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NIREX PETROLOGICAL SAMPLES ARCHIVE

Version 2 - Draft 1

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NIREX PETROLOGICAL SAMPLES ARCHIVE

EXECUTIVE SUMMARY

Introduction

This report describes archival curation of petrological samples and related digital records arising from past investigations undertaken by the BGS under the Nirex Site Investigations Programmes at Sellafield and, to a lesser extent, Dounreay. This consisted of the following tasks:

1. Log all relevant samples and subsamples in order to verify which can be readily made available for future investigations.
2. Record their present storage locations within the BGS site at Keyworth.
3. Determine the extent of electronic records relating to these samples and held on the Apple Mac databases within the (former) Mineralogy and Petrology Group.
4. Transfer these databases into the BGS data architecture.
5. Prepare a report recording these activities and metadata necessary to locate the samples/subsamples and records for subsequent use.

The collections and electronic records were assembled during a series of investigations carried out mostly by the Mineralogy and Petrology Group (MPG) of the British Geological Survey in the early to mid 1990s, and some carried out by field staff of BGS. These investigations formed part of the Site Investigations carried out by Nirex in seeking a site acceptable for construction of a repository for low and medium level radioactive waste.

Curation

Most of the samples were selected from drillcores by expert Core Examination Panels and then extracted and passed to MPG for investigation. Others were collected from surface exposure and Quaternary deposits by BGS field staff. During the investigations, they were divided into subsamples intended for specific analyses. These included unused original sample, reference subsample, excess jaw crushed rock, excess milled rock, X-ray fluorescence pellets, X-ray diffraction subsamples, chips mounted in aluminium stubs (for SEM analysis), doubly polished fluid inclusion wafers, covered thin sections and polished thin sections. However, it important to appreciate that production of subsamples varied from sample to sample according to the analytical requirements at the time.

The sample collections are recorded as they were observed by the writers in November 2000 to January 2001 at the BGS Keyworth site. Additional samples were added that had been kept at the BGS Edinburgh office, where a handful still remain. To undertake curation, a list of the Nirex samples registered by MPG was assembled and cross-checked

against actual samples. In all, 2773 samples were identified from the MPG list. However, about 900 out of these were found to be 'missing', in that neither original sample nor reference subsample could be located (although some were still represented by other types of subsample). Enquiries indicated that these had been transported back to the Nirex Cleator Moor core store and re-inserted into the core boxes there. Indeed, some 200 samples out of the 900 that had been recorded as 'missing' were found to be in crates shipped back to BGS from Cleator Moor because the re-insertion process had not been completed.

A further 474 samples were found that did not appear to have been registered by MPG. It appears that these are samples that were extracted from the cores but set on one side and never actually used in the MPG investigations.

A total of 1261 thin sections prepared from samples registered by MPG were located and verified. To these were added 188 thin sections of surface exposure samples, and a further 15 thin sections OF Quaternary deposits that remain at BGS Edinburgh.

Database

During the curation process, a record of samples, containers and locations was assembled as a set of related Excel97 spreadsheet tables. These were copied into a set of tables in Access97. When completed, this database was transferred to specialist IT staff for incorporation into a new relational database for the Nirex petrological samples. This was to be created in Oracle on the BGS database server and forming part of the BGS database architecture.

The Nirex Archive database tables are placed on the BGS KW database server as part of the Britrocks set of tables, with names starting with the letters "PM" (Petrology-Mineralogy). At the time of writing, no user application has been prepared for these tables.

Technical appendices to the Nirex Archive database have been lodged as electronic copies on the BGS 'programmes' server KWNTS9 mapped to drive V, so that the path is:

V:\Ism\Im\Corporate Collections\Petrology\Britrocks\Nirex Samples

These comprise Excel97 and Access97 versions of the local database prepared during objectives 1 and 2. More importantly, they also include detailed descriptions of the structure and relationships of the Oracle tables forming the Nirex Archive database. These are given as a series of electronic files in PDF format.

The PDF files are:

- NIREX_ARCHIVE_DIAGRAM
- Data Model Catalog

- Entity Report
- Data Items

These are also reproduced as Appendix 1.

However, it is pointed out that three Foreign Keys within the Nirex Archive database could not be enabled due to inconsistencies between data extracted from the 2 different sources (FileMakerPro Database and the Microsoft Access database). The Foreign Keys are:

1. PM_SAMPLE_PREP_FK1 - Foreign key of the PM_SAMPLE_PREP table referencing the main table PM_NIREX_SAMPLE.

2. PM_REF_SAMPLE_TRAY_LOCN_FK1 - foreign key of the PM_REF_SAMPLE_TRAY_LOCN table referencing the main table PM_NIREX_SAMPLE.

3. PM_THINSECTN_SAMPLE_FK1 - foreign of the PM_THINSECTN_SAMPLE table referencing the main table PM_NIREX_SAMPLE.

These exceptions have arisen because some sample information in the Access database has no corresponding BOREHOLE_NO, NIREX_SAMPNO and MPG_SAMPNO information in the main table PM_NIREX_SAMPLE. The PM_NIREX_SAMPLE table contains data extracted from the FileMaker Pro Database.

These 3 exceptions have resulted in the creation of three Exception tables (see Entity report and database Diagram in PDF files);

1. PM_SAMPLE_PREP_EXCEPT,
2. PM_REF_SAMPLE_TRAY_LOCN_EXCEPT,
3. PM_THINSECTN_SAMPLE_EXCEPT.

These tables will remain as part of the database as long as these inconsistences remain unresolved.

NIREX PETROLOGICAL SAMPLES ARCHIVE

CONTENTS

NIREX PETROLOGICAL SAMPLES ARCHIVE

1. Introduction

1.1 This report describes archiving of petrological samples arising from Core Characterisation carried out by the British Geological Survey during the former Site Investigation projects. Most of these samples were taken during investigations at Sellafield, with a minority from Dounreay. The intention is that these materials and related data should be available to the scientific community as part of the BGS corporate information service.

1.2 As part of the Site Investigations and Sellafield and Dounreay, during the 1980s and 1990s, the Mineralogy and Petrology Group of the British Geological Survey[1] undertook detailed characterisation of borehole rock samples. Results from this work were disseminated by means of Interim Factual Reports and Compiled Factual Reports. The Interim Factual Reports provided 'raw' results in the form of a proforma, while the Compiled Factual Reports presented comprehensive summaries of the data in the Interim Factual Reports relating to a particular borehole.

1.3 Underpinning these reports was a set of digital petrological databases, which was established at the outset of the investigations. These were created in database management software called Filemaker Pro version 2, running on an Apple Macintosh desktop computer at the Mineralogy and Petrology Group laboratories at BGS, Keyworth. Significantly, this took place before creation of the Oracle relational database set up by Nirex at the BGS. Only part of the petrological databases was transferred to the main Nirex database, namely the tables of bulk-rock chemical analyses. Hence most of the petrological data were still held in the Apple Mac databases until transferred to Oracle during the present archiving work. Capture of these data as a set of relational tables in Oracle within the BGS database architecture is a second objective of this project, in addition to cuartion of the physical samples. The resulting database is described in a companion report (Howcroft & Nayembil, 2001).

1.4 During the present archiving, it was established that a large number of petrological samples recorded in the Apple Mac databases were missing from Keyworth. It was found that a large number of Nirex samples had been transported to the Nirex drill core storage facility at Cleator Moor, so that they could be re-inserted back into their correct positions within the core boxes. This process was evidently not completed, as a number of these samples have been brought back to Keyworth and

[1] Following the re-structuring of BGS in April, 2000, the Mineralogy & Petrology Group ceased to exist and the staff were re-assigned to the Geochemistry, Mineralogy and Hydrogeology discipline.

are now held in two pallets of wooden crates within the NGRC. Even so, a large number of petrological samples remains unaccounted for, and it is most probable that they have been re-inserted into the cores. However, we have not been able to confirm that this is so.

1.5 Additional petrology research was carried out within the Sellafield Site Investigation Programme as part of investigations of surface outcrop and Quaternary deposits in and near Sellafield. This was done in part by field staff themselves and in part by mineralogists at the BGS Edinburgh office. The samples and thin sections from this work were retained by the field staff and Edinburgh staff, and data from this work were not placed in the Apple Mac databases. During the present archiving, a number of the thin sections have been transferred to BGS Keyworth and incorporated into the Nirex thin section collection described here. A set of thin sections of Quaternay deposits has been retained at Edinburgh and recorded here. However, it is stressed that none of the records relating to these samples have been provided, nor the hand specimens. Moreover, there is no basis to believe that the set of thin sections that has been registered is complete.

2. Objectives

2.1 Curation:

- Log all relevant samples and subsamples in order to verify which can be readily made available for future investigations.
- Record their present storage locations within the BGS site at Keyworth.

2.2 Database transfer

- Determine the extent of electronic records relating to these samples and held on the Apple Mac databases within the (former) Mineralogy and Petrology Group.
- Transfer these databases into the BGS data architecture.
- Prepare a report recording these activities and metadata necessary to locate the samples/subsamples and records for subsequent use.

2.3 It is stressed that this work aims to record the location and availability of samples as they were found at the time when the curation work took place. There was no intention at this stage to move, re-arrange or re-house the samples. Any such activity as may be required may be undertaken subsequently by the BGS NGRC. Moreover, this work was not concerned with determining future arrangements and policy

regarding long term management of the materials and data. These issues will be of necessity be determined within the wider context of BGS corporate policy.

3. Background

3.1 **Petrological borehole sample selection procedure.** - During the original Nirex Site Investigation programme at Sellfield and the earlier, more limited one at Dounreay, petrological borehole samples were selected according to a set procedure. In this, the cores from a borehole were laid out and inspected by specialists forming a Core Examination Panel. Samples required for each type of investigation were marked and recorded in terms of pallet, box, core run and top - bottom depths from collar (later corrected to true elevation). The samples were allotted serial numbers going down the core and a code which indicated the type of work for which they were intended. The samples were then removed from the core boxes and transferred to the relevant specialists such as the petrologists to be worked on. Removal of samples was undertaken by sawing across the core or utilising existing cross-fractures, and transferring it from the original wooden core box to a cardboard sample box. These and other types of box used for sample storage are described below. The authors are not aware of the protocols followed during sampling of surface exposure and Quaternary deposits.

The following sections describe the types of sample storage containers that have been used (3.2), the locations of these containers (3.3) and the types of subsamples that have been kept (3.4).

3.2 **Types of sample storage containers** - A variety of storage containers is in use for storage of petrological samples:

- Cardboard sample boxes - used to store the original petrological samples after separation from the drillcores. These boxes are approximately 110 cm long, 10 cm wide and 9 cm deep. They are stored on pallets in NGRC and in room P104 at Keyworth.
- Fibre trays - subsamples prepared from the original samples were in many cases stored in fibre sample trays, which are red coloured trays approximately 50 cm wide, 37 cm deep and 6 cm high. These contain solid 'reference samples' and also SEM and XRD subsamples, excess jaw crush and TEMA-milled powders. They are stored in the 4th level tray racking in the NGRC at Keyworth.
- Thin section trays - designed to hold 60 standard (3 inch by 1 inch) sections in wooden cabinets built to house several hundred trays. They are kept in purpose built thin section cabinets in room P104A at Keyworth. In addition to standard covered thin sections and polished thin sections, they also hold fluid inclusion wafers.

3.3 **Sample storage locations** - During the petrological investigations, several sets of subsamples were created, as described in 3.4. These are stored at a range of locations at the time of writing:

- NGRC main core racking, Keyworth: cardboard sample boxes kept on pallets in the pallet storage in the drillcore.
- NGRC tray racking, Keyworth: fibre trays in the tray storage in the 4th (top) level of the tray racking.
- P Block, Keyworth: Room P104, the sample reception laboratory.
- P Block, Keyworth: Room P104A, the thin section archive room.
- Murchison House: A small number of samples of Quaternary deposits in the Sellafield area are held at the BGS office at Murchison House, Edinburgh.
- NGRC new core storage, Keyworth: About 700 petrological samples from Sellafield that have not been accounted for are understood to have been restored into the core boxes at the Nirex Cleator Moor store. The core boxes have been transferred to Keyworth and stored in new space within the NGRC extension. Another ca.200 samples sent to Cleator Moor but not restored to the core boxes have been located among a miscellany of samples that were transferred back to Keyworth in wooden crates, presumably intended for restoration to the core boxes once they have been rehoused.

3.4 Types of sample and subsample

- Original samples of drill core: in many cases, mostly where a fracture was identified for investigation, the original sample was selected so as to contain the entire feature of interest. However, in order to prepare thin sections and perform other mineralogical analyses, only a part of this was used and the remainder was retained in the cardboard sample box. The retained part is referred to here as the "original sample", while the part separated and removed to be used in the investigation is the "reference subsample". Most of the retained "original samples" are stored in boxes on pallets within the BGS Drillcore Storage facility in the NGRC. These boxes and pallets are identified by barcode labels and are recorded in the NGRC core sample database. However, a significant number were transported to the Nirex store at Cleator Moor and may be located among the material slipped from there to BGS, Keyworth, in 2000-2001. Additionally, a few are kept in cardboard sample boxes housed P104 to be readily available to the part Nirex funded "EQUIP" EU research project.
- Reference subsamples: the part removed from the original sample and passed to the MPG laboratories for detailed analysis. These may be all or part of the original sample. Many are stored in fibre sample trays in the NGRC racking, but others are held in cardboard sample boxes in room P104 at Keyworth, while some

have been restored to their original sample. Samples kept in P104 were to be used in "EQUIP".

- Jaw crushed subsamples: where a bulk chemical analysis was performed, the selected material was first crushed in a jaw-crusher and then subsampled for milling. Excess jaw-crush was stored in polythene bags that were placed in fibre sample trays now kept in the tray racking of the NGRC building at Keyworth, or placed in barcoded boxes that are located on pallets in the NGRC.
- Excess TEMA-milled subsamples: subsamples of jaw-crushed rock were milled in an agate Tema-mill before final preparation for XRF analysis. Excess Tema-milled material was stored in small polythene bags that were placed in fibre sample trays now kept in the racking of the NGRC building at Keyworth.
- X-ray fluorescence pellets: milled rock was used to prepare pressed powder pellets and fused beads for XRF analysis. The pellets are held by the Analytical Geochemistry section at BGS, Keyworth. Here they are indexed by Laboratory Number, and in order to gain access to them potential users should obtain the Laboratory Number from the relevant BGS Technical Report and contact the Analytical Geochemistry Laboratory Information System manager. The fused beads are considered to be inherently unstable and were not retained.
- Thin sections: one or more thin sections were prepared from most of the petrological samples by the BGS thin section laboratory. These include standard and large format sections, both covered and polished. These are now stored, mostly in individual polythene backs, within a series of shallow thin section trays, each holding approximately 60 thin sections, within a purpose-built wooden cabinet in room P104A at Keyworth.
- X-ray diffraction preparations: small subsamples selected for X-ray diffraction analysis were ground and then packed into XRD sample holders. Excess material was retained in a small polythene bag and these were placed in fibre sample trays now stored in the NGDC racking, or in a few cases placed in barcoded boxes that are located on pallets in the NGRC.
- SEM stubs: in addition to polished section, SEM analysis was also carried out on chips mounted on aluminium stubs. These are stored in fibre sample trays now stored in the NGDC racking.
- Fluid inclusion samples: doubly polished fluid inclusion wafers are held in thin section trays within the wooden thin section cabinet in room P104A at Keyworth.
- Quaternary thin sections: large format soil thin sections of Quaternary deposits are kept at the BGS Murchison House office under supervision of Dr E Philips.

4. Sample Numbering

4.1 The samples that have been curated are from several boreholes at Sellafield and one at Dounreay. In addition, thin sections of surface outcrop samples from the wider area around Sellafield are included where they are available. Several pallets of surface outcrop and shallow Tertiary deposits in the Sellafield area are hosted in the NGRC, but these are not dealt with here.

4.2 The borehole samples were originally selected according to the requirements of the Core Characterisation Programme from the drill cores recovered from the site investigation boreholes. Samples removed from the drill cores were each given a unique Nirex sample number during the Core Examination Panels. This number had three parts and was in the form, e.g.:

RCF1/100/P18

where RCF1 is the borehole number, 100 is the sequential number of the sample going down the borehole, and P18 is a code indicating what tests or analysis the sample was intended for. The site of each sample was recorded as the depth (down-hole from collar, later corrected to true altitude) of its base and its length parallel to the core axis. Borehole locations, inclinations, sample depths and other details are given elsewhere (Nirex Database).

4.3 The samples thus defined were extracted by diamond saw cuts made at right angles to the core axis, and thence transferred from the original core box into a separate cardboard sample box (described above). These boxes might contain between one and several such samples, depending on the lengths of the individual samples. The boxes were transferred to the MPG laboratories (sample reception room P104) while the samples were prepared for analysis. Many of these boxes of samples were returned subsequently to the NGRC for secure storage on pallets (32 boxes to a pallet), although at the time of writing (January 2001) a significant proportion are still stored in P104 for use in ongoing projects (EU "EQUIP" Project).

4.4 The samples were usually chosen in order to be either (i) representative of the bulk characteristics of a rock unit or (ii) to include a particular fracture or other feature that was to be investigated. On receipt into MPG, it was often necessary to detach and remove the part of the original sample containing a fracture or other feature identified specifically to be investigated, leaving the remaining sample in its original sample box. This detached portion is referred to here as the "reference subsample". After analysis, these reference subsamples were placed in fibre trays that were eventually placed in the tray racking area of the NGRC (Level 4, Stack N, columns 23 to 30).

4.5 Because of DOS/Windows 3.1 limitations of dedicated instrument-software within the MPG laboratories, the Nirex sample number was not suitable for use in these laboratories. Therefore, each sample was allotted a unique "MPG sample number" on entry into the Mineralogy and Petrology Group laboratories. These took the form of

shortened 4 character code. These were allotted in accession order, starting from A001, eventually passing D001. A further 3 characters were added to indicate subsample type, as necessary. Therefore, the intention was that each subsample received a unique seven character MPG code based on a four character number that bore a one-to-one relationship to the Nirex sample number (e.g. A204AT1, where A204 is the MPG serial number and AT1 indicates the first standard covered thin section made from this sample: if a second had been made, then it would have the number A204AT2, and so on). However, in many of the records in the curation database described here and by Nayembil & Howcroft (2001), only the four character MPG code is used.

4.6 In the latter stages of the Core Characterisation, and subsequently, numbers from the MPG sequence have also been allotted to samples from other projects within the MPG laboratories, so that there are gaps in the Nirex MPG sample number sequence. There is however no duplication of numbers within the MPG sequence. Each Core Characterisation sample sent to the MPG laboratories has a unique MPG number.

4.7 Samples archived here from studies of surface exposure consist only of thin sections (the whereabouts of hand specimens is uncertain, though probably at BGS Edinburgh). These sections have a mixture of sample numbers, including MPG sample numbers (e.g. A510AT1), individual collector's sample numbers (e.g. SRY24) and locality based numbers (e.g. SC/SW27/50/1B). They are not consistent, nor are sampling locality data available to the present writers.

5. Physical Curation

5.1 During the present work, the samples and subsamples were inspected in order to construct a local database in which they would be recorded along with the number of their container and its whereabouts. Almost all of the boxes and trays were already labelled with a list of the contents. Insufficient time was available to verify each of these containers, but between 25 and 30% were opened and their contents checked against the label on the container. The labelling was found to be accurate.

5.2 A local database was constructed in Microsoft Excel to record all the samples, boxes and box locations. This required that each container had its own unique identifier. For speed and convenience, they were given a temporary NPT (Nirex Petrography Tray) number. This was written on the front of the container. In addition, many were also given an NGRC barcode label in order that they could be registered in the BGS core box database (managed by Sue Martin, NGRC). The NGRC numbers have the form "CB" plus an 8 digit serial number, e.g. CB00039199. At the time of writing, barcodes have not been added to the Nirex fibre trays on the 4th level of the NGRC tray racking, although it is expected that this will take place in the future under the BGS in-house curation programme. Conversely, many of the fibre trays in the tray racking have a TMP (temporary tray) number, belonging to an old tray numbering sequence that is being superseded by the barcode system. Thus, three container

numbering sequences are represented, as set out in Table 1, but all containers have been given a NPT number.

5.3 In summary, the position has been reached at which all samples and subsamples have been identified and their presence or absence verified. All sample containers have a unique label and their location has been determined. The full sets of samples, subsamples, sample containers, locations, sample numbers and container numbers is summarised in Table 2.

6. Sample Curation Local Database

6.1 During the process of verifying samples, sample containers and locations, information was recorded on a set of Excel spreadsheet tables to form a local database (that is, a stand alone database for use essentially within the curation process). At completion of curation, the tables were assembled into a single Access97 database which was passed to IT staff for construction of the final project database in Oracle (Nayembil & Howcroft, 2001). For reference, the Excel tables and Access97 database are appended to this report on a single 3.5 inch floppy disc.

6.2 Eight tables were created in the local database, as shown in Table 3. The column headings in each table are listed in Table 4, and Table 5 provides an explanation of each column, including data type, field size and data format.

6.3 Local Database Table 1, Main and Sub Samples, lists all samples registered by MPG and given an MPG number. This is cross-referenced to the original Nirex sample number and the borehole. For each sample, the table records the number of the container that holds each of the subsamples (see 3.4), and in doing so indicates which subsamples have been verified. Where no container is indicated, this means that this subsample has not been located (possibly because none ever existed). This table records 3226 samples, including surface exposure and Quaternary samples as well as borehole samples.

6.4 Local Database Table 2, Missing Samples, is a subset of Table 1 for which neither the original sample or the reference sample has been located. This records 699 'missing' samples, which have probably been re-inserted into the core boxes at Cleator Moor.

6.5 Local Database Table 3, Pallet Locations, records the barcode numbers of pallets that store main subsamples (original sample) as indicated by entries in the CB00039XXX format in Local Database Table 1.

6.6 Local Database Table 4, P104 &Temp Locations, records locations of boxes with CB00038XXX format entries, where these boxes are stored in room P104 or in the NGRC TEMP storage area.

6.7 Local Database Table 5, Tray Locations, records the position of fibre trays with NPT XXX format entries in columns 'REFSAMP_NPTBOX', 'JAWCRUSH_NPTBOX', 'TEMAMILL_NPTBOX', 'XRDSAMP_NPTBOX' and 'SEMSAMP_NPTBOX' in Local Database Table 1.

6.8 Local Database Table 6, TS Samples, records thin sections against thin section tray numbers, which are given a label in NPTXXX format and also the matching CB00039XXX format barcode number.

6.9 Local Database Table 7, TS Tray Locations, records the position of the thin section trays in room P104A.

6.10 Local Database Table 8, NPT_Trays, draws together a list of all the NPT sample containers and their locations.

6.11 These tables are assembled into a single database in Access97, called 'dbNirexPet', which is copied on to the 3.5 inch floppy disc appended to this report.

7. Transfer of project databases

7.1 The new Oracle Nirex Archive database incorporates data transferred from the original project databases created in MPG during the ore Characterisation investigations (see paragraph 1.6), in addition to the local database described in Part 6. These databases were created in Filemaker Pro Version 2 running on an Apple Macintosh microcomputer within the MPG.

7.2 Filemaker Pro Version 2 is a simple DBMS that does not have the capability of relational databases. Hence, each individual database was designed as a single flatfield table. These were established on the basis of one record for each sample. Each record had sufficient fields to hold all the data for a sample.

7.3 Flatfield databases are extremely inefficient by present standards. In storing petrological data for Core Characterisation samples, this has been exacerbated by the requirement to store multiple sets of data for many of the parameters (e.g. a sample may contain one or many minerals, one or many sets of fractures, etc.). This was allowed for by creating tables with repeat sets of data fields to deal with all foreseeable levels of detail. The result was enormous redundancy, some databases having more than 2400 fields.

7.4 Moreover, the type of data to be stored differed according to the broad type of rock being described. Different table designs were constructed for different types of sample: bulk Permo-Triassic and Carboniferous rocks; bulk Borrowdale Volcanic Group rocks; fractures in Permo-Triassic and Carboniferous rocks; fractures in Borrowdale Volcanic Group rocks. Because the Core Characterisation programme went through successive phases over a number of years, and because of the

requirement to for rapid production of Interim Factual Reports, separate groups of databases were established for each borehole. As the work progressed, the detailed designs of the databases were also adjusted. The result is a series of enormously unwieldy databases of different and inconsistent designs that present considerable problems with regard to their transfer into the BGS Data Architecture.

7.5 Apple Macintosh computers are neither in general use nor receiving corporate support from BGS at the time of the present report. Therefore, an early requirement was to copy all the databases into a more accessible and convenient format. The Apple Macintosh computers had the ability to transfer files on to a server attached to the BGS LAN ('kwnts9'). Filemaker Pro provided a small number of export format options. Of these, the best was judged to be the 'MERGE' format because this exports the column headings as well as the long text fields without truncation. Exported MERGE files are in the form of a semicolon-separated text file. All the borehole databases held in MPG were transferred in this format, creating a series of 67 semi-colon separated text files.

7.6 The text files are very difficult to handle, because of the number of columns in the databases. For instance, because Excel (or other Microsoft Office suite programmes) can not accept more than 255 columns in a spreadsheet, the text files cannot be directly imported as a spreadsheet. Moroever, because the text files are semi-colon deliminated, the presence of semi-colons embedded within the many free-text fields in the original tables causes errors when the text files are parsed. A text file can be readily imported into a word processor such as Microsoft Word97, and then the semi-colons replaced by carraige-return characters, but the result will be that original text fields will be split into separate fields wherever there is an embedded semi-colon. The number of separate 'fields' resulting from this will vary from sample to sample because each original sample record will have a different number of semi-colons embedded in the original text fields. Other output formats than 'MERGE' have their own problems, because they omit column headings, truncate long fields or, in the case of coma-separated text, behave even more unpredictably because of the presence of commas embedded within text fields (as with the semi-colon problem already discussed).

7.7 These difficulties hinder re-creation of the original databases outside the Apple Macintosh environment. In order to meet the objectives of the present archiving project, it has been decided to archive the text files without further treatment, as the information they contain is already available conveniently in printed reports. They are to be held in a single table with each text kept in a text-format field, other fields being provided in order to index them. The texts will be available to users, provided that they or BGS undertake to convert them into a more convenient format. It should be repeated that all the data in these texts is available in the Interim Factual and Compiled reports.

7.8 In addition, a second, more limited download from the Filemaker Pro databases has been undertaken in order to assemble an index to the sample collection and a cross-reference to the reports. This has the following information:

- Borehole number
- Nirex sample number
- MPG sample number
- Bottom depth (m)
- Top depth (m)
- Technique flag A - Y/N
- Technique flag B - Y/N
- Technique flag C - Y/N
- Technique flag D - Y/N
- Technique flag E - Y/N
- Technique flag F - Y/N
- Technique flag G - Y/N
- Technique flag H - Y/N
- Technique flag I - Y/N
- Technique flag J - Y/N
- Report1 - Report reference - to be added after download
- Report2 - Second report reference - to be added after download

8. Nirex Archive Database

8.1 The data provided by downloading the Filemaker Pro databases and from the local sample curation database were combined to form a single set of inter-related tables in Oracle. The tables have names commencing with the letters "PM" to indicate that they form part of the Britrocks set of tables within the BGS domain on the Keyworth office database server. The names of the tables are:

PM ARCHIVE HEADER
PM HEADER TYPE
PM INDEPENDENT TS SAMPLE
PM NIREX SAMPLE
PM NIREX SAMPLE STUDY
PM NIREXSAM STUDY ARCHIVE
PM PALLET LOCATION
PM REF SAMPLE TRAY LOCN
PM REF SAMPLE TRAY LOCN EXCEPT
PM SAMPLE PREP
PM SAMPLE PREP EXCEPT
PM THINSECTN SAMPLE
PM THINSECTN SAMPLE EXCEPT
PM THINSECTNSAMP TRAY LOCN
PM TRAY LOCATION

8.2 Detailed technical descriptions of these tables and the relationships between them are provided in the form of a set of PDF files:

- NIREX_ARCHIVE_DIAGRAM
- Data Model Catalog
- Entity Report
- Data Items

Readers are asked to consult these for further information regarding the Oracle tables. They have been lodged on the BGS "Programmes" server, mapped as drive 'V' on BGS PCs, until further notice. The path is:

V:\Ism\Im\Corporate Collections\Petrology\Britrocks\Nirex Samples

This directory also contains copies of the Excel97 and Access97 versions of the local database prepared during objectives 1 and 2. In addition, these PDF files are reproduced as Appendix 1 of this report.

8.3 During creation of the Oracle tables of the Nirex Archive database, it was found that three Foreign Keys within this database could not be enabled due to inconsistencies between data extracted from the 2 different sources (FileMakerPro Database and the Microsoft Access database). The Foreign Keys are:

1. PM_SAMPLE_PREP_FK1 - Foreign key of the PM_SAMPLE_PREP table referencing the main table PM_NIREX_SAMPLE.

2. PM_REF_SAMPLE_TRAY_LOCN_FK1 - foreign key of the PM_REF_SAMPLE_TRAY_LOCN table referencing the main table PM_NIREX_SAMPLE.

3. PM_THINSECTN_SAMPLE_FK1 - foreign of the PM_THINSECTN_SAMPLE table referencing the main table PM_NIREX_SAMPLE.

These exceptions have arisen because some sample information in the Access database has no corresponding BOREHOLE_NO, NIREX_SAMPNO and MPG_SAMPNO information in the main table PM_NIREX_SAMPLE. The PM_NIREX_SAMPLE table contains data extracted from the FileMaker Pro Database. Put in simpler terms, the Access sample curation database included samples that were not recorded in the FileMaker Pro Database, and the reverse situation was also encountered. There are two probable reasons for this state of affairs. Firstly, some of the samples recorded in the FileMaker Pro Database as having been examined may not have been re-located. Secondly, among the samples that were located and archived may be some that were only examined under other parts of the Nirex research programme, such as NSARP, which were not included in the remit of the present work.

8.4 These exceptions have been dealt with by the creation of three Exception tables (see Entity report and database Diagram in appendices);

1. PM_SAMPLE_PREP_EXCEPT,
2. PM_REF_SAMPLE_TRAY_LOCN_EXCEPT,
3. PM_THINSECTN_SAMPLE_EXCEPT.

These tables will remain as part of the database as long as these inconsistencies remain unresolved.

8.5 Finally, it should be noted that at the time of writing this report, no front-end database application has been constructed to enable use of these tables.

APPENDIX 1

Downloaded copies of PDF files:

- **NIREX_ARCHIVE_DIAGRAM** – A3 sized entity diagram showing the Oracle tables and relationships between them.
- **Data Model Catalog** – single page labelled "Page 2" in the print out, listing the tables.
- **Entity Report** – 17 page report labelled "Data Model – 002 Entity Report", showing the structure of each table.
- **Data Items** – 102 page report describing each data item held in the database.

Table 1. Summary of tray numbering systems.

Location	NTP number	Barcode CB number	TMP number
NGRC main core racking, Keyworth	**Yes**	**Yes**	No
NGRC tray racking 4th level, Keyworth	**Yes**	No	**Yes**
P Block, Keyworth: Room P104, sample reception	**Yes**	**Yes**	No
P Block, Keyworth: Room P104A, thin section room	**Yes**	**Yes**	No
Analytical Chemistry sample store	No - stored by laboratory number	No	No
Nirex core boxes	No	To be confirmed	No
Nirex excess sample crates	No	To be confirmed	No
Murchison House	No	No	No

Table 2. Summary of sample/subsample numbering and storage locations.

	Sample numbers				Locations					
Sample / Subsample type	**Nirex No.**	**MPG No.**	**MPG No. suffix**	**Other**	**NGRC pallet storage**	**NGRC 4th level tray racking**	**P104, under-bench storage**	**P104A, thin section cabinet J**	**P026 (Records Room)**	**Other location**
Original sample	Yes	no			Barcode and NTP box		Barcode and NTP box			
Reference subsample	Yes	Yes				NPT fibre tray				
Thin section/s		Yes	AP, AC, AL	Collector or locality number				Barcoded section tray		
Quaternary samples		?		?						Murchison House
Fluid inclusion wafers		Yes								Ublock, KW
Outcrop samples				See thin sections				Some		Murchison House
XRD sub-sample		Yes	AX			NPT fibre tray				
SEM stub subsample		Yes	AS			NPT fibre tray				
Jaw crush excess		Yes	B			NPT fibre tray				
Tema-mill excess		Yes	BB			NPT fibre tray				
XRF pellet		Yes		Lab number		Chemistry sample store				
Photomicrograph and/or BSEM micrograph		Yes							Yes	

Table 3 List of tables in the local curation database.

Table No.	Tables	Explanation	Keyfield	Rows
1	Main and Sub Samples (tblNirexPet_Samples)	Table indicating which boxes and trays contain which samples and subsamples.	SEQNO_1	3226
2	Missing Samples (tblNirexPet_missing_samples)	Table indicating samples and subsamples whose main and reference subsample have not been located.	SEQNO_2	699
3	Pallet Locations (tblNirexPet_pallet_locs)	Table indicating whereabouts of sample boxes in pallet storage in the NGRC.	FULL_BOX_NO	370
4	P104 &Temp Locations (tbl(nirexPet_P104_NGRCtemp_locs)	Table indicating whereabouts of sample boxes in the temporary area of the NGRC and room P104.	FULL_BOX_NO	137
5	Tray Locations (tblNirexPet_tray_locs)	Table indicating whereabouts of fibre sample trays in the NGRC.	NPT_NO	200
6	TS Samples (tblNirexPet_thinsections)	Table indicating registered holding of thin sections.	MPG_SAMPNO	1276
7	TS Tray Locations (tblNirexPet_TS_tray_locs)	Table indicating whereabouts of trays holding thin sections.	NPT_NO	37
8	NPT_Trays	Summary table of all Nirex Petrology Trays and their locations	NPT_NO	378

Table 4. List of fields in data tables of the local curation database.

Keyfields shown emboldened.

	Tables							
	1	2	3	4	5	6	7	8
	Main and Sub Samples	**Missing Samples**	**Pallet Locations**	**P104 &Temp Locations**	**Tray Locations**	**TS Samples**	**TS Tray Locations**	**NPT_Trays**
Fields	**SEQNO_1**	**SEQNO_2**	BOX_NO	NPT_NO	**NPT_NO**	**SEQNO_6**	**NPT_NO**	**NPT_NO**
	BOREHOLE	BOREHOLE	**FULL_BOX_NO**	BOX_NO	AISLE-NO	MPG_SAMPNO	TS_TRAY_NO	NGRC_TRAY_NO
	NIREX_SAMPNO	NIREX_SAMPNO	PALLET_NO	**FULL_BOX_NO**	STACK_NO	NPT_NO	FULL_TS_TRAY_NO	NPT_LOCATION
	MPG_SAMPNO	MPG_SAMPNO	PALLET_NO_OLD	BOX_LOCATION	TRAY_POSITION		TS_TRAY_LOCATION	TMP_NO
	MAINSAMP_BOX	JAWCRUSH_NPTBOX	COMMENT_3		TMP_NO			COMMENT_8
	REFSAMP_NPTBOX	TEMAMILL_NPTBOX						
	JAWCRUSH_NPTBOX	XRDSAMP_NPTBOX						
	TEMAMILL_NPTBOX	SEMSAMP_NPTBOX						
	XRDSAMP_NPTBOX							
	SEMSAMP_NPTBOX							

Table 5. Explanation of fields in tables in the local curation database.

	Tables											
Field name	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Explanation**	**Format**	**Data type**	**Length**	**Comment**
AISLE_NO					■				Aisle in racking holding tray.	4N	text	2	all locations are in aisle N of level 4 in the NGRC tray racking
BOREHOLE	■	■							Borehole number allocated originally by Nirex.	three letters+1 0r 2 digits and optional last letter	text	6	not null
BOX_LOCATION				■					Location of sample box - P104 or Temporary area in NGRC.	????	text	4	P104 or TEMP (temporary storage space in NGRC)
BOX_NO			■	■					Registered Box Number (NGRC barcode system).	???	text	3	last three digits of FULL_BOX_NO
COMMENT_3			■						Free text comment (optional).		text	50	mostly null entries
COMMENT_6								■	Free text comment (optional).		text	50	may be null
FULL_BOX_NO			■	■					Full Registered Box Number (NGRC barcode system).	CB000?????	text	10	not null in Table 3, but in Table 4 is null for boxes in TEMP area
FULL_TS_TRAY_NO							■		Full Registered Thin Section Tray Number (NGRC barcode system).	CB000?????	text	10	not null
JAWCRUSH_NPTBOX	■	■							Number of box containing excess jaw crushed sample material.	CB000????? Or NPT_???	text	10	may be null, NPT box no. or CB barcode number
MAINSAMP_BOX	■								Number of box containing original sample.	CB000?????, CM, CM_PALLETA, CM_PALLETB	text	10	may be null, CB barcode number or CM reference; CM referes to palleted samples returned from Cleator Moor core store

Table 5 continued.

	Tables												
Field name	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Explanation**	**Format**	**Data type**	**Length**	**Comment**
MPG_SAMPNO	■	■				■	■		Equivalent MPG sample number.	#???	text	4	a few nulls
NGRC_TRAY_NO								■	Full Registered Tray Number (NGRC barcode system).	CB000?????	text	10	may be null
NIREX_SAMPNO	■	■							Sample number allocated by Nirex.	string/number/string	text	15	borehole / serial number / code
NPT_NO				■	■	■	■	■	NPT number given to tray in NGRC racking (Nirex Petrology Tray).	NPT_???	text	7	may be null
PALLET_NO			■						Registered pallet number (NGRC barcode system).	P?????	text	6	not null, P01501 to P01512
PALLET_NO_OLD			■						Old registered pallet number (pre 2000 system).	???-??	text	6	numbering system no longer in use
REFSAMP_NPTBOX	■								Number of box containing reference petrology sample.	NPT_???	text	7	NPT and number separated by black character at present
SEMSAMP_NPTBOX	■	■							Number of box containing reference scanning electron-microscope subsample.	NPT_???	text	7	NPT and number separated by black character at present
SEQNO_1	■								Sequential row number in Table 1 (to provide unique row reference number).	????	integer	4	1 to 3226, keyfield in Table 1
SEQNO_2		■							Sequential row number in Table 2 (to provide unique row reference number).	???	integer	3	1 to 699, keyfield in Table 2
SEQNO_6						■			Sequential row number in Table 6 (to provide unique row reference number).	????	integer	4	1 to 1276, keyfield in Table 6

Table 5 continued.

	Tables												
Field name	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Explanation**	**Format**	**Data type**	**Length**	**Comment**
STACK_NO					■				Vertical stack within aisle.	??	text	2	two digit numbers from 24 to 35, no nulls
TEMAMILL_NPTBOX	■	■							Number of box containing excess Tema-milled sample material.	NPT_???	text	7	may be null
TMP_NO					■				Old TMP-system number given to tray.	????	text	4	tray label from old TMP numbering system (TMP prefix not included)
TRAY_POSITION					■				Position of tray within vertical stack.	??	text	2	from 1 to 21, no nulls
TS_TRAY_LOCATION							■		Room in which thin section tray is stored.	P104A	text	5	all thin section trays are in room P104A
TS_TRAY_NO							■		Last three digits of registered thin section tray number (NGRC barcode numbering system).	???	text	3	570 to 690
XRDSAMP_NPTBOX	■	■							Number of box containing reference X-ray diffraction subsample.	NPT_???	text	7	may be null

Data Model Catalog

Ref 002 **Name** NIREX ARCHIVE V2

Entities

Name	Class
PM ARCHIVE HEADER	
PM HEADER TYPE	
PM INDEPENDENT TS SAMPLE	
PM NIREX SAMPLE	
PM NIREX SAMPLE STUDY	
PM NIREXSAM STUDY ARCHIVE	
PM PALLET LOCATION	
PM REF SAMPLE TRAY LOCN	
PM REF SAMPLE TRAY LOCN EXCEPT	
PM SAMPLE PREP	
PM SAMPLE PREP EXCEPT	
PM THINSECTN SAMPLE	
PM THINSECTN SAMPLE EXCEPT	
PM THINSECTNSAMP TRAY LOCN	
PM TRAY LOCATION	

Relationships

Master Master to Detail Name	Detail Detail to Master Name
PM HEADER TYPE	PM ARCHIVE HEADER
PM HEADER TYPE	PM NIREXSAM STUDY ARCHIVE
PM NIREX SAMPLE	PM NIREX SAMPLE STUDY
PM NIREX SAMPLE	PM REF SAMPLE TRAY LOCN
PM NIREX SAMPLE	PM SAMPLE PREP
PM NIREX SAMPLE	PM THINSECTN SAMPLE
PM NIREX SAMPLE STUDY	PM NIREXSAM STUDY ARCHIVE
PM PALLET LOCATION	PM NIREX SAMPLE
PM THINSECTNSAMP TRAY LOCN	PM INDEPENDENT TS SAMPLE
PM THINSECTNSAMP TRAY LOCN	PM THINSECTN SAMPLE
PM TRAY LOCATION	PM REF SAMPLE TRAY LOCN
PM TRAY LOCATION	PM SAMPLE PREP

***** End of Data Model Catalog *****

Data Model - 002 Entity Report

Name PM ARCHIVE HEADER

Description

The original Header (referenced by its offset position from the start of the 'data string' (see PM NIREXSAM STUDY ARCHIVE) eg: SH_Top_Depth, %K-Feldspar etc. Used in reading the archived data string which is an Oracle Long string datatype with semi-colon separators between data fields: count through separators to offset and refer to here for data header/explanation of data.

Database Design

Table Name PM_ARCHIVE_HEADER
Column Prefix
Journalling (default)
Additional DDL

Attributes

HEADER TYPE
HEADER TEXT OFFSET
HEADER STRING

Keys

Type	Name
Foreign	PM ARCHIVE HEADER FK
Asc	HEADER TYPE
Primary	PM ARCHIVE HEADER PK
Asc	HEADER TYPE
Asc	HEADER TEXT OFFSET

Master Entities

Name	Relationship Names
PM HEADER TYPE	

Data Model - 002 Entity Report

Name PM HEADER TYPE

Description

A simple list of header types used to construct a relationship between the archived data and the Headers referring to the data strings within the Archived data in the table PM NIREXSAM STUDY ARCHIVE.

Database Design

Table Name PM_HEADER_TYPE
Column Prefix
Journalling (default)
Additional DDL

Attributes

HEADER TYPE

Keys

Type	Name
Primary	PM HEADER TYPE PK
Asc	HEADER TYPE

Detail Entities

Name	Relationship Names
PM ARCHIVE HEADER	
PM NIREXSAM STUDY ARCHIVE	

Data Model - 002 Entity Report

Name PM INDEPENDENT TS SAMPLE

Description

Thin Section sample locations (by NPT No) for thin sections whose reference MPG SampNo does not exist in the central Nirex Sample table and is therefore assumed to refer to external samples.

Database Design

Table Name PM_INDEPENDANT_TS_SAMPLE
Column Prefix
Journalling (default)
Additional DDL

Attributes

NON NIREX RELATED MPG SAMPNO
THINSECN SAMPLE OCCURENCE NO
NPT NO
- o COLLECTORS NO
- o COMMENT {THIN SECTION COMMENT}

Keys

Type	Name
Foreign	PM INDEPENDANT TS SAMPLE FK1
Asc	NPT NO
Primary	PM INDEPENDANT TS SAMPLE PK
Asc	NON NIREX RELATED MPG SAMPNO
Asc	THINSECN SAMPLE OCCURENCE NO

Master Entities

Name	Relationship Names
PM THINSECTNSAMP TRAY LOCN	

Data Model - 002 Entity Report

Name PM NIREX SAMPLE

Description

The main SAMPLE table - storing depth information and Pallet location (original Core from which sample has been derived), Chronostratigraphy and/or Lithostratigraphy where appropriate.

Database Design

Table Name PM_NIREX_SAMPLE
Column Prefix
Journalling (default)
Additional DDL

Attributes

BOREHOLE NO
NIREX SAMPNO
TOP DEPTH
BOTTOM DEPTH
- o MPG SAMPNO
- o PALLET BOX NO
- o MAIN SAMPSTORE LOCN
- o LITHOSTRAT CODE
- o CHRONOSTRAT CODE 1
- o CHRONOSTRAT CODE 2
- o NIREX SAMPNO SUFFIX

Keys

Type	Name
Alternate	PM NIREX SAMPLE FK1
Asc	MPG SAMPNO
Foreign	PM NIREX SAMPLE FK2
Asc	PALLET BOX NO
Primary	PM NIREX SAMPLE PK
Asc	BOREHOLE NO
Asc	NIREX SAMPNO

Master Entities

Name	Relationship Names
PM PALLET LOCATION	

Detail Entities

Name	Relationship Names
PM SAMPLE PREP	
PM THINSECTN SAMPLE	
PM NIREX SAMPLE STUDY	
PM REF SAMPLE TRAY LOCN	

Data Model - 002 Entity Report

Detail Entities

Name	Relationship Names

Data Model - 002 Entity Report

Name PM NIREX SAMPLE STUDY

Description

The Sample Study table - the study being one of (a) Bulk, or (b) Fracture. This table stores study specific data - techniques used, and any report references where appropriate.

Database Design

Table Name PM_NIREXSAMPLE_STUDY
Column Prefix
Journalling (default)
Additional DDL

Attributes

BOREHOLE NO
NIREX SAMPNO
STUDY TYPE CODE
- o REPORT REFERENCE NO1
- o REPORT REFERENCE NO2
- o TS TECHNIQUE USED
- o PTS TECHNIQUE USED
- o LF TECHNIQUE USED
- o OP TECHNIQUE USED
- o BSEM TECHNIQUE USED
- o CL TECHNIQUE USED
- o XRD TECHNIQUE USED
- o SEM TECHNIQUE USED
- o FI TECHNIQUE USED
- o O ISOTOPE TECHNIQUE USED
- o C ISOTOPE TECHNIQUE USED
- o S ISOTOPE TECHNIQUE USED
- o AR TECHNIQUE USED
- o FT TECHNIQUE USED

Keys

Type	Name
Foreign	PM NIREX SAMPLE STUDY FK
Asc	BOREHOLE NO
Asc	NIREX SAMPNO
Primary	PM NIREX SAMPLE STUDY PK
Asc	BOREHOLE NO
Asc	NIREX SAMPNO
Asc	STUDY TYPE CODE

Master Entities

Name	Relationship Names
PM NIREX SAMPLE	

Data Model - 002 Entity Report

Detail Entities

Name	Relationship Names
PM NIREXSAM STUDY ARCHIVE	

Data Model - 002 Entity Report

Name PM NIREXSAM STUDY ARCHIVE

Description

This table stores the main study data ie, quantitative and descriptive information relating to detailed study of samples, in hand specimen, thin section, polished section, or via techniques: XRD, XRF, SEM, etc. The data is in its original exported text format (a 'long' string with semi-colon delimiters). The data has related header information in the table PM ARHIVE HEADER. The data may be read by pulling it into a text editor, altering the separator format to CR, and then setting it against the header data.

Database Design

Table Name PM_NIREXSAM_STUDY_ARCHIVE
Column Prefix
Journalling (default)
Additional DDL

Attributes

BOREHOLE NO
NIREX SAMPNO
STUDY TYPE CODE
HEADER TYPE
DATA FILE STRING

Keys

Type	Name
Foreign	PM NIREXSAM STUDY ARCHIVE FK1
Asc	BOREHOLE NO
Asc	NIREX SAMPNO
Asc	STUDY TYPE CODE
Foreign	PM NIREXSAM STUDY ARCHIVE FK2
Asc	HEADER TYPE
Primary	PM NIREXSAM STUDY ARCHIVE PK
Asc	BOREHOLE NO
Asc	NIREX SAMPNO
Asc	STUDY TYPE CODE

Master Entities

Name	Relationship Names
PM NIREX SAMPLE STUDY	
PM HEADER TYPE	

Data Model - 002 Entity Report

Name PM PALLET LOCATION

Description

A table indicating the location of the Core boxes in their Pallets in NGRC.

Database Design

Table Name PM_PALLET_LOCATION
Column Prefix
Journalling (default)
Additional DDL

Attributes

PALLET BOX NO
PALLET NO
PALLET NO OLD
o COMMENT {PALLET LOCATION COMMENT}

Keys

Type	Name
Primary	PM PALLET LOCATION PK
Asc	PALLET BOX NO

Detail Entities

Name	Relationship Names
PM NIREX SAMPLE	

Data Model - 002 Entity Report

Name PM REF SAMPLE TRAY LOCN

Description

A table indicating the Tray location (NPT No.) of Referenced (non-prepared) samples. Note that prepared samples (that is those prepared for analysis for appropriate techniques of study) are stored in table PM SAMPLE PREP.

Database Design

Table Name PM_REF_SAMPLE_TRAY_LOCN
Column Prefix
Journalling (default)
Additional DDL

Attributes

BOREHOLE NO
NIREX SAMPNO
REF SAMPLE OCCURENCE NO
NPT NO

Keys

Type	Name
Foreign	PM REF SAMPLE TRAY LOCN FK1
Asc	BOREHOLE NO
Asc	NIREX SAMPNO
Foreign	PM REF SAMPLE TRAY LOCN FK2
Asc	NPT NO
Primary	PM REF SAMPLE TRAY LOCN PK
Asc	BOREHOLE NO
Asc	NIREX SAMPNO
Asc	REF SAMPLE OCCURENCE NO

Master Entities

Name	Relationship Names
PM TRAY LOCATION	
PM NIREX SAMPLE	

Data Model - 002 Entity Report

Name PM REF SAMPLE TRAY LOCN EXCEPT

Description

Exceptions from table PM_REF_SAMPLE_TRAY_LOCN which fail to comply with the Foreign Key constraint 'PM_REF_SAMPLE_TRAY_LOCN_FK1' which is a FK constraint againt the Main table PM_NIREX_SAMPLE.

Database Design

Table Name PM_REF_SAMPLE_TRAY_LOCN_EXCEPT
Column Prefix
Journalling (default)
Additional DDL

Attributes

BOREHOLE NO
NIREX SAMPNO
REF SAMPLE OCCURENCE NO
NPT NO

Data Model - 002 Entity Report

Name PM SAMPLE PREP

Description

A table indicating the tray locations of samples which have undergone extra preparation as part of special studies (XRD, SEM etc). The types of prep are limited to: XRD, JAWC, TEMAM, SEM).

Database Design

Table Name PM_SAMPLE_PREP
Column Prefix
Journalling (default)
Additional DDL

Attributes

BOREHOLE NO
NIREX SAMPNO
SAMPLE PREP TYPE CODE
PREP OCCURENCE NO
NPT NO {TRAY NPTNO}

Keys

Type	Name
Foreign	PM SAMPLE PREP FK1
Asc	BOREHOLE NO
Asc	NIREX SAMPNO
Foreign	PM SAMPLE PREP FK2
Asc	NPT NO {TRAY NPTNO}
Primary	PM SAMPLE PREP PK
Asc	BOREHOLE NO
Asc	NIREX SAMPNO
Asc	SAMPLE PREP TYPE CODE
Asc	PREP OCCURENCE NO

Master Entities

Name	Relationship Names
PM NIREX SAMPLE	
PM TRAY LOCATION	

Data Model - 002 Entity Report

Name PM SAMPLE PREP EXCEPT

Description

Exceptions from table PM_SAMPLE_PREP which fail to comply with the Foreign Key constraint 'PM_SAMPLE_PREP_FK1' which is a FK constraint againt the Main table PM_NIREX_SAMPLE.

Database Design

Table Name PM_SAMPLE_PREP_EXCEPT
Column Prefix
Journalling (default)
Additional DDL

Attributes

BOREHOLE NO
NIREX SAMPNO
SAMPLE PREP TYPE CODE
PREP OCCURENCE NO
NPT NO {TRAY NPTNO}

Data Model - 002 Entity Report

Name PM THINSECTN SAMPLE

Description

This table indicates/points to the tray locations (NPT No.) as well as the Collector No's, and comments relating to thin sections derived from the samples in the main PM NIREX SAMPLE table.

Database Design

Table Name PM_THINSECTN_SAMPLE
Column Prefix
Journalling (default)
Additional DDL

Attributes

MPG SAMPNO
THINSECN SAMPLE OCCURENCE NO
NPT NO
- COLLECTORS NO
- COMMENT {THIN SECTION COMMENT}

Keys

Type	Name
Foreign	PM THINSECTN SAMPLE FK1
Asc	MPG SAMPNO
Foreign	PM THINSECTN SAMPLE FK2
Asc	NPT NO
Primary	PM THINSECTN SAMPLE PK
Asc	MPG SAMPNO
Asc	THINSECN SAMPLE OCCURENCE NO

Master Entities

Name	Relationship Names
PM NIREX SAMPLE	
PM THINSECTNSAMP TRAY LOCN	

Data Model - 002 Entity Report

Name PM THINSECTN SAMPLE EXCEPT

Description

Exceptions from table PM_THINSECTN_SAMPLE which fail to comply with the Foreign Key constraint 'PM_THINSECTN_SAMPLE_FK1' which is a FK constraint againt the Main table PM_NIREX_SAMPLE (Unique key - MPG_Sampno).

Database Design

Table Name PM_THINSECTN_SAMPLE_EXCEPT
Column Prefix
Journalling (default)
Additional DDL

Attributes

MPG SAMPNO
THINSECN SAMPLE OCCURENCE NO
NPT NO
- COLLECTORS NO
- COMMENT {THIN SECTION COMMENT}

Data Model - 002 Entity Report

Name PM THINSECTNSAMP TRAY LOCN

Description

This table contains the tray No's for the tray locations X-refered to the NPT No's.

Database Design

Table Name PM_THINSECTNSAMP_TRAY_LOCN
Column Prefix
Journalling (default)
Additional DDL

Attributes

NPT NO
- o TS TRAY NO
- o TS TRAY LOCATION

Keys

Type	Name
Primary	PM THINSECTNSAMP TRAY LOCN PK
Asc	NPT NO

Detail Entities

Name	Relationship Names
PM INDEPENDENT TS SAMPLE	
PM THINSECTN SAMPLE	

Data Model - 002 Entity Report

Name PM TRAY LOCATION

Description

This contains the tray locations, as tray No's or tray Positions, of referenced and prepared samples.

Database Design

Table Name PM_TRAY_LOCATION
Column Prefix
Journalling (default)
Additional DDL

Attributes

NPT NO
- o AISLE NO
- o STACK NO
- o TRAY NO
- o TRAY POSITION
- o TMP NO
- o BOX NO
- o BOX LOCATION

Keys

Type	Name
Primary	PM TRAY LOCATION PK
Asc	NPT NO

Detail Entities

Name	Relationship Names
PM SAMPLE PREP	
PM REF SAMPLE TRAY LOCN	

***** End of Entity Report *****

Data Model - 002 Data Items Used Report

Name AISLE NO

Description

Aisle in racking holding tray

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 3 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
AISLE_NO	

Entity Attributes

Entity	Attribute
PM TRAY LOCATION	o AISLE NO

Data Model - 002 Data Items Used Report

Name AR TECHNIQUE USED

Description

An indicator (Y/N) as to whether the technique 'AR' was used.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 1 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
AR_TECHNIQUE_USED	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE STUDY	o AR TECHNIQUE USED

Data Model - 002 Data Items Used Report

Name BOREHOLE NO

Description

Borehole number - a unique identifier of Borehole.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 6 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
BOREHOLE_NO	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE	BOREHOLE NO
PM NIREX SAMPLE STUDY	BOREHOLE NO
PM NIREXSAM STUDY ARCHIVE	BOREHOLE NO
PM REF SAMPLE TRAY LOCN	BOREHOLE NO
PM REF SAMPLE TRAY LOCN EXCEPT	BOREHOLE NO
PM SAMPLE PREP	BOREHOLE NO
PM SAMPLE PREP EXCEPT	BOREHOLE NO

Data Model - 002 Data Items Used Report

Name BOTTOM DEPTH

Description

Bottom depth of sample core length within borehole.

Logical

Class
Units
Length
Default

Data Type

Format	Numeric			**Signed**	(default)
Length	7	**Average**		**Decimals**	2

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With	(default)	**Lead Zeros**	Spaces	**Scale**	
Sign At	(default)	**Decimals**			
Currency	No	**Thousands**	No		

By Date Format

Order	(default)	**Separator**	(default)		
Days	(default)	**Months**	(default)	**Years**	(default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
BOTTOM_DEPTH	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE	BOTTOM DEPTH

Data Model - 002 Data Items Used Report

Name BOX LOCATION

Description

Box location for Referenced and Prepared Samples.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 20 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
BOX_LOCATION	

Entity Attributes

Entity	Attribute
PM TRAY LOCATION	o BOX LOCATION

Data Model - 002 Data Items Used Report

Name BOX NO

Description

Box No. for Sample tray location. (Note: prefixing this with 'C00039' results in the Barcode used in storage).

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 10 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
BOX_NO	

Entity Attributes

Entity	Attribute
PM TRAY LOCATION	o BOX NO

Data Model - 002 Data Items Used Report

Name BSEM TECHNIQUE USED

Description

An indicator (Y/N) as to whether the technique 'BSEM' was used.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 1 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
BSEM_TECHNIQUE_USED	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE STUDY	o BSEM TECHNIQUE USED

Data Model - 002 Data Items Used Report

Name C ISOTOPE TECHNIQUE USED

Description

An indicator (Y/N) as to whether the technique 'C Isotope' was used.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 1 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
C_ISOTOPE_TECHNIQUE_USED	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE STUDY	o C ISOTOPE TECHNIQUE USED

Data Model - 002 Data Items Used Report

Name CHRONOSTRAT CODE 1

Description

The chronostratigraphic code (as one of a possible 2) describing the sample corelength's original environment.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 6 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
CHRONOSTRAT_CODE_1	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE	o CHRONOSTRAT CODE 1

Data Model - 002 Data Items Used Report

Name CHRONOSTRAT CODE 2

Description

The chronostratigraphic code (as second of a possible 2) describing the sample corelength's original environment where it was not possible to differentiate between 2 chronostratigraphic periods.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Data Model - 002 Data Items Used Report

Version Number

Target Names

Format
Oracle 7

Name	Synonym
CHRONOSTRAT_CODE_2	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE	o CHRONOSTRAT CODE 2

Data Model - 002 Data Items Used Report

Name CL TECHNIQUE USED

Description

An indicator (Y/N) as to whether the technique 'CL' was used.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 1 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
CL_TECHNIQUE_USED	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE STUDY	o CL TECHNIQUE USED

Data Model - 002 Data Items Used Report

Name COLLECTORS NO

Description

The Collector No. indicating the ID of the collector of the Thin Section.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 6 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
COLLECTORS_NO	

Entity Attributes

Entity	Attribute
PM INDEPENDENT TS SAMPLE	o COLLECTORS NO
PM THINSECTN SAMPLE	o COLLECTORS NO
PM THINSECTN SAMPLE EXCEPT	o COLLECTORS NO

Data Model - 002 Data Items Used Report

Name COMMENT

Description

A general comment field.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 50 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Synonyms

Name
PALLET LOCATION COMMENT
THIN SECTION COMMENT

Target Names

Format
Oracle 7

Name	Synonym
COMMENT_1	
PALLET_LOCATION_COMMENT	PALLET LOCATION COMMENT
THIN_SECTION_COMMENT	THIN SECTION COMMENT

Entity Attributes

Entity	Attribute
PM INDEPENDENT TS SAMPLE	o COMMENT {THIN SECTION COMMENT}
PM PALLET LOCATION	o COMMENT {PALLET LOCATION COMMENT}
PM THINSECTN SAMPLE	o COMMENT {THIN SECTION COMMENT}
PM THINSECTN SAMPLE EXCEPT	o COMMENT {THIN SECTION COMMENT}

Data Model - 002 Data Items Used Report

Name DATA FILE STRING

Description

Logical

Class
Units
Length
Default

Data Type

Format Character (long string) **Signed** (default)
Length **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
DATA_FILE_STRING	

Entity Attributes

Entity	Attribute
PM NIREXSAM STUDY ARCHIVE	DATA FILE STRING

Data Model - 002 Data Items Used Report

Name FI TECHNIQUE USED

Description

An indicator (Y/N) as to whether the technique 'FI' was used.

Logical

Class
Units
Length
Default

Data Type

Format	Character (variable length string)			**Signed**	(default)
Length	1	**Average**		**Decimals**	

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With	(default)	**Lead Zeros**	Spaces	**Scale**	
Sign At	(default)	**Decimals**			
Currency	No	**Thousands**	No		

By Date Format

Order	(default)	**Separator**	(default)		
Days	(default)	**Months**	(default)	**Years**	(default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
FI_TECHNIQUE_USED	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE STUDY	o FI TECHNIQUE USED

Data Model - 002 Data Items Used Report

Name FT TECHNIQUE USED

Description

An indicator (Y/N) as to whether the technique 'FT' was used.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 1 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
FT_TECHNIQUE_USED	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE STUDY	o FT TECHNIQUE USED

Data Model - 002 Data Items Used Report

Name HEADER STRING

Description

The Header for a data item as it occurs in the data string extracted and stored in this database.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 50 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
HEADER_STRING	

Entity Attributes

Entity	Attribute
PM ARCHIVE HEADER	HEADER STRING

Data Model - 002 Data Items Used Report

Name HEADER TEXT OFFSET

Description

The offset of the header (and by inference the asoc. data to which the header refers) from the beginning of the data string stored in this database.

Logical

Class
Units
Length
Default

Data Type

Format Numeric **Signed** (default)
Length **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Data Model - 002 Data Items Used Report

Version Number

Target Names

Format
Oracle 7

Name	Synonym
HEADER_TEXT_OFFSET	

Entity Attributes

Entity	Attribute
PM ARCHIVE HEADER	HEADER TEXT OFFSET

Data Model - 002 Data Items Used Report

Name HEADER TYPE

Description

A number referring to the type of header 'set' to which a header belongs.

Logical

Class
Units
Length
Default

Data Type

Format Numeric **Signed** (default)
Length **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
HEADER_TYPE	

Entity Attributes

Entity	Attribute
PM ARCHIVE HEADER	HEADER TYPE
PM HEADER TYPE	HEADER TYPE
PM NIREXSAM STUDY ARCHIVE	HEADER TYPE

Data Model - 002 Data Items Used Report

Name LF TECHNIQUE USED

Description

An indicator (Y/N) as to whether the technique 'LF' was used.

Logical

Class
Units
Length
Default

Data Type

Format	Character (variable length string)			**Signed**	(default)
Length	1	**Average**		**Decimals**	

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With	(default)	**Lead Zeros**	Spaces	**Scale**	
Sign At	(default)	**Decimals**			
Currency	No	**Thousands**	No		

By Date Format

Order	(default)	**Separator**	(default)		
Days	(default)	**Months**	(default)	**Years**	(default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
LF_TECHNIQUE_USED	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE STUDY	o LF TECHNIQUE USED

Data Model - 002 Data Items Used Report

Name LITHOSTRAT CODE

Description

The lithostratigraphic code describing the sample corelength's original environment lithostratigraphy.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 6 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
LITHOSTRAT_CODE	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE	o LITHOSTRAT CODE

Data Model - 002 Data Items Used Report

Name MAIN SAMPSTORE LOCN

Description

A code indicating the location of cores from which the samples have been derived. Set to 'NGRC' or 'CM', the former for BGS's central core store, the latter for Cleator Moor, the Nirex original core storage location.

Logical

Class
Units
Length
Default

Data Type

Format	Character (variable length string)			**Signed**	(default)
Length	3	**Average**		**Decimals**	

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With	(default)	**Lead Zeros**	Spaces	**Scale**	
Sign At	(default)	**Decimals**			
Currency	No	**Thousands**	No		

By Date Format

Order	(default)	**Separator**	(default)		
Days	(default)	**Months**	(default)	**Years**	(default)

Database Design

Additional Domain or Column DDL

Access Control

Data Model - 002 Data Items Used Report

Version Number

Target Names

Format
Oracle 7

Name	Synonym
MAIN_SAMPSTORE_LOCN	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE	o MAIN SAMPSTORE LOCN

Data Model - 002 Data Items Used Report

Name MPG SAMPNO

Description

An internal (BGS project) unique identifier for samples used in the NIREX study/project. It corresponds to the Nirex incoming [Borehole ID + Nirex Sampno] which is also unique.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 6 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Data Model - 002 Data Items Used Report

Version Number

Target Names

Format
Oracle 7

Name	Synonym
MPG_SAMPNO	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE	o MPG SAMPNO
PM THINSECTN SAMPLE	MPG SAMPNO
PM THINSECTN SAMPLE EXCEPT	MPG SAMPNO

Data Model - 002 Data Items Used Report

Name NIREX SAMPNO

Description

Unique Nirex (incoming) number for each Borehole corelength (normally 25cm lengths) from which a sample is derived.

Logical

Class
Units
Length
Default

Data Type

Format	Numeric			**Signed**	(default)
Length	4	**Average**		**Decimals**	

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With	(default)	**Lead Zeros**	Spaces	**Scale**	
Sign At	(default)	**Decimals**			
Currency	No	**Thousands**	No		

By Date Format

Order	(default)	**Separator**	(default)		
Days	(default)	**Months**	(default)	**Years**	(default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
NIREX_SAMPNO	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE	NIREX SAMPNO
PM NIREX SAMPLE STUDY	NIREX SAMPNO
PM NIREXSAM STUDY ARCHIVE	NIREX SAMPNO
PM REF SAMPLE TRAY LOCN	NIREX SAMPNO
PM REF SAMPLE TRAY LOCN EXCEPT	NIREX SAMPNO
PM SAMPLE PREP	NIREX SAMPNO
PM SAMPLE PREP EXCEPT	NIREX SAMPNO

Data Model - 002 Data Items Used Report

Name NIREX SAMPNO SUFFIX

Description

A suffix attached to the end of the 'original' incoming Nirex sample corelength identifier. eg: NSF1/123/P1-1 - here the suffix is P1-1. All begin 'P....' and refer loosely to the expected/likely sample preparation thought necessary at the time first studied.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 4 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Data Model - 002 Data Items Used Report

Access Control

Version Number

Target Names

Format
Oracle 7

Name	Synonym
NIREX_SAMPNO_SUFFIX	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE	o NIREX SAMPNO SUFFIX

Data Model - 002 Data Items Used Report

Name NON NIREX RELATED MPG SAMPNO

Description

An internal (BGS project) unique identifier for samples used in the NIREX study/project but which do not appear in the main Nirex Sample table and are therefore assumed to have an external sample core length source.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 14 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Data Model - 002 Data Items Used Report

Version Number

Target Names

Format
Oracle 7

Name	Synonym
NON_NIREX_RELATED_MPG_SAMPNO	

Entity Attributes

Entity	Attribute
PM INDEPENDENT TS SAMPLE	NON NIREX RELATED MPG SAMPNO

Data Model - 002 Data Items Used Report

Name NPT NO

Description

The NPT Number given to tray in NGRC racking (Nirex Petrology Tray).

Logical

Class
Units
Length
Default

Data Type

Format	Numeric			**Signed**	(default)
Length	4	**Average**		**Decimals**	

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With	(default)	**Lead Zeros**	Spaces	**Scale**	
Sign At	(default)	**Decimals**			
Currency	No	**Thousands**	No		

By Date Format

Order	(default)	**Separator**	(default)		
Days	(default)	**Months**	(default)	**Years**	(default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Synonyms

Name
REF NPTNO
TRAY NPTNO

Target Names

Format
Oracle 7

Name	Synonym
NPT_NO	
REF_NPTNO	REF NPTNO
TRAY_NPTNO	TRAY NPTNO

Entity Attributes

Entity	Attribute
PM INDEPENDENT TS SAMPLE	NPT NO
PM REF SAMPLE TRAY LOCN	NPT NO
PM REF SAMPLE TRAY LOCN EXCEPT	NPT NO
PM SAMPLE PREP	NPT NO {TRAY NPTNO}
PM SAMPLE PREP EXCEPT	NPT NO {TRAY NPTNO}
PM THINSECTN SAMPLE	NPT NO
PM THINSECTN SAMPLE EXCEPT	NPT NO
PM THINSECTNSAMP TRAY LOCN	NPT NO
PM TRAY LOCATION	NPT NO

Data Model - 002 Data Items Used Report

Name O ISOTOPE TECHNIQUE USED

Description

An indicator (Y/N) as to whether the technique 'O Isotope' was used.

Logical

Class
Units
Length
Default

Data Type

Format	Character (variable length string)	**Signed**	(default)
Length	1 **Average**	**Decimals**	

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With	(default)	**Lead Zeros**	Spaces	**Scale**	
Sign At	(default)	**Decimals**			
Currency	No	**Thousands**	No		

By Date Format

Order	(default)	**Separator**	(default)		
Days	(default)	**Months**	(default)	**Years**	(default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
O_ISOTOPE_TECHNIQUE_USED	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE STUDY	o O ISOTOPE TECHNIQUE USED

Data Model - 002 Data Items Used Report

Name OP TECHNIQUE USED

Description

An indicator (Y/N) as to whether the technique 'OP' was used.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 1 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
OP_TECHNIQUE_USED	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE STUDY	o OP TECHNIQUE USED

Data Model - 002 Data Items Used Report

Name PALLET BOX NO

Description

The Box No. in the pallet in corestore from which a sample is derived. (Note: prefixing this with 'C00039' results in the Barcode used in corestore).

Logical

Class
Units
Length
Default

Data Type

Format	Numeric			**Signed**	(default)
Length	4	**Average**		**Decimals**	

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With	(default)	**Lead Zeros**	Spaces	**Scale**	
Sign At	(default)	**Decimals**			
Currency	No	**Thousands**	No		

By Date Format

Order	(default)	**Separator**	(default)		
Days	(default)	**Months**	(default)	**Years**	(default)

Database Design

Additional Domain or Column DDL

Access Control

Data Model - 002 Data Items Used Report

Version Number

Target Names

Format
Oracle 7

Name	Synonym
PALLET_BOX_NO	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE	o PALLET BOX NO
PM PALLET LOCATION	PALLET BOX NO

Data Model - 002 Data Items Used Report

Name PALLET NO

Description

The pallet in which the pallet box is stored in the corestore.

Logical

Class
Units
Length
Default

Data Type

Format	Character (variable length string)			**Signed**	(default)
Length	6	**Average**		**Decimals**	

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With	(default)	**Lead Zeros**	Spaces	**Scale**	
Sign At	(default)	**Decimals**			
Currency	No	**Thousands**	No		

By Date Format

Order	(default)	**Separator**	(default)		
Days	(default)	**Months**	(default)	**Years**	(default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
PALLET_NO	

Entity Attributes

Entity	Attribute
PM PALLET LOCATION	PALLET NO

Data Model - 002 Data Items Used Report

Name PALLET NO OLD

Description

An older ref. No. used for Pallets in corestore.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 7 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
PALLET_OLD_NO	

Entity Attributes

Entity	Attribute
PM PALLET LOCATION	PALLET NO OLD

Data Model - 002 Data Items Used Report

Name PREP OCCURENCE NO

Description

An entry no. used to uniquely identify occurences of sample preparations for specific studies (JAWC, TEMAM etc.).

Logical

Class
Units
Length
Default

Data Type

Format	Numeric			**Signed**	(default)
Length	2	**Average**		**Decimals**	

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With	(default)	**Lead Zeros**	Spaces	**Scale**	
Sign At	(default)	**Decimals**			
Currency	No	**Thousands**	No		

By Date Format

Order	(default)	**Separator**	(default)		
Days	(default)	**Months**	(default)	**Years**	(default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
PREP_OCCURENCE_NO	

Entity Attributes

Entity	Attribute
PM SAMPLE PREP	PREP OCCURENCE NO
PM SAMPLE PREP EXCEPT	PREP OCCURENCE NO

Data Model - 002 Data Items Used Report

Name PTS TECHNIQUE USED

Description

An indicator (Y/N) as to whether the technique 'PTS' was used.

Logical

Class
Units
Length
Default

Data Type

Format	Character (variable length string)			**Signed**	(default)
Length	1	**Average**		**Decimals**	

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With	(default)	**Lead Zeros**	Spaces	**Scale**	
Sign At	(default)	**Decimals**			
Currency	No	**Thousands**	No		

By Date Format

Order	(default)	**Separator**	(default)		
Days	(default)	**Months**	(default)	**Years**	(default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
PTS_TECHNIQUE_USED	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE STUDY	o PTS TECHNIQUE USED

Data Model - 002 Data Items Used Report

Name REF SAMPLE OCCURENCE NO

Description

An entry No. uniquely identifying a Referenced Sample in describing it's location.

Logical

Class
Units
Length
Default

Data Type

Format	Integer			**Signed**	(default)
Length	1	**Average**		**Decimals**	

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With	(default)	**Lead Zeros**	Spaces	**Scale**	
Sign At	(default)	**Decimals**			
Currency	No	**Thousands**	No		

By Date Format

Order	(default)	**Separator**	(default)		
Days	(default)	**Months**	(default)	**Years**	(default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
REF_SAMPLE_OCCURENCE_NO	

Entity Attributes

Entity	Attribute
PM REF SAMPLE TRAY LOCN	REF SAMPLE OCCURENCE NO
PM REF SAMPLE TRAY LOCN EXCEPT	REF SAMPLE OCCURENCE NO

Data Model - 002 Data Items Used Report

Name REPORT REFERENCE NO1

Description

A reference No. pointing to a study Report.

Logical

Class
Units
Length
Default

Data Type

Format	Character (variable length string)	**Signed**	(default)
Length	15 **Average**	**Decimals**	

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With	(default)	**Lead Zeros**	Spaces	**Scale**	
Sign At	(default)	**Decimals**			
Currency	No	**Thousands**	No		

By Date Format

Order	(default)	**Separator**	(default)		
Days	(default)	**Months**	(default)	**Years**	(default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
REPORT_REFERENCE_NO1	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE STUDY	o REPORT REFERENCE NO1

Data Model - 002 Data Items Used Report

Name REPORT REFERENCE NO2

Description

A reference No. pointing to a study Report.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 15 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
REPORT_REFERENCE_NO2	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE STUDY	o REPORT REFERENCE NO2

Data Model - 002 Data Items Used Report

Name S ISOTOPE TECHNIQUE USED

Description

An indicator (Y/N) as to whether the technique 'S Isotope' was used.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 1 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
S_ISOTOPE_TECHNIQUE_USED	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE STUDY	o S ISOTOPE TECHNIQUE USED

Data Model - 002 Data Items Used Report

Name SAMPLE PREP TYPE CODE

Description

The Sample Preparation Type code: one of: 'JAWC'=JawCrush; 'TEMAM'=TemaMill (Grinding); 'XRD'=X-Ray Diffraction Prep.;'SEM'=Scanning Electron Microscopy Prep.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 5 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Data Model - 002 Data Items Used Report

Version Number

Target Names

Format
Oracle 7

Name	Synonym
SAMPLE_PREP_TYPE_CODE	

Entity Attributes

Entity	Attribute
PM SAMPLE PREP	SAMPLE PREP TYPE CODE
PM SAMPLE PREP EXCEPT	SAMPLE PREP TYPE CODE

Data Model - 002 Data Items Used Report

Name SEM TECHNIQUE USED

Description

An indicator (Y/N) as to whether the technique 'SEM' was used.

Logical

Class
Units
Length
Default

Data Type

Format	Character (variable length string)			**Signed**	(default)
Length	1	**Average**		**Decimals**	

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With	(default)	**Lead Zeros**	Spaces	**Scale**	
Sign At	(default)	**Decimals**			
Currency	No	**Thousands**	No		

By Date Format

Order	(default)	**Separator**	(default)		
Days	(default)	**Months**	(default)	**Years**	(default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
SEM_TECHNIQUE_USED	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE STUDY	o SEM TECHNIQUE USED

Data Model - 002 Data Items Used Report

Name STACK NO

Description

Vertical stack number within Aisle

Logical

Class
Units
Length
Default

Data Type

Format	Numeric			**Signed**	(default)
Length	3	**Average**		**Decimals**	

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With	(default)	**Lead Zeros**	Spaces	**Scale**	
Sign At	(default)	**Decimals**			
Currency	No	**Thousands**	No		

By Date Format

Order	(default)	**Separator**	(default)		
Days	(default)	**Months**	(default)	**Years**	(default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
STACK_NO	

Entity Attributes

Entity	Attribute
PM TRAY LOCATION	o STACK NO

Data Model - 002 Data Items Used Report

Name STUDY TYPE CODE

Description

A code indicating the type of study undertaken. One of 2 types: 'B'=Bulk;'F'=Fracture.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 4 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
STUDY_TYPE_CODE	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE STUDY	STUDY TYPE CODE
PM NIREXSAM STUDY ARCHIVE	STUDY TYPE CODE

Data Model - 002 Data Items Used Report

Name THINSECN SAMPLE OCCURENCE NO

Description

An Entry No. uniquely identifying occurences of Thin Sections derived from a sample for the purposes of indicating their locations.

Logical

Class
Units
Length
Default

Data Type

Format Integer **Signed** (default)
Length 1 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Data Model - 002 Data Items Used Report

Version Number

Target Names

Format
Oracle 7

Name	Synonym
THINSECN_SAMPLE_OCCURENCE_NO	

Entity Attributes

Entity	Attribute
PM INDEPENDENT TS SAMPLE	THINSECN SAMPLE OCCURENCE NO
PM THINSECTN SAMPLE	THINSECN SAMPLE OCCURENCE NO
PM THINSECTN SAMPLE EXCEPT	THINSECN SAMPLE OCCURENCE NO

Data Model - 002 Data Items Used Report

Name TMP NO

Description

An internal ref. no for tray location for referenced and prepared samples.

Logical

Class
Units
Length
Default

Data Type

Format	Character (variable length string)			**Signed**	(default)
Length	5	**Average**		**Decimals**	

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With	(default)	**Lead Zeros**	Spaces	**Scale**	
Sign At	(default)	**Decimals**			
Currency	No	**Thousands**	No		

By Date Format

Order	(default)	**Separator**	(default)		
Days	(default)	**Months**	(default)	**Years**	(default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
TMP_NO	

Entity Attributes

Entity	Attribute
PM TRAY LOCATION	o TMP NO

Data Model - 002 Data Items Used Report

Name TOP DEPTH

Description

Top depth of sample corelength within borehole.

Logical

Class
Units
Length
Default

Data Type

Format Numeric **Signed** (default)
Length **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
TOP_DEPTH	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE	TOP DEPTH

Data Model - 002 Data Items Used Report

Name TRAY NO

Description

Position of tray within vertical stack

Logical

Class
Units
Length
Default

Data Type

Format Numeric **Signed** (default)
Length 3 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
TRAY_NO	

Entity Attributes

Entity	Attribute
PM TRAY LOCATION	o TRAY NO

Data Model - 002 Data Items Used Report

Name TRAY POSITION

Description

Internal Ref. No.for tray postions for referenced and prepared samples.

Logical

Class
Units
Length
Default

Data Type

Format Numeric **Signed** (default)
Length **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
TRAY_POSITION	

Entity Attributes

Entity	Attribute
PM TRAY LOCATION	o TRAY POSITION

Data Model - 002 Data Items Used Report

Name TS TECHNIQUE USED

Description

An indicator (Y/N) as to whether the technique 'TS' was used.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 1 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
TS_TECHNIQUE_USED	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE STUDY	o TS TECHNIQUE USED

Data Model - 002 Data Items Used Report

Name TS TRAY LOCATION

Description

An internal ref. ID for thin section tray locations.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 5 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
TS_TRAY_LOCATION	

Entity Attributes

Entity	Attribute
PM THINSECTNSAMP TRAY LOCN	o TS TRAY LOCATION

Data Model - 002 Data Items Used Report

Name TS TRAY NO

Description

An internal ref. No. for thin section tray locations. (Note: prefixing this with 'C00039' results in the Barcode used in storage).

Logical

Class
Units
Length
Default

Data Type

Format Numeric **Signed** (default)
Length **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Data Model - 002 Data Items Used Report

Version Number

Target Names

Format
Oracle 7

Name	Synonym
TS_TRAY_NO	

Entity Attributes

Entity	Attribute
PM THINSECTNSAMP TRAY LOCN	o TS TRAY NO

Data Model - 002 Data Items Used Report

Name XRD TECHNIQUE USED

Description

An indicator (Y/N) as to whether the technique 'XRD' was used.

Logical

Class
Units
Length
Default

Data Type

Format Character (variable length string) **Signed** (default)
Length 1 **Average** **Decimals**

Constraint

Name
Enforced By (default)

Minimum **Maximum**
Value List

Validation

Presentation

Control Type
Label
Width **Justification** (default)

Field Text
Field Type

Formatting

Description

By Picture

Picture

By Numeric Format

Sign With (default) **Lead Zeros** Spaces **Scale**
Sign At (default) **Decimals**
Currency No **Thousands** No

By Date Format

Order (default) **Separator** (default)
Days (default) **Months** (default) **Years** (default)

Database Design

Additional Domain or Column DDL

Access Control

Version Number

Data Model - 002 Data Items Used Report

Target Names

Format
Oracle 7

Name	Synonym
XRD_TECHNIQUE_USED	

Entity Attributes

Entity	Attribute
PM NIREX SAMPLE STUDY	o XRD TECHNIQUE USED

*** End of Data Items Used Report ***