

# Magnetotelluric Study of the Hangai Dome, Mongolia

Report on the magnetotelluric data in the project/repository folder: HANGAI.2016  
(<https://doi.org/10.5880/GIPP-MT.201613.1>)

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## The data are supplementary to:

Comeau, M., Käufel, J., Becken, M., Kuvshinov, A., Demberel, S., Sukhbaatar, U., Batmagnai, E., Tserendug, S., Nasan, O., 2017. Electrical structure beneath the Hangai Dome, Mongolia, from magnetotelluric data. In: *19th EGU General Assembly, EGU2017, proceedings from the conference held 23-28 April, 2017 in Vienna, Austria*, 17279 pp.

Comeau, M., Becken, M., Käufel, J., Kuvshinov, A., Demberel, S., 2018b. Images of intraplate volcanism: the upper crustal structure below Tariat volcanic zone, Mongolia, imaged with magnetotellurics. In: *Proceedings of the EGU General Assembly Conference Abstracts, 4-13 April, 2018, Vienna, Austria*.

Comeau, M., Käufel, J., Becken, M., Kuvshinov, A., Grayver, A., Kamm, J., Demberel, S., Sukhbaatar, U., Batmagnai, E., 2018a. Evidence for fluid and melt generation in response to an asthenospheric upwelling beneath the Hangai Dome, Mongolia. *Earth and Planetary Science Letters*, 487, 201-209.

Comeau, M., Becken, M., Connolly, J., Grayver, A., Kuvshinov, A., 2020b. Compaction-Driven Fluid Localization as an Explanation for Lower Crustal Electrical Conductors in an Intracontinental Setting. *Geophysical Research Letters*, 47, 11 pp.

Comeau, M., Becken, M., Käufel, J., Grayver, A., Kuvshinov, A., Tserendug, S., Batmagnai, E., Demberel, S., 2020a. Evidence for terrane boundaries and suture zones across Southern Mongolia detected with a 2-dimensional magnetotelluric transect. *Earth, Planets and Space*, 72, 13 pp.

Comeau, M., Becken, M., Hansen, U., 2021a. Geodynamic Modeling of Lithospheric Removal and Surface Deformation: Application to Intraplate Uplift in Central Mongolia. *Journal of Geophysical Research: Solid Earth*, (Peer reviewed, in revision).

Comeau, M., Becken, M., Kuvshinov, A., Demberel, S., 2021b. Crustal architecture of a metallogenic belt and ophiolite belt: Implications for mineral genesis and emplacement from 3-D electrical resistivity models (Bayankhongor area, Mongolia). *Earth, Planets and Space*, 73, 30 pp.

Käufel, J., Grayver, A., Kuvshinov, A., 2018. Topographic distortions of magnetotelluric transfer functions: a high-resolution 3-D modelling study using real elevation data. *Geophysical Journal International*, 215, 1943-1961.

Käufel, J., Grayver, A., Comeau, M., Kuvshinov, A., Becken, M., Kamm, J., Batmagnai, E., Demberel, S., 2020. Magnetotelluric multiscale 3-D inversion reveals crustal and upper mantle structure beneath the Hangai and Gobi-Altai region in Mongolia. *Geophysical Journal International*, 221, 1002-1028.

## Abstract

**Surface deformation in the continental interior, away from active tectonic margins, is enigmatic, with the underlying mechanisms responsible not fully understood. Therefore, it is considered an open and important question in continental dynamics. The Hangai Dome, central Mongolia, is a natural laboratory to explore this question. It is a high-elevation, low-relief, intra-continental region within the Mongolian plateau. It is located between the Siberian and North China cratons and lies within the Central Asian Orogenic Belt.**

**Central Mongolia has a complex tectonic history that is not well understood. It consists of several lithotectonic units that have influenced the formation and development of the region. The Hangai region has a long history of volcanic activity, including Cenozoic episodes of intraplate volcanism, which occurred as recently as the Holocene. It is characterized by dispersed, low-volume, alkali basaltic volcanism. Furthermore, major fault systems bound the Hangai region and large parts of central Mongolia.**

**The processes and driving mechanisms responsible for creating the Hangai region remain largely unexplained. Therefore, we aim to collect high-resolution magnetotelluric data to image the electrical conductivity structure of the crust and upper mantle beneath the Hangai Dome in order to better understand the mechanisms responsible for intracontinental uplift and intraplate volcanism in this unique region.**

**To achieve this objective a project was created, titled "Crust-mantle interactions beneath the Hangai Mountains in western Mongolia - Insights from 3-D magnetotelluric studies and 4-D thermo-mechanical modelling". The first phase of the project was completed in 2016. Magnetotelluric data were recorded across the Hangai Dome in a grid (~400 by ~200 km), with a nominal site spacing of 50 km. Broadband measurements were acquired at each grid node and, additionally, long period measurements were acquired along two profiles. This data report provides details on the data collection, the measurement site locations, the instrumentation, and the data format.**

**Central Coordinates:** 47.0N N, 101.0E E

**Experiment time frame:** from 2016-07-09 to 2016-08-13

**Keywords:** magnetotellurics, electrical resistivity, intraplate volcanism, intracontinental uplift, asthenospheric upwelling, partial melt, suture zones and faults, metal and mineral belts, ophiolite belt

## 1. Introduction

The Hangai Dome is a high-elevation, low-relief, intra-continental region within the Mongolian plateau. It is located in the central Asian interior, thousands of kilometres from active tectonic margins. The region of central Mongolia is a link between other actively deforming regions; it is located between the Siberian craton, which is rigid but is associated with the east-west extensional Khovsgol and Baikal rifts, and the North China and Tarim cratons (i.e., Sino-Korean cratons), which are

in a northward compressional regime due to the collision of the Indian and Eurasian plates. Furthermore, central Mongolia lies within the Central Asian Orogenic Belt (CAOB). The CAOB is a long-lived accretionary system across much of central and eastern Asia that includes several lithotectonic units, the formation of which are interconnected.

Central Mongolia can be divided into two broad geological domains: the Hangai mountains and the region to the north mainly consists of a Precambrian basement, whereas to the south (mostly Paleozoic) accretion has created an east-west trending arc of lithotectonic domains. Furthermore, south of the Hangai mountains there is a long ophiolite belt (the Bayankhongor Ophiolite Belt) that marks a suture zone and an important crustal boundary. The reactivated South Hangai fault system is also found near this location. South of this, between the villages of Bayankhongor and Bumbugur, is a major mineral belt (the Bayankhongor Metal Belt) that includes mineral occurrences of gold and copper, hosted in metamorphic complexes. The Hangai region itself is bounded by large, seismically active faults: the Chuluut (and Tsetsereg) fault system to the north and the Gobi-Altai/Bogd fault system to the south. Both fault systems have had large intracontinental earthquakes (> magnitude 8) within the last century.

Central Mongolia has a complex, and controversial, tectonic history, which is generally not well understood, but there is evidence that points to suturing episodes and paleo-ocean closures in the Phanerozoic, including the significant closure of the Mongol-Okhotsk ocean in the latest Jurassic-earliest Cretaceous and the formation of the Bayankhongor Ophiolite Belt in the Cambrian. However, based on geomorphological considerations, it is believed that the Hangai region has had limited, if any, Cenozoic compressional deformation and that it is not dominated by the horizontal tectonic forces observed elsewhere in central Asia. Significantly, the Hangai region has a long history of volcanism, including well-studied episodes of intraplate volcanism that occurred in the Cenozoic (such as the volcanism in the Chuluut and Egin Davaa areas), and as recently as the Holocene (such as the volcanism in the Tariat and Khorgo areas). Within the Hangai region, volcanic activity is characterized by dispersed, low-volume, alkali basaltic volcanism that was sporadically erupted and shows little to no crustal assimilation. Furthermore, it exhibits no clear age-progression pattern.

Geochemical and geophysical evidence indicate a locally thin lithosphere beneath the Hangai Dome, as compared to the surroundings, and a thickened crust. Interestingly, there is some geochemical evidence that supports a past lithospheric removal event in Mongolia. However, overall, the processes and driving mechanisms responsible for creating this unique region remain largely unexplained; this is, in part, due to a lack of high-resolution geophysical data over the region.

This technical report provides details on the collection of magnetotelluric data completed in 2016 as part of the first phase of the project titled “Crust-mantle interactions beneath the Hangai Mountains in western Mongolia – Insights from 3-D magnetotelluric studies and 4-D thermo-mechanical modelling”. Several phases are planned to complete the project in its entirety. Specifically, this technical report describes: the data collection, the measurement site locations, the instrumentation, and the data format.

The original publications which originated from these data are: Comeau et al. 2021a, 2021b, 2020a, 2020b, 2018a, 2018b, 2017, Käufel et al. 2020, 2018.

## 2. Experimental setup and data collection

Magnetotelluric (MT) data was collected between 2016-07-09 and 2016-08-13. Fig. 1 shows a site map.

Data were recorded in a 400 km long and 200 km wide grid, with a nominal site spacing of 50 km. The grid is separated into four north-south profiles, labelled as: Line-1000 (eastern-most), Line-2000, Line-3000, and Line-4000 (western-most). Long period measurements, acquired along the profiles Line-2000 and Line-4000, were located at the same location as broadband measurements. Site names are given from north (e.g., site 2000) to south (e.g., site 2400) and roughly correspond to distances. In the data archive, a suffix B denotes a broadband measurement and a suffix L denotes a long period measurement.

A description of the equipment used is provided in section 4. More details on a per site basis on instruments, serial numbers, hardware and recording settings, and available data are given in Appendix 1.

## 3. Measurement site locations

Site	Start date	End date	Latitude	Longitude	Altitude	level 0		
						lmt	spam4	em-lmt
1000	2016-07-14	2016-07-20	48.966770	102.458787	1461	✗	✓	✗
1050	2016-07-20	2016-07-26	48.508062	102.321466	1417	✗	✓	✗
1100	2016-08-08	2016-08-09	48.086987	102.218767	1573	✗	✓	✗
1150	2016-08-08	2016-08-09	47.690498	101.931189	1414	✗	✓	✗
1200	2016-08-09	2016-08-10	47.223453	101.877531	1752	✗	✓	✗
1300	2016-07-20	2016-07-27	46.313290	101.662824	2181	✗	✓	✗
1350	2016-07-18	2016-07-26	45.884412	101.362944	1816	✗	✓	✗
2000	2016-07-10	2016-07-26	48.996963	101.806845	1358	✓	✓	✓
2050	2016-07-25	2016-08-11	48.535748	101.705116	1495	✓	✓	✓
2100	2016-08-02	2016-08-03	48.113768	101.513393	1584	✗	✓	✗
2105	2016-08-10	2016-08-11	48.063788	101.491079	1600	✗	✓	✗
2150	2016-07-09	2016-08-14	47.686499	101.391173	1525	✓	✓	✓
2200	2016-07-11	2016-07-25	47.296915	101.166365	1920	✓	✓	✓
2250	2016-07-17	2016-07-23	46.792339	100.976157	2498	✗	✓	✗
2300	2016-07-09	2016-08-14	46.434816	100.940422	2259	✓	✓	✓
2350	2016-07-10	2016-07-25	45.950108	100.893362	1671	✓	✓	✓
2400	2016-07-11	2016-07-25	45.522746	100.684467	1450	✓	✓	✓
3000	2016-07-18	2016-07-24	49.116283	101.196677	1577	✗	✓	✗
3050	2016-07-18	2016-07-25	48.647855	101.091642	1623	✗	✓	✗
3080	2016-08-12	2016-08-13	48.350574	101.099750	1684	✗	✓	✗
3100	2016-07-31	2016-08-05	48.215545	100.937785	1679	✗	✓	✗
3150	2016-07-22	2016-07-27	47.802810	100.753343	1881	✗	✓	✗

3200	2016-07-31	2016-08-06	47.480712	100.576783	2066	✗	✓	✗
3250	2016-08-07	2016-08-13	46.843135	100.408787	2431	✗	✓	✗
3300	2016-08-10	2016-08-13	46.478642	100.326429	2225	✗	✓	✗
3350	2016-08-06	2016-08-10	46.051502	100.200371	1753	✗	✓	✗
3400	2016-08-08	2016-08-11	45.600529	100.121694	1303	✗	✓	✗
4000	2016-07-12	2016-07-24	49.138242	100.709650	1177	✓	✓	✓
4050	2016-07-13	2016-07-17	48.787065	100.377867	1400	✓	✓	✓
4100	2016-07-20	2016-07-22	48.312759	100.165435	1920	✗	✓	✗
4150	2016-07-12	2016-07-27	47.935647	100.243155	1958	✓	✓	✓
4200	2016-07-26	2016-08-06	47.505960	100.089572	2199	✓	✓	✓
4265	2016-08-01	2016-08-13	46.848394	99.836868	2084	✓	✓	✓
4300	2016-07-31	2016-08-12	46.534769	99.606957	1820	✓	✓	✓
4350	2016-07-30	2016-08-11	46.156021	99.515091	1842	✓	✓	✓
4400	2016-07-14	2016-07-15	45.656577	99.499539	1304	✓	✓	✓

#### 4. Instrumentation

##### 4.1 Data acquisition systems: 6-channel EDL and SPAM4.

The Earth Data Logger PR6-24 (EDL, EARTH DATA, U.K.) is a digital recording system predominantly designed for seismic applications. To provide the necessary interface electronics for MT sensors, the EDL loggers are typically used in combination with the CASTLE preconditioning units of the Geophysical Instrument Pool Potsdam. These sensor boxes provide necessary high-impedance amplifiers for electric field recordings and a range of analogue high- and low-pass filters to match typical MT applications.

EDL loggers are available as 3 and 6 channel systems, labelled EDL3 and EDL6 respectively. For MT applications the 6-channel logger is more commonly used. EDL systems are GPS synchronized and provide sampling rates between 1 Hz and 1 kHz. Data conversion is with 24-bit analogue to digital converters. EDL data logger store the recorded time series in the MiniSEED format.

S.P.A.M. Mk.IV systems (SPAM4 for short) are Short- Period Automatic Magnetotelluric instruments developed by the University of Edinburgh and GFZ Potsdam. SPAM4 uses a 24-Bit sigma-delta analogue-to-digital converter, with sampling rates between 25 kHz and 1 Hz. A range of low- and high- pass filters in the analogue signal path can be combined to match the sampling rates and sensors used. The time series data is subjected to a continuous filter and decimation scheme. Many combinations of low-pass and/or high-pass filtered data streams can be viewed in real-time and stored on the internal hard disk. The SPAM 4 instruments are GPS synchronized and provide real-time frequency domain processing for data quality control in the field.

Since 2010 the data files of the SPAM4 instruments are stored in the EMERALD data format; a proprietary data format was used before.

The following **6-channel EDL** loggers were used: 6022, 6023, 6024, 6026, 6027, 6028, 6029, 6030, 6036, 6042.

The following **SPAM4** loggers were used: 15, 17, 20, 24, 25, 26, 29, 36, 56.

##### 4.2 Sensor boxes: SPAM4 and CASTLE

SPAM4 sensor boxes provide the hardware interface between sensors (electrodes and induction coil magnetometers) and the SPAM4 or EDL data acquisition systems. Up to 5 sensors can be connected to a SPAM4 sensor box.

SPAM4 sensor boxes provide programmable amplifiers with high input impedances (> 10 MOhm) and two adjustable low-pass filters. They contain control logic to measure contact resistances between electrodes, generate test signals for the induction coils, toggle induction coils between low- and high frequency modes, and test the analogue signals for overloads.

CASTLE sensor boxes provide the hardware interface between sensors (electrodes and induction coil magnetometers) and the SPAM3, SPAM4 and EDL data acquisition systems. Up to 3 sensors can be connected to a CASTLE sensor box. CASTLE sensor boxes are therefore usually used in pairs, with one sensor box receiving signals from magnetic field sensors and another one capturing electric field signals.

CASTLE sensor boxes provide programmable amplifiers with high input impedances (> 1 GOhm) and two adjustable low-pass filters. They contain control logic to measure contact resistances between electrodes, remove DC offsets from channels, generate test signals for the induction coils, toggle induction coils between low- and high frequency modes, and test the analogue signals for overloads.

The following **SPAM4** sensor boxes were used: 106, 108, 113, 118, 127, 133, 141, 144, 146, 149.

The following **CASTLE** sensor boxes were used: 13, 38, 41, 59, 72, 78, 79, 81, 85, 89.

##### 4.3 Magnetic field sensors: Geomag fluxgates, MFS-05 induction coils, MFS-06 induction coils and MFS-10 induction coils

The induction coil magnetometers MFS-05/06/07/10 (METRONIX, Germany) measure variations of the Earth's magnetic field over a wide frequency band (broadband sensor). The sensor coil consists of a highly permeable ferrite core with several thousand copper turns and the magnetometer contains electronics for pre-amplification of the sensor signal. Since induction coil sensors do not measure the magnetic field directly but it's time derivative, their response is highly frequency dependent. The MFSxx sensors cover wide frequency ranges: from approximately 1 mHz to 8 kHz for the MFS06, 1 mHz to 1 kHz for the MFS05, 0.01 Hz to 50 kHz for the MFS07, and 1 mHz to 1 kHz for the MFS10.

Geomagnet fluxgate magnetometers consist of two units: the sensor unit with anti-tilt construction and the electronic unit to drive the sensor. The instrument is usually operated as a variometer, which means, the magnetic main field is removed from the signal. The measuring range of the analogue outputs is  $\pm 6000$  nT. In the frequency range 0.1 Hz to DC, the response of the sensor is approximately 0,75 mV/nT.

The following **Geomag fluxgate** magnetometers were used: 2, 8, 20, 21, 22, 25, 26, 30, 31, 32.

The following **MFS-05 induction coil** magnetometers were used: 29.



The following **MFS-06 induction coil** magnetometers were used: 126, 127, 128, 130, 235, 242, 396, 398, 399, 402, 403, 404, 409, 423, 425, 428, 432, 434, 438, 439, 445.

The following **MFS-10 induction coils** magnetometers were used: 1, 10, 11, 13, 14, 15, 16, 17, 18, 19.

4.4 Electric field sensors: AgAgCl electrodes.

Non-polarizing electrodes are used to measure electric potentials in the ground. The electrode design consists of a metal immersed in a saturated solution of its own salt. It is contained in a porous pot to allow the solution leak slowly, thereby making contact with the ground. We use a silver silver-chloride (Ag/AgCl) electrode, which is submersed in a saturated solution of potassium-chloride (KCl). The electrodes are designed and manufactured by the GIPP-MT.

### 5. Recording configuration and settings

Broadband data recording typically lasted for 1 to 10 days per station, with approximately half of the stations recording for more than 5 days. Station 2150 was treated as a reference site and recorded for ~30 days. Long-period data recording lasted for up to 33 days, and typically lasted for 11 to 16 days per station. Stations 2150 and 2300 were treated as reference sites and recorded for >30 days. For the long-period recordings, a sampling rate of 2 Hz was used, with the equipment, 10 EDL loggers, being installed in 15 locations over the course of the field campaign period. Three separate installation field crews shared the broadband equipment, 10 SPAM4 loggers, and the instruments were moved regularly to new positions, in a roll-along scheme, which led to many stations recording synchronously. Continuous recordings were carried out with sampling rates of both 500 Hz and 50 Hz (for fast field processing), and data were stored in segments of 1 hour.

Details on recording times, sampling frequencies, and actual hardware configurations are summarized for each site in Appendix 1.

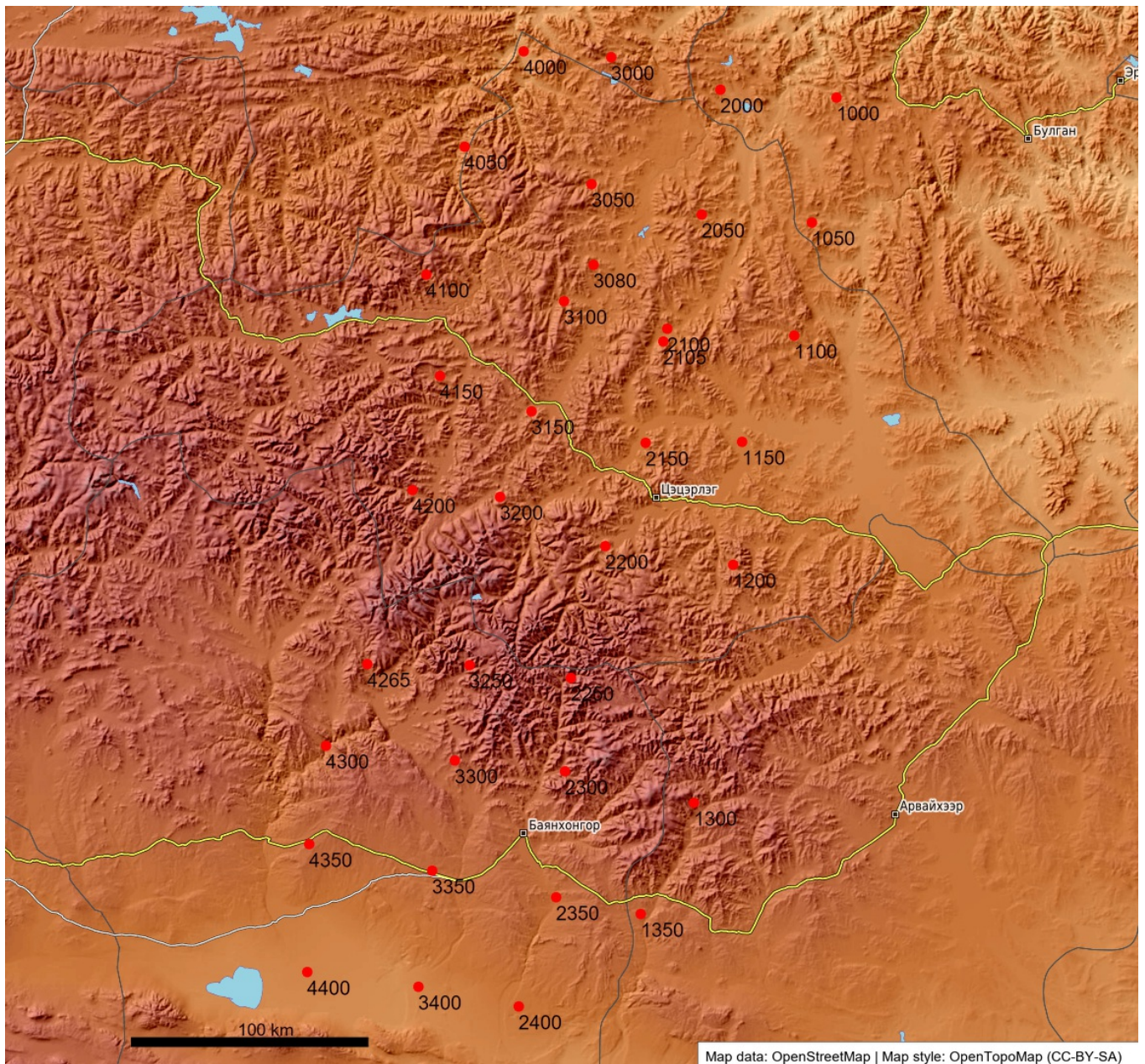


Figure 1: Location of the MT stations (red dots).

### 6. Archive structure and data formats

The principle form of data in the repository are time-series of electromagnetic field components acquired with heterogeneous sets of sensors, recording

instruments, and sampling rates. The repository provides the links between the data and their physical meaning by means of meta-data. The repository is organized as a combination of data files and associated meta-data in a defined folder (directory) structure, with the data files being sorted into sub-folders. Meta-data are provided as XML (Extensible Markup Language) formatted files.

The times series data are available in the so-called EMERALD format. EMERALD data files typically come in pairs of two files with the same name but differing file name extensions, e.g. RAW and XTR files. XTR (extract) files are plain ASCII files, EMERALD- type data files are in most cases binary. The EMERALD- type data files store data in matrix form (any number of channels), but do not contain any description of the data. This information is stored in the according .XTR files. In 2015 the original .XTR files were replaced by a modernized version based on the Extensible Markup Language (XML). The new files have the extension .XTRX. The EMERALD format is described in detail in Ritter et al. (2015).

Sample code to read and write the EMERALD data format can be obtained from GFZ's Gitlab repository (as supplementary data of Ritter et al., 2019). Other low-level data formats can be provided on request, including time series data of EDL data loggers in Mini-Seed format or time series data of SPAM3 and SPAM4 data loggers in proprietary format.

### 6.1 Compilation history of this report

This report was generated semi-automatically from the metadata of this project. The table below summarizes the metadata (xml files) and scripts (powershell) used to compile this document.

xml file	File version	Script	Version	Script date
report.xml	1.10	ArchiveCreateReport.ps1	1.24	13.12.2019
project.xml	2.20	ArchiveCreateXMLs.ps1	N.A.	manually edited
maps.xml	1.30	ArchiveCreateXMLs.ps1	2.45	23.11.2020
sites.xml	2.20	ArchiveCreateXMLs.ps1	2.45	23.11.2020
instrumentation.xml	1.10	ArchiveCreateXMLs.ps1	2.45	23.11.2020
publications.xml	1.20	ArchiveQueryPublications.ps1	2.2	23.11.2020
revisions.xml	1.10	ArchiveCreateXMLs.ps1	2.45	23.11.2020
config.xml	2.00	ArchiveCreateConfig.ps1	2.51	28.03.2019

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## 8. References

- Comeau, M., Käufel, J., Becken, M., Kuvshinov, A., Demberel, S., Sukhbaatar, U., Batmagnai, E., Tserendug, S., Nasan, O., 2017. Electrical structure beneath the Hangai Dome, Mongolia, from magnetotelluric data. In: *19th EGU General Assembly, EGU2017, proceedings from the conference held 23-28 April, 2017 in Vienna, Austria*, 17279 pp.
- Comeau, M., Becken, M., Käufel, J., Kuvshinov, A., Demberel, S., 2018b. Images of intraplate volcanism: the upper crustal structure below Tariat volcanic zone, Mongolia, imaged with magnetotellurics. In: *Proceedings of the EGU General Assembly Conference Abstracts, 4-13 April, 2018, Vienna, Austria*.
- Comeau, M., Käufel, J., Becken, M., Kuvshinov, A., Grayver, A., Kamm, J., Demberel, S., Sukhbaatar, U., Batmagnai, E., 2018a. Evidence for fluid and melt generation in response to an asthenospheric upwelling beneath the Hangai Dome, Mongolia. *Earth and Planetary Science Letters*, 487, 201-209., <https://doi.org/10.1016/j.epsl.2018.02.007>.
- Comeau, M., Becken, M., Connolly, J., Grayver, A., Kuvshinov, A., 2020b. Compaction-Driven Fluid Localization as an Explanation for Lower Crustal Electrical Conductors in an Intracontinental Setting. *Geophysical Research Letters*, 47, 11 pp., <https://doi.org/10.1029/2020gl088455>.
- Comeau, M., Becken, M., Käufel, J., Grayver, A., Kuvshinov, A., Tserendug, S., Batmagnai, E., Demberel, S., 2020a. Evidence for terrane boundaries and suture zones across Southern Mongolia detected with a 2-dimensional magnetotelluric transect. *Earth, Planets and Space*, 72, 13 pp., <https://doi.org/10.1186/s40623-020-1131-6>.
- Comeau, M., Becken, M., Hansen, U., 2021a. Geodynamic Modeling of Lithospheric Removal and Surface Deformation: Application to Intraplate Uplift in Central Mongolia. *Journal of Geophysical Research: Solid Earth*, (Peer reviewed, in revision).
- Comeau, M., Becken, M., Kuvshinov, A., Demberel, S., 2021b. Crustal architecture of a metallogenic belt and ophiolite belt: Implications for mineral genesis and emplacement from 3-D electrical resistivity models (Bayankhongor area, Mongolia). *Earth, Planets and Space*, 73, 30 pp.
- Käufel, J., Grayver, A., Kuvshinov, A., 2018. Topographic distortions of magnetotelluric transfer functions: a high-resolution 3-D modelling study using real elevation data. *Geophysical Journal International*, 215, 1943-1961., <https://doi.org/10.1093/gji/ggy375>.
- Käufel, J., Grayver, A., Comeau, M., Kuvshinov, A., Becken, M., Kamm, J., Batmagnai, E., Demberel, S., 2020. Magnetotelluric multiscale 3-D inversion reveals crustal and upper mantle structure beneath the Hangai and Gobi-Altai region in Mongolia. *Geophysical Journal International*, 221, 1002-1028., <https://doi.org/10.1093/gji/ggaa039>.
- Ritter, O., Klose, R., Weckmann, U., 2015. EMERALD Data Format for Magnetotelluric Data. Deutsches GeoForschungszentrum GFZ, Potsdam, 50 pp., <https://doi.org/10.2312/GFZ.b103-15082>.
- Ritter, O., Muñoz, G., Barth, R., Tietze, K., Rulff, P., Stephan, S., 2019. MT Repository : user manual. 67 pp., <https://doi.org/10.2312/GFZ.b103-19065>.

## Appendix 1

This appendix provides a summary of the recording configurations for each site, including sampling frequencies, frequency bands, scheduled recording times, filter settings, sensors used, etc.

Internally the configurations are organized as runs. Each run corresponds with a particular set of instruments or hardware settings. If, for example, inductions coils were switched between low frequency (LF) and high frequency (HF) modes, their frequency response changes. Therefore, they count as different instruments, which 10.5880/GIPP-MT201613.1

is reflected in different runs.

The headers of the tables summarize for how long a particular configuration was active. A recording period consists of an uninterrupted set of time series data, described by start and end dates. Numbers in brackets after the dates specify the corresponding day of the year. Recordings can be continuous over longer time spans or shorter time segments can be repeated a number of times.

Each table contains seven columns defining types and serial numbers of data loggers, sensor boxes, sampling frequencies, the number of recorded channels, and their physical meaning, e.g. if electric- or magnetic field sensors were attached. Electric sensors (i.e. electrodes) usually have sensor number 0 as their IDs are not accounted for. The tables provide one row for each channel, if information extends for more than one row, it applies to all encompassed channels.

### Site 1000

Run: 001

Recording Period						
14 Jul 2016 (196) 11:00:00 - 20 Jul 2016 (202) 05:15:05 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
017	146	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	127
			002	By	Metronix_Coil-----TYPE-006_LF	399
			003	Bz	Metronix_Coil-----TYPE-010_LF	017
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
14 Jul 2016 (196) 11:00:00 - 20 Jul 2016 (202) 05:15:05 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
017	146	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	127
			002	By	Metronix_Coil-----TYPE-006_LF	399
			003	Bz	Metronix_Coil-----TYPE-010_LF	017
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 1050

Run: 001

Recording Period						
20 Jul 2016 (202) 11:00:00 - 26 Jul 2016 (208) 08:22:17 ( continuous 1h ) 26 Jul 2016 (208) 08:22:28 - 26 Jul 2016 (208) 08:22:56 ( 28.10s once )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
017	146	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	399
			002	By	Metronix_Coil-----TYPE-006_LF	127
			003	Bz	Metronix_Coil-----TYPE-010_LF	017
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
20 Jul 2016 (202) 10:51:39 - 26 Jul 2016 (208) 08:22:18 ( continuous 1h ) 26 Jul 2016 (208) 08:22:28 - 26 Jul 2016 (208) 08:22:56 ( 28.54s once )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
017	146	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	399
			002	By	Metronix_Coil-----TYPE-006_LF	127
			003	Bz	Metronix_Coil-----TYPE-010_LF	017
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 1100

Run: 001

Recording Period						
08 Aug 2016 (221) 12:08:20 - 09 Aug 2016 (222) 01:04:09 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
024	133	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	399
			002	By	Metronix_Coil-----TYPE-006_LF	439
			003	Bz	Metronix_Coil-----TYPE-010_LF	015
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
08 Aug 2016 (221) 12:08:21 - 09 Aug 2016 (222) 01:04:10 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
024	133	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	399
			002	By	Metronix_Coil-----TYPE-006_LF	439
			003	Bz	Metronix_Coil-----TYPE-010_LF	015
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 1150

Run: 001

Recording Period						
08 Aug 2016 (221) 05:35:31 - 09 Aug 2016 (222) 05:51:59 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
020	118	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	425
			002	By	Metronix_Coil-----TYPE-006_LF	398
			003	Bz	Metronix_Coil-----TYPE-010_LF	013
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
08 Aug 2016 (221) 05:35:31 - 09 Aug 2016 (222) 05:52:00 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
020	118	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	425
			002	By	Metronix_Coil-----TYPE-006_LF	398
			003	Bz	Metronix_Coil-----TYPE-010_LF	013
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 1200

Run: 001

Recording Period						
09 Aug 2016 (222) 09:50:41 - 10 Aug 2016 (223) 00:31:47 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
024	133	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	399
			002	By	Metronix_Coil-----TYPE-006_LF	439
			003	Bz	Metronix_Coil-----TYPE-010_LF	015
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
09 Aug 2016 (222) 09:50:41 - 10 Aug 2016 (223) 00:31:47 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
024	133	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	399
			002	By	Metronix_Coil-----TYPE-006_LF	439
			003	Bz	Metronix_Coil-----TYPE-010_LF	015
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 1300

Run: 001

Recording Period						
20 Jul 2016 (202) 01:55:20 - 23 Jul 2016 (205) 23:59:59 ( continuous 1h ) 25 Jul 2016 (207) 00:00:00 - 27 Jul 2016 (209) 03:52:43 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
036	144	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	428
			002	By	Metronix_Coil-----TYPE-006_LF	403
			003	Bz	Metronix_Coil-----TYPE-010_LF	010



			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
20 Jul 2016 (202) 01:55:21 - 24 Jul 2016 (206) 21:27:14 ( continuous 1h )						
24 Jul 2016 (206) 21:27:35 - 27 Jul 2016 (209) 03:52:43 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
036	144	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	428
			002	By	Metronix_Coil-----TYPE-006_LF	403
			003	Bz	Metronix_Coil-----TYPE-010_LF	010
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 1350

Run: 001

Recording Period						
18 Jul 2016 (200) 02:54:48 - 26 Jul 2016 (208) 21:33:34 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
056	106	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	409
			002	By	Metronix_Coil-----TYPE-006_LF	402
			003	Bz	Metronix_Coil-----TYPE-010_LF	014
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
18 Jul 2016 (200) 02:54:48 - 26 Jul 2016 (208) 21:33:35 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
056	106	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	409
			002	By	Metronix_Coil-----TYPE-006_LF	402
			003	Bz	Metronix_Coil-----TYPE-010_LF	014
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 2000

Run: 001

Recording Period						
10 Jul 2016 (192) 07:26:22 - 26 Jul 2016 (208) 04:19:59 ( continuous 1h )						
Logger (EDL6)	SBx (I)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
6028	038	2.00 Hz	001	Bx	Geomag_Fluxgate---TYPE-0001_X	031
			002	By	Geomag_Fluxgate---TYPE-0001_Y	031
			003	Bz	Geomag_Fluxgate---TYPE-0001_Z	031
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Run: 002

Recording Period						
10 Jul 2016 (192) 07:53:51 - 14 Jul 2016 (196) 03:37:14 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
017	146	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	127
			002	By	Metronix_Coil-----TYPE-006_LF	399
			003	Bz	Metronix_Coil-----TYPE-010_LF	017
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
10 Jul 2016 (192) 07:53:52 - 14 Jul 2016 (196) 03:37:14 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
			001	Bx	Metronix_Coil-----TYPE-006_LF	127
			002	By	Metronix_Coil-----TYPE-006_LF	399



017	146	500.00 Hz	003	Bz	Metronix_Coil-----TYPE-010_LF	017
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Run: 003

Recording Period						
14 Jul 2016 (196) 03:37:42 - 14 Jul 2016 (196) 03:42:39 ( 4min 57.22s once )						
Logger (SPAM4)	SBx ()	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
017		50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	127
			002	By	Metronix_Coil-----TYPE-006_LF	399
			003	Bz	Metronix_Coil-----TYPE-010_LF	017
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
14 Jul 2016 (196) 03:37:41 - 14 Jul 2016 (196) 03:42:39 ( 4min 58.66s once )						
Logger (SPAM4)	SBx ()	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
017		500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	127
			002	By	Metronix_Coil-----TYPE-006_LF	399
			003	Bz	Metronix_Coil-----TYPE-010_LF	017
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Site 2050

Run: 001

Recording Period						
26 Jul 2016 (208) 09:40:00 - 26 Jul 2016 (208) 09:59:59 ( 20min once ) 26 Jul 2016 (208) 15:43:00 - 26 Jul 2016 (208) 16:02:59 ( 17min + 3min once - continuous ) 26 Jul 2016 (208) 21:46:00 - 26 Jul 2016 (208) 22:05:59 ( 14min + 6min once - continuous ) 27 Jul 2016 (209) 03:50:00 - 27 Jul 2016 (209) 04:09:59 ( 10min + 10min once - continuous ) 27 Jul 2016 (209) 09:53:00 - 27 Jul 2016 (209) 10:12:59 ( 7min + 13min once - continuous ) 27 Jul 2016 (209) 15:57:00 - 27 Jul 2016 (209) 16:16:59 ( 3min + 17min once - continuous ) 27 Jul 2016 (209) 22:00:00 - 11 Aug 2016 (224) 07:18:59 ( continuous 1h )						
Logger (EDL6)	SBx ()	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
6023	089	2.00 Hz	001	Bx	Geomag_Fluxgate---TYPE-0001_X	030
			002	By	Geomag_Fluxgate---TYPE-0001_Y	030
			003	Bz	Geomag_Fluxgate---TYPE-0001_Z	030
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Run: 002

Recording Period						
25 Jul 2016 (207) 09:39:10 - 01 Aug 2016 (214) 06:59:59 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
015	149	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	445
			002	By	Metronix_Coil-----TYPE-006_LF	242
			003	Bz	Metronix_Coil-----TYPE-010_LF	015
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
25 Jul 2016 (207) 09:39:11 - 25 Jul 2016 (207) 18:59:59 ( continuous 1h ) 26 Jul 2016 (208) 00:00:00 - 01 Aug 2016 (214) 06:59:59 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
015	149	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	445
			002	By	Metronix_Coil-----TYPE-006_LF	242
			003	Bz	Metronix_Coil-----TYPE-010_LF	015
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Site 2100

Run: 001

Recording Period						
02 Aug 2016 (215) 04:57:17 - 02 Aug 2016 (215) 04:58:37 ( 1min 20.78s once )						
02 Aug 2016 (215) 05:08:24 - 02 Aug 2016 (215) 05:20:18 ( 11min 54.14s once )						
02 Aug 2016 (215) 05:40:45 - 03 Aug 2016 (216) 03:36:33 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
015	149	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	242
			002	By	Metronix_Coil-----TYPE-006_LF	445
			003	Bz	Metronix_Coil-----TYPE-010_LF	015
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
02 Aug 2016 (215) 04:57:18 - 02 Aug 2016 (215) 04:58:38 ( 1min 20.23s once )						
02 Aug 2016 (215) 05:08:24 - 02 Aug 2016 (215) 05:20:18 ( 11min 54.58s once )						
02 Aug 2016 (215) 05:40:45 - 03 Aug 2016 (216) 03:36:33 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
015	149	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	242
			002	By	Metronix_Coil-----TYPE-006_LF	445
			003	Bz	Metronix_Coil-----TYPE-010_LF	015
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Site 2105

Run: 001

Recording Period						
10 Aug 2016 (223) 12:00:00 - 11 Aug 2016 (224) 01:18:23 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
024	133	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	399
			002	By	Metronix_Coil-----TYPE-006_LF	439
			003	Bz	Metronix_Coil-----TYPE-010_LF	015
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
10 Aug 2016 (223) 12:00:00 - 11 Aug 2016 (224) 01:18:24 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
024	133	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	399
			002	By	Metronix_Coil-----TYPE-006_LF	439
			003	Bz	Metronix_Coil-----TYPE-010_LF	015
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Site 2150

Internal Site: 0150 Run: 001

Recording Period						
09 Jul 2016 (191) 09:22:40 - 15 Jul 2016 (197) 09:01:59 ( continuous 1h )						
16 Jul 2016 (198) 12:59:55 - 16 Jul 2016 (198) 23:59:59 ( continuous 1h )						
21 Jul 2016 (203) 00:00:00 - 14 Aug 2016 (227) 06:04:59 ( continuous 1h )						
Logger (EDL6)	SBx ( )	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
6026	059	2.00 Hz	001	Bx	Geomag_Fluxgate---TYPE-0001_X	026
			002	By	Geomag_Fluxgate---TYPE-0001_Y	026
			003	Bz	Geomag_Fluxgate---TYPE-0001_Z	026
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Internal Site: 2150 Run: 001

Recording Period						
09 Jul 2016 (191) 10:14:28 - 10 Jul 2016 (192) 05:02:54 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
			001	Bx	Metronix_Coil-----TYPE-006_LF	126

025	113	50.00 Hz	002	By	Metronix_Coil-----TYPE-006_LF	235
			003	Bz	Metronix_Coil-----TYPE-010_LF	019
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period 09 Jul 2016 (191) 10:14:29 - 10 Jul 2016 (192) 05:02:55 (continuous 1h)						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
025	113	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	126
			002	By	Metronix_Coil-----TYPE-006_LF	235
			003	Bz	Metronix_Coil-----TYPE-010_LF	019
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Internal Site: 2150 Run: 002

Recording Period 10 Jul 2016 (192) 06:46:41 - 17 Jul 2016 (199) 14:59:43 (continuous 1h) 17 Jul 2016 (199) 15:00:11 - 25 Jul 2016 (207) 19:00:25 (continuous 1h) 25 Jul 2016 (207) 19:00:53 - 03 Aug 2016 (216) 06:01:09 (continuous 1h) 07 Aug 2016 (220) 07:16:52 - 09 Aug 2016 (222) 23:23:07 (continuous 1h)						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
025	113	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-005_LF	029
			002	By	Metronix_Coil-----TYPE-006_LF	235
			003	Bz	Metronix_Coil-----TYPE-010_LF	019
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period 10 Jul 2016 (192) 06:46:41 - 17 Jul 2016 (199) 14:59:44 (continuous 1h) 17 Jul 2016 (199) 15:00:10 - 25 Jul 2016 (207) 19:00:25 (continuous 1h) 25 Jul 2016 (207) 19:00:52 - 03 Aug 2016 (216) 06:01:10 (continuous 1h) 07 Aug 2016 (220) 07:16:51 - 09 Aug 2016 (222) 23:23:07 (continuous 1h)						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
025	113	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-005_LF	029
			002	By	Metronix_Coil-----TYPE-006_LF	235
			003	Bz	Metronix_Coil-----TYPE-010_LF	019
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Site 2200

Internal Site: 0200 Run: 001

Recording Period 11 Jul 2016 (193) 06:18:00 - 14 Jul 2016 (196) 08:33:59 (continuous 1h) 14 Jul 2016 (196) 08:35:54 - 14 Jul 2016 (196) 08:36:28 (34.50s once) 14 Jul 2016 (196) 08:38:21 - 25 Jul 2016 (207) 08:55:59 (continuous 1h)						
Logger (EDL6)	SBx (I)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
6022		2.00 Hz	001	Bx	Geomag_Fluxgate---TYPE-0001_X	021
			002	By	Geomag_Fluxgate---TYPE-0001_Y	021
			003	Bz	Geomag_Fluxgate---TYPE-0001_Z	021
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
	005		Ey	TelluricElectrode-TYPE-AgAgCl	000	
	078					

Internal Site: 2200 Run: 001

Recording Period 11 Jul 2016 (193) 06:31:32 - 14 Jul 2016 (196) 08:08:11 (continuous 1h) 14 Jul 2016 (196) 08:22:03 - 17 Jul 2016 (199) 03:15:45 (continuous 1h)						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
026	141	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	396
			002	By	Metronix_Coil-----TYPE-006_LF	425
			003	Bz	Metronix_Coil-----TYPE-010_LF	018
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
11 Jul 2016 (193) 06:31:33 - 14 Jul 2016 (196) 08:08:12 (continuous 1h)						
14 Jul 2016 (196) 08:22:04 - 17 Jul 2016 (199) 03:15:46 (continuous 1h)						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
026	141	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	396
			002	By	Metronix_Coil-----TYPE-006_LF	425
			003	Bz	Metronix_Coil-----TYPE-010_LF	018
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 2250

Run: 001

Recording Period						
17 Jul 2016 (199) 10:40:23 - 23 Jul 2016 (205) 01:44:05 (continuous 1h)						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
026	141	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	396
			002	By	Metronix_Coil-----TYPE-006_LF	425
			003	Bz	Metronix_Coil-----TYPE-010_LF	018
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
17 Jul 2016 (199) 10:40:23 - 23 Jul 2016 (205) 01:44:06 (continuous 1h)						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
026	141	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	396
			002	By	Metronix_Coil-----TYPE-006_LF	425
			003	Bz	Metronix_Coil-----TYPE-010_LF	018
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 2300

Run: 001

Recording Period						
13 Jul 2016 (195) 02:18:28 - 14 Aug 2016 (227) 05:21:59 (continuous 1h)						
Logger (EDL6)	SBx ( )	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
6024	081	2.00 Hz	001	Bx	Geomag_Fluxgate---TYPE-0001_X	008
			002	By	Geomag_Fluxgate---TYPE-0001_Y	008
			003	Bz	Geomag_Fluxgate---TYPE-0001_Z	008
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Run: 002

Recording Period						
09 Jul 2016 (191) 09:02:43 - 19 Jul 2016 (201) 00:46:36 (continuous 1h)						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
036	144	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	428
			002	By	Metronix_Coil-----TYPE-006_LF	403
			003	Bz	Metronix_Coil-----TYPE-010_LF	010
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
09 Jul 2016 (191) 09:02:43 - 19 Jul 2016 (201) 00:46:37 (continuous 1h)						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
036	144	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	428
			002	By	Metronix_Coil-----TYPE-006_LF	403
			003	Bz	Metronix_Coil-----TYPE-010_LF	010
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Site 2350

Run: 001

Recording Period						
10 Jul 2016 (192) 05:28:44 - 10 Jul 2016 (192) 05:31:59 ( continuous 1min )						
10 Jul 2016 (192) 07:30:59 - 10 Jul 2016 (192) 07:31:28 ( 29.50s once )						
10 Jul 2016 (192) 07:47:01 - 25 Jul 2016 (207) 05:05:59 ( continuous 1h )						
Logger (EDL6)	SBx (I)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
6030	013	2.00 Hz	001	Bx	Geomag_Fluxgate---TYPE-0001_X	025
			002	By	Geomag_Fluxgate---TYPE-0001_Y	025
			003	Bz	Geomag_Fluxgate---TYPE-0001_Z	025
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Run: 002

Recording Period						
10 Jul 2016 (192) 07:23:17 - 14 Jul 2016 (196) 23:59:59 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
029	127	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	128
			002	By	Metronix_Coil-----TYPE-006_LF	434
			003	Bz	Metronix_Coil-----TYPE-010_LF	016
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
10 Jul 2016 (192) 07:23:17 - 14 Jul 2016 (196) 23:59:59 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
029	127	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	128
			002	By	Metronix_Coil-----TYPE-006_LF	434
			003	Bz	Metronix_Coil-----TYPE-010_LF	016
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Site 2400

Internal Site: 0420 Run: 001

Recording Period						
11 Jul 2016 (193) 08:39:07 - 25 Jul 2016 (207) 02:46:59 ( continuous 1h )						
Logger (EDL6)	SBx (I)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
6029	041	2.00 Hz	001	Bx	Geomag_Fluxgate---TYPE-0001_X	002
			002	By	Geomag_Fluxgate---TYPE-0001_Y	002
			003	Bz	Geomag_Fluxgate---TYPE-0001_Z	002
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Internal Site: 2400 Run: 001

Recording Period						
12 Jul 2016 (194) 01:09:23 - 17 Jul 2016 (199) 07:42:09 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
056	106	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	409
			002	By	Metronix_Coil-----TYPE-006_LF	402
			003	Bz	Metronix_Coil-----TYPE-010_LF	016
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
12 Jul 2016 (194) 01:09:23 - 17 Jul 2016 (199) 07:42:09 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
			001	Bx	Metronix_Coil-----TYPE-006_LF	409
			002	By	Metronix_Coil-----TYPE-006_LF	402



056	106	500.00 Hz	003	Bz	Metronix_Coil-----TYPE-010_LF	016
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 3000

Run: 001

Recording Period						
18 Jul 2016 (200) 03:50:55 - 19 Jul 2016 (201) 23:13:31 ( continuous 1h )						
19 Jul 2016 (201) 23:13:44 - 20 Jul 2016 (202) 21:59:20 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
020	118	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	423
			002	By	Metronix_Coil-----TYPE-006_LF	438
			003	Bz	Metronix_Coil-----TYPE-010_LF	013
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
18 Jul 2016 (200) 03:50:55 - 19 Jul 2016 (201) 23:13:32 ( continuous 1h )						
19 Jul 2016 (201) 23:13:43 - 20 Jul 2016 (202) 21:59:21 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
020	118	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	423
			002	By	Metronix_Coil-----TYPE-006_LF	438
			003	Bz	Metronix_Coil-----TYPE-010_LF	013
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Run: 002

Recording Period						
20 Jul 2016 (202) 22:05:18 - 24 Jul 2016 (206) 00:52:06 ( continuous 1h )						
Logger (SPAM4)	SBx ()	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
020		50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	423
			002	By	Metronix_Coil-----TYPE-006_LF	438
			003	Bz	Metronix_Coil-----TYPE-010_LF	013
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
20 Jul 2016 (202) 22:05:17 - 24 Jul 2016 (206) 00:52:07 ( continuous 1h )						
Logger (SPAM4)	SBx ()	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
020		500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	423
			002	By	Metronix_Coil-----TYPE-006_LF	438
			003	Bz	Metronix_Coil-----TYPE-010_LF	013
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 3050

Run: 001

Recording Period						
18 Jul 2016 (200) 11:35:57 - 25 Jul 2016 (207) 00:15:11 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
015	149	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	242
			002	By	Metronix_Coil-----TYPE-006_LF	445
			003	Bz	Metronix_Coil-----TYPE-010_LF	015
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
18 Jul 2016 (200) 11:35:57 - 25 Jul 2016 (207) 00:15:11 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number

015	149	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	242
			002	By	Metronix_Coil-----TYPE-006_LF	445
			003	Bz	Metronix_Coil-----TYPE-010_LF	015
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 3080

Run: 001

Recording Period 12 Aug 2016 (225) 09:20:57 - 13 Aug 2016 (226) 03:43:46 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
024	133	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	399
			002	By	Metronix_Coil-----TYPE-006_LF	439
			003	Bz	Metronix_Coil-----TYPE-010_LF	015
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period 12 Aug 2016 (225) 09:20:58 - 13 Aug 2016 (226) 03:43:47 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
024	133	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	399
			002	By	Metronix_Coil-----TYPE-006_LF	439
			003	Bz	Metronix_Coil-----TYPE-010_LF	015
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 3100

Run: 001

Recording Period 31 Jul 2016 (213) 10:53:57 - 05 Aug 2016 (218) 03:24:44 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
026	141	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	127
			002	By	Metronix_Coil-----TYPE-006_LF	425
			003	Bz	Metronix_Coil-----TYPE-010_LF	018
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period 31 Jul 2016 (213) 10:53:57 - 05 Aug 2016 (218) 03:24:44 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
026	141	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	127
			002	By	Metronix_Coil-----TYPE-006_LF	425
			003	Bz	Metronix_Coil-----TYPE-010_LF	018
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 3150

Run: 001

Recording Period 22 Jul 2016 (204) 08:52:51 - 26 Jul 2016 (208) 23:17:39 ( continuous 1h ) 26 Jul 2016 (208) 23:17:51 - 27 Jul 2016 (209) 12:47:37 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
024	133	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	398
			002	By	Metronix_Coil-----TYPE-006_LF	439
			003	Bz	Metronix_Coil-----TYPE-010_LF	011
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
22 Jul 2016 (204) 08:52:52 - 26 Jul 2016 (208) 23:17:39 ( continuous 1h )						
27 Jul 2016 (209) 00:00:00 - 27 Jul 2016 (209) 12:47:38 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
024	133	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	398
			002	By	Metronix_Coil-----TYPE-006_LF	439
			003	Bz	Metronix_Coil-----TYPE-010_LF	011
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 3200

Run: 001

Recording Period						
31 Jul 2016 (213) 02:56:42 - 06 Aug 2016 (219) 04:42:35 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
020	118	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	438
			002	By	Metronix_Coil-----TYPE-006_LF	399
			003	Bz	Metronix_Coil-----TYPE-010_LF	017
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
31 Jul 2016 (213) 02:56:42 - 06 Aug 2016 (219) 04:42:35 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
020	118	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	438
			002	By	Metronix_Coil-----TYPE-006_LF	399
			003	Bz	Metronix_Coil-----TYPE-010_LF	017
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 3250

Run: 001

Recording Period						
07 Aug 2016 (220) 04:53:56 - 10 Aug 2016 (223) 23:17:42 ( continuous 1h )						
10 Aug 2016 (223) 23:18:04 - 13 Aug 2016 (226) 05:03:56 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
017	146	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	428
			002	By	Metronix_Coil-----TYPE-006_LF	423
			003	Bz	Metronix_Coil-----TYPE-010_LF	014
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
07 Aug 2016 (220) 04:53:56 - 10 Aug 2016 (223) 23:17:42 ( continuous 1h )						
10 Aug 2016 (223) 23:18:03 - 13 Aug 2016 (226) 05:03:56 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
017	146	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	428
			002	By	Metronix_Coil-----TYPE-006_LF	423
			003	Bz	Metronix_Coil-----TYPE-010_LF	014
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 3300

Run: 001

Recording Period						
10 Aug 2016 (223) 07:28:44 - 12 Aug 2016 (225) 02:59:59 ( continuous 1h )						
12 Aug 2016 (225) 03:27:22 - 12 Aug 2016 (225) 03:29:20 ( 1min 58.50s once )						
12 Aug 2016 (225) 03:29:55 - 13 Aug 2016 (226) 07:55:53 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
			001	Bx	Metronix_Coil-----TYPE-006_LF	403
			002	By	Metronix_Coil-----TYPE-006_LF	402

056	106	50.00 Hz	003	Bz	Metronix_Coil-----TYPE-010_LF	010
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
10 Aug 2016 (223) 07:28:44 - 12 Aug 2016 (225) 02:59:59 (continuous 1h)						
12 Aug 2016 (225) 03:27:21 - 12 Aug 2016 (225) 03:29:20 (2min once)						
12 Aug 2016 (225) 03:29:56 - 12 Aug 2016 (225) 20:59:59 (continuous 1h)						
13 Aug 2016 (226) 00:00:00 - 13 Aug 2016 (226) 07:55:54 (continuous 1h)						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
056	106	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	403
			002	By	Metronix_Coil-----TYPE-006_LF	402
			003	Bz	Metronix_Coil-----TYPE-010_LF	010
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 3350

Run: 001

Recording Period						
06 Aug 2016 (219) 03:00:00 - 09 Aug 2016 (222) 17:25:05 (continuous 1h)						
10 Aug 2016 (223) 02:29:43 - 10 Aug 2016 (223) 02:33:05 (3min 22.10s once)						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
056	106	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	402
			002	By	Metronix_Coil-----TYPE-006_LF	403
			003	Bz	Metronix_Coil-----TYPE-010_LF	010
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
06 Aug 2016 (219) 03:00:00 - 09 Aug 2016 (222) 17:25:06 (continuous 1h)						
10 Aug 2016 (223) 02:29:42 - 10 Aug 2016 (223) 02:33:05 (3min 23.55s once)						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
056	106	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	402
			002	By	Metronix_Coil-----TYPE-006_LF	403
			003	Bz	Metronix_Coil-----TYPE-010_LF	010
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 3400

Run: 001

Recording Period						
08 Aug 2016 (221) 06:17:35 - 11 Aug 2016 (224) 05:55:01 (continuous 1h)						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
036	144	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	130
			002	By	Metronix_Coil-----TYPE-006_LF	434
			003	Bz	Metronix_Coil-----TYPE-010_LF	001
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
08 Aug 2016 (221) 06:17:35 - 11 Aug 2016 (224) 05:55:01 (continuous 1h)						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
036	144	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	130
			002	By	Metronix_Coil-----TYPE-006_LF	434
			003	Bz	Metronix_Coil-----TYPE-010_LF	001
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 4000

Run: 001

10.5880/GIPP-MT201613.1

Recording Period						
12 Jul 2016 (194) 01:59:45 - 16 Jul 2016 (198) 10:17:59 ( continuous 1h )						
Logger (EDL6)	SBx ( )	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
6027	089	2.00 Hz	001	Bx	Geomag_Fluxgate---TYPE-0001_X	030
			002	By	Geomag_Fluxgate---TYPE-0001_Y	030
			003	Bz	Geomag_Fluxgate---TYPE-0001_Z	030
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Run: 002

Recording Period						
17 Jul 2016 (199) 12:10:48 - 24 Jul 2016 (206) 03:21:59 ( continuous 1h )						
Logger (EDL6)	SBx ( )	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
6023	089	2.00 Hz	001	Bx	Geomag_Fluxgate---TYPE-0001_X	030
			002	By	Geomag_Fluxgate---TYPE-0001_Y	030
			003	Bz	Geomag_Fluxgate---TYPE-0001_Z	030
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Run: 003

Recording Period						
12 Jul 2016 (194) 03:06:07 - 16 Jul 2016 (198) 23:20:06 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
020	118	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	445
			002	By	Metronix_Coil-----TYPE-006_LF	242
			003	Bz	Metronix_Coil-----TYPE-010_LF	015
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
12 Jul 2016 (194) 03:06:06 - 16 Jul 2016 (198) 23:20:06 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
020	118	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	445
			002	By	Metronix_Coil-----TYPE-006_LF	242
			003	Bz	Metronix_Coil-----TYPE-010_LF	015
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Site 4050

Run: 001

Recording Period						
13 Jul 2016 (195) 01:49:38 - 17 Jul 2016 (199) 02:28:59 ( continuous 1h )						
Logger (EDL6)	SBx ( )	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
6023	079	2.00 Hz	001	Bx	Geomag_Fluxgate---TYPE-0001_X	022
			002	By	Geomag_Fluxgate---TYPE-0001_Y	022
			003	Bz	Geomag_Fluxgate---TYPE-0001_Z	022
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Run: 002

Recording Period						
13 Jul 2016 (195) 02:05:28 - 17 Jul 2016 (199) 05:43:13 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
015	149	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	423
			002	By	Metronix_Coil-----TYPE-006_LF	438
			003	Bz	Metronix_Coil-----TYPE-010_LF	013
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000



Recording Period						
13 Jul 2016 (195) 02:05:29 - 17 Jul 2016 (199) 05:43:14 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
015	149	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	423
			002	By	Metronix_Coil-----TYPE-006_LF	438
			003	Bz	Metronix_Coil-----TYPE-010_LF	013
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Site 4100

Run: 001

Recording Period						
20 Jul 2016 (202) 07:17:33 - 22 Jul 2016 (204) 02:21:55 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
024	133	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	439
			002	By	Metronix_Coil-----TYPE-006_LF	398
			003	Bz	Metronix_Coil-----TYPE-010_LF	011
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
20 Jul 2016 (202) 07:17:34 - 22 Jul 2016 (204) 02:21:56 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
024	133	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	439
			002	By	Metronix_Coil-----TYPE-006_LF	398
			003	Bz	Metronix_Coil-----TYPE-010_LF	011
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Site 4150

Internal Site: 0150 Run: 001

Recording Period						
12 Jul 2016 (194) 06:53:58 - 27 Jul 2016 (209) 02:16:59 ( continuous 1h )						
Logger (EDL6)	SBx ( )	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
6042	085	2.00 Hz	001	Bx	Geomag_Fluxgate---TYPE-0001_X	020
			002	By	Geomag_Fluxgate---TYPE-0001_Y	020
			003	Bz	Geomag_Fluxgate---TYPE-0001_Z	020
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Internal Site: 4150 Run: 001

Recording Period						
12 Jul 2016 (194) 07:14:01 - 20 Jul 2016 (202) 00:52:32 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
024	133	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	398
			002	By	Metronix_Coil-----TYPE-006_LF	439
			003	Bz	Metronix_Coil-----TYPE-010_LF	011
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
12 Jul 2016 (194) 07:14:01 - 20 Jul 2016 (202) 00:52:33 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
024	133	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	398
			002	By	Metronix_Coil-----TYPE-006_LF	439
			003	Bz	Metronix_Coil-----TYPE-010_LF	011
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Site 4200

Internal Site: 0200 Run: 001

Recording Period						
26 Jul 2016 (208)00:00:00 - 27 Jul 2016 (209)02:18:59 (continuous 1h)						
27 Jul 2016 (209)08:36:52 - 27 Jul 2016 (209)08:38:18 (1min + 26.50s once - continuous)						
27 Jul 2016 (209)08:39:16 - 06 Aug 2016 (219)02:24:59 (continuous 1h)						
Logger (EDL6)	SBx (I)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
6042	085	2.00 Hz	001	Bx	Geomag_Fluxgate---TYPE-0001_X	020
			002	By	Geomag_Fluxgate---TYPE-0001_Y	020
			003	Bz	Geomag_Fluxgate---TYPE-0001_Z	020
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Internal Site: 4200 Run: 001

Recording Period						
27 Jul 2016 (209)09:00:00 - 30 Jul 2016 (212)08:06:19 (continuous 1h)						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
026	141	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	425
			002	By	Metronix_Coil-----TYPE-006_LF	396
			003	Bz	Metronix_Coil-----TYPE-010_LF	018
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
27 Jul 2016 (209)09:00:00 - 30 Jul 2016 (212)08:06:20 (continuous 1h)						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
026	141	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	425
			002	By	Metronix_Coil-----TYPE-006_LF	396
			003	Bz	Metronix_Coil-----TYPE-010_LF	018
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Site 4265

Run: 001

Recording Period						
01 Aug 2016 (214) 13:05:26 - 12 Aug 2016 (225) 11:17:59 (continuous 1h)						
13 Aug 2016 (226) 01:50:13 - 13 Aug 2016 (226) 02:03:59 (continuous 8min)						
Logger (EDL6)	SBx (I)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
6029	041	2.00 Hz	001	Bx	Geomag_Fluxgate---TYPE-0001_X	002
			002	By	Geomag_Fluxgate---TYPE-0001_Y	002
			003	Bz	Geomag_Fluxgate---TYPE-0001_Z	002
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Run: 002

Recording Period						
01 Aug 2016 (214) 13:18:41 - 02 Aug 2016 (215) 02:35:30 (continuous 1h)						
02 Aug 2016 (215) 02:51:48 - 07 Aug 2016 (220) 09:16:16 (continuous 1h)						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
036	144	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	130
			002	By	Metronix_Coil-----TYPE-006_LF	434
			003	Bz	Metronix_Coil-----TYPE-010_LF	001
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
01 Aug 2016 (214) 13:18:42 - 02 Aug 2016 (215) 02:35:31 (continuous 1h)						
02 Aug 2016 (215) 02:51:48 - 02 Aug 2016 (215) 22:59:59 (continuous 1h)						
03 Aug 2016 (216) 00:00:00 - 07 Aug 2016 (220) 09:16:16 (continuous 1h)						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
			001	Bx	Metronix_Coil-----TYPE-006_LF	130

036	144	500.00 Hz	002	By	Metronix_Coil-----TYPE-006_LF	434
			003	Bz	Metronix_Coil-----TYPE-010_LF	001
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
02 Aug 2016 (215) 02:37:44 - 02 Aug 2016 (215) 02:50:10 ( 12min 26.07s once )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
036	144	250.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	130
			002	By	Metronix_Coil-----TYPE-006_LF	434
			003	Bz	Metronix_Coil-----TYPE-010_LF	001
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 4300

Run: 001

Recording Period						
31 Jul 2016 (213) 08:34:47 - 12 Aug 2016 (225) 07:59:59 ( continuous 1h )						
Logger (EDL6)	SBx ()	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
6028		2.00 Hz	001	Bx	Geomag_Fluxgate---TYPE-0001_X	031
			002	By	Geomag_Fluxgate---TYPE-0001_Y	031
			003	Bz	Geomag_Fluxgate---TYPE-0001_Z	031
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
	005		Ey	TelluricElectrode-TYPE-AgAgCl	000	
	038					

Run: 002

Recording Period						
31 Jul 2016 (213) 08:20:56 - 06 Aug 2016 (219) 05:59:59 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
017	146	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	432
			002	By	Metronix_Coil-----TYPE-006_LF	428
			003	Bz	Metronix_Coil-----TYPE-010_LF	014
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period						
31 Jul 2016 (213) 08:20:57 - 06 Aug 2016 (219) 05:59:59 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
017	146	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	432
			002	By	Metronix_Coil-----TYPE-006_LF	428
			003	Bz	Metronix_Coil-----TYPE-010_LF	014
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

### Site 4350

Run: 001

Recording Period						
30 Jul 2016 (212) 10:24:15 - 11 Aug 2016 (224) 02:55:59 ( continuous 1h )						
Logger (EDL6)	SBx ()	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
6030		2.00 Hz	001	Bx	Geomag_Fluxgate---TYPE-0001_X	025
			002	By	Geomag_Fluxgate---TYPE-0001_Y	025
			003	Bz	Geomag_Fluxgate---TYPE-0001_Z	025
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
	005		Ey	TelluricElectrode-TYPE-AgAgCl	000	
	013					

Run: 002

Recording Period						
30 Jul 2016 (212) 10:04:24 - 05 Aug 2016 (218) 02:00:41 ( continuous 1h )						

Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
056	106	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	403
			002	By	Metronix_Coil-----TYPE-006_LF	402
			003	Bz	Metronix_Coil-----TYPE-010_LF	010
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period 30 Jul 2016 (212) 10:04:25 - 05 Aug 2016 (218) 02:00:42 ( continuous 1h )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
056	106	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	403
			002	By	Metronix_Coil-----TYPE-006_LF	402
			003	Bz	Metronix_Coil-----TYPE-010_LF	010
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

#### Site 4400

Run: 001

Recording Period 14 Jul 2016 (196) 07:29:15 - 15 Jul 2016 (197) 07:14:59 ( continuous 1h )						
Logger (EDL6)	SBx ()	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
6036	072	2.00 Hz	001	Bx	Geomag_Fluxgate---TYPE-0001_X	032
			002	By	Geomag_Fluxgate---TYPE-0001_Y	032
			003	Bz	Geomag_Fluxgate---TYPE-0001_Z	032
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Run: 002

Recording Period 15 Jul 2016 (197) 08:38:56 - 15 Jul 2016 (197) 08:59:59 ( For 17min 40.98s every 18min 4.94s )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
029	108	50.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	404
			002	By	Metronix_Coil-----TYPE-006_LF	128
			003	Bz	Metronix_Coil-----TYPE-010_LF	001
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000

Recording Period 15 Jul 2016 (197) 08:38:56 - 15 Jul 2016 (197) 08:59:59 ( For 17min 41.00s every 18min 4.50s )						
Logger (SPAM4)	SBx (SPAM4)	Sampling Frequency	Channel Nr.	Name	Sensor Type	Sensor Number
029	108	500.00 Hz	001	Bx	Metronix_Coil-----TYPE-006_LF	404
			002	By	Metronix_Coil-----TYPE-006_LF	128
			003	Bz	Metronix_Coil-----TYPE-010_LF	001
			004	Ex	TelluricElectrode-TYPE-AgAgCl	000
			005	Ey	TelluricElectrode-TYPE-AgAgCl	000