



**British
Geological Survey**

NATURAL ENVIRONMENT RESEARCH COUNCIL

Applied geoscience for our
changing Earth

Managing E&P Data as a National Asset

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British Geological Survey

Assumptions

- The information asset created by hydrocarbons exploration, both onshore and offshore, represents a significant national asset.
- This asset is worth preserving for:
 - Reuse
 - Re-purposing
 - Training future geoscientists



Imperial College Core
Workshop at BGS



Observations

- The replacement cost to recreate the information asset is in excess of £20 Billion
- UK law has created a distributed management system for this information asset, which is unlikely to be sustainable in the long-term.



Regulation

Petroleum Act
1998

Mining Industry
Act 1926

Department of
Energy and
Climate Change

DECC Petroleum
Licenses

DECC Petroleum
Operator Notices

Regulation - Preservation

DECC

(1) Petroleum Act 1998
(2) Petroleum Operators
Notice 9 & 9B

Licensees are obliged to hold accurate records in order to preserve all information about the geology of the license area.

Licensees must retain Data in an accurate form (usable, accessible and reproducible) in perpetuity...
...expenses should be borne by Licensees...

Regulation - Dissemination

DECC

(1) Petroleum Act 1998
(2) Petroleum Operators
Notice 9 & 9B

DECC has a right to publish
(‘release’) License Data
after expiry of an agreed
period of confidentiality...

DECC may publish such
Licence Data either directly
or via its appointed agents.

Basic Set Well Data - Simplified

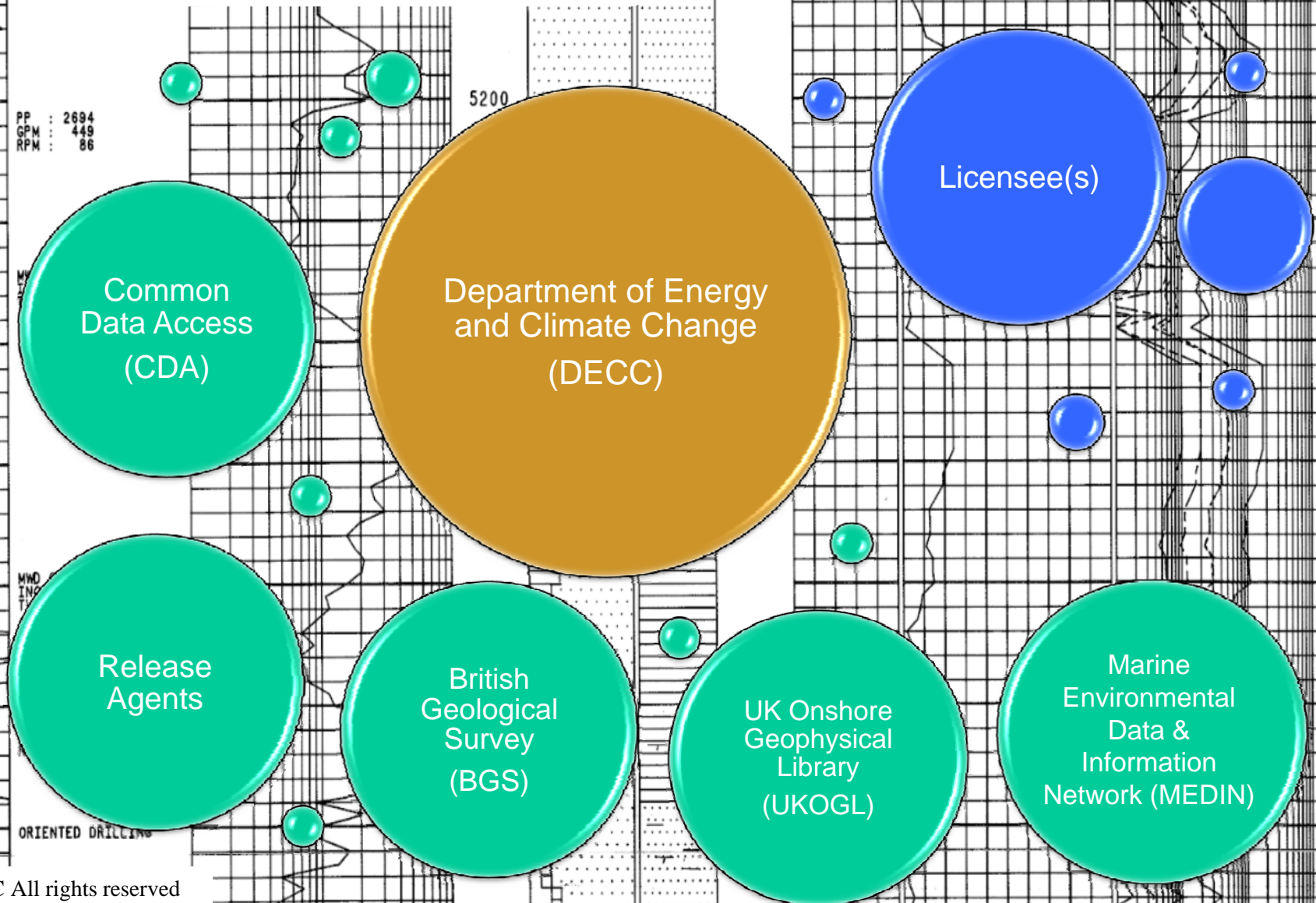
Well Reports

- Concatenated well report
- Pre-drill reports
- Drilling reports
- Core reports
- Geophysical reports
- Testing reports
- Well Completion reports

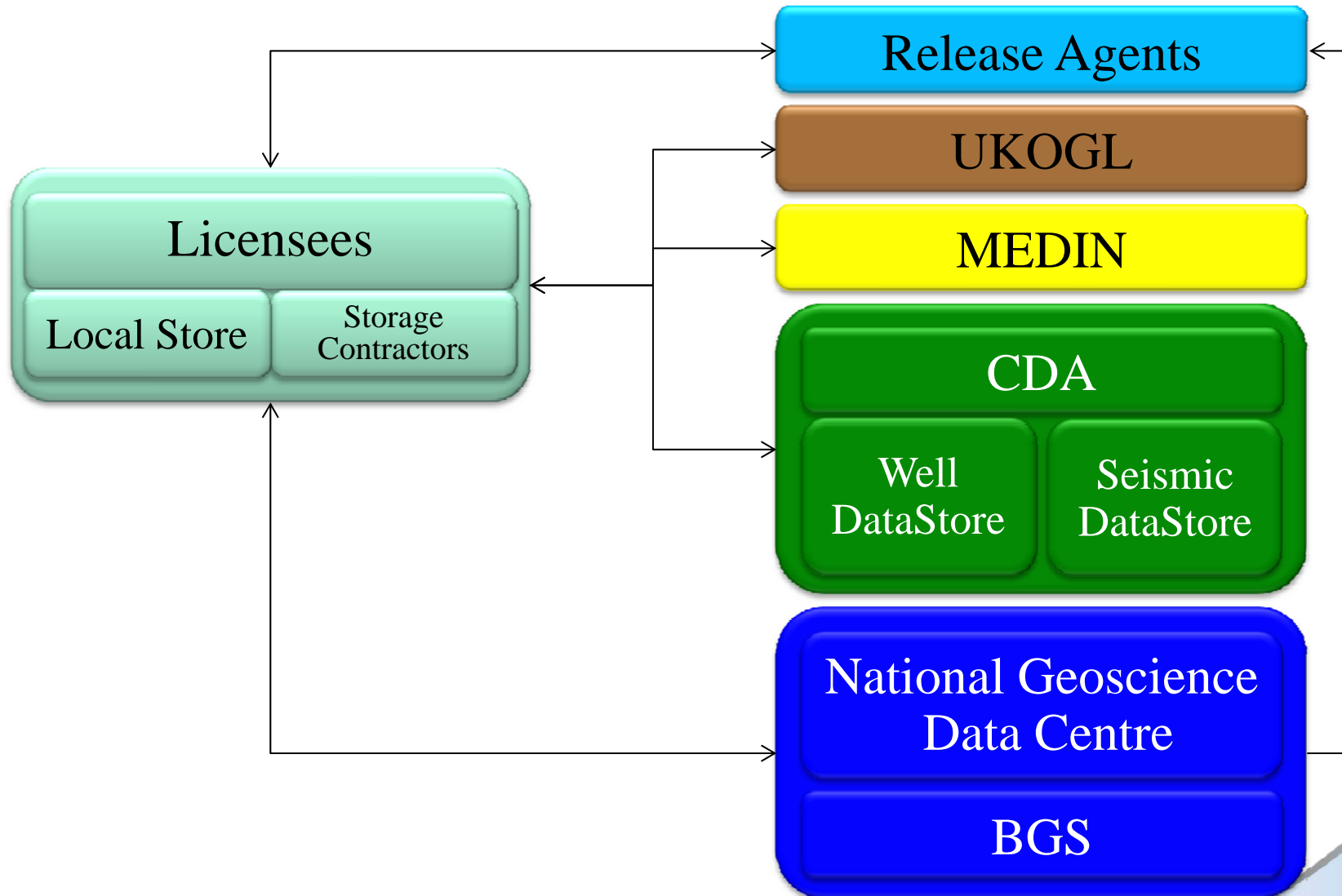
Well logs

- Casing and tubing
- Composite log
- Core description log, Core Gamma
- Dipmeter
- Lithological log
- Mudlog
- All wireline logs including:
 - Caliper
 - Density
 - Natural gamma ray
 - Neutron
 - Resistivity
 - Sonic

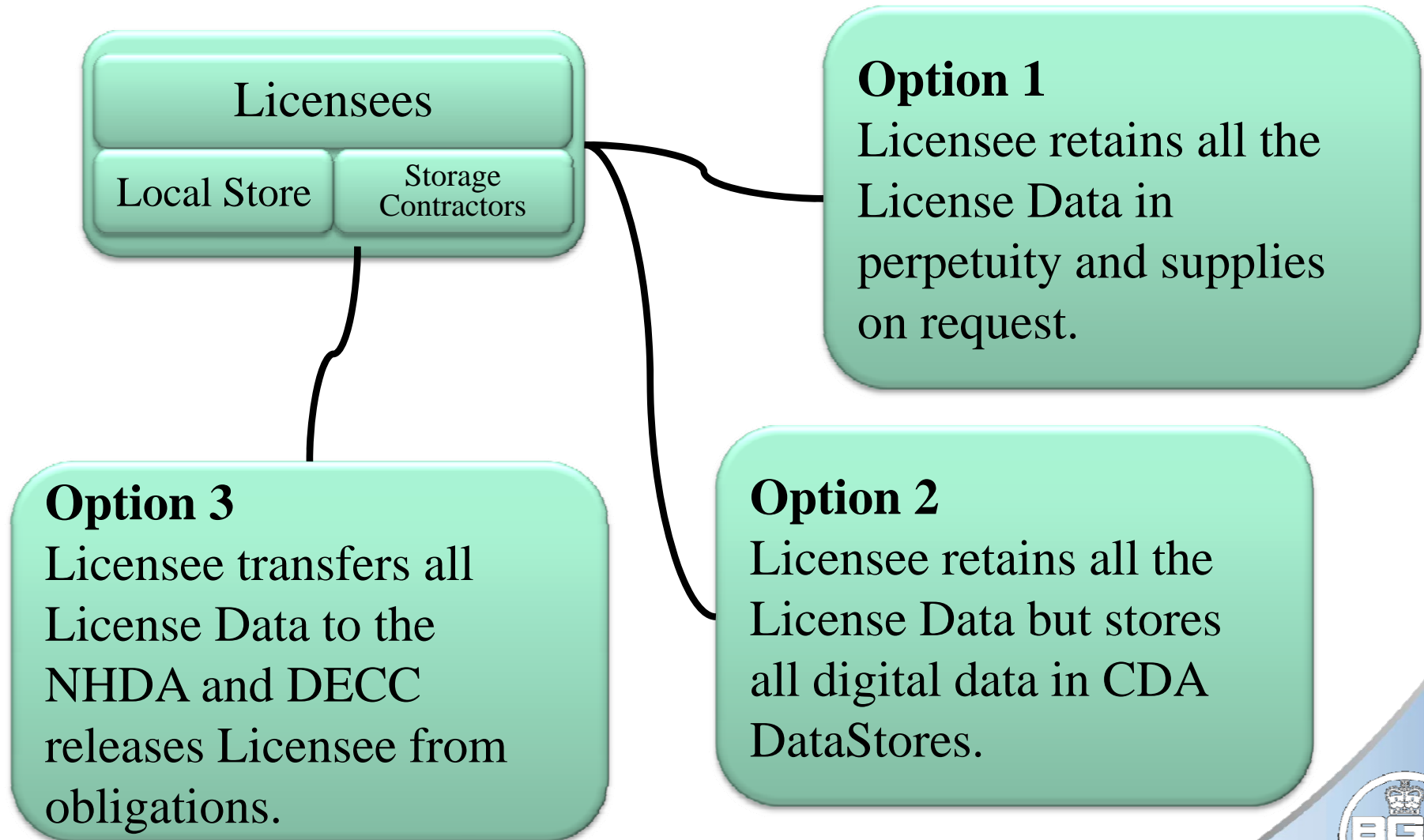
Implementation



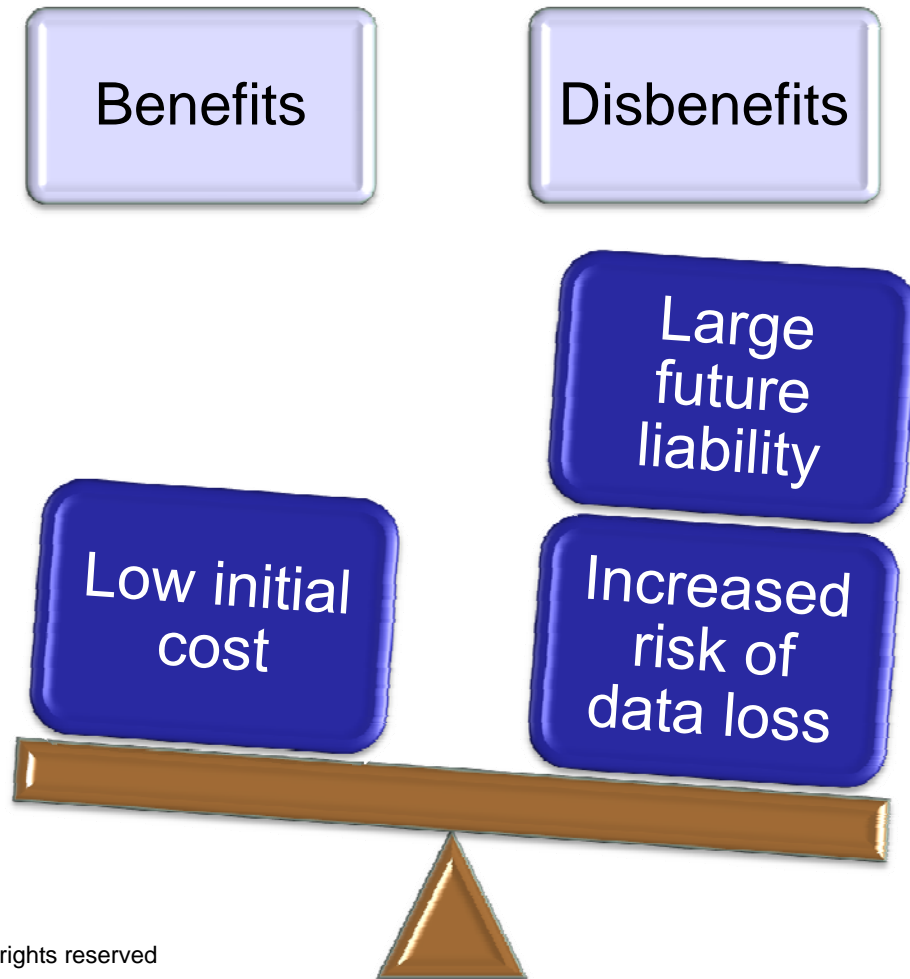
PON 9 - E&P Life Cycle - Exploration



PON 9 - E&P Life Cycle - Archiving



PON 9 - E&P Life Cycle - Archiving



Option 1

Licensee retains all the License Data in perpetuity and supplies on request.

PON 9 - E&P Life Cycle - Archiving

Benefits

Disbenefits

Good
medium term
solution

Large future
liability

Eventual risk
of data loss

Option 2

Licensee retains all the License Data but stores all digital data in CDA DataStores.

PON 9 - E&P Life Cycle - Archiving

Benefits

Disbenefits

Relief from in
perpetuity liability

Long term
solution

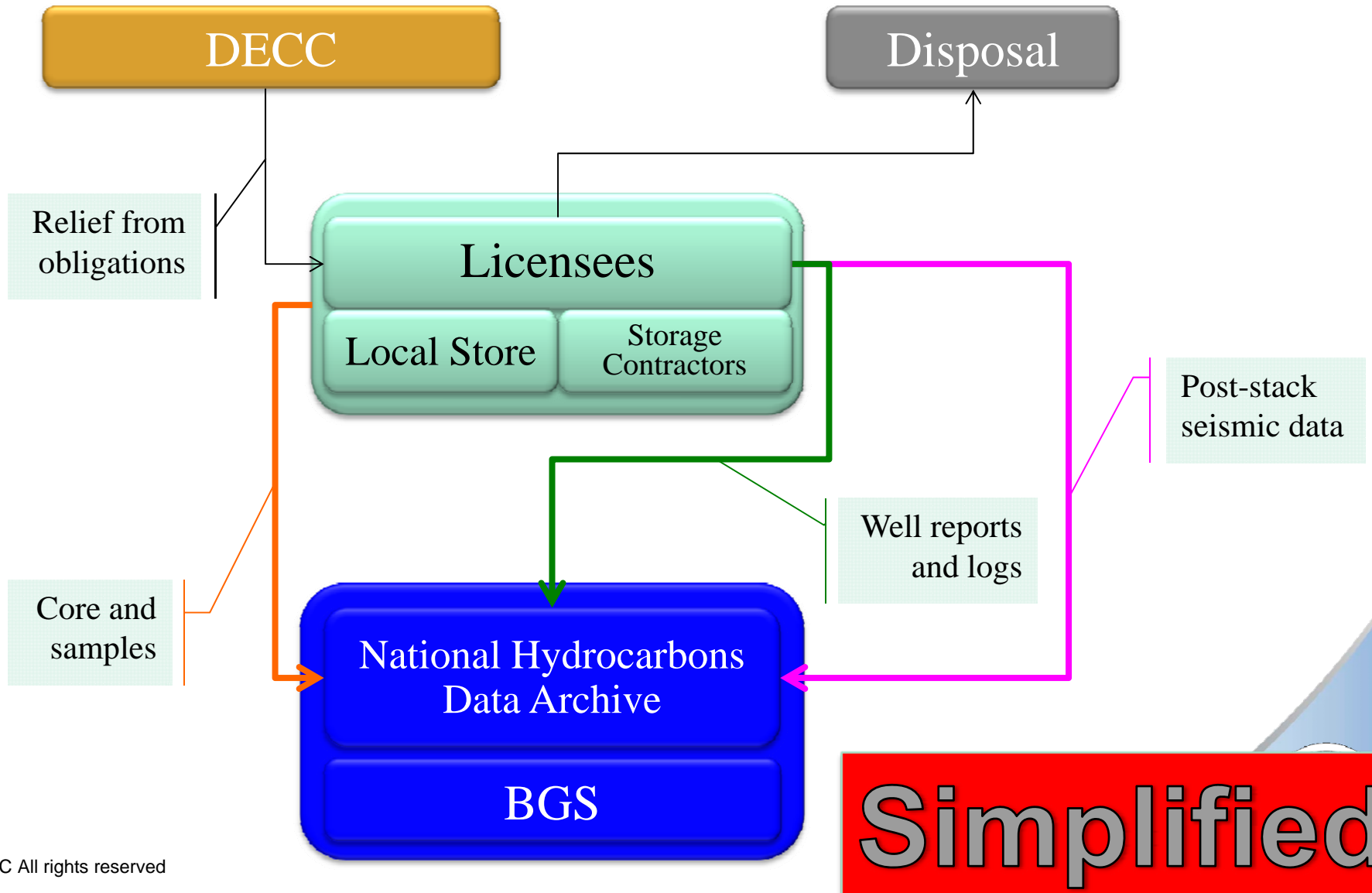
Low risk of data
loss

Significant initial
cost

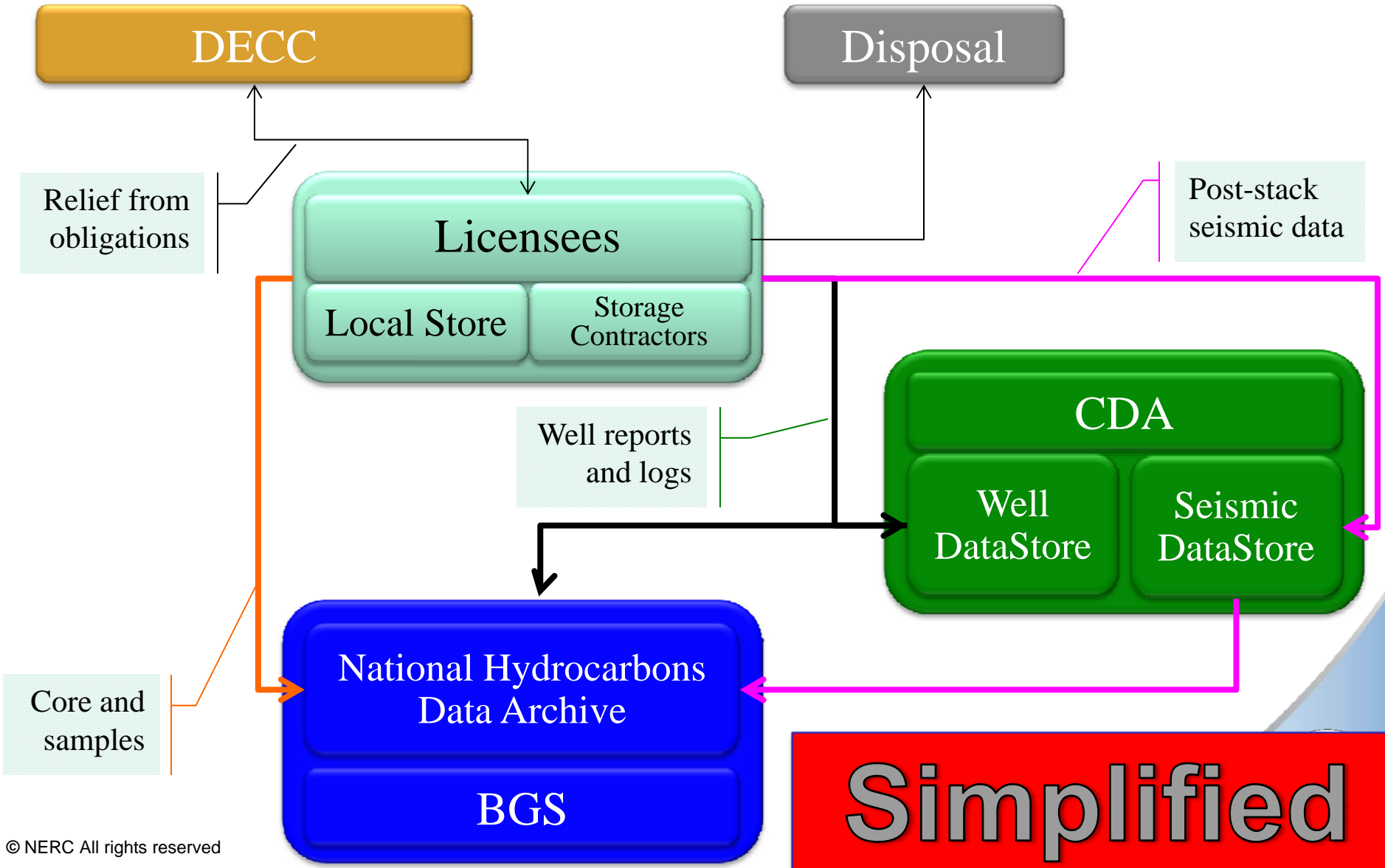
Option 3

Licensee transfers all
License Data to the
NHDA and DECC
releases Licensee from
obligations.

PON 9 - E&P Life Cycle - Archiving



PON 9 - E&P Life Cycle - Archiving





Our data

- [Digital products](#)
- ▼ **National Geoscience Data Centre**
 - [NGDC index](#)
 - [About the NGDC](#)
 - [Earth Science Academic Archive](#)
 - [Materials collection](#)
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 - **[National Hydrocarbons Data Archive](#)**
 - [Nirex Geological Archive](#)
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National Hydrocarbons Data Archive

The National Hydrocarbons Data Archive (NHDA) is the primary, long-term data archive for the geoscientific legacy resulting from UK offshore oil and gas exploration and production activity. The data are made available from the archive at low cost to the public for commercial projects and academic research. Examples of potential uses are hydrocarbon exploration, field redevelopment and carbon dioxide sequestration.

The NHDA is operated by BGS under an agreement with DECC (formerly DTI then DBERR). DECC strongly encourages licensees to make the archiving of licence data with the NHDA a standard operating procedure as part of relinquishment of a licence or COP of a field (to benefit from the knowledge and input of the asset team before they are dispersed), and also to address the archiving of legacy licence data.

The NHDA is governed by a steering committee consisting of representatives from DECC, CDA and BGS.

What is the benefit of the NHDA?

The NHDA is a [PILOT](#) initiative to help, reduce costs, remove perpetual licence obligations, and increase data availability for future exploration.

UK legislation requires UKCS licensees to store most hydrocarbon exploration and production data types in perpetuity (excluding cores and cuttings), even after licence relinquishment. DECC can request copies of data from individual licensees, which should be provided on modern media, at anytime. Data obligations are borne jointly and severally by all parties to a licence and not by the licence operator alone. Once the data are deposited in the archive, all the members of the licence group are relieved of their obligations for the data.

How does the NHDA operate?

The BGS National Geoscience Data Centre (NGDC) is the national long-term repository of geoscientific information in the UK, and the NHDA is component part of the NGDC. Licensees can transfer licence data to the NHDA at, for example, licence relinquishment or field COP. Once the data are archived, and the archive endowment fee has been paid, all members of the licence group responsible for the data obtain permanent relief from DECC for their obligation to manage and maintain the data in perpetuity.

While DECC prefers that all data associated with a licence or field are archived at the same time, the process is flexible. It is possible to archive individual seismic surveys and wells independently of the licence under which they were acquired or drilled. Site survey data can be archived at any time via the MEDIN DAC system.

The archive process is described in detail in the NHDA Archive Handbook.

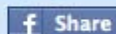
See also

- [Library](#)
- [NGDC](#)
- [Enquiries](#)
- [Services for oil and gas companies](#)

External links

- [DEAL](#)
- [DECC](#)
- [CDA](#)
- [Oil & Gas UK](#)
- [PILOT](#)
- [MEDIN](#)

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News





NATIONAL HYDROCARBONS DATA ARCHIVE

ARCHIVE HANDBOOK

Google: BGS NHDA Handbook



Simple Example of Reuse



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Our data

- Digital products
 - National Geoscience Data Centre
- Online data
 - Online data index
 - Baseline Scotland: groundwater chemistry data
- Borehole materials
 - Borehole scans
 - Discovery metadata
 - GeolIndex
 - GeoScenic photo archive
 - Gravity and magnetic survey data
 - iGeology
 - Lexicon of rock units
 - Magnetograms
 - Map data viewers
 - PalaeoSaurus
 - Rock classification
 - Rock collections
 - Strategic Environmental Assessment
 - Taxonomy Online
 - Vocabularies
 - Water watch
 - Web services

Offshore Hydrocarbon Wells

The UK Continental Shelf (offshore) hydrocarbon well collection contains material from approximately 8000 wells, including over 300 km of drillcore and 4.5 million samples of cuttings. Material may be selected by any combination of well name, operator, depth range, sample type and metric or imperial units. The well name (or part well name) may include the wildcard (%).

During 2011–12, the collection is being transferred from Gilmerton to Keyworth and the current location is shown on the results screen. Transferred core has been photographed and the results - [details] screen includes thumbnails and links.

Well name: Example: 110/02-6

Operator: Choose

Top depth: find material at or below this depth

Bottom depth: find material at or above this depth

Depth units: Feet ☒ Metres ☐

Sample type: Both

See also

- Materials collections
- OpenGeoscience
- Research

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Our data

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Well name: 110/02-6 Core run number: 16

Material type	Set name	Top depth	Base depth	Image
DRILLCORE	1	3887 ft [1184.76 m]	3893.1 ft [1186.62 m]	View sample
DRILLCORE	1	3893.1 ft [1186.62 m]	3901.8 ft [1189.27 m]	View sample
DRILLCORE	1	3901.8 ft [1189.27 m]	3910.6 ft [1191.95 m]	View sample
DRILLCORE	1	3910.6 ft [1191.95 m]	3919.55 ft [1194.68 m]	View sample
DRILLCORE	1	3919.55 ft [1194.68 m]	3927.4 ft [1197.07 m]	View sample
DRILLCORE	1	3927.4 ft [1197.07 m]	3936.65 ft [1199.89 m]	View sample
DRILLCORE	1	3936.65 ft [1199.89 m]	3942.5 ft [1201.67 m]	View sample
DRILLCORE	1	3942.5 ft [1201.69 m]	3945.5 ft [1202.59 m]	View sample

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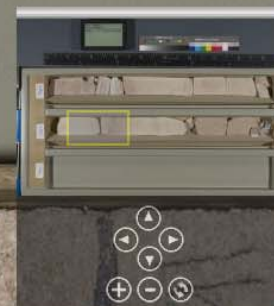
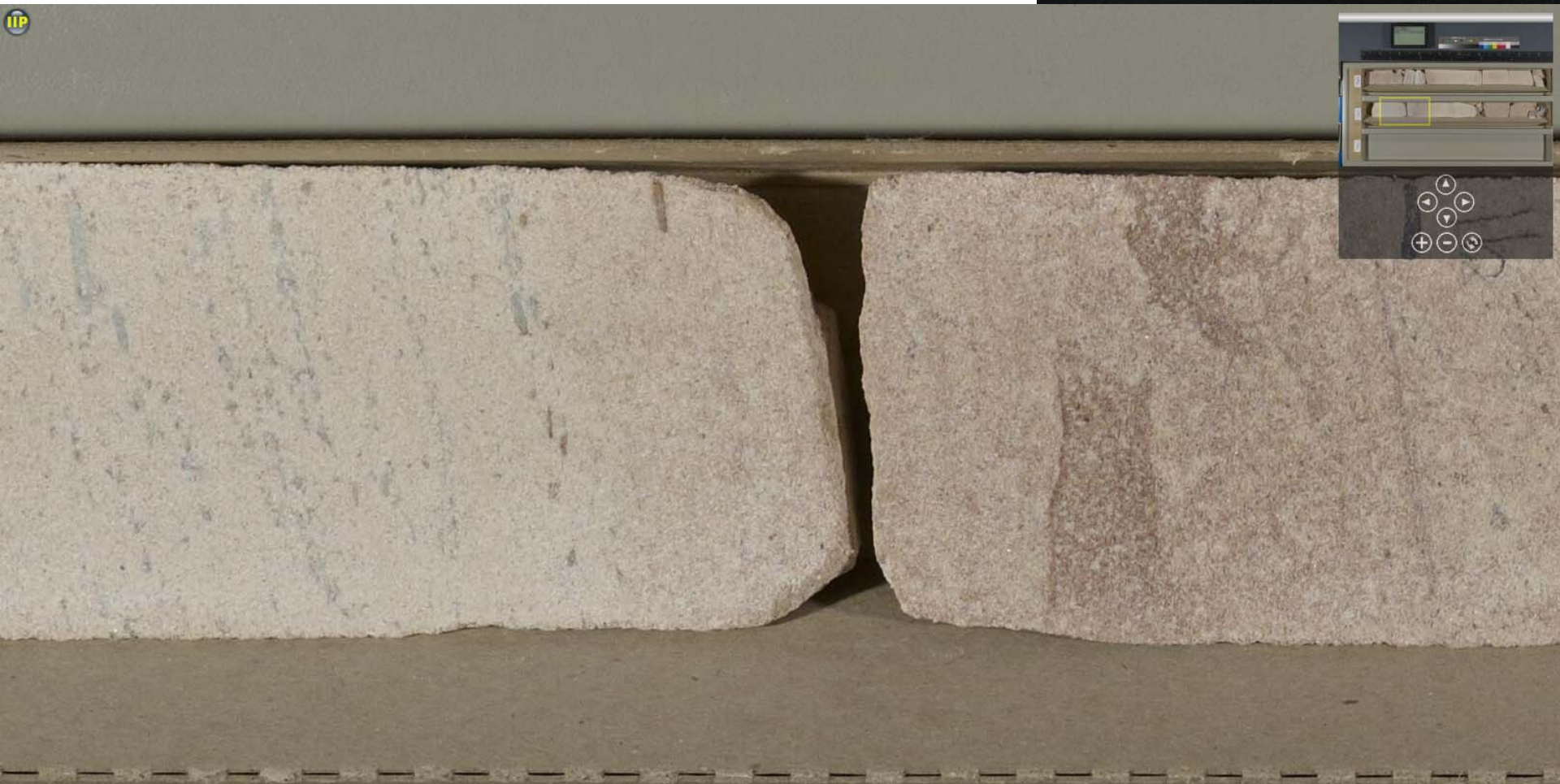
BGS Core Image



BGS Core Image

BOX NO.: S00145435
WELL NAME 110/02- 6

WELL NAME:	Core No	Top Depth of Core Run	Base Depth of Core Run
110/02- 6	16	3887.00ft	3893.10ft



Questions



- **Web addresses**
 - <http://www.bgs.ac.uk>
 - <http://www.bgs.ac.uk/nhda/home.html>
 - <http://www.bgs.ac.uk/data/offshoreWells>
- **E-mail address**
 - Enquires@bgs.ac.uk