

Soil Profile Log

| | | | |
|--|-------------------------|---------------------|--|
| Project Name: Suntop Solar Farm - EIS | | Borehole No: | |
| Project No: SY17235 | Date: 22/11/2017 | GPS Coord: | |
| Location: Pit 1 | Logged by: DP | Zone: | |

| | | |
|-----------------------------|-------------------------|--------------------------|
| Maximum Depth: 500mm | Method: Test Pit | Angle: 90 degrees |
|-----------------------------|-------------------------|--------------------------|

| DEPTH (m) | DESCRIPTION (Horizon, Field Texture, Structure, Colour, Mottling, Coarse frags) | GRAIN SIZE | PLASTICITY | DENSITY | CONSISTENCY | MOISTURE | GROUNDWATER | SAMPLES | COLOUR | FORMATION / COMMENTS |
|-----------|--|------------|------------|---------|-------------|----------|-------------|----------------|-----------------------|---|
| | | | | | | | | | | |
| 0.0 | Sandy Loam | | | | | SM | N/A | TP1/1 TP1/2 | Grey-Brown | Roots present <5% Coarse fragments Weakly pedal |
| 0.1 | | | | | | | | | | |
| 0.2 | Sandy Loam | | | | | D | N/A | | Yellowish-Brown | Roots present 10% Coarse Fragment Weak structure |
| 0.3 | | | | | | | | | | |
| 0.4 | | | | | | | | | | |
| 0.5 | Sandy Loam Clay Loam | | M | | | D | N/A | | Light yellowish-brown | No Roots present 0% coarse fragments Weak Structure |
| 0.6 | Test pit terminated at 0.5m, layer continues | | | | | | | | | |
| 0.7 | | | | | | | | | | |
| 0.8 | | | | | | | | | | |
| 0.9 | | | | | | | | | | |
| 1.0 | | | | | | | | | | |

| FIELD TEXTURE | PLASTICITY | DENSITY | CONSISTENCY | MOISTURE | GROUNDWATER | PID |
|---------------------|------------|---------------------|----------------|-------------------|-------------|-----------------------|
| S Sand | L Low | VL Very Loose | VS Very Soft | D Dry | | Measurements in (ppm) |
| LS Loamy sand | M Medium | L Loose | S Soft | SM Slightly moist | | |
| CS Clayey sand | H High | MD Moderately Dense | F Firm | M Moist | | |
| SL Sandy loam | | D Dense | St Stiff | W Wet | | |
| L Loam | | VD Very Dense | VSt Very Stiff | | | |
| SCL Sandy clay loam | | | H Hard | | | |
| CL Clay loam | | | | | | |
| LC Light clay | | GRAIN SIZE | | | | |
| MC Medium clay | | F Fine | | | | |
| HC Heavy clay | | M Medium | | | | |
| | | C Coarse | | | | |

Soil Profile Log

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|---------------------------------------|------------------|--------------|--|
| Project Name: Suntop Solar Farm - EIS | | Borehole No: | |
| Project No: SY17235 | Date: 22/11/2017 | GPS Coord: | |
| Location: Pit 2 | Logged by: DP | Zone: | |

| | | |
|----------------------|------------------|-------------------|
| Maximum Depth: 500mm | Method: Test Pit | Angle: 90 degrees |
|----------------------|------------------|-------------------|

| DEPTH (m) | DESCRIPTION (Horizon, Field Texture, Structure, Colour, Mottling, Coarse frags) | GRAIN SIZE | PLASTICITY | DENSITY | CONSISTENCY | MOISTURE | GROUNDWATER | SAMPLES | COLOUR | FORMATION / COMMENTS |
|-----------|--|------------|------------|---------|-------------|----------|-------------|----------------|-----------------------|--|
| | | | | | | | | | | |
| 0.0 | Sandy Loam | | | | | SM | N/A | TP2/1 TP2/2 | Dark Reddish Brown | Roots present 0% Coarse fragments Structure: Massive Location: Edge of wheat Paddock |
| 0.1 | | | | | | | | | | |
| 0.2 | Sandy Loam | | | | | D | N/A | | Reddish brown | Roots present 0% Coarse Fragment Weak structure |
| 0.3 | | | | | | | | | | |
| 0.4 | | | | | | | | | | |
| 0.5 | Sandy Clay Loam | | | | | D | N/A | | Reddish Brown | Roots present 0% coarse fragments Weak Structure |
| | Test pit terminated at 0.5m, layer continues | | | | | | | | | |
| 0.6 | | | | | | | | | | |
| 0.7 | | | | | | | | | | |
| 0.8 | | | | | | | | | | |
| 0.9 | | | | | | | | | | |
| 1 | | | | | | | | | | |



| FIELD TEXTURE | PLASTICITY | DENSITY | CONSISTENCY | MOISTURE | GROUNDWATER | PID |
|---------------------|------------|---------------------|----------------|-------------------|-------------|-----------------------|
| S Sand | L Low | VL Very Loose | VS Very Soft | D Dry | ↓ | Measurements in (ppm) |
| LS Loamy sand | M Medium | L Loose | S Soft | SM Slightly moist | ↓ | |
| CS Clayey sand | H High | MD Moderately Dense | F Firm | M Moist | ↓ | |
| SL Sandy loam | | D Dense | St Stiff | W Wet | | |
| L Loam | | VD Very Dense | VSt Very Stiff | | | |
| SCL Sandy clay loam | | | H Hard | | | |
| CL Clay loam | | | | | | |
| LC Light clay | | GRAIN SIZE | | | | |
| MC Medium clay | | F Fine | | | | |
| HC Heavy clay | | M Medium | | | | |
| | | C Coarse | | | | |

Soil Profile Log

| | | | |
|---------------------------------------|------------------|--------------|--|
| Project Name: Suntop Solar Farm - EIS | | Borehole No: | |
| Project No: SY17235 | Date: 22/11/2017 | GPS Coord: | |
| Location: Pit 3 | Logged by: DP | Zone: | |

| | | |
|----------------------|------------------|-------------------|
| Maximum Depth: 500mm | Method: Test Pit | Angle: 90 degrees |
|----------------------|------------------|-------------------|

| DEPTH (m) | DESCRIPTION (Horizon, Field Texture, Structure, Colour, Mottling, Coarse frags) | GRAIN SIZE | PLASTICITY | DENSITY | CONSISTENCY | MOISTURE | GROUNDWATER | SAMPLES | COLOUR | FORMATION / COMMENTS |
|-----------|--|------------|------------|---------|-------------|----------|-------------|----------------|---------------|--|
| | | | | | | | | | | |
| 0.0 | Sandy Loam | | | | | SM | N/A | TP3/1 TP3/2 | Reddish Brown | Roots present 0% Coarse fragments Structure: weak Location: Mid slope, undulating, sown paddock with grazed lucerne |
| 0.1 | | | | | | | | | | |
| 0.2 | Light Sandy Loam | | | | | D | N/A | | Reddish brown | Roots present 0% Coarse Fragment Structure: Massive |
| 0.3 | | | | | | | | | | |
| 0.4 | | | | | | | | | | |
| 0.5 | Test pit terminated at 0.5m, layer continues | | | | | | | | | |
| 0.6 | | | | | | | | | | |
| 0.7 | | | | | | | | | | |
| 0.8 | | | | | | | | | | |
| 0.9 | | | | | | | | | | |
| 1 | | | | | | | | | | |

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|----------------------|-------------------|---------------------|--------------------|-------------------|---|-----------------------|
| FIELD TEXTURE | PLASTICITY | DENSITY | CONSISTENCY | MOISTURE | GROUNDWATER | PID |
| S Sand | L Low | VL Very Loose | VS Very Soft | D Dry |  | Measurements in (ppm) |
| LS Loamy sand | M Medium | L Loose | S Soft | SM Slightly moist |  | |
| CS Clayey sand | H High | MD Moderately Dense | F Firm | M Moist |  | |
| SL Sandy loam | | D Dense | St Stiff | W Wet | | |
| L Loam | | VD Very Dense | VSt Very Stiff | | | |
| SCL Sandy clay loam | | | H Hard | | | |
| CL Clay loam | | GRAIN SIZE | | | | |
| LC Light clay | | F Fine | | | | |
| MC Medium clay | | M Medium | | | | |
| HC Heavy clay | | C Coarse | | | | |

Soil Profile Log

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|---------------------------------------|------------------|--------------|--|
| Project Name: Suntop Solar Farm - EIS | | Borehole No: | |
| Project No: SY17235 | Date: 22/11/2017 | GPS Coord: | |
| Location: Pit 4 | Logged by: DP | Zone: | |

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|----------------------|------------------|-------------------|
| Maximum Depth: 500mm | Method: Test Pit | Angle: 90 degrees |
|----------------------|------------------|-------------------|

| DEPTH (m) | DESCRIPTION (Horizon, Field Texture, Structure, Colour, Mottling, Coarse frags) | GRAIN SIZE | PLASTICITY | DENSITY | CONSISTENCY | MOISTURE | GROUNDWATER | SAMPLES | COLOUR | FORMATION / COMMENTS |
|-----------|--|------------|------------|---------|-------------|----------|-------------|----------------|---------------------|--|
| | | | | | | | | | | |
| 0.0 | Sandy Loam | | | | | SM | N/A | TP4/1 TP4/2 | Reddish Brown | Roots present <5% Coarse fragments Structure: massive Location: western aspect, edge of flow line & low slope |
| 0.1 | | | | | | | | | | |
| 0.2 | Sandy Loam | | | | | D | N/A | | Light Reddish brown | Roots present 10% Coarse Fragment Structure: Massive |
| 0.3 | | | | | | | | | | |
| 0.4 | | | | | | | | | | |
| 0.5 | Test pit terminated at 0.5m, layer continues | | | | | | | | | |
| 0.6 | | | | | | | | | | |
| 0.7 | | | | | | | | | | |
| 0.8 | | | | | | | | | | |
| 0.9 | | | | | | | | | | |
| 1 | | | | | | | | | | |

| | | | | | | |
|----------------------|-------------------|---------------------|--------------------|-------------------|--------------------|-----------------------|
| FIELD TEXTURE | PLASTICITY | DENSITY | CONSISTENCY | MOISTURE | GROUNDWATER | PID |
| S Sand | L Low | VL Very Loose | VS Very Soft | D Dry | ↓ | Measurements in (ppm) |
| LS Loamy sand | M Medium | L Loose | S Soft | SM Slightly moist | ↓ | |
| CS Clayey sand | H High | MD Moderately Dense | F Firm | M Moist | ↓ | |
| SL Sandy loam | | D Dense | St Stiff | W Wet | | |
| L Loam | | VD Very Dense | VSt Very Stiff | | | |
| SCL Sandy clay loam | | | H Hard | | | |
| CL Clay loam | | GRAIN SIZE | | | | |
| LC Light clay | | F Fine | | | | |
| MC Medium clay | | M Medium | | | | |
| HC Heavy clay | | C Coarse | | | | |

Soil Profile Log

| | | | |
|---------------------------------------|------------------|--------------|--|
| Project Name: Suntop Solar Farm - EIS | | Borehole No: | |
| Project No: SY17235 | Date: 22/11/2017 | GPS Coord: | |
| Location: Pit 5 | Logged by: DP | Zone: | |

| | | |
|----------------------|------------------|-------------------|
| Maximum Depth: 500mm | Method: Test Pit | Angle: 90 degrees |
|----------------------|------------------|-------------------|

| DEPTH (m) | DESCRIPTION (Horizon, Field Texture, Structure, Colour, Mottling, Coarse frags) | GRAIN SIZE | PLASTICITY | DENSITY | CONSISTENCY | MOISTURE | GROUNDWATER | SAMPLES | COLOUR | FORMATION / COMMENTS |
|-----------|--|------------|------------|---------|-------------|----------|-------------|----------------|-------------|--|
| | | | | | | | | | | |
| 0.0 | Sandy Loam | | | | | D | N/A | TP5/1 TP5/2 | Light brown | Roots present 10% Coarse fragments Structure: weakly pedal |
| 0.1 | Medium Clay | | | | | SM | N/A | | Light brown | Roots present Gritty Structure: weakly pedal |
| 0.2 | | | | | | | | | | Location: Geology change - igneous |
| 0.3 | | | | | | | | | | |
| 0.4 | | | | | | | | | | |
| 0.5 | Test pit terminated at 0.5m, layer continues | | | | | | | | | |
| 0.6 | | | | | | | | | | |
| 0.7 | | | | | | | | | | |
| 0.8 | | | | | | | | | | |
| 0.9 | | | | | | | | | | |
| 1 | | | | | | | | | | |




| | | | | | | |
|----------------------|-------------------|---------------------|--------------------|-------------------|--------------------|-----------------------|
| FIELD TEXTURE | PLASTICITY | DENSITY | CONSISTENCY | MOISTURE | GROUNDWATER | PID |
| S Sand | L Low | VL Very Loose | VS Very Soft | D Dry | ↓ | Measurements in (ppm) |
| LS Loamy sand | M Medium | L Loose | S Soft | SM Slightly moist | ↓ | |
| CS Clayey sand | H High | MD Moderately Dense | F Firm | M Moist | ↓ | |
| SL Sandy loam | | D Dense | St Stiff | W Wet | | |
| L Loam | | VD Very Dense | VSt Very Stiff | | | |
| SCL Sandy clay loam | | | H Hard | | | |
| CL Clay loam | | | | | | |
| LC Light clay | GRAIN SIZE | F Fine | | | | |
| MC Medium clay | M Medium | M Medium | | | | |
| HC Heavy clay | C Coarse | C Coarse | | | | |

Soil Profile Log

| | | | |
|---------------------------------------|------------------|--------------|--|
| Project Name: Suntop Solar Farm - EIS | | Borehole No: | |
| Project No: SY17235 | Date: 22/11/2017 | GPS Coord: | |
| Location: Pit 6 | Logged by: DP | Zone: | |

| | | |
|----------------------|------------------|-------------------|
| Maximum Depth: 500mm | Method: Test Pit | Angle: 90 degrees |
|----------------------|------------------|-------------------|

| DEPTH (m) | DESCRIPTION (Horizon, Field Texture, Structure, Colour, Mottling, Coarse frags) | GRAIN SIZE | PLASTICITY | DENSITY | CONSISTENCY | MOISTURE | GROUNDWATER | SAMPLES | COLOUR | FORMATION / COMMENTS |
|-----------|--|------------|------------|---------|-------------|----------|-------------|----------------|-------------|---|
| 0.0 | Sandy Loam | | | | | D | N/A | TP6/1 TP6/2 | Light brown | Roots present 10% Coarse fragments Structure: weakley pedal |
| 0.1 | Medium Clay Loam | | | | | SM | N/A | | Light brown | Roots present Gritty (quartz crystals) Structure: weakley pedal |
| 0.2 | | | | | | | | | | Location: Crest on cultivated paddock |
| 0.3 | | | | | | | | | | |
| 0.4 | | | | | | | | | | |
| 0.5 | Test pit terminated at 0.5m, layer continues | | | | | | | | | |
| 0.6 | | | | | | | | | | |
| 0.7 | | | | | | | | | | |
| 0.8 | | | | | | | | | | |
| 0.9 | | | | | | | | | | |
| 1 | | | | | | | | | | |

| | | | | | | |
|----------------------|-------------------|---------------------|--------------------|-------------------|---|-----------------------|
| FIELD TEXTURE | PLASTICITY | DENSITY | CONSISTENCY | MOISTURE | GROUNDWATER | PID |
| S Sand | L Low | VL Very Loose | VS Very Soft | D Dry |  | Measurements in (ppm) |
| LS Loamy sand | M Medium | L Loose | S Soft | SM Slightly moist |  | |
| CS Clayey sand | H High | MD Moderately Dense | F Firm | M Moist |  | |
| SL Sandy loam | | D Dense | St Stiff | W Wet | | |
| L Loam | | VD Very Dense | VSt Very Stiff | | | |
| SCL Sandy clay loam | | | H Hard | | | |
| CL Clay loam | | GRAIN SIZE | | | | |
| LC Light clay | | F Fine | | | | |
| MC Medium clay | | M Medium | | | | |
| HC Heavy clay | | C Coarse | | | | |

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Soil Analysis Report

12 Sample(s) received on 7/12/17 . Tested as per the following methods.

| Method | Method Description |
|--------|--|
| S201 | Soil pH in 1:5 water or 1:5 CaCl ₂ suspension |
| S202 | Soil Electrical Conductivity |
| S266 | Available Sulfur by KCl ₄₀ extraction |
| S260 | Bray's Extractable Phosphorus by FIA |
| S236 | Organic Carbon by Walkley & Black |
| M630 | Total Carbon and/or Total Nitrogen by Dumas Combustion |
| S273 | Gillman & Sumpter Exchangeable Cations |

Notes: Site: Suntop

Results relate only to the items tested.

- When required, samples air dried at 40°C as per Soil Chemical Methods - Australasia (Rayment and Lyons 2011).
- Results are expressed on an air-dry weight basis unless otherwise stated.
- This report should not be reproduced except in full.
- Samples will be retained for one calendar month from the date of the final report. Samples will then be discarded.
- Clients wishing to recover their samples must contact the laboratory within this period. This laboratory will return residual samples at client expense.

Date of issue 15/12/17

| Laboratory No. Client's ID | Units | Limit of Reporting | 1 TP1/1 | 2 TP1/2 | 3 TP2/1 | 4 TP2/2 | 5 TP3/1 |
|--------------------------------|------------|--------------------|------------|------------|------------|------------|------------|
| Cropping Analysis | | | | | | | |
| pH (Water) | pH units | 0.04 | 5.3 | 5.6 | 5.4 | 6.0 | 5.6 |
| pH (CaCl ₂) | pH units | 0.04 | 4.5 | 4.7 | 4.4 | - | - |
| Electrical Conductivity | dS/m | 0.0010 | 0.20 | 0.026 | 0.059 | 0.042 | 0.082 |
| Sulfur (KCl ₄) | mg/kg | 2.0 | 7.0 | <2 | 2.4 | - | - |
| Bray Phosphorus | mg/kg | 0.060 | 40 | 1.1 | 6.4 | - | - |
| Organic Carbon | % | 0.050 | 1.0 | 0.28 | 1.0 | - | - |
| Total Nitrogen | % | 0.020 | 0.11 | 0.040 | 0.13 | - | - |
| Exchangeable Cations | | | | | | | |
| Aluminium | cmol(+)/kg | 0.10 | 0.32 | <0.1 | 0.32 | - | - |
| Calcium | cmol(+)/kg | 0.030 | 4.3 | 3.2 | 3.5 | - | - |
| Potassium | cmol(+)/kg | 0.010 | 1.8 | 0.39 | 1.0 | - | - |
| Magnesium | cmol(+)/kg | 0.0070 | 0.58 | 0.40 | 0.50 | - | - |
| Sodium | cmol(+)/kg | 0.030 | <0.03 | <0.03 | <0.03 | - | - |
| CEC (effective) | cmol(+)/kg | 0.20 | 7.0 | 4.0 | 5.3 | - | - |
| Calcium/Magnesium | | | 7.4 | 8.0 | 6.9 | - | - |
| Percent Aluminium Saturation | % of ECEC | | 5 | N/A | 6.0 | - | - |
| Exchangeable Calcium | % of ECEC | | 62 | 80 | 65 | - | - |
| Exchangeable Potassium | % of ECEC | | 25 | 9.8 | 19 | - | - |
| Exchangeable Magnesium | % of ECEC | | 8.4 | 10 | 9.4 | - | - |
| Exchangeable Sodium Percentage | % of ECEC | | N/A | N/A | N/A | - | - |

| Laboratory No. Client's ID | Units | Limit of Reporting | 6 TP3/2 | 7 TP4/1 | 8 TP4/2 | 9 TP5/1 | 10 TP5/2 |
|--------------------------------|------------|--------------------|------------|------------|------------|------------|-------------|
| Cropping Analysis | | | | | | | |
| pH (Water) | pH units | 0.04 | 5.8 | 5.5 | 6.2 | 6.8 | 6.1 |
| pH (CaCl ₂) | pH units | 0.04 | - | 4.7 | - | 6.0 | 5.3 |
| Electrical Conductivity | dS/m | 0.0010 | 0.021 | 0.054 | 0.028 | 0.068 | 0.064 |
| Sulfur (KCl ₄) | mg/kg | 2.0 | - | 2.5 | - | 11 | 3.8 |
| Bray Phosphorus | mg/kg | 0.060 | - | 12 | - | 4.5 | 140 |
| Organic Carbon | % | 0.050 | - | 1.1 | - | 0.43 | 1.1 |
| Total Nitrogen | % | 0.020 | - | 0.13 | - | 0.047 | 0.14 |
| Exchangeable Cations | | | | | | | |
| Aluminium | cmol(+)/kg | 0.10 | - | 0.14 | - | <0.1 | <0.1 |
| Calcium | cmol(+)/kg | 0.030 | - | 5.6 | - | 17 | 7.3 |
| Potassium | cmol(+)/kg | 0.010 | - | 0.67 | - | 0.80 | 1.0 |
| Magnesium | cmol(+)/kg | 0.0070 | - | 0.46 | - | 4.1 | 0.68 |
| Sodium | cmol(+)/kg | 0.030 | - | 0.038 | - | 0.070 | <0.03 |
| CEC (effective) | cmol(+)/kg | 0.20 | - | 6.9 | - | 22 | 9.0 |
| Calcium/Magnesium | | | - | 12 | - | 4.0 | 11 |
| Percent Aluminium Saturation | % of ECEC | | - | 2 | - | N/A | N/A |
| Exchangeable Calcium | % of ECEC | | - | 81 | - | 77 | 81 |
| Exchangeable Potassium | % of ECEC | | - | 9.7 | - | 3.7 | 12 |
| Exchangeable Magnesium | % of ECEC | | - | 6.7 | - | 19 | 7.6 |
| Exchangeable Sodium Percentage | % of ECEC | | - | 0.54 | - | 0.32 | N/A |

| Laboratory No. Client's ID | Units | Limit of Reporting | 11 TP6/1 | 12 TP6/2 |
|-------------------------------|----------|-----------------------|-------------|-------------|
| Cropping Analysis | | | | |
| pH (Water) | pH units | 0.04 | 5.4 | 6.5 |
| Electrical Conductivity | dS/m | 0.0010 | 0.11 | 0.041 |
| Exchangeable Cations | | | | |