

Table 3.4-5. Soil Salinity and Sodium Hazard Calculations at Goslin Flats LAD

Date	Location	Depth (inches)	pH (s.u.)	EC mmhos/cm	SAR (%)	Calculated ESP (%)	Soil Condition (see key)
03/10/99	LS1A	4-12	6.02	1.653	11.1	13.13	4
03/10/99	LS1A	13-24	6.04	1.678	2.9	2.93	4
12/14/99	LS1A	0-6	6.3	11	19.8	21.84	2
12/14/99	LS1A	6-24	6.9	9.29	20.7	22.64	2
03/23/00	LS1A	0-6	6	7.67	17	19.23	2
03/23/00	LS1A	6-18	6.7	7.13	15.2	17.46	2
03/10/99	LS2A	5-12	6.07	2.77	16.11	18.37	3
03/10/99	LS2A	13-24	6.56	3.08	17.93	20.12	3
03/23/00	LS2A	0-6	6.7	7.01	16.1	18.36	2
03/23/00	LS2A	6-24	7.5	8.15	19.5	21.57	2
03/10/99	LS3A	5-12	5.97	1.544	3.36	3.56	4
03/10/99	LS3A	13-24	6.37	1.255	1.15	0.43	4
12/14/99	LS3A	0-6	6.1	2.95	5.08	5.87	4
12/14/99	LS3A	6-24	7.1	2.54	1.68	1.20	4
03/23/00	LS3A	0-6	6.5	6.82	16	18.26	2
03/23/00	LS3A	6-24	7.5	7.02	15.1	17.36	2
03/23/00	E2	0-6	6.1	6.57	16.1	18.36	2
03/23/00	E2	6-24	7.7	7.33	17.9	20.09	2

Notes: EC = Electrical Conductivity
 SAR = Sodium Adsorption Ratio
 Calc. ESP = Calculated Exchangeable Sodium Percentage
 Location E2 is near monitoring well ZL-211.

Key to Soil Salinity and Sodicity Levels:

<u>Soil Condition</u>	<u>Soil Classification</u>	<u>Plant and Soil Response</u>
1. EC>4 ESP<15	Saline-Nonsodic	Osmotic stress; well aggregated
2. EC>4 ESP>15	Saline-Sodic	Osmotic stress; potential dispersion
3. EC<4 ESP>15	Nonsaline-Sodic	No osmotic stress; dispersed
4. EC<4 ESP<15	Nonsaline-Nonsodic	No osmotic stress; well aggregated

Source: American Petroleum Institute, 1997; Remediation of Salt-Affected Soils at Oil & Gas Production Facilities