GTK DATA FORMAT DESCRIPTION / Sokli

XYZ Files

There is one Geosoft XYZ file corresponding to each survey method (magnetic, radiometric and electromagnetic measurements). The original coordinate system was based on Gauss-Krueger projection and central meridian of 30°E for zone 4 map sheets (KKJ4).

The survey line spacing was 75 meters and the flight direction 90° (clockwise from north). The flight altitude was 30 meters.

The measurement system specification was as follow:

Aircraft:	Magnetometers			Electromagnetics				Radiometrics	
Twin Otter	Magnetometrit			Sähkömagneettinen				Radiometrinen	
Year	Sensors / Anturit		Registration	Coil distance	Frequency	Moment	Registration	Crystal volume	Channels
Vuosi	C=Cesium		Tallennusväli	Kelaväli	Taajuus	Momentti	Tallennusväli	Kidetilavuus	Kanavia
	Number of sensors	Sensor	(1/s)	(m)	(Hz)	(Am*2)	(1/s)	(l)	N:o
2008	2	C	10	21,36	912/3005/11962/24510	190/127/49/27	4/4	41 (33+8)	256

Electromagnetic coil configuration was vertical coplanar. Apparent resistivity and depth was calculated from primary EM components by a half-space model.

The files are named as follow:

APSOKLEV.XYZ	apparent resistivity data
EMSOKLEV.XYZ	electromagnetic data
MLSOKLEV.XYZ	left wingtip magnetometer data
MNSOKLEV.XYZ	nose boom magnetometer data
RASOKLEV.XYZ	radiometric data

XYZ File Columns

Each row in these ASCII files corresponds to one measurement point. One column of the row corresponds to one measurement parameter.

The data includes the following columns:

Apparent resistivity data

X	Easting (meters)
Y	Northing (meters)
AR09	Apparent resistivity, 0.9 kHz (Ohm-m)

AD09	Apparent depth to conductor, 0.9 kHz (m)
AR3	Apparent resistivity, 3 kHz (Ohm-m)
AD3	Apparent depth to conductor, 3 kHz (m)
AR12	Apparent resistivity, 12 kHz (Ohm-m)
AD12	Apparent depth to conductor, 12 kHz (m)
AR25	Apparent resistivity, 25 kHz (Ohm-m)
AD25	Apparent depth to conductor, 25 kHz (m)

Electromagnetic data

X	Easting (meters)
Y	Northing (meters)
Z	GPS antenna elevation, meters above sea level
PITCH	Aircraft pitch angle, longitudinal movement of the aircraft
ROLL	Aircraft roll angle, transverse movement of the aircraft
HEADING	Aircraft heading angle (0°-360°), direction of the aircraft
DAY	Day number from the beginning of the year
TIME	Measurement time stamp (hhmmss)
DIR	Flight direction (degrees, clockwise from north)
RALT	Radar altitude (meters)
LALT	Laser height from the ground surface (meters)
GPS_H	GPS altitude above WGS84 ellipsoid
DTM	Digital terrain model (above WGS-84 ellipsoid)
PLM	Power line monitor (on linear range 0 – 999)
RE09	In-phase component, 0.9 kHz (ppm)
IM09	Quadrature component, 0.9 kHz (ppm)
RE3	In-phase component, 3 kHz (ppm)
IM3	Quadrature component, 3 kHz (ppm)
RE12	In-phase component, 12 kHz (ppm)
IM12	Quadrature component, 12 kHz (ppm)
RE25	In-phase component, 25 kHz (ppm)
IM25	Quadrature component, 25 kHz (ppm)

Magnetic data

X	Easting (meters)
Y	Northing (meters)
Z	GPS antenna elevation, meters above sea level
PITCH	Aircraft pitch angle, longitudinal movement of the aircraft
ROLL	Aircraft roll angle, transverse movement of the aircraft
HEADING	Aircraft heading angle (0°-360°), direction of the aircraft
FLIGHT	Flight material number
DAY	Day number from the beginning of the year
TIME	Measurement time stamp (hhmmss)
DIR	Flight direction (degrees, clockwise from north)
RALT	Radar altitude (meters)
LALT	Laser height from the ground surface (meters)
DTM	Digital terrain model (above WGS-84 ellipsoid)
MGCL	Total magnetic field of the left wingtip magnetometer at IGRF65 level (nT)
MGCN	Total magnetic field of the nose boom magnetometer at IGRF65 level (nT)

Radiometric data

X	Easting (meters)
Y	Northing (meters)
Z	GPS antenna elevation, meters above sea level
PITCH	Aircraft pitch angle, longitudinal movement of the aircraft
ROLL	Aircraft roll angle, transverse movement of the aircraft
HEADING	Aircraft heading angle (0°-360°), direction of the aircraft
FLIGHT	Flight material number
DAY	Day number from the beginning of the year
TIME	Measurement time stamp (hhmmss)
DIR	Flight direction (degrees, clockwise from north)
RALT	Radar altitude (meters)
LALT	Laser height from the ground surface (meters)
BALT	Barometric altitude (meters)
TOUT	Temperature outside the aircraft (°C)
DTM	Digital terrain model (above WGS-84 ellipsoid)
TOT	Total radiation (ur –unit)
KAL	Potassium concentration (% K)
URA	Uranium concentration (ppm equivalent uranium eU)
THO	Thorium concentration (ppm equivalent thorium eTh)