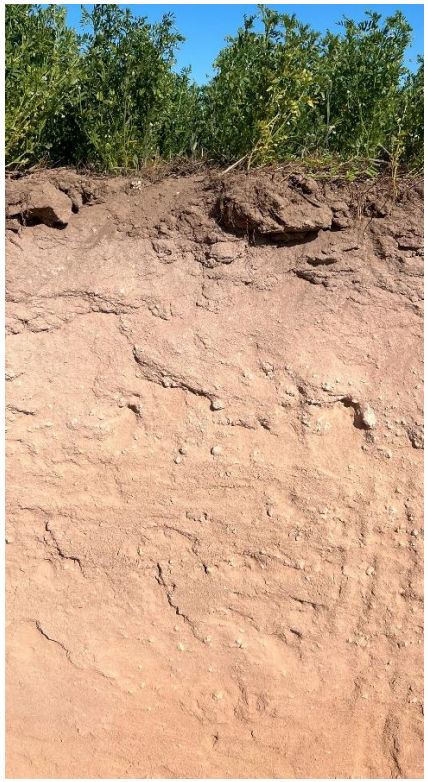
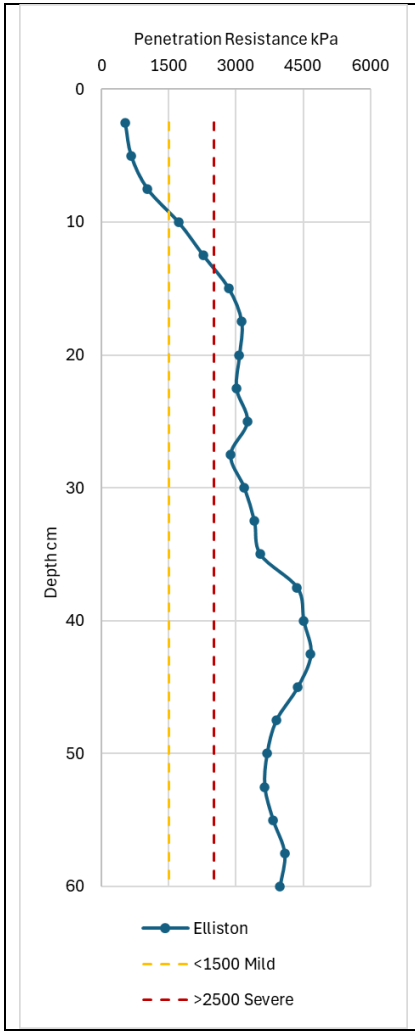
Summary data – ELLISTON Pit



Depth cm	pHw	Avg PR	MinN mg/kg	MinN kg/ha	ColP mg/kg	PBI	DGT P (ug/L)	Col K mg/kg	S mg/kg	B mg/kg	Clay %	OC %	CEC cmol+/kg	$CaCO_3$ %	$EC_{1:5}$
0-10	8.3	-	-	-	94	223	-	220	5	1.6	-	1.7	26	80	0.13
0-15	8.21	1507	9.4	15.5	76	199	11	300	8.6	1.9	11.7	1.77	25.4	78	0.19
15-30	8.31	3085	16.4	27.1	6.1	296	7	170	11	1.4	17.8	0.96	22.4	82	0.18
30-50	8.45	4055	18.2	42.6	<5.0	269	6	150	14	1.2	17.1	0.65	22.5	85	0.18
50-90	8.8	3880	18.6	96.7	<5.0	428	5	150	19	1.1	21	0.47	22.6	85	0.18
90-120	9.13	-	6	22.1	<5.0	368	10	230	16	1.5	18.9	0.41	22.7	86	0.17

- Repellence – patches of mild repellence but not considered to be a limitation to plant germination and growth.
- pH extremes – this ‘soil’ is moderately to severely alkaline throughout.
- Soil strength – severe below 15 cm.
- OC – high, but could indicate slow microbial activity due to high pH
- Nutrients – High phosphorus, but when combined with very high PBI and carbonate content >80%, the P has very low availability, as confirmed with the DGT test (P=11 ug/L). Sufficient potassium, luxury Zn (1.4). Deficient in iron.

- Nutrients – 204 kg mineral nitrogen present through the profile, sufficient to meet the needs of 5 t/ha wheat crop, however 119kg of this was detected below 50cm, where few crop roots were found.
- Nutrients – Marginal S
- Nutrients – Deficient Cu (0.15)
- Subsoil hostilities – severely alkaline below 60 cm, combined with mildly cemented carbonate gravel, creating both chemical and physical barriers to root exploration.

<table>
<tr>
<td> 
</td>
<td></td>
<td>  </td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Take home message for the video
Surface – not repellent (<5 seconds)
1cm – mildly repellent (>5 seconds)
2cm – mildly repellent (>5 seconds)
>3cm – not repellent, should have uniform wetting and germination with rainfall.</td>
<td>Not repellent via MED (0-15cm)</td>
</tr>
</table>