



**APPENDIX D PHYSICAL AND CHEMICAL LABORATORY RESULTS**

Map Unit	Site Number	Laboratory Number	Horizon	Horizon Depth mm	Air Dry Water Content %	Particle Size Distribution							Emerson Class	Atterberg Limits				1:5 Soil Water Suspension				Oxidizable Org. Carbon %	Total Nitrogen %	Available K ug/g	Available P ug/g	Exchangeable Al+++ ug/g	Exchangeable Mn++ ug/g	Exchangeable Bases				Total Exchangeable Bases	Exchangeable H+ meq/100g	Cation Exchange Capacity
						Gravel 4.75 - 2mm %	Coarse sand %	Fine Sand %	Silt %	Clay %	Total Fine Earth %	Fines <0.074 mm %		Liquid Limit %	Plastic Limit %	Plasticity Index %	Linear Shrinkage %	pH	pH CaCl2	EC ds/m	Cl %							Ca ++ meq/100g	Mg ++ meq/100g	Na+ meq/100g	K+ meq/100g			
Q2f	B9	930364	A1	110	2.54	57	5	54	23	12	94	E3(2)				4.8	3.8	0.04	<0.05	5.60	0.34	105	2.8	181	<5.0	2.0	1.0	0.1	0.3	3.4	21.3	24.7		
Q2f	B9	930365	A2	595	1.86	39	2	51	22	28	103	E3(3)				5.7	4.5	0.05	<0.05	0.83	<0.05	114	<1.0	78	<5.0	0.1	1.4	0.2	0.3	2.0	6.7	8.7		
Q2f	B9	930366	B	1500	6.07	27	8	22	15	55	100	E6				5.0	4.2	0.20	<0.05	0.54	<0.05	54	<1.0	403	<5.0	<0.1	3.9	1.3	0.2	5.4	12.3	17.7		
Q3c	B16	930397	A11	70	2.94	63	7	51	24	14	95	E5C				5.1	4.2	0.05	<0.05	4.40	0.39	239	3.6	35	31.0	3.6	1.1	0.1	0.6	5.4	16.1	21.5		
Q3c	B16	930398	A12	400	1.70	69	9	53	22	13	97	E5B				5.7	4.7	0.04	<0.05	1.60	0.13	215	2.4	10	<5.0	3.2	0.9	0.1	0.5	4.7	8.1	12.8		
Q3c	B16	930399	A3	590	2.92	79	19	45	18	16	98	E3(2)				5.9	5.0	0.09	<0.05	1.10	0.09	264	<1.0	11	<5.0	2.7	0.7	0.2	0.6	4.2	8.6	12.8		
Q3c	B16	930400	B21	1100	1.84	81	40	37	18	7	102	E3(2)				6.0	5.1	0.07	<0.05	0.76	0.06	150	1.4	<5	<5.0	1.9	1.3	0.2	0.4	3.8	5.5	9.3		
Q3c	B16	930401	B22	1490	0.94	82	11	56	30	6	103	E1(3)				5.7	4.6	0.05	<0.05	0.73	<0.05	94	<1.0	19	<5.0	0.9	1.4	0.2	0.2	2.7	4.3	7.0		
Qbf	B4	930339	A	180	12.99	5	5	23	35	40	102	E5A				5.7	4.7	0.04	<0.05	3.00	0.28	56	3.6	<5	12.1	12.3	5.2	0.3	0.2	18.0	18.0	36.0		
Qbf	B4	930340	B	480	12.52	28	4	14	21	63	103	E5A				6.4	5.5	0.06	<0.05	1.70	<0.05	69	2.6	<5	6.0	17.1	9.4	0.3	0.2	27.0	15.2	42.2		
Qbf	B4	930341	BC	720	15.23	33	18	42	28	17	105	E5B				7.0	6.5	0.05	<0.05	0.78	<0.05	25	2.1	<5	<5.0	17.9	10.4	0.3	0.1	28.7	9.9	38.6		
Qbg	B2	930330	A11	70	9.94	21	2	19	21	48	90	E3(1)				5.9	4.9	0.07	<0.05	5.90	0.45	142	10.2	<5	27.0	22.8	12.6	0.2	0.3	35.9	20.1	56.0		
Qbg	B2	930331	A12	155	10.80	16	3	24	26	49	102	E3(1)				5.8	4.8	0.06	<0.05	3.70	0.29	81	6.7	<5	17.1	23.1	12.9	0.2	0.2	36.4	21.7	58.1		
Qbg	B2	930332	B21	430	6.84	27	4	14	15	62	95	E5A				6.2	5.2	0.10	<0.05	1.40	0.12	72	3.1	<5	6.1	24.6	19.0	0.4	0.2	44.2	14.9	59.1		
Qbg	B2	930333	B22	670	11.01	30	5	21	23	49	98	E5A				6.6	5.7	0.11	<0.05	1.80	0.13	80	4.0	<5	<5.0	21.0	18.4	0.4	0.2	40.0	12.7	52.7		
Qbg	B2	930334	B23	720	9.95	41	15	22	12	49	98	E5A				7.4	6.5	0.09	<0.05	0.74	<0.05	84	<1.0	<5	<5.0	22.6	22.7	0.3	0.2	45.8	7.2	53.0		
Qbh	B1	930324	A11	235	14.70	<1	5	31	31	33	99	E3(4)				5.9	4.6	0.08	<0.05	4.20	0.31	88	2.8	<5	22.8	9.1	4.2	1.0	0.2	14.5	22.0	36.5		
Qbh	B1	930325	A12	490	3.82	<1	8	35	28	28	99	E3(4)				6.7	5.2	0.04	<0.05	1.13	0.09	53	1.7	<5	11.3	4.4	3.2	0.9	0.1	8.6	9.4	18.0		
Qbh	B1	930326	B21	720	8.13	<1	1	13	22	66	102	E2(3)				8.5	7.4	0.27	<0.05	0.73	0.09	60	<1.0	<5	<5.0	6.2	11.6	7.6	0.2	25.6	3.7	29.3		
Qbh	B1	930327	B22	1095	4.54	5	3	32	27	38	99	E2(2)				7.6	6.0	0.08	<0.05	0.85	0.08	67	<1.0	<5	<5.0	3.6	5.0	2.3	0.2	11.1	6.9	18.0		
Qbh	B1	930328	B23	1375	4.91	2	2	20	31	48	101	E1				8.8	7.6	0.23	<0.05	0.53	0.07	58	<1.0	<5	<5.0	5.0	9.5	6.5	0.2	21.2	1.8	23.0		
Qbh	B1	930329	B3	1460	4.23	2	2	21	30	37	100	E1				9.1	7.8	0.17	<0.05	0.44	0.05	52	4.0	<5	<5.0	4.0	8.2	5.8	0.2	18.2	1.5	19.7		
Dga	B17	930492	A1	100	1.95	14	44	27	15	9	95	E3(1)				5.6	4.5	0.05	<0.05	3.10	0.15	300	<1.0	11	<5.0	3.7	0.7	0.2	0.5	5.1	11.7	16.8		
Dga	B17	930493	A21	270	1.31	14	52	24	14	7	98	E3(2)				5.8	4.7	0.04	<0.05	1.00	<0.05	221	1.4	24	<5.0	2.7	0.4	0.1	0.4	3.6	5.7	9.3		
Dga	B17	930494	A22	580	1.00	10	16	52	19	12	99	E5B				5.5	4.5	0.07	<0.05	1.40	0.07	270	<1.0	17	<5.0	3.6	0.6	0.2	0.5	4.9	8.0	12.9		

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						Gravel 4.75 - 2mm %	Coarse sand %	Fine Sand %	Silt %	Clay %	Total Fine Earth %	Fines <0.074 mm %		Liquid Limit %	Plastic Limit %	Plasticity Index %	Linear Shrinkage %	pH	pH CaCl2	EC ds/m	Cl %		Oxidizable Org. Carbon %	Total Nitrogen %	Available K ug/g	Available P ug/g				Exchangeable Al+++ ug/g	Ca ++ meq/100g	Mg++ meq/100g	Na+ meq/100g	K+ meq/100g
Dgc	B18	930495	A1	150	4.28	2	38	26	15	16	95	E3(2)						5.7	4.4	0.04	<0.05	3.40	0.24	67	2.2	11	23.0	4.6	2.3	0.3	0.1	7.3	13.4	20.7
Dgc	B18	930496	A21	250	0.41	1	46	37	10	6	99	E3(2)						6.1	4.7	0.03	<0.05	0.42	<0.05	41	<1.0	<5	<5.0	1.3	0.7	0.2	<0.1	2.2	2.2	4.4
Dgc	B18	930497	A22	405	0.23	2	47	38	11	5	101	E2(1)						6.1	4.9	0.05	<0.05	0.22	<0.05	36	<1.0	<5	<5.0	0.7	0.4	0.2	<0.1	1.3	1.2	2.5
Dgc	B18	930498	B2	1180	2.44	2	36	24	11	30	101	E2(2)	36	23	12	9		7.0	5.5	0.06	<0.05	0.29	<0.05	48	<1.0	<5	<5.0	2.9	3.3	1.0	0.1	7.3	5.0	12.3
Dgc	B18	930499	B3	1400	2.39	7	38	29	20	13	100	E3(3)						8.1	6.6	0.09	<0.05	0.18	<0.05	44	<1.0	<5	<5.0	3.8	4.4	1.9	0.1	10.2	2.0	12.2
Dsa	B15	930394	A11	160	4.60	58	6	41	23	25	94	E5C						5.2	4.3	0.06	<0.05	5.90	0.37	300	3.1	96	43.0	5.6	1.9	0.1	0.6	8.2	28.9	37.1
Dsa	B15	930395	A12	300	3.37	59	10	47	25	18	100	E5B						5.4	4.4	0.04	<0.05	1.30	0.09	158	1.6	131	6.5	2.9	1.3	0.1	0.3	4.6	10.9	15.5
Dsa	B15	930396	A22	570	1.97	55	8	48	24	19	99	E5A	28	22	5	3																		
Dse	B14	930390	A1	60	3.01	30	3	35	36	20	95	E3(2)						5.0	3.9	0.06	<0.05	3.70	0.22	209	2.9	195	16.7	1.4	1.0	0.2	0.5	3.1	20.1	23.2
Dse	B14	930391	A21	380	2.60	32	4	30	35	32	100	E3(3)						5.1	4.0	0.05	<0.05	0.80	0.07	123	<1.0	312	<5.0	0.1	0.7	0.2	0.3	1.3	12.3	13.6
Dse	B14	930392	A22	640	3.68	38	1	27	37	36	101	E3(4)	32	23	9	6		5.8	4.8	0.14	<0.05	0.55	0.07	127	<1.0	284	<5.0	0.1	1.2	0.2	0.3	1.8	10.6	12.4
Dse	B14	930393	B	1000	4.39	15	3	16	38	41	98	E2(2)	34	22	13	9		5.2	4.1	0.05	<0.05	0.40	0.07	94	<1.0	21	<5.0	<0.1	6.3	0.9	0.2	7.4	6.2	13.6
Dsf	B13	930385	A1	65	5.79	5	10	44	19	23	96	E3(1)						5.4	4.5	0.14	<0.05	10.4	0.60	357	4.6	13	140.0	8.7	5.3	0.4	0.8	15.2	28.1	43.3
Dsf	B13	930386	A21	170	2.12	28	7	42	31	19	99	E3(2)						5.1	4.0	0.06	<0.05	1.70	0.11	176	1.7	163	31.0	0.3	0.9	0.2	0.4	1.8	12.0	13.8
Dsf	B13	930387	A22	370	1.25	34	9	37	29	24	98	E3(3)						5.2	4.0	0.06	<0.05	0.73	0.05	139	<1.0	134	<5.0	0.1	0.8	0.2	0.3	1.4	7.6	9.0
Dsf	B13	930388	B2	950	10.59	3	1	12	17	67	97	E3(1)	63	24	39	10		5.6	4.5	0.06	<0.05	0.44	0.09	243	<1.0	227	<5.0	0.1	6.5	0.4	0.7	7.7	11.7	19.4
Dsf	B13	930389	B3	1100	6.87	16	2	24	27	47	100	E5D						6.2	4.9	0.07	<0.05	0.22	0.09	149	<1.0	<5	<5.0	<0.1	7.0	1.0	0.4	8.4	6.3	14.7
Dsh	B12	930378	A1	35	3.12	2	3	61	28	9	101	E3(1)						5.4	4.2	0.04	<0.05	3.09	0.19	157	2.2	27	24.0	2.2	1.1	0.1	0.4	3.8	10.0	13.8
Dsh	B12	930379	A21	185	1.56	7	3	62	24	9	98	E3(2)						4.8	3.9	0.08	<0.05	1.70	0.10	90	1.2	82	6.3	0.7	0.6	0.1	0.2	1.6	7.3	8.9
Dsh	B12	930380	A22	385	1.43	11	4	56	26	15	101	E3(3)						5.3	4.1	0.03	<0.05	0.63	<0.05	58	<1.0	121	<5.0	<0.1	1.3	0.2	0.1	1.6	4.9	6.5
Dsh	B12	930381	B21	590	4.54	6	2	37	19	42	99	E3(4)	35	19	16	10		5.7	4.2	0.07	<0.05	0.62	<0.05	71	<1.0	275	<5.0	0.9	6.2	1.5	0.2	8.8	11.1	19.9
Dsh	B12	930382	B22	930	4.05	14	5	36	22	36	99	E2(3)						7.1	5.9	0.27	<0.05	0.81	<0.05	59	<1.0	<5	<5.0	1.8	10.9	3.8	0.2	16.7	4.8	21.5
Dsh	B12	930383	B23	1670	4.76	3	4	40	23	33	99	E1						7.1	6.5	0.86	0.21	0.45	<0.05	55	2.2	<5	<5.0	1.9	10.8	8.8	0.2	21.7	3.8	25.5
Dsh	B12	930384	B3	1860	8.48	2	3	55	21	25	104	E2(2)						7.9	7.1	0.85	0.19	0.29	<0.05	48	2.2	<5	<5.0	1.9	9.3	6.8	0.1	18.1	2.5	20.6