Memorandum

To: Shaun Denny
From: Jack Manuel
CC: Mike Walker
Business Area: National Reserves Department
Date: 18/06/2018
Address: CEMEX House, Evreux Way, Rugby, CV21 2DT
Re: Lime Kiln Farm — Method of Working (Project Ref: 1805-J186)

Dear Shaun,

Please find attached the latest Method of Working for Wangford Quarry’s proposed extension area Lime Kiln Farm (Project Ref: 1805-J186).

Mineral production volumes / tonnages for the Method of Working are as follows:

<table>
<thead>
<tr>
<th>Working Area</th>
<th>Total (cu. m)</th>
<th>Waste Fine Sand (cu. m)</th>
<th>Saleable Coarse Mineral (cu. m)</th>
<th>Mineral Reserve (Tonnes)</th>
<th>Years of Production</th>
<th>Cumulative Years of Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>101,000</td>
<td>38,000</td>
<td>63,000</td>
<td>101,000.0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Phase 2</td>
<td>130,000</td>
<td>49,000</td>
<td>81,000</td>
<td>130,000.0</td>
<td>1½</td>
<td>2 ½/2</td>
</tr>
<tr>
<td>Phase 3</td>
<td>193,000</td>
<td>73,000</td>
<td>120,000</td>
<td>192,000.0</td>
<td>2½</td>
<td>4 ¾</td>
</tr>
<tr>
<td>Phase 4</td>
<td>182,000</td>
<td>69,000</td>
<td>113,000</td>
<td>181,000.0</td>
<td>2</td>
<td>6 ¾</td>
</tr>
<tr>
<td>Phase 5</td>
<td>173,000</td>
<td>66,000</td>
<td>107,000</td>
<td>171,000.0</td>
<td>2</td>
<td>8 ½</td>
</tr>
<tr>
<td>Phase 6</td>
<td>148,000</td>
<td>56,000</td>
<td>92,000</td>
<td>147,000.0</td>
<td>1½</td>
<td>10 ½</td>
</tr>
<tr>
<td>Total</td>
<td>927,000</td>
<td>351,000</td>
<td>576,000</td>
<td>922,000</td>
<td>10 ½</td>
<td>10 ½</td>
</tr>
</tbody>
</table>

Restoration materials (topsoil / overburden / out of specification sand) volumes for the Method of Working are as follows:

<table>
<thead>
<tr>
<th>Working Area</th>
<th>Topsoil (cu. m)</th>
<th>Overburden (cu. m)</th>
<th>Fine Sand (cu. m)</th>
<th>Topsoil / overburden materials required for screening bunds (cu. m)</th>
<th>Remaining Restoration Materials Available (cu. m)</th>
<th>Restoration Materials Used (cu. m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>3,000</td>
<td>46,000</td>
<td>38,000</td>
<td>17,000</td>
<td>70,000*</td>
<td>38,000</td>
</tr>
<tr>
<td>Phase 2</td>
<td>3,000</td>
<td>28,000</td>
<td>49,000</td>
<td>10,000</td>
<td>70,000</td>
<td>70,000</td>
</tr>
<tr>
<td>Phase 3</td>
<td>4,000</td>
<td>16,000</td>
<td>73,000</td>
<td>-</td>
<td>93,000</td>
<td>93,000</td>
</tr>
<tr>
<td>Phase 4</td>
<td>3,000</td>
<td>6,000</td>
<td>69,000</td>
<td>-</td>
<td>78,000</td>
<td>78,000</td>
</tr>
<tr>
<td>Phase 5</td>
<td>5,000</td>
<td>35,000</td>
<td>66,000</td>
<td>-</td>
<td>106,000</td>
<td>106,000</td>
</tr>
<tr>
<td>Phase 6</td>
<td>4,000</td>
<td>63,000</td>
<td>56,000</td>
<td>-</td>
<td>123,000</td>
<td>123,000</td>
</tr>
<tr>
<td>Restoration Phase</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-27,000</td>
<td>27,000</td>
<td>27,000</td>
</tr>
<tr>
<td>Final Balance</td>
<td>22,000</td>
<td>194,000</td>
<td>351,000</td>
<td>-</td>
<td>567,000*</td>
<td>535,000</td>
</tr>
</tbody>
</table>

*32,000m3 of which will be used to restore the existing Wangford Quarry
The following design parameters / assumptions were adopted for the latest Method of Working:

- Base of mineral workings to remain 1m above the maximum seasonal ground water level
- Fine sand wastage factor = 38% (to ensure that there are sufficient restoration materials available)
- Mineral density = 1.6 (Tonnes / cubic m)
- Mineral Output = 90,000 Tonnes / annum
- All working faces to be <7m in height and 1v:1h in slope angle
- Final quarry faces to be 1v:2h in slope angle but can exceed 7m if required
- All temporary restoration slopes to be 1v:2h in slope angle
- Final restoration slope angles to be dictated by restoration plan

I trust the above meets your requirements but please feel free to contact me to discuss.

Kind regards,

Jack Alexander Manuel
CGeol EurGeol MSc BSc FGS
Senior Area Geologist - National Reserves Department - United Kingdom
Mobile: [redacted]
e-Mail: [redacted]
Legend

- Planning Application Boundary
- Limit of Extraction
- Removal of Overburden
- Removal of Sand and Gravel
- Areas Awaiting Restoration
- Fine Sand Backfill Awaiting Restoration
- Final Restoration Areas
- Screening Bunds / Edge Protection
- Temporary Quarry Access Routes
- Direction of Quarry Development

Lime Kiln Farm Extension

Proposed Method of Working
Current Topo Survey

Drawn By: JAM

Scale: 1 : 2500

Project No: 18_C015_WANG

Sheet No: 200
The remaining 32,000m³ of stripped overburden materials from the Phase 1 working area shall be used to restore the existing Wangford Quarry extraction area.

The remaining 32,000m³ of stripped overburden materials from the Phase 1 working area shall be used to create a series of 2m and 3m high bunds along the site perimeter to provide visual screening.

All 'dry screening' of excavated mineral shall be undertaken in the existing Wangford Quarry excavation until the end of Phase 1 at which time there will be sufficient space to accommodate the excavation and dry screening operations.

3,000m³ of stripped soils and 14,000m³ of stripped overburden materials from the Phase 1 working area shall be used to restore the existing Wangford Quarry extraction area.
At the end of Phase 1 the mobile 'dry screening' plant shall be relocated from Wangford Quarry to the base of the Lime Kiln Farm working area where it shall remain for the life of the quarry development.

Once sufficient space has been created in the Phase 1 working area, 38,000m³ of fine sand materials produced in the screening of the Phase 1 mineral shall be relocated to the west of the working area as part of the site's ongoing restoration.
The remaining 2,000m³ of stripped soils and 19,000m³ of stripped overburden from the Phase 2 working area shall be used to restore the Phase 1 working area in accordance with the site's restoration design.

The remaining 2,000m³ of stripped soils and 19,000m³ of stripped overburden from the Phase 2 working area shall be used to complete the site's 2m high screening bund.

49,000m³ of fine sand materials produced during the 'dry screening' of the Phase 2 mineral deposit shall be used to backfill the Phase 1 and Phase 2 working areas.
Phase 3
Years of Production = 2 1/4 years
Cumulative Years of Production = 4 3/4 years

4,000m³ of stripped soils and 16,000m³ of stripped overburden materials from the Phase 3 working area shall be used to restore the Phase 2 working area in accordance with the site's restoration design.

73,000m³ of fine sand materials produced during the 'dry screening' of the Phase 3 mineral deposit shall be used to backfill the Phase 2 and Phase 3 working areas.
69,000m³ of fine sand materials produced during the 'dry screening' of the Phase 4 mineral deposit shall be used to backfill the Phase 3 and Phase 4 working areas.

3,000m³ of stripped soils and 6,000m³ of stripped overburden materials from the Phase 4 working area shall be used to restore the Phase 2 working area in accordance with the site's restoration design.
The northern quarry faces shall be developed to their final face positions to release additional restoration materials before being restored with fine sand, overburden and soil materials.
Phase 5
Years of Production = 2 years
Cumulative Years of Production = 8 3/4 years

66,000m³ of fine sand materials produced during the 'dry screening' of the Phase 5 mineral deposit shall be used to backfill the Phase 4 and Phase 5 working areas.

5,000m³ of stripped soils and 35,000m³ of stripped overburden materials from the Phase 5 working area shall be used to restore the Phase 4 and Phase 5 working areas in accordance with the site's restoration design.
The northern quarry faces shall be developed to their final face positions to release additional restoration materials before being backfilled with fine sand and restored with overburden and soil materials.

Legend
- Planning Application Boundary
- Limit of Extraction
- Removal of Overburden
- Removal of Sand and Gravel
- Areas Awaiting Restoration
- Fine Sand Backfill Awaiting Restoration
- Final Restoration Areas
- Screening Bunds / Edge Protection
- Temporary Quarry Access Routes
- Direction of Quarry Development

Phase 6
Years of Production = 1 3/4 years
Cumulative Years of Production = 10 1/2 years

Lime Kiln Farm Extension
Proposed Method of Working
Phase 6 Extraction
56,000m³ of fine sand materials produced during the 'dry screening' of the Phase 6 mineral deposit shall be used to backfill the Phase 5 and Phase 6 working areas.

4,000m³ of stripped soils and 63,000m³ of stripped overburden materials from the Phase 6 working area shall be used to restore the Phase 5 and Phase 6 working areas in accordance with the site's restoration design.
Stripped soils and overburden materials comprising the site’s screening bunds shall be removed and used to restore the remainder of the quarry in accordance with the site’s restoration plan.