

**Project Name:** Three Springs Latham land resources survey  
**Project Code:** TSL **Site ID:** 0698 **Observation ID:** 1  
**Agency Name:** Agriculture Western Australia

#### Site Information

<b>Desc. By:</b>	Christopher Grose	<b>Locality:</b>	
<b>Date Desc.:</b>	22/03/93	<b>Elevation:</b>	No Data
<b>Map Ref.:</b>		<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6731826 AMG zone: 50	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	374784 Datum: AGD84	<b>Drainage:</b>	Well drained

#### Geology

<b>ExposureType:</b>	Soil pit	<b>Conf. Sub. is Parent. Mat.:</b>	No Data
<b>Geol. Ref.:</b>	No Data	<b>Substrate Material:</b>	No Data

#### Landform

<b>Rel/Slope Class:</b>	Undulating plains <9m 3-10%	<b>Pattern Type:</b>	Plain
<b>Morph. Type:</b>	Mid-slope	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	Plain	<b>Slope Category:</b>	No Data
<b>Slope:</b>	%	<b>Aspect:</b>	No Data

#### Surface Soil Condition Firm

**Erosion** (wind); (scald) (sheet) (wave) (rill) (mass)  
(gully) (stbank) (tunnel)

#### Soil Classification

<b>Australian Soil Classification:</b>		<b>Mapping Unit:</b>	N/A
Haplic Calcic Red Chromosol		<b>Principal Profile Form:</b>	Dr4.13
<b>ASC Confidence:</b>		<b>Great Soil Group:</b>	N/A
Confidence level not specified			

**Site Disturbance** Cultivation. Rainfed

#### Vegetation

#### Surface Coarse Fragments

#### Profile Morphology

Ap	0 - 0.15 m	Dark reddish brown (5YR3/4-Moist); ; Clay loam, sandy; Moderate grade of structure, 5-10 mm, Subangular blocky; Rough-ped fabric; Weak consistence; Field pH 6.4 (pH meter); Clear change to -
B1	0.15 - 0.6 m	Dark red (2.5YR3/6-Moist); ; Light clay; Strong grade of structure, 10-20 mm, Angular blocky; Rough- ped fabric; Weak consistence; Soil matrix is Slightly calcareous; Field pH 7.5 (pH meter); Gradual change to -
B2	0.6 - 0.98 m	Red (2.5YR4/6-Moist); ; Light clay; Strong grade of structure, 20-50 mm, Angular blocky; fabric; Weak consistence; Soil matrix is Slightly calcareous; Field pH 7.5 (pH meter); Gradual, Wavy change to -
B22t	0.98 - 1.6 m	Red (2.5YR4/6-Moist); ; Light medium clay; Rough-ped fabric; Weak consistence; Soil matrix is Moderately calcareous; Field pH 9 (pH meter); 1.6 - m ; Light medium clay;

#### Morphological Notes

Ap	Structure in layer 1 - very coarse platy breaking to medium subangular blocky.
B1	Ferromongonese concretions evident in layers 2, 3 & 4. Roots penetrating to at least 100 cm.
B2 & 4.	Structure in layer 3 breaking from size 5 to 2. Clay cutons evident on ped faces in layers 3
B22t	Some carbonate accumulations in layer 4.

#### Observation Notes

#### Site Notes

[doubtful duplex]

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**Laboratory Test Results:**

Depth	pH	1:5 EC	Ca	Exchangeable Mg	Cations K	Na	Exchangeable Acidity	CEC	ECEC	ESP
m		dS/m				Cmol (+)/kg				%
0 - 0.1	5.4B 6.3H	5B	6.4H	2.1	1	0.21	<0.02J		9.71D	
0.2 - 0.5	6.4B 7.4H	8B	10A	3.7	0.74	1			15.44D	
0.65 - 0.95	6.4B 7.5H	9B	11A	3.8	0.58	1.5			16.88D	
1 - 1.3	7.7B 8.5H	17B	10E	3	0.48	1.7		19B	15.18D	8.95

Depth	CaCO3	Organic C Clay	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis
m	%	%	mg/kg	%	%	%	Mg/m3	GV CS FS Silt
0 - 0.1		1.1D		280B	0.07E			56I 20.5
0.2 - 0.5		0.46D		210B	0.054E			33I 16.5
0.65 - 0.95		0.17D		160B	0.031E			31I 18
1 - 1.3	2C	0.09D		140B	0.021E			35.5I 19

**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
15A1_CA for soluble	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment salts
15A1_CEC	Exchangeable bases (CEC) - 1M ammonium chloride at pH 7.0, no pretreatment for soluble salts
15A1_K for soluble	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment salts
15A1_MG for soluble	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment salts
15A1_NA for soluble	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment salts
15C1_CA pretreatment for	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - alcoholic 1M ammonium chloride at pH 8.5, soluble salts
15C1_CEC	CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
15C1_K soluble salts	Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for
15C1_MG soluble salts	Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for
15C1_NA soluble salts	Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for
15E1_AL	Exchangeable Al - by compulsive exchange, no pretreatment for soluble salts
15E1_CA salts	Exchangeable bases (Ca2+,Mg2+,Na+,K+) by compulsive exchange, no pretreatment for soluble
15E1_K	Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts
15E1_MG	Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts
15E1_MN	Exchangeable bases (Mn2+) by compulsive exchange, no pretreatment for soluble salts
15E1_NA	Exchangeable bases, CEC and AEC by compulsive exchange, no 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

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4B_AL_NR	Aluminium in 1:5 soil/0.01M calcium chloride extract - method 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