BALL CLAY:
A MINERAL OF NATIONAL AND
INTERNATIONAL IMPORTANCE

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IMERYS
Ball Clay Deposits in South West England

- Lustleigh-Sticklepath Fault Zone

- Ball Clay Deposits
  - Granite
  - Kaolinised Granite

- Geographic locations:
  - Lustleigh-Sticklepath Fault Zone
  - Bideford
  - Bovey Basin
  - Petrockstow Basin
  - Somerset
  - Cornwall
  - Devon
  - Teignmouth
  - Dartmoor
  - Bodmin Moor
  - Lee Moor
  - St Austell
  - Par
  - Poole
  - Wareham Basin
Global Occurrence of Ball Clay

- Ball Clay is mainly found in alluvial sediments set down 10-40 Million years ago, originating from weathered kaolinised granite host rock.

- Main global resources:
  - UK: Wareham (Dorset), Bovey and Petrockstowe Basins (Devon)
  - Kentucky and Tennessee (United States)
  - Dombas (Ukraine)
  - Westerwald (Germany)
  - Provins and Charente (France)
  - And Cheb (Czech Republic)

- Other global resources are found in: Thailand, Indonesia, Vietnam, China, Japan, India and Brazil.
Importance of UK Ball Clay

- Ball clay has been regarded for many years as an industrial mineral which is of national and international importance because of its special qualities and rare occurrence.

- The British Geological Survey (BGS) describes ball clay as 'relatively scarce globally' and hence of importance to the UK's economy.

- Within the UK, ball clay only occurs commercially in the Wareham Basin (in Dorset) and within two areas of Devon.

- UK ball clay is an essential ingredient of perhaps, half of the world's production of sanitaryware products.
Importance of UK Ball Clay (Dorset)

- Dorset ball clays are noted for their high plasticity and unfired strength and also low carbon content.

- They are particularly suited for tile manufacture and also in electro-porcelains, refractories, kiln furniture, table ware and sanitary ware.

- c.80% of Imerys’ Ball Clays are exported overseas, so contributing positively to the UK’s balance of payments.

- Direct ball clay production provides well paid skilled employment in rural areas of the UK and supports the down stream British and European ceramic manufacturers which are reliant upon high quality minerals sourced in the UK.
Markets for UK Ball Clay
Global Markets for UK Ball Clay Products

- **Sanitaryware** – Algeria, Argentina, China, Columbia, Egypt, South Korea, Thailand, Turkey, UAE and UK
- **Electro-Porcelain** – Brazil, China, Columbia, Germany, India, Saudi Arabia, Sweden, UK and USA
- **Refractory Clay** – China, France, Germany, Japan, Poland, Portugal, Sweden and UK
- **Ceramic Whiteware and Porcelain** – Egypt, France, Italy and UK
- **Tiles** – Italy, Indonesia, Peru, Portugal, Spain and UK
- **Rubber and fillers** – UK
Sales / Demand for UK Ball Clays

- 1998 – 2008: ~ 1,000,000 tonnes/year (inc. 560,000 tonnes to EU)
- c. 80% exported overseas.
- 2008: + £30,000,000 export sales.
- Employees: c. 200 Devon and 50 Dorset (2008...)
- 2008: UK Ball Clay contribution to local and national economies c.£82,000,000.
- Downstream Value: e.g. UK whiteware ceramics industry (2009) was £340M / c.7000 employees

(Source: BGS – Mineral Planning Factsheet 2011)
Geological Setting – Wareham Basin (Outcropping Clays)
Typical - Wareham Basin Ball Clay Workings
Ball Clay Production Process
Post geological evaluation Imerys will start any planning application process by considering appropriate restoration requirements. Consents to work ball clays include planning conditions for restoration and aftercare to:

- Pasture
- Wet or Dry Heathland
- Ponds, Saline tidal lagoon, etc.

Arne Clay Pit: Royal Town Planning Institute SW Award for Planning Excellence 2013. (Shortly to become an exemplar RSPB nature reserve).
So what’s the problem……?

(a) National and International Important Minerals

(b) National and International Important Habitats and Species
The Dorset Ball Clay operations are highly constrained by national and internationally designated sites.

- NNR, AONB, SPA, SAC, SSSI, Ramsar – c.70% coverage of the Wareham Basin.

Imerys takes great care to avoid ball clay operations negatively impacting upon these sensitive environmental designations.

- For each new development environmental impact assessments are commissioned including - noise/dust, transport, hydrology, ecology, archaeology.
National Planning Policy Framework.....

- Presumption in Favour of Sustainable Development....

- Plan for a steady and adequate supply of industrial minerals....
The Documented Economic Importance of Ball Clay....
Policy BC1 – Provision of Ball Clay [in Dorset]:

“(c)…permission will be granted……where possible effects….that might arise from the development, would not adversely affect the integrity of the Dorset Heaths SAC and the Dorset Heathlands SPA and Ramsar…….unless in exceptional circumstances the provisions of Article 6(4) of the Habitats Directive are met.”

(i.e. Guidance on Article 6(4)……Alternatives, IROPI; Compensatory measures)
A Balanced Policy Framework for Ball Clay? To be tested.....
EU Guidance/Framework
- “Mineral Deposits of Public Importance”

...may well assist in developing a more level playing field when considering future supply national and international important Ball Clays in the UK.
THANK YOU.