

Exploitation of Mineral Resources - Trinidad and Tobago

MINISTRY OF ENERGY & ENERGY AFFAIRS
NATIONAL ENERGY POLICY CONSULTATIONS

14th February 2011

Presenter:

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Trinidad Aggregate Products Limited.

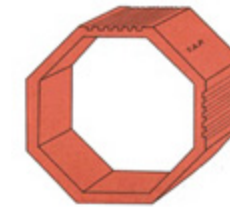
SAMPLES OF PRODUCTS



**Decorative
Blocks**



Floor & Wall Tiles



**Octagonal -
20x20x10 cm**



**Solar Screen #7
Straight Cut**



Wall Blocks



Roof Tiles



**Solar Screen #3
Straight Cut**

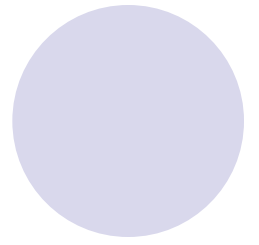
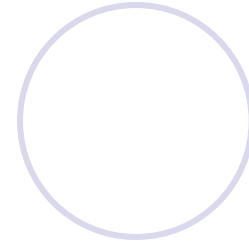
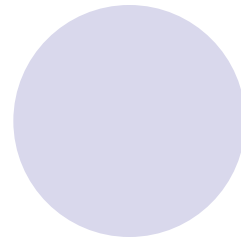
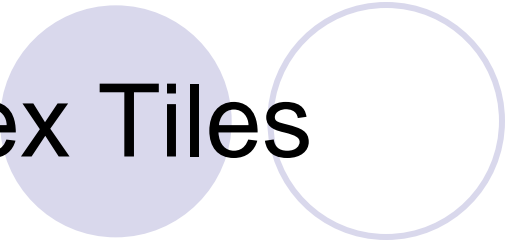


Diamond Vt1



**Hacienda
Straight Cut**

Hex Tiles



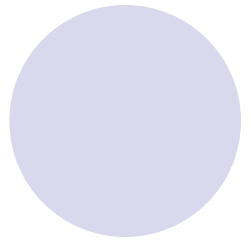
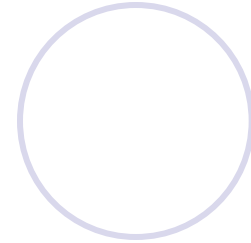
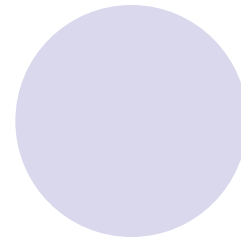
Spanish Key Tiles



Floor Design



CLAY STORAGE



SAND STORAGE



DUST CONTROL

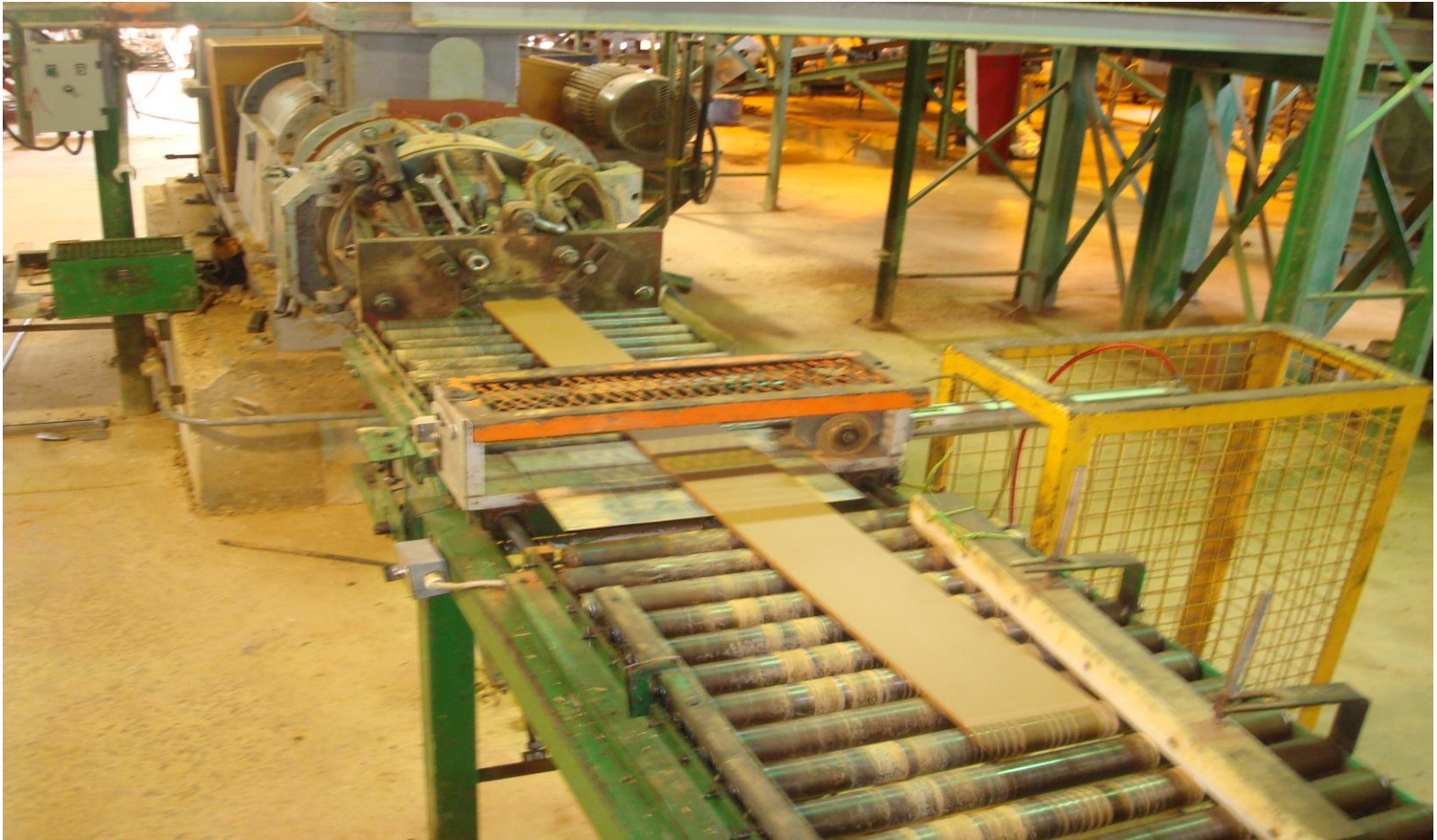


PROCESSING

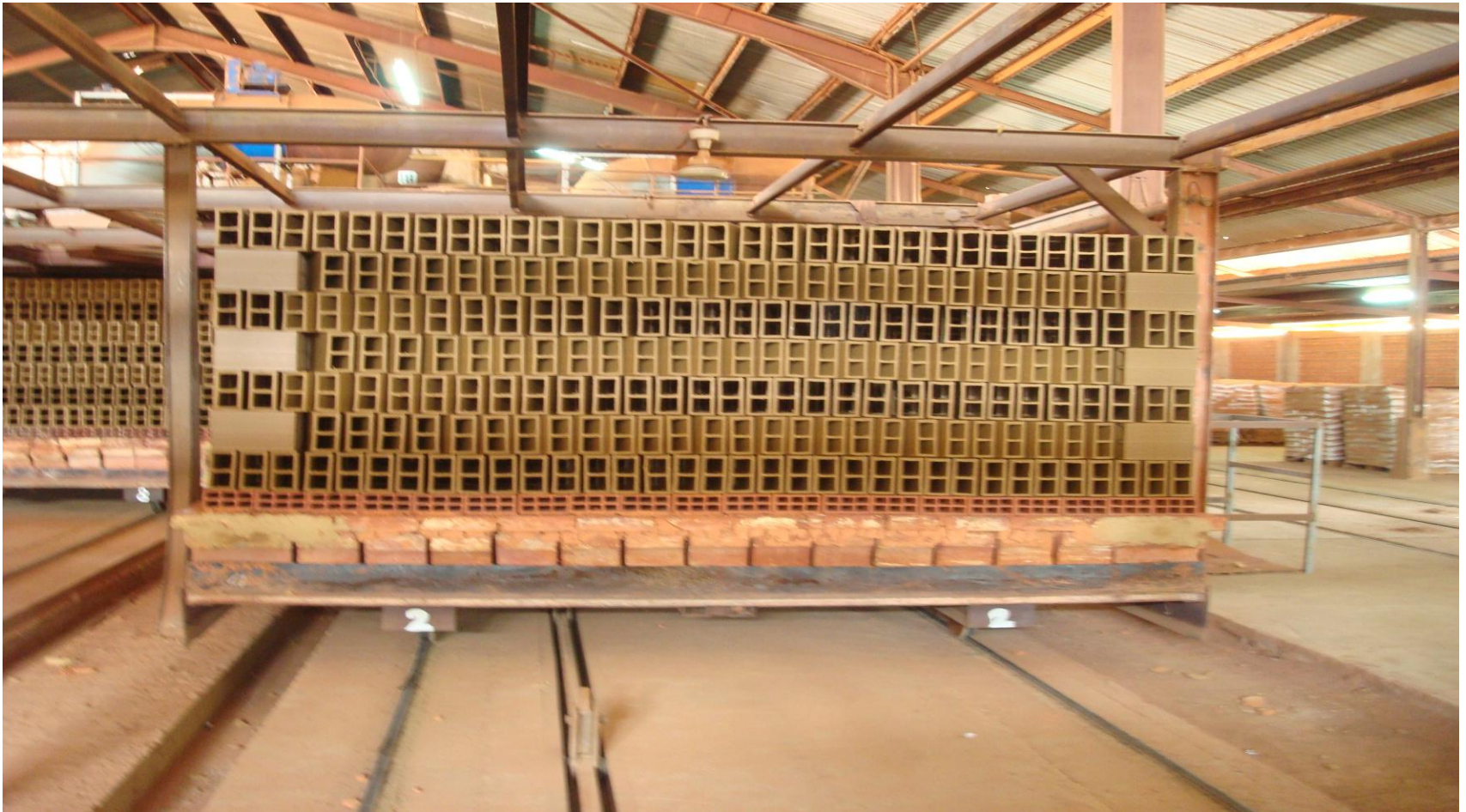




FORMING



DRYING



FIRED PRODUCTS

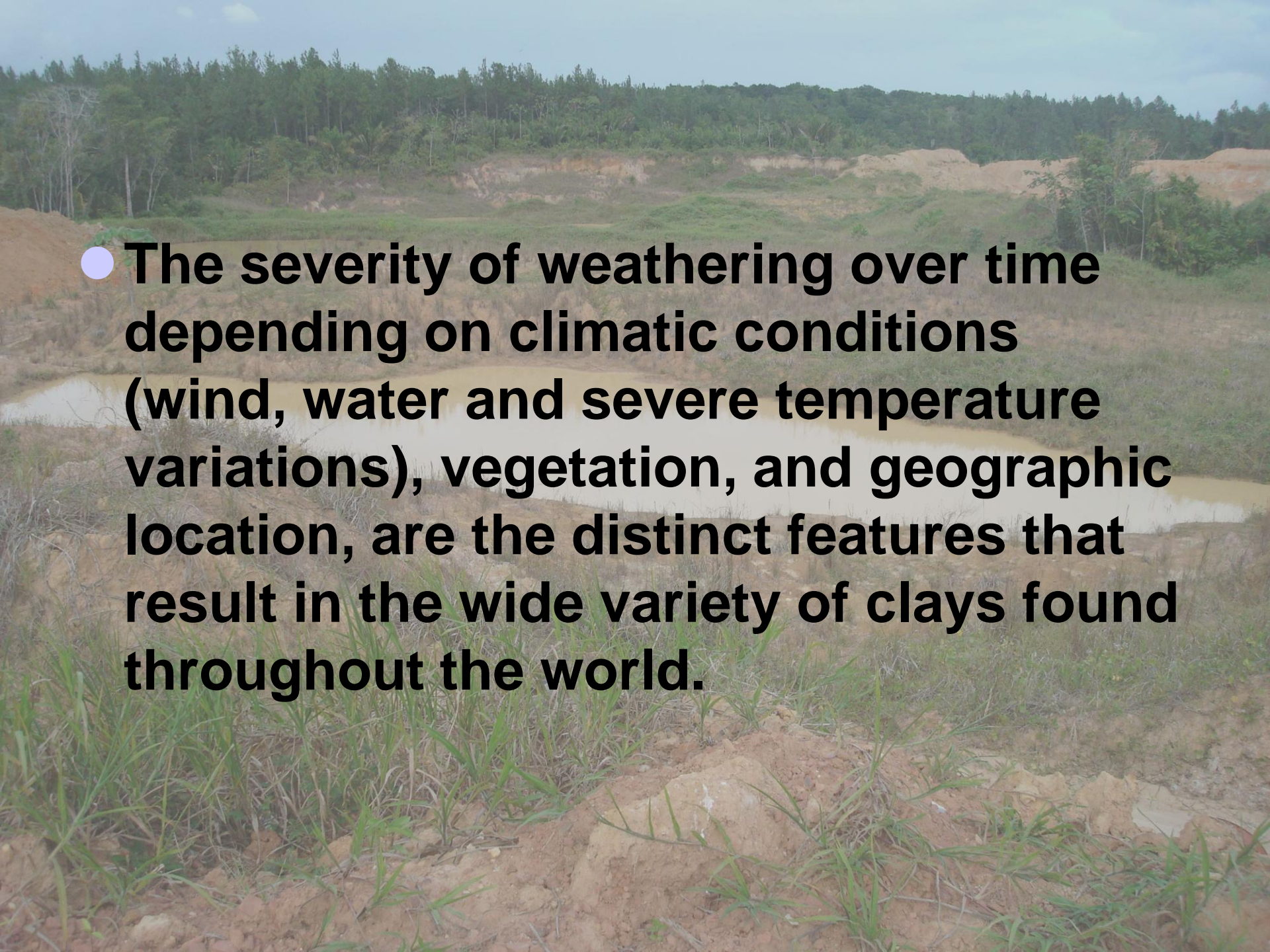




Overview



- **Clay is a natural occurring mineral that has formed over several hundreds of thousands of years through the process of weathering.**
- **Mechanical weathering causes disintegration of the rocks and through the action of chemical agencies, results in the formation of Clay Minerals.**

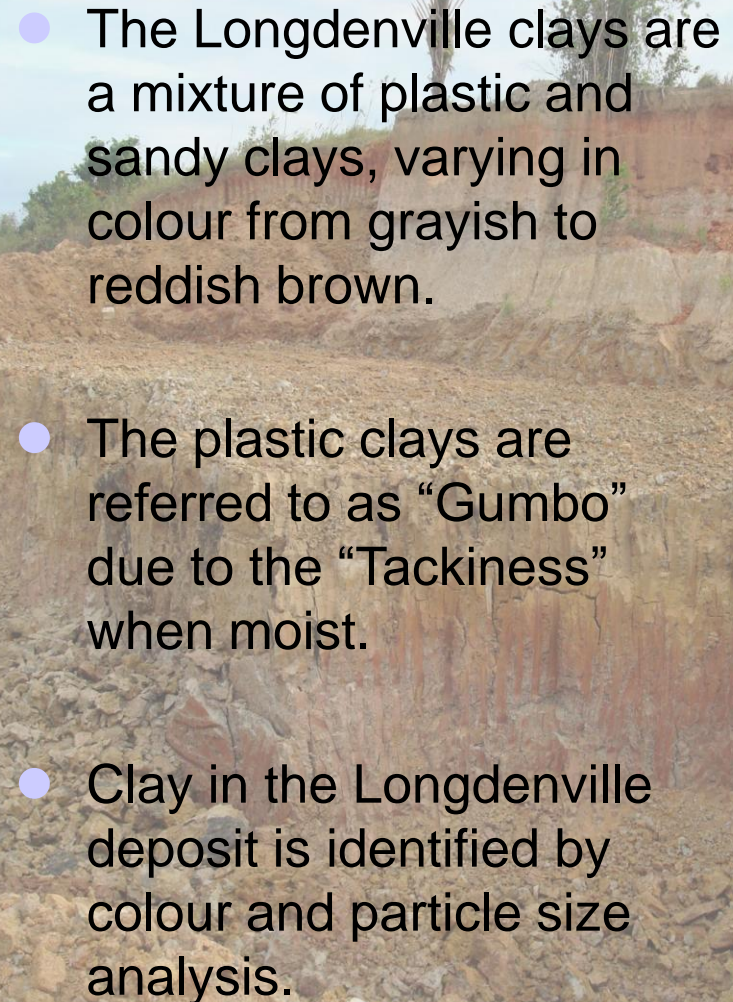
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- **The severity of weathering over time depending on climatic conditions (wind, water and severe temperature variations), vegetation, and geographic location, are the distinct features that result in the wide variety of clays found throughout the world.**

Clay Block Plants in Trinidad

- ABEL formerly Trinidad Clay Products (started operations around 1942)
- Trinidad Aggregate Products Limited (started operations in 1976)
- The Oropouche Brick Plant (started operations around 1947)
- Rio Claro Brickworks (started operations around 1961)

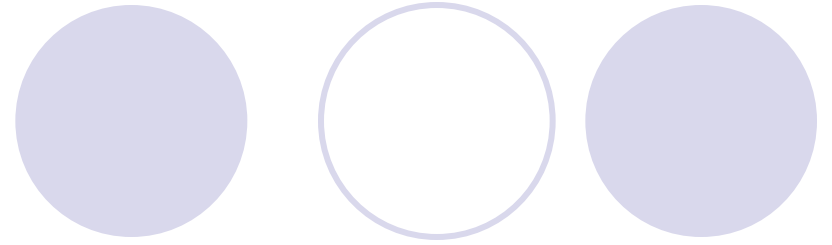
Clay Mining at TAP

- Mining Plan
- Minerals Act 2000
- Fired characteristics – The Clay products are fired between 1050-1105°C (2020°F)
- Depending on the quality of the clay a colour variation from orange to bright Red or a Red-brown colour can be obtained.

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- The Longdenville clays are a mixture of plastic and sandy clays, varying in colour from grayish to reddish brown.
 - The plastic clays are referred to as “Gumbo” due to the “Tackiness” when moist.
 - Clay in the Longdenville deposit is identified by colour and particle size analysis.

Resources

- Clay
- Sand
- Water
- Electricity
- Natural Gas



Mineralogical Composition

Constituents of samples tested	Melting Point C°	Grey Gumbo %	Red Mottle Clay %	Ravine Sable Sand %
● Na ₂ O	920	0.01	0.01	0.61
● MgO	2800	1.24	0.81	0.01
● Al ₂ O ₃	2040	19.66	16.77	1.05
● SiO ₃	1720	68.37	74.35	97.38
● P ₂ O ₅	300	0.14	0.16	0.01
● K ₂ O	750	2.21	1.5	0.2
● CaO	2572	0.23	0.18	0.13
● TiO ₂	1830	1.02	0.99	0.14
● Cr ₂ O ₃	2265	0.01	0.01	0.01
● MnO ₃	1080	0.02	0.02	0.01
● Fe ₂ O ₃	1565	7.11	5.23	0.31
● L.O.I	7.74	6.24	0.47	
● Carbon		0.15	0.18	
● Sulphur		0.03	0.03	
● Flourine		0.0615		

Date Tested:20/08/2001(W.E.L.K.O)

Clay Products Manufactured



Clay horizontal and vertical wall blocks, decoratives, ventilation products,

Glazed and unglazed clay tiles for floor, wall and roof as well as trim pieces.

These are marketed locally, regionally and internationally.

- Other uses of Clay: Sanitary Ware, Electrical Insulators, Cutting bits, Computer spares, Ceramic Seals, Cosmetics, Dentistry etc.

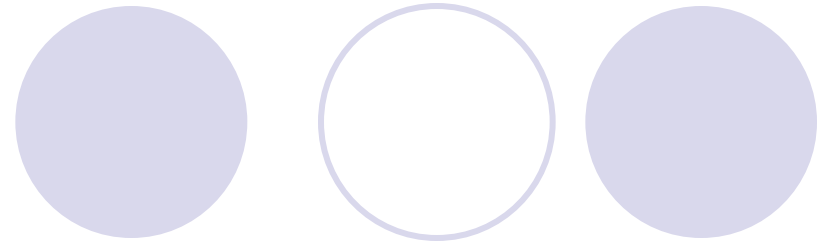
Standards and Specification

- Our *Holloclay* Products are manufactured in accordance with the local:
- Voluntary standard :TTS 1635 510 1986 – for Horizontal wall blocks and
- Compulsory standard: TTS 587; 2005 – for Vertical core blocks.
- Our clay tiles conform to the ANSI Standard.
- Our Quality Management system is ISO 9001 2008 certified, with TTBS as our registrar.

Rehabilitation

- **Creation of a Berm Wall**
- **Natural vegetation allowed to grow**
- **Preservation of the Water course**
- **Collection Pond/Setting Pond**
- **Contour/leveling of worked out area**
- **Beautification – planting of fruit trees to allow for birds and insects in this location**

Alternative uses of worked out areas



- **The Collection Pond water can be treated and used by W.A.S.A. to service approximately 5000 homes @ 400 galls/week during the dry season**
- OR**
- **The Collection Pond water can be utilized by The Ministry of Agriculture or other Distribution Agency to service farmers in the surrounding farming community.**



Drawbacks of Clay Industry

- Non issuance of Mining Licence.
- Closure of Sand Mines @ Ravine Sable.
- Poor response from MEEA.
- Bush fires.
- Dumping of waste/garbage.
- Inadequate Police Patrols.
- Inadequate use of Clay Products by the HDC.

Questions and Comments

