI
7352.00	1027	2019	51739.90	52549.60	T7352.0B_1027_DI
7353.00	1027	2019	50634.90	51603.50	T7353.0F_1027_DI

Digital Video Inventory – A7 Block

Flight Line	Flight	YEAR	Data Time Start	Data Time End	Video Filename (.avi)
7354.00	1027	2019	41933.50	42722.00	T7354.0B_1027_DI
7355.00	1027	2019	40467.10	41327.80	T7355.0F_1027_DI
7356.00	1027	2019	39506.50	40295.90	T7356.0B_1027_DI
7357.00	1027	2019	38447.50	39405.40	T7357.0F_1027_DI
7358.00	1027	2019	37443.80	38310.80	T7358.0B_1027_DI
7359.00	1027	2019	36439.70	37324.00	T7359.0F_1027_DI
7360.00	1027	2019	35469.50	36263.70	T7360.0B_1027_DI
7361.00	1027	2019	34458.00	35363.60	T7361.0F_1027_DI
7362.00	1027	2019	33542.90	34308.70	T7362.0B_1027_DI
7363.00	1027	2019	32625.80	33451.20	T7363.0F_1027_DI
7364.00	1027	2019	31744.20	32477.50	T7364.0B_1027_DI
7365.00	1021	2019	62849.50	63650.50	T7365.0B_1021_DI
7366.00	1021	2019	61901.60	62702.80	T7366.0F_1021_DI
7367.00	1021	2019	60947.40	61712.00	T7367.0B_1021_DI
7368.00	1021	2019	60039.50	60826.80	T7368.0F_1021_DI
7369.00	1021	2019	59094.50	59898.50	T7369.0B_1021_DI
7370.00	1021	2019	58127.70	58950.40	T7370.0F_1021_DI
7371.00	1021	2019	57162.50	57889.10	T7371.0B_1021_DI
7372.00	1021	2019	56254.70	57015.10	T7372.0F_1021_DI
7373.00	1021	2019	55443.70	56144.10	T7373.0B_1021_DI
7374.00	1021	2019	54598.10	55332.10	T7374.0F_1021_DI
7375.00	1021	2019	53710.00	54441.40	T7375.0B_1021_DI
7376.00	1021	2019	52838.50	53583.90	T7376.0F_1021_DI
7377.00	1021	2019	43319.40	44050.00	T7377.0B_1021_DI
7378.00	1021	2019	42469.10	43206.60	T7378.0F_1021_1_DI
7379.00	1021	2019	35905.00	36645.10	T7379.0B_1021_1_DI
7380.00	1021	2019	35079.00	35787.40	T7380.0F_1021_1_DI
7381.00	1021	2019	34254.20	34919.90	T7381.0B_1021_DI
7382.00	1021	2019	33426.60	34130.80	T7382.0F_1021_DI
7383.00	1019	2019	56749.00	57448.50	T7383.0B_1019_DI
7384.00	1019	2019	55933.60	56610.30	T7384.0F_1019_DI
7385.00	1019	2019	55107.10	55783.90	T7385.0B_1019_DI
7386.00	1019	2019	54282.30	54967.50	T7386.0F_1019_DI
7387.00	1019	2019	53465.50	54145.50	T7387.0B_1019_DI
7388.00	1019	2019	52676.00	53337.60	T7388.0F_1019_DI
7389.00	1019	2019	51840.80	52539.30	T7389.0B_1019_DI
7390.00	1019	2019	51032.50	51700.90	T7390.0F_1019_DI
7391.00	1019	2019	50197.50	50890.30	T7391.0B_1019_DI
7392.00	1019	2019	49383.90	50031.30	T7392.0F_1019_DI
7393.00	1019	2019	48516.70	49227.60	T7393.0B_1019_DI
7394.00	1019	2019	47714.20	48376.70	T7394.0F_1019_DI
7395.00	1019	2019	46851.20	47553.50	T7395.0B_1019_DI
7396.00	1019	2019	46020.20	46726.30	T7396.0F_1019_DI
7397.00	1021	2019	36749.50	37421.50	T7397.0F_1021_DI
7398.00	1021	2019	37554.30	38213.70	T7398.0B_1021_DI
7399.00	1021	2019	38395.30	38892.10	T7399.0F_1021_DI
7400.00	1021	2019	39007.80	39562.00	T7400.0B_1021_DI

Digital Video Inventory – A7 Block

Flight Line	Flight	YEAR	Data Time Start	Data Time End	Video Filename (.avi)
7401.00	1021	2019	39707.60	40240.10	T7401.0F_1021_DI
7402.00	1021	2019	40374.70	40878.60	T7402.0B_1021_DI
7403.00	1021	2019	41018.60	41490.60	T7403.0F_1021_DI
7404.00	1021	2019	41615.50	42167.50	T7404.0B_1021_DI
7405.00	1032	2019	33350.50	33858.30	T7405.0F_1032_DI
7406.00	1032	2019	33998.50	34489.40	T7406.0B_1032_DI
7407.00	1032	2019	34652.30	35169.60	T7407.0F_1032_DI
7408.00	1032	2019	35318.00	35817.90	T7408.0B_1032_DI
7409.00	1032	2019	35938.30	36456.50	T7409.0F_1032_DI
7410.00	1032	2019	36594.50	37083.90	T7410.0B_1032_DI
7411.00	1032	2019	37240.10	37759.90	T7411.0F_1032_DI
7412.00	1032	2019	37916.20	38437.40	T7412.0B_1032_DI
7413.00	1032	2019	38561.80	39066.90	T7413.0F_1032_DI
7414.00	1032	2019	39212.60	39713.90	T7414.0B_1032_DI
7415.01	1041	2019	31032.40	31530.80	T7415.0F_1041_DI
7416.00	1041	2019	31665.00	32196.50	T7416.0B_1041_DI
7417.00	1041	2019	32333.70	32822.40	T7417.0F_1041_DI
7418.00	1041	2019	32945.40	33461.60	T7418.0B_1041_DI
7419.00	1041	2019	33630.10	34086.00	T7419.0F_1041_DI
7420.00	1041	2019	34234.20	34746.70	T7420.0B_1041_DI
7421.00	1041	2019	34893.10	35360.80	T7421.0F_1041_DI
7422.00	1041	2019	35484.40	35977.70	T7422.0B_1041_DI
7423.00	1041	2019	36153.40	36612.10	T7423.0F_1041_DI
7424.00	1041	2019	36729.90	37235.90	T7424.0B_1041_DI
7425.00	1041	2019	37374.20	37843.40	T7425.0F_1041_DI
7426.00	1041	2019	37973.00	38490.10	T7426.0B_1041_DI
7427.00	1041	2019	38649.30	39112.60	T7427.0F_1041_DI
7428.00	1041	2019	39229.90	39639.80	T7428.0B_1041_DI
7429.00	1041	2019	39771.20	40148.30	T7429.0F_1041_DI
7430.00	1041	2019	40292.60	40680.30	T7430.0B_1041_DI
7431.00	1041	2019	40820.70	41182.40	T7431.0F_1041_DI
7432.00	1032	2019	32494.60	32775.60	T7432.0B_1032_DI
7432.01	1032	2019	39868.90	39965.80	T7432.0F_1032_1_DI
7433.00	1032	2019	31951.10	32347.90	T7433.0F_1032_DI
7434.00	1032	2019	31433.00	31802.40	T7434.0B_1032_DI
7435.00	1032	2019	30899.20	31302.10	T7435.0F_1032_DI
7436.00	1024	2019	63324.20	63710.00	T7436.0B_1024_DI
7437.00	1024	2019	62893.30	63216.90	T7437.0F_1024_DI
7438.00	1024	2019	62414.80	62785.50	T7438.0B_1024_DI
7439.00	1024	2019	61943.50	62278.30	T7439.0F_1024_DI
7440.00	1024	2019	61444.30	61820.50	T7440.0B_1024_DI
7441.00	1024	2019	60986.30	61310.90	T7441.0F_1024_DI
7442.00	1024	2019	60441.40	60836.10	T7442.0B_1024_DI
7443.00	1024	2019	59973.30	60318.60	T7443.0F_1024_DI
7444.00	1024	2019	59455.20	59835.30	T7444.0B_1024_DI
7445.00	1024	2019	59004.60	59327.70	T7445.0F_1024_DI
7446.00	1024	2019	58463.10	58862.30	T7446.0B_1024_DI

Digital Video Inventory – A7 Block

Flight Line	Flight	YEAR	Data Time Start	Data Time End	Video Filename (.avi)
7447.00	1024	2019	57982.30	58312.00	T7447.0F_1024_DI
7448.00	1024	2019	57457.90	57833.50	T7448.0B_1024_DI
7449.00	1024	2019	56979.80	57301.10	T7449.0F_1024_DI
7450.00	1024	2019	56442.30	56838.40	T7450.0B_1024_DI
7451.00	1024	2019	52963.20	53287.60	T7451.0F_1024_DI
7452.00	1024	2019	53514.90	53928.50	T7452.0B_1024_DI
7453.00	1024	2019	54065.60	54387.20	T7453.0F_1024_DI
7454.00	1024	2019	54527.00	54930.80	T7454.0B_1024_DI
7455.00	1024	2019	55085.50	55413.50	T7455.0F_1024_DI
7456.00	1024	2019	55530.90	55915.40	T7456.0B_1024_DI
7457.00	1024	2019	56041.70	56337.30	T7457.0F_1024_DI
7458.00	1024	2019	52515.90	52855.20	T7458.0B_1024_DI
7459.00	1024	2019	52046.30	52350.90	T7459.0F_1024_DI
701.00	1003	2019	38859.20	39082.20	C0701.0B_1003_DI
702.00	1003	2019	38178.20	38563.10	C0702.0F_1003_DI
703.00	1003	2019	37609.10	38094.40	C0703.0B_1003_DI
704.00	1003	2019	36822.50	36982.30	C0704.0F_1003_DI
704.10	1003	2019	37117.00	37500.10	C0704.1F_1003_DI
705.00	1006	2019	42074.10	42760.70	C0705.0F_1006_2_DI
706.00	1006	2019	42873.50	43639.70	C0706.0B_1006_DI
707.00	1019	2019	32129.60	32913.70	C0707.0F_1019_1_DI
708.00	1019	2019	33019.10	33748.60	C0708.0B_1019_DI
709.00	1019	2019	44445.20	45211.70	C0709.0F_1019_DI
710.00	1019	2019	33873.60	34632.70	C0710.0F_1019_DI
711.00	1019	2019	34771.00	35494.90	C0711.0B_1019_DI
712.00	1021	2019	44715.60	45471.60	C0712.0B_1021_DI
713.00	1021	2019	32074.30	32786.80	C0713.0F_1021_1_DI
714.01	1068	2019	57504.80	58381.10	C0714.0B_1068_DI
715.00	1021	2019	64129.10	64870.30	C0715.0B_1021_DI
716.00	1021	2019	51578.00	52405.00	C0716.0F_1021_DI
717.00	1052	2019	30004.90	30898.40	C0717.0B_1052_DI
718.00	1024	2019	64501.20	65522.80	C0718.0B_1024_DI
719.00	1052	2019	31128.40	32101.50	C0719.0F_1052_DI
720.00	1023	2019	57718.10	58788.20	C0720.0B_1023_DI
721.00	1024	2019	32881.60	33962.50	C0721.0F_1024_DI
722.00	1024	2019	34112.70	35237.50	C0722.0B_1024_DI
723.00	1029	2019	44633.00	45645.50	C0723.0B_1029_DI
724.00	1038	2019	60887.60	61920.30	C0724.0B_1038_DI
725.00	1027	2019	62880.30	63932.50	C0725.0B_1027_DI
726.00	1027	2019	42862.60	44023.50	C0726.0B_1027_DI
727.00	1027	2019	49305.80	50459.90	C0727.0F_1027_DI
728.00	1029	2019	64031.50	65133.90	C0728.0B_1029_DI
729.00	1029	2019	50767.30	51994.40	C0729.0F_1029_DI
730.00	1052	2019	34128.50	34537.50	C0730.0F_1052_DI
730.01	1059	2019	48552.90	49356.80	C0730.0F_1059_DI
731.00	1032	2019	40435.70	41766.20	C0731.0B_1032_DI
732.00	1052	2019	32659.30	33960.60	C0732.0B_1052_DI

Digital Video Inventory – A7 Block

Flight Line	Flight	YEAR	Data Time Start	Data Time End	Video Filename (.avi)
733.00	1062	2019	57128.60	58158.30	C0733.0B_1062_DI
734.00	1041	2019	41793.50	42778.10	C0734.0B_1041_DI
735.00	1059	2019	61673.40	62675.20	C0735.0B_1059_DI
736.00	1058	2019	41976.80	43156.90	C0736.0B_1058_DI
737.00	1038	2019	42378.20	43401.10	C0737.0B_1038_DI
738.00	1040	2019	55589.20	56643.40	C0738.0B_1040_DI
739.00	1071	2019	53998.20	55220.60	C0739.0B_1071_DI
740.00	1071	2019	41534.60	42802.40	C0740.0B_1071_DI
741.00	1067	2019	54685.10	55922.90	C0741.0B_1067_DI
742.00	1062	2019	47837.90	48686.00	C0742.0F_1062_1_DI
742.01	1062	2019	58499.10	58775.70	C0742.0F_1062_2_DI
743.00	1071	2019	40260.30	41354.60	C0743.0F_1071_DI
744.00	1062	2019	48841.50	49997.20	C0744.0B_1062_DI
745.00	1062	2019	50089.70	51175.70	C0745.0F_1062_DI
746.00	1066	2019	32364.00	33417.00	C0746.0B_1066_DI
747.00	1071	2019	38795.10	39953.80	C0747.0B_1071_DI
748.00	1062	2019	51375.90	52400.50	C0748.0B_1062_DI
749.00	1062	2019	52521.60	53489.00	C0749.0F_1062_DI
750.00	1062	2019	53652.60	54655.60	C0750.0B_1062_DI
751.00	1046	2019	36884.90	37882.50	C0751.0F_1046_DI
752.00	1044	2019	38958.90	39828.00	C0752.0F_1044_DI
753.00	1044	2019	40001.10	40741.60	C0753.0B_1044_DI
754.00	1044	2019	40854.40	41500.40	C0754.0F_1044_DI
755.00	1044	2019	41661.70	42173.90	C0755.0B_1044_DI
756.00	1042	2019	32450.80	32858.20	C0756.0F_1042_DI
757.00	1042	2019	33042.80	33359.80	C0757.0B_1042_DI
758.00	1042	2019	33471.30	33644.70	C0758.0F_1042_DI
759.00	1042	2019	33918.50	33982.10	C0759.0B_1042_DI