**Project Name:** **Three Springs Latham land resources survey**
**Project Code:** **TSL** **Site ID:** **0693** **Observation ID:** **1**
**Agency Name:** **Agriculture Western Australia**

## Site Information

| | | | |
|---|---|---|---|
| **Desc. By:** | Christopher Grose | **Locality:** | |
| **Date Desc.:** | 23/02/94 | **Elevation:** | No Data |
| **Map Ref.:** | | **Rainfall:** | No Data |
| **Northing/Long.:** | 6692391 AMG zone: 50 | **Runoff:** | No Data |
| **Easting/Lat.:** | 441351 Datum: AGD84 | **Drainage:** | Well drained |

## Geology

| | | | |
|---|---|---|---|
| **ExposureType:** | Soil pit | **Conf. Sub. is Parent. Mat.:** | No Data |
| **Geol. Ref.:** | No Data | **Substrate Material:** | No Data |

## Landform

**Rel/Slope Class:** Gently undulating rises 9-30m 1-3% **Pattern Type:** Hills

| | | | |
|---|---|---|---|
| **Morph. Type:** | Mid-slope | **Relief:** | No Data |
| **Elem. Type:** | Hillslope | **Slope Category:** | No Data |
| **Slope:** | % | **Aspect:** | No Data |

## Surface Soil Condition

Firm

## Erosion

## Soil Classification

**Australian Soil Classification:**
Vertic Epipedal Calcic Calcarosol
**ASC Confidence:**
Confidence level not specified

**Mapping Unit:** N/A
**Principal Profile Form:** Dr4.13
**Great Soil Group:** N/A

## Site Disturbance

Extensive clearing, for example poisoning, ringbarking

## Vegetation

## Surface Coarse Fragments

0-2%, medium gravelly, 6-20mm, subangular, Igneous rock (unidentified); 0-2%, , subangular, Igneous rock (unidentified)

## Profile Morphology

A11 0 - 0.07 m Reddish brown (5YR4/4-Moist); ; Clay loam; Moderate grade of structure, 5-10 mm, Subangular blocky; Rough-ped fabric; Dry; Weak consistence; Soil matrix is Slightly calcareous; Field pH 9.6 (pH meter); Abrupt, Smooth change to -

A12 0.07 - 0.18 m Reddish brown (5YR4/4-Moist); ; Light medium clay; Moderate grade of structure, 5-10 mm, Subangular blocky; Rough-ped fabric; Dry; Weak consistence; Soil matrix is Slightly calcareous; Abrupt, Smooth change to -

B21 0.18 - 0.6 m Reddish brown (5YR4/4-Moist); ; Medium clay; Moderate grade of structure, 10-20 mm, Prismatic; Rough-ped fabric; Moderately moist; Firm consistence; Soil matrix is Moderately calcareous; Field pH 9.8 (pH meter); Abrupt, Wavy change to -

B22t 0.6 - 0.8 m Red (2.5YR4/6-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Moist; Firm consistence; Soil matrix is Slightly calcareous; Clear, Wavy change to -

B23t 0.8 - 1.25 m Red (2.5YR4/6-Moist); ; Medium clay; Moderate grade of structure, 20-50 mm, Polyhedral; Rough-ped fabric; Moist; Firm consistence; Soil matrix is Slightly calcareous; Field pH 8.8 (pH meter);

1.25 - m ; Medium clay;

## Morphological Notes

A12 Breaks to a fine strong granular structure.
B21 Breaks down to a 2-5cm strong angular blocky. Prominent cracking and occasional pockets of lime accumulation.
B22t Clay skins on ped faces.
B23t Clay skins and slickensides.

## Observation Notes

## Site Notes

Fine roots penetrate to bottom of third layer and very fine roots penetrate into fifth horizon.

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## Laboratory Test Results:

| Depth | pH | 1:5 EC | Exchangeable Cations Ca | Mg | K | Na | Exchangeable Acidity | CEC | ECEC | ESP |
|---|---|---|---|---|---|---|---|---|---|---|
| m | | dS/m | | | | Cmol (+)/kg | | | | % |
| 0 - 0.18 | 7.9B<br>8.6H | 19B | 17.01E | 7.14 | 2.58 | 0.9 | | 29B | 27.63D | 3.10 |
| 0.18 - 0.6 | 8.8B<br>9.7H | 78B | 5.44E | 13.13 | 1.36 | 9.81 | | 30B | 29.74D | 32.70 |
| 0.6 - 0.8 | 8.8B<br>9.4H | 200B | 4.37E | 13.42 | 1.34 | 15.74 | | 35B | 34.87D | 44.97 |
| 0.8 - 1.25 | 8.8B<br>9.3H | 240B | 4.74E | 13.58 | 1.23 | 16.87 | | 37B | 36.42D | 45.59 |

| Depth | CaCO3 | Organic C | Avail. P | Total P | Total N | Total K | Bulk Density | Particle Size Analysis GV | CS | FS | Silt |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Clay | | | | | | | | | |
| m | % | % | mg/kg | % | % | % | Mg/m3 | | | % | |
| 0 - 0.18<br>37.5 | 9C | 1D | | 160B | 0.108E | | | | 42.5I | | 20 |
| 0.18 - 0.6<br>52 | 13C | 0.53D | | 120B | 0.051E | | | | 34I | | 14 |
| 0.6 - 0.8<br>70 | 11C | 0.19D | | 100B | 0.02E | | | | 27I | | 3 |
| 0.8 - 1.25<br>71.5 | 10C | 0.16D | | 95B | 0.017E | | | | 25.5I | | 3 |

## Laboratory Analyses Completed for this profile

| | |
|---|---|
| 15_NR_BSa | Exchangeable bases (Ca++) - meq per 100g of soil - Auto calculated from available |
| 15_NR_CMR | Exchangeable bases (Ca/Mg ratio) - Not recorded |
| 15C1_CA | Exchangeable bases (Ca2+,Mg2+,Na+,K+) - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts |
| 15C1_CEC | CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts |
| 15C1_K | Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts |
| 15C1_MG | Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts |
| 15C1_NA | Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts |
| 15J_BASES | Sum of Bases |
| 15L1_a | Exchangeable bases Base saturation percentage (BSP) - Auto calculated from available using Sum of Cations and measured clay |
| 15N1_a | Exchangeable sodium percentage (ESP) - Auto calculated from available using CEC |
| 15N1_b | Exchangeable sodium percentage (ESP) - Auto calculated from available using Sum of Cations |
| 19B_NR | Calcium Carbonate (CaCO3) - Not recorded |
| 3_NR | Electrical conductivity or soluble salts - Not recorded |
| 4_NR | pH of soil - Not recorded |
| 4B1 | pH of 1:5 soil/0.01M calcium chloride extract - direct |
| 6A1_UC | Organic carbon (%) - Uncorrected Walkley and Black method |
| 7A1 | Total nitrogen - semimicro Kjeldahl, steam distillation |
| 9A3 | Total Phosphorus (ppm) - semimicro kjeldahl, automated colour |
| P10_NR_C | Clay (%) - Not recorded |
| P10_NR_S | Sand (%) - Not recorded |
| P10_NR_Z | Silt (%) - Not recorded |

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