



SOIL AND WATER CONSULTING

Data Collection Report



ASHWOOD
GOLF COURSE


Birch Hills
GOLF COURSE



CAMARILLO SPRINGS
Golf Course

Revere
GOLF CLUB

SAN RAMON
GOLF CLUB

TPUOA
Tri Palm Unified Owners Association

Yucaipa Valley
GOLF CLUB

2022



ASHWOOD

GOLF COURSE

	<u>9/28/21</u>	<u>9/23/22</u>
Humidity/Air Temperature	35%/75°	20%/91°
Greens Temperature	(avg)67.5°	(avg)58.9°
Fairways Temperature	(avg)68.45°	(avg)60.7°

WATER	Acceptable Range For Water Sample	Irrigation Water	Irrigation Water
pH	6.0-6.5	<u>9/28/21</u>	<u>9/23/22</u>
EC	<2.25 mmhos/cm	7.93	8.48
Sodium		22.86	17.07
Calcium	20 - 60 ppm	33.75	23.77
Magnesium	10 - 25 ppm	6.45	6.54
Potassium	5 - 20 ppm	5.14	2.30
Sulfur	30 - 90 ppm	34.05	19.88
Bicarbonate	<120 ppm	168.46	45.90
Boron	<0.67 ppm	<0.05	<0.05
Chloride	<177 ppm	13.45	19.57

TEES	Acceptable Range For Alkaline Soils Sample	1,1,9(avg)	2,2,2(avg)
		<u>9/28/21</u>	<u>9/23/22</u>
Organic Matter (Humus)	2 - 3%	3.38	4.18
Sulfur	12 - 16 ppm	42.00	12.67
Olsen - Phosphorus	13 - 20 ppm	5.00	7.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,426.67	2,691.33
	>7% base saturation or at least 200 lbs/acre		
Magnesium		11.51%/292.66	13.65%/279.33
Potassium - TEC of 0 - 35	100 ppm	74.67	69.33
Manganese	>50 ppm	31.00	19.67

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	1,1,9(avg)	2,2,2(avg)
		<u>9/28/21</u>	<u>9/23/22</u>
Organic Matter (Humus)	2 - 3%	3.24	3.26
Sulfur	12 - 16 ppm	28.00	16.00
Olsen - Phosphorus	13 - 20 ppm	4.00	7.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,147.33	2,594.67
	>7% base saturation or at least 200 lbs/acre		
Magnesium		11.32%/262	14.35%/286
Potassium - TEC of 0 - 35	100 ppm	83.00	66.67
Manganese	>50 ppm	27.67	21.33

GREENS	Acceptable Range For Alkaline Soils Sample	1,1,9(avg)	PG,2,2,2(avg)
		<u>9/28/21</u>	<u>9/23/22</u>
Organic Matter (Humus)	2 - 3%	1.42	1.80
Sulfur	12 - 16 ppm	28.75	15.25
Olsen - Phosphorus	13 - 20 ppm	3.75	4.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	1,855.50	1,572.00
	>7% base saturation or at least 200 lbs/acre		
Magnesium		8.22%/107.5	11.96%/142.5
Potassium - TEC of 0 - 35	150 ppm	34.50	45.75
Manganese	>50 ppm	35.25	28.75

TEE	Acceptable Range For Saturated Paste Sample	B9	B2
		<u>9/28/21</u>	<u>9/23/22</u>
Nitrate	10-15 ppm	<0.5	<0.5
Phosphorus	2 - 10 ppm	3.17	3.70
Potassium	40 - 100 ppm	18.12	21.76
Calcium	60 - 200 ppm	47.92	47.52
Magnesium	20 - 70 ppm	10.72	12.62
Sodium	0 - 30 ppm	27.42	28.27
Soluble Salts	<1,920 ppm	303.00	312.00
Bicarbonate	<60 ppm	131.61	147.71
Chloride	<1,000 ppm	42.00	31.00
SAR	<4%	0.93	0.94

FAIRWAY	Acceptable Range For Saturated Paste Sample	B9	B2
		<u>9/28/21</u>	<u>9/23/22</u>
Nitrate	10-15 ppm	<0.5	<0.5
Phosphorus	2 - 10 ppm	3.56	6.21
Potassium	40 - 100 ppm	22.01	28.77
Calcium	60 - 200 ppm	41.01	45.61
Magnesium	20 - 70 ppm	9.33	12.21
Sodium	0 - 30 ppm	21.62	29.03
Soluble Salts	<1,920 ppm	269.00	319.00
Bicarbonate	<60 ppm	128.74	137.74
Chloride	<1,000 ppm	33.00	40.00
SAR	<4%	0.79	0.99

GREENS	Acceptable Range For Saturated Paste Sample	B1,B9(avg)	PG,B2(avg)
		<u>9/28/21</u>	<u>9/28/21</u>
Nitrate - Bentgrass/Poa	1-3 ppm	0.65	<0.5
Phosphorus	2 - 7 ppm	0.71	1.02
Potassium	25-40 ppm	10.52	16.72
Calcium	50- 75 ppm	40.90	49.06
Magnesium	15-30 ppm	7.88	8.72
Sodium	0 - 30 ppm	18.67	22.76
Soluble Salts	<1,000 ppm	241.00	275.50
Bicarbonate	<60 ppm	125.40	111.03
Chloride	<200 ppm	25.50	30.00
SAR	<4%	0.70	0.79



	<u>7/16/20</u>	<u>6/17/21</u>	<u>6/13/22</u>
Humidity/Air Temperature	55%/82°	30%/100°	80%/65°
Greens Temperature	(avg)69.85°	(avg)81.9°	(avg)70.75°
Fairways Temperature	(avg)74.23°	(avg)79.8°	(avg)74.1°

WATER	Acceptable Range For Water Sample	Irrigation Water	Irrigation Water	Irrigation Water
		<u>7/16/20</u>	<u>6/17/21</u>	<u>6/13/22</u>
pH	6.0-6.5	7.58	7.80	7.62
EC	<2.25 mmhos/cm	0.56	0.70	0.51
Sodium		26.66	42.86	16.36
Calcium	20 - 60 ppm	62.42	61.10	64.44
Magnesium	10 - 25 ppm	13.24	15.91	12.02
Potassium	5 - 20 ppm	9.22	3.94	2.80
Sulfur	30 - 90 ppm	70.50	102.09	45.81
Bicarbonate	<120 ppm	212.72	196.75	182.86
Boron	<0.67 ppm	0.08	0.09	0.06
Chloride	<177 ppm	27.06	36.08	18.72

TEES	Acceptable Range For Alkaline Soils Sample	3,14,16(avg)	6,13,15(avg)	7,11,12(avg)
		<u>7/16/20</u>	<u>6/17/21</u>	<u>6/13/22</u>
Organic Matter (Humus)	2 - 3%	2.08	2.35	2.35
Sulfur	12 - 16 ppm	63.67	52.33	67.67
Olsen - Phosphorus	13 - 20 ppm	20.67	15.67	14.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,309.33	2,749.33	3,206.67
	>7% base saturation or at least 200 lbs/acre			
Magnesium		14.36%/271.33	13.98%/304.6	12.91%/322.66
Potassium - TEC of 0 - 35	100 ppm	93.00	80.00	128.33
Manganese	>50 ppm	36.00	32.67	31.00

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	3,14,16(avg)	6,13,15(avg)	7,11,12(avg)
		<u>7/16/20</u>	<u>6/17/21</u>	<u>6/13/22</u>
Organic Matter (Humus)	2 - 3%	3.27	3.43	3.13
Sulfur	12 - 16 ppm	249.00	259.67	84.33
Olsen - Phosphorus	13 - 20 ppm	2.67	7.33	2.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	7,134.00	7,934.00	5,050.67
	>7% base saturation or at least 200 lbs/acre			
Magnesium		19.05%/1,136.66	15.61%/946	17.27%/889.33
Potassium - TEC of 0 - 35	100 ppm	145.33	145.00	128.33
Manganese	>50 ppm	47.00	41.00	50.00

GREENS	Acceptable Range For Alkaline Soils Sample	3,7,14,16(avg)	4,6,13,15(avg)	7,8,11,12(avg)
		<u>7/16/20</u>	<u>6/17/21</u>	<u>6/13/22</u>
Organic Matter (Humus)	2 - 3%	0.73	0.79	0.57
Sulfur	12 - 16 ppm	28.25	66.50	22.25
Olsen - Phosphorus	13 - 20 ppm	8.00	10.50	3.75
Calcium - TEC of 6 - 12	1,000 lbs/acre	1,216.00	1,434.50	1,061.50
	>7% base saturation or at least 200 lbs/acre			
Magnesium		11.22%/114.5	11.17%/133	11.75%/101
Potassium - TEC of 0 - 35	150 ppm	155.00	178.50	80.75
Manganese	>50 ppm	57.00	60.75	42.50

TEES	Acceptable Range For Saturated Paste Sample	3	6	7
		<u>7/16/20</u>	<u>6/17/21</u>	<u>6/13/22</u>
Nitrate	10-15 ppm	<0.5	4.70	<0.5
Phosphorus	2 - 10 ppm	4.46	1.66	3.38
Potassium	40 - 100 ppm	32.11	18.67	56.43
Calcium	60 - 200 ppm	70.73	77.67	154.14
Magnesium	20 - 70 ppm	17.43	17.64	35.45
Sodium	0 - 30 ppm	43.74	49.92	61.11
Soluble Salts	<1,920 ppm	403.00	436.00	749.00
Bicarbonate	<60 ppm	106.33	130.11	180.02
Chloride	<1,000 ppm	59.00	55.00	120.00
SAR	<4%	1.21	1.33	1.15

FAIRWAYS	Acceptable Range For Saturated Paste Sample	3	6	7
		<u>7/16/20</u>	<u>6/17/21</u>	<u>6/13/22</u>
Nitrate	10-15 ppm	<0.5	<0.5	<0.5
Phosphorus	2 - 10 ppm	0.17	0.25	0.07
Potassium	40 - 100 ppm	7.42	7.59	9.87
Calcium	60 - 200 ppm	194.17	196.06	158.92
Magnesium	20 - 70 ppm	53.49	36.26	40.38
Sodium	0 - 30 ppm	140.05	83.91	101.19
Soluble Salts	<1,920 ppm	950.00	803.00	799.00
Bicarbonate	<60 ppm	105.95	167.16	136.76
Chloride	<1,000 ppm	57.00	92.00	76.00
SAR	<4%	2.29	1.44	1.85

GREENS	Acceptable Range For Saturated Paste Sample	3,7(avg)	4,6(avg)	7,8(avg)
		<u>7/16/20</u>	<u>6/17/21</u>	<u>6/13/22</u>
Nitrate - Bentgrass/Poa	1-3 ppm	<0.5	<0.5	2.95
Phosphorus	2 - 7 ppm	1.20	1.26	0.65
Potassium	25-40 ppm	55.01	60.34	30.34
Calcium	50- 75 ppm	63.46	64.58	69.37
Magnesium	15-30 ppm	10.69	11.88	12.39
Sodium	0 - 30 ppm	41.05	41.11	43.08
Soluble Salts	<1,000 ppm	403.00	437.50	406.00
Bicarbonate	<60 ppm	118.47	100.77	74.64
Chloride	<200 ppm	55.00	38.00	39.50
SAR	<4%	1.25	1.24	1.25



CAMARILLO SPRINGS Golf Course

	7/17/20	6/18/21	6/14/22
Humidity/Air Temperature	50%/75°	40%/73°	50%/77°
Greens Temperature	(avg)70°	(avg)75.55°	(avg)74.73°
Fairway Temperature	(avg)70.5°	(avg)74.4°	(avg)75.46°

WATER	Acceptable Range For Water Sample	Irrigation Pond 7/17/20	Irrigation Pond 6/18/21	Irrigation Pond 6/14/22
pH	6.0-6.5	7.32	7.04	7.35
EC	<2.25 mmhos/cm	1.76	1.85	1.85
Sodium		142.20	134.40	148.50
Calcium	20 - 60 ppm	72.73	73.31	83.16
Magnesium	10 - 25 ppm	104.50	95.87	110.10
Potassium	5 - 20 ppm	7.78	2.45	2.80
Phosphorus	0.1 - 0.4 ppm	<0.20	n/t	0.45
Nitrate	5 - 50 ppm	2.76	n/t	2.7
Sulfur	30 - 90 ppm	271.50	249.93	285.24
Bicarbonate	<120 ppm	427.63	386.97	446.35
Boron	<0.67 ppm	0.31	0.33	0.34
Chloride	<177 ppm	220.93	209.02	246.97

TEES	Acceptable Range For Alkaline Soils Sample	5,13,15(avg) 7/17/20	7,9,18(avg) 6/18/21	3,14,16(avg) 6/14/22
Organic Matter (Humus)	2 - 3%	6.17	5.76	6.96
Sulfur	12 - 16 ppm	99.33	160.00	120.67
Olsen - Phosphorus	13 - 20 ppm	116.33	126.67	120.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,681.33	4,240.67	4,544.67
Magnesium	>7% base saturation or at least 200 lbs/acre	40.04%/1,830	37.25%/1,984.66	36.4%/2,051.33
Potassium - TEC of 0 - 35	100 ppm	267.00	388.67	261.00
Manganese	>50 ppm	25.67	22.67	21.33

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	5,13,15(avg) 7/17/20	7,9,18(avg) 6/18/21	3,14,16(avg) 6/14/22
Organic Matter (Humus)	2 - 3%	7.86	8.24	9.29
Sulfur	12 - 16 ppm	242.67	482.67	200.33
Olsen - Phosphorus	13 - 20 ppm	102.00	100.33	101.67
Calcium - TEC of 6 - 12	1,000 lbs/acre	6,257.33	6,209.33	7,445.33
Magnesium	>7% base saturation or at least 200 lbs/acre	40.44%/3,248	42.76%/3,716.6	40.68%/3,834.66
Potassium - TEC of 0 - 35	100 ppm	531.67	490.33	573.00
Manganese	>50 ppm	52.67	62.67	63.00

GREENS	Acceptable Range For Alkaline Soils Sample	5,9,13,15(avg) 7/17/20	3,7,9,18(avg) 6/18/21	3,8,14,16(avg) 6/14/22
Organic Matter (Humus)	2 - 3%	1.13	1.46	1.02
Sulfur	12 - 16 ppm	116.00	162.00	114.00
Olsen - Phosphorus	13 - 20 ppm	37.25	37.75	21.75
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,828.50	3,146.50	3,353.50
Magnesium	>7% base saturation or at least 200 lbs/acre	20.97%/632	22.34%/618	20.28%/577.5
Potassium - TEC of 0 - 35	150 ppm	38.75	66.75	49.00
Manganese	>50 ppm	131.50	90.75	102.00

TEES	Acceptable Range For Saturated Paste Sample	5 7/17/20	7 6/18/21	3 6/14/22
Nitrate	5 - 10 ppm	21.10	24.10	17.20
Phosphorus	2 - 10 ppm	6.33	11.29	7.43
Potassium	40 - 100 ppm	61.25	45.13	59.58
Calcium	60 - 200 ppm	125.98	146.58	184.43
Magnesium	20 - 70 ppm	125.87	133.23	143.00
Sodium	0 - 30 ppm	175.31	204.80	269.41
Soluble Salts	<1,920 ppm	1,322.00	1,408.00	1,786.00
Bicarbonate	<60 ppm	242.28	193.93	168.96
Chloride	<1,000 ppm	277.00	361.00	
SAR	<4%	2.64	2.95	3.62

FAIRWAYS	Acceptable Range For Saturated Paste Sample	5 7/17/20	7 6/18/21	3 6/14/22
Nitrate	5 - 10 ppm	<0.5	0.70	<0.5
Phosphorus	2 - 10 ppm	3.64	1.82	6.14
Potassium	40 - 100 ppm	33.43	54.39	40.03
Calcium	60 - 200 ppm	72.90	395.36	100.86
Magnesium	20 - 70 ppm	77.02	451.20	100.55
Sodium	0 - 30 ppm	117.77	589.70	165.10
Soluble Salts	<1,920 ppm	801.00	3,153.00	1,066.00
Bicarbonate	<60 ppm	212.45	323.61	272.24
Chloride	<1,000 ppm	190.00	791.00	226.00
SAR	<4%	2.29	4.81	2.78

GREENS	Acceptable Range For Saturated Paste Sample	5,9(avg) 7/17/20	3,7(avg) 6/18/21	3,8(avg) 6/14/22
rate - Bentgrass/Poa	1-3 ppm	<0.5	1.55	1.70
Phosphorus	2 - 7 ppm	1.68	2.35	1.99
Potassium	25-40 ppm	12.18	29.58	16.82
Calcium	50- 75 ppm	105.18	178.73	97.55
Magnesium	15-30 ppm	85.57	108.45	66.53
Sodium	0 - 30 ppm	114.61	172.01	161.58
Soluble Salts	<1,000 ppm	861.50	1,282.00	943.00
Bicarbonate	<60 ppm	176.47	163.30	117.24
Chloride	<200 ppm	148.50	233.50	212.50
SAR	<4%	2.01	2.52	3.08



	<u>10/15/20</u>	<u>9/21/21</u>	<u>9/13/22</u>
Humidity/Air Temperature	20%/89°	10%/91°	50%/85°
Greens Temperature	(avg)57°	(avg)62.3°	(avg)70.9°
Fairway Temperature	(avg)61°	(avg)65.25°	(avg)74.1°

WATER	Acceptable Range For Water Sample	Lexington Hole Pond <u>10/19/20</u>	Lexington Hole #17 <u>9/21/21</u>	Concord Course Hole #1 <u>9/13/22</u>
pH	6.0-6.5	6.17	7.74	7.04
EC	<2.25 mmhos/cm	1.90	1.26	1.81
Sodium		224.50	155.70	227.50
Calcium	20 - 60 ppm	82.35	70.23	87.30
Magnesium	10 - 25 ppm	25.52	24.19	28.59
Potassium	5 - 20 ppm	17.96	10.74	17.50
Sulfur	30 - 90 ppm	334.50	259.98	342.60
Bicarbonate	<120 ppm	68.97	144.70	83.46
Boron	<0.67 ppm	0.26	0.20	0.27
Chloride	<177 ppm	286.97	185.19	299.23

CONCORD TEES	Acceptable Range For Alkaline Soils Sample	6,8,17(avg) <u>10/15/20</u>	5,4,17(avg) <u>9/21/21</u>	3,6,13(avg) <u>9/13/22</u>
Organic Matter (Humus)	2 - 3%	2.41	1.99	3.20
Sulfur	12 - 16 ppm	54.00	41.00	101.00
Olsen - Phosphorus	13 - 20 ppm	12.67	20.33	15.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,625.33	2,893.33	4,126.00
	>7% base saturation or at least 200 lbs/acre			
Magnesium		12.99%/404.66	12.29%/466	13.35%/472.67
Potassium - TEC of 0 - 35	100 ppm	329.33	182.33	224.67
Manganese	>50 ppm	21.33	19.00	22.00

CONCORD FAIRWAYS	Acceptable Range For Alkaline Soils Sample	6,8,17(avg) <u>10/15/20</u>	<u>9/21/21</u>	3,6,13(avg) <u>9/13/22</u>
Organic Matter (Humus)	2 - 3%	4.59	n/r	5.64
Sulfur	12 - 16 ppm	1,588.33	n/r	4,420.00
Olsen - Phosphorus	13 - 20 ppm	20.33	n/r	19.67
Calcium - TEC of 6 - 12	1,000 lbs/acre	8,019.33	n/r	15,312.00
	>7% base saturation or at least 200 lbs/acre			
Magnesium		9.47%/594	n/r	5.13%/532
Potassium - TEC of 0 - 35	100 ppm	661.00	n/r	561.33
Manganese	>50 ppm	17.00	n/r	15.00

CONCORD GREENS	Acceptable Range For Alkaline Soils Sample	6,8,17(avg) <u>10/15/20</u>	PG,5,PG,4,5,17(avg) <u>9/21/21</u>	3,6,13(avg) <u>9/13/22</u>
Organic Matter (Humus)	2 - 3%	1.69	1.41	1.65
Sulfur	12 - 16 ppm	43.33	42.67	71.00
Olsen - Phosphorus	13 - 20 ppm	2.00	10.00	20.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,225.33	2,206.00	2,600.67
	>7% base saturation or at least 200 lbs/acre			
Magnesium		9.59%/214	9.83%/259	11.27%/274.66
Potassium - TEC of 0 - 35	150 ppm	656.00	513.17	486.00
Manganese	>50 ppm	41.33	48.83	58.33

TEES	Acceptable Range For Saturated Paste Sample	6,8(avg) <u>10/19/20</u>	4,17(avg) <u>9/21/21</u>	3 <u>9/13/22</u>
Nitrate - Ryegrass	5 - 10 ppm	2.35	4.40	2.80
Phosphorus	2 - 10 ppm	3.93	3.07	3.38
Potassium	40 - 100 ppm	20.83	28.49	19.20
Calcium	60 - 200 ppm	75.63	97.22	38.35
Magnesium	20 - 70 ppm	23.17	30.27	13.41
Sodium	0 - 30 ppm	179.99	228.67	127.64
Soluble Salts	<1,920 ppm	733.50	887.00	513.00
Bicarbonate	<60 ppm	134.45	174.20	128.97
Chloride	<1,000 ppm	162.50	144.00	88.00
SAR	<4%	4.65	5.11	4.52

FAIRWAYS	Acceptable Range For Saturated Paste Sample	6,8(avg) <u>10/19/20</u>	<u>9/21/21</u>	3 <u>9/13/22</u>
Nitrate - Ryegrass	5 - 10 ppm	3.70	n/r	8.20
Phosphorus	2 - 10 ppm	2.03	n/r	1.07
Potassium	40 - 100 ppm	49.47	n/r	51.94
Calcium	60 - 200 ppm	473.35	n/r	559.37
Magnesium	20 - 70 ppm	109.61	n/r	88.83
Sodium	0 - 30 ppm	401.94	n/r	341.52
Soluble Salts	<1,920 ppm	2,175.50	n/r	2,201.00
Bicarbonate	<60 ppm	155.28	n/r	138.24
Chloride	<1,000 ppm	273.50	n/r	251.00
SAR	<4%	4.34	n/r	3.54

GREENS	Acceptable Range For Saturated Paste Sample	6,8,17(avg) <u>10/19/20</u>	5,PG,4,5,17(avg) <u>9/21/21</u>	3,6,13(avg) <u>9/13/22</u>
Nitrate - Bentgrass/Poa	1-3 ppm	<0.5	1.88	4.63
Phosphorus	2 - 7 ppm	1.18	2.07	5.99
Potassium	25-40 ppm	16.98	15.13	27.00
Calcium	50- 75 ppm	55.08	38.83	54.29
Magnesium	15-30 ppm	16.98	11.08	16.79
Sodium	0 - 30 ppm	85.73	75.80	110.14
Soluble Salts	<1,000 ppm	482.67	1,089.60	547.33
Bicarbonate	<60 ppm	107.22	96.54	111.54
Chloride	<200 ppm	62.67	41.40	61.33
SAR	<4%	2.60	2.79	3.36

SAN RAMON GOLF CLUB

	<u>10/19/20</u>	<u>10/1/21</u>	<u>10/6/22</u>
Humidity/Air Temperature	50%/85°	35%/90°	35%/87°
Greens Temperature	(avg)54°	(avg)57.45°	(avg)68.25°
Fairway Temperature	(avg)55°	(avg)59.8°	(avg)68.7°

WATER	Acceptable Range For Water Sample	Stream #9 10/30/20	Pond #18 10/30/20	Stream #9 10/1/21	Pond #18 10/1/21	Stream #9 10/6/22	Pond #18 10/6/22
pH	6.0-6.5	7.83	7.60	7.62	7.56	7.77	7.63
EC	<2.25 mmhos/cm	1.17	1.17	0.98	1.09	0.97	1.12
Sodium		119.30	169.80	112.40	157.00	108.10	156.70
Calcium	20 - 60 ppm	72.27	30.90	66.10	47.27	71.62	49.85
Magnesium	10 - 25 ppm	33.97	20.84	29.91	20.59	30.37	19.74
Potassium	5 - 20 ppm	6.95	6.29	2.37	2.03	2.52	2.21
Sulfur	30 - 90 ppm	74.34	3.14	74.04	2.82	66.63	2.53
Bicarbonate	<120 ppm	477.72	286.05	428.35	346.28	416.61	306.03
Boron	<0.67 ppm	0.35	1.09	0.36	1.01	0.34	1.01
Chloride	<177 ppm	98.21	199.14	96.34	218.38	94.81	221.78

TEES	Acceptable Range For Alkaline Soils Sample	5,11,15(avg) 10/19/20	3,6,12(avg) 10/1/21	10,13,14(avg) 10/6/22
Organic Matter (Humus)	2 - 3%	5.55	1.63	4.39
Sulfur	12 - 16 ppm	48.00	21.33	48.33
Olsen - Phosphorus	13 - 20 ppm	11.33	6.00	12.67
Calcium - TEC of 6 - 12	1,000 lbs/acre	5,313.33	2,090.00	3,706.67
	>7% base saturation or at least 200 lbs/acre	28.81%/1,546.66	25.91%/1,003	27.37%/1,045.33
Magnesium				
Potassium - TEC of 0 - 35	100 ppm	132.33	46.00	80.00
Manganese	>50 ppm	40.33	20.67	50.00

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	5,11,15(avg) 10/19/20	3,6,12(avg) 10/1/21	10,13,14(avg) 10/6/22
Organic Matter (Humus)	2 - 3%	7.12	5.77	6.34
Sulfur	12 - 16 ppm	67.00	35.00	76.33
Olsen - Phosphorus	13 - 20 ppm	11.33	6.33	13.67
Calcium - TEC of 6 - 12	1,000 lbs/acre	7,352.67	4,366.00	5,926.67
	>7% base saturation or at least 200 lbs/acre	30.47%/2,430	29.83%/2,126.66	32.1%/2,723
Magnesium				
Potassium - TEC of 0 - 35	100 ppm	242.67	157.33	195.00
Manganese	>50 ppm	44.67	21.67	47.00

GREENS	Acceptable Range For Alkaline Soils Sample	5,11,15(avg) 10/19/20	2,3,6,12(avg) 10/1/21	PG,10,13,14(avg) 10/6/22
Organic Matter (Humus)	2 - 3%	1.34	1.95	1.78
Sulfur	12 - 16 ppm	39.50	76.00	72.00
Olsen - Phosphorus	13 - 20 ppm	11.75	14.75	20.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	1,894.50	2,993.50	2,604.00
	>7% base saturation or at least 200 lbs/acre	16.09%/350	14.42%/445.5	14.70%/424
Magnesium				
Potassium - TEC of 0 - 35	150 ppm	100.00	163.50	147.25
Manganese	>50 ppm	25.00	29.50	40.00

TEE	Acceptable Range For Saturated Paste Sample	5 10/19/20	3 10/1/21	10 10/6/22
Nitrate - Ryegrass	5 - 10 ppm	<0.5	1.80	3.00
Phosphorus	2 - 10 ppm	1.93	1.17	2.45
Potassium	40 - 100 ppm	11.20	12.36	14.55
Calcium	60 - 200 ppm	61.50	54.42	63.08
Magnesium	20 - 70 ppm	26.96	29.60	33.12
Sodium	0 - 30 ppm	212.89	261.52	215.33
Soluble Salts	<1,920 ppm	659.00	881.00	810.00
Bicarbonate	<60 ppm	189.22	246.94	226.27
Chloride	<1,000 ppm	188.00	253.00	220.00
SAR	<4%	5.69	7.09	5.46

FAIRWAY	Acceptable Range For Saturated Paste Sample	5 10/19/20	3 10/1/21	10 10/6/22
Nitrate - Ryegrass	5 - 10 ppm	0.60	<0.5	<0.5
Phosphorus	2 - 10 ppm	2.07	1.32	2.02
Potassium	40 - 100 ppm	9.81	11.08	8.79
Calcium	60 - 200 ppm	81.94	66.66	71.23
Magnesium	20 - 70 ppm	38.63	30.85	39.28
Sodium	0 - 30 ppm	236.78	223.29	342.63
Soluble Salts	<1,920 ppm	799.00	845.00	1,119.00
Bicarbonate	<60 ppm	225.11	222.02	290.23
Chloride	<1,000 ppm	241.00	235.00	327.00
SAR	<4%	5.40	5.67	8.09

GREENS	Acceptable Range For Saturated Paste Sample	5,15(avg) 10/19/20	3,12(avg) 10/1/21	PG,10(avg) 10/6/22
Nitrate - Bentgrass/Poa	1-3 ppm	<0.5	0.98	<0.5
Phosphorus	2 - 7 ppm	1.33	1.33	2.89
Potassium	25-40 ppm	53.76	53.76	95.82
Calcium	50- 75 ppm	61.13	61.13	69.65
Magnesium	15-30 ppm	25.31	25.31	30.75
Sodium	0 - 30 ppm	176.14	176.14	190.30
Soluble Salts	<1,000 ppm	781.00	781.00	912.50
Bicarbonate	<60 ppm	118.16	118.16	178.27
Chloride	<200 ppm	168.25	168.25	164.50
SAR	<4%	4.80	4.80	4.76



	<u>9/28/21</u>	<u>9/22/22</u>
Humidity/Air Temperature	45%/90°	10%/100°
Greens Temperature	(avg)71.2°	(avg)78.5°
Fairways Temperature	(avg)72.6°	(avg)79.9°

WATER	<u>Acceptable Range For Water Sample</u>	<u>Irrigation Water 9/28/21</u>	<u>Irrigation Water 9/22/22</u>
pH	6.0-6.5	7.20	8.12
EC	<2.25 mmhos/cm	0.26	0.33
Sodium		17.17	21.58
Calcium	20 - 60 ppm	27.89	36.50
Magnesium	10 - 25 ppm	6.47	7.26
Potassium	5 - 20 ppm	2.33	5.20
Sulfur	30 - 90 ppm	21.91	34.92
Bicarbonate	<120 ppm	97.91	113.37
Boron	<0.67 ppm	<0.05	<0.05
Chloride	<177 ppm	25.87	3.74

TEES	<u>Acceptable Range For Alkaline Soils Sample</u>	<u>1,9,18(avg) 9/28/21</u>	<u>3,11,16(avg) 9/22/22</u>
Organic Matter (Humus)	2 - 3%	3.46	3.71
Sulfur	12 - 16 ppm	49.00	13.33
Olsen - Phosphorus	13 - 20 ppm	10.00	4.67
Calcium - TEC of 6 - 12	1,000 lbs/acre	4,406.00	3,727.33
	>7% base saturation or at least 200 lbs/acre	10.72%/355.33	11.88%/329.33
Magnesium			
Potassium - TEC of 0 - 35	100 ppm	182.67	116.00
Manganese	>50 ppm	32.33	34.33

FAIRWAYS	<u>Acceptable Range For Alkaline Soils Sample</u>	<u>1,9,18(avg) 9/28/21</u>	<u>3,11,16(avg) 9/22/22</u>
Organic Matter (Humus)	2 - 3%	3.50	4.30
Sulfur	12 - 16 ppm	57.67	32.00
Olsen - Phosphorus	13 - 20 ppm	8.67	11.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	5,152.67	5,093.33
	>7% base saturation or at least 200 lbs/acre	10.47%/412	12.47%/486.66
Magnesium			
Potassium - TEC of 0 - 35	100 ppm	288.33	229.33
Manganese	>50 ppm	34.00	31.00

GREENS	<u>Acceptable Range For Alkaline Soils Sample</u>	<u>1,2,9,18(avg) 9/28/21</u>	<u>PG,3,11,16(avg) 9/22/22</u>
Organic Matter (Humus)	2 - 3%	1.75	2.19
Sulfur	12 - 16 ppm	25.25	12.50
Olsen - Phosphorus	13 - 20 ppm	11.50	14.25
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,058.00	2,400.50
	>7% base saturation or at least 200 lbs/acre	14.48%/236	13.8%/263.5
Magnesium			
Potassium - TEC of 0 - 35	150 ppm	106.00	156.75
Manganese	>50 ppm	39.00	42.00

TEE	<u>Acceptable Range For Saturated Paste Sample</u>	<u>1 9/28/21</u>	<u>3 9/22/22</u>
Nitrate-Ryegrass	5-10 ppm	6.60	<0.5
Phosphorus	2 - 10 ppm	0.77	2.11
Potassium	40 - 100 ppm	24.55	11.82
Calcium	60 - 200 ppm	62.62	42.29
Magnesium	20 - 70 ppm	11.68	8.80
Sodium	0 - 30 ppm	59.12	23.50
Soluble Salts	<1,920 ppm	439.00	241.00
Bicarbonate	<60 ppm	161.49	140.32
Chloride	<1,000 ppm	49.00	11.00
SAR	<4%	1.80	0.86

FAIRWAY	<u>Acceptable Range For Saturated Paste Sample</u>	<u>1 9/28/21</u>	<u>3 9/22/22</u>
Nitrate-Ryegrass	5-10 ppm	5.60	<0.5
Phosphorus	2 - 10 ppm	0.86	1.33
Potassium	40 - 100 ppm	56.80	26.98
Calcium	60 - 200 ppm	125.38	89.08
Magnesium	20 - 70 ppm	22.21	18.77
Sodium	0 - 30 ppm	101.45	67.77
Soluble Salts	<1,920 ppm	758.00	499.00
Bicarbonate	<60 ppm	243.21	221.34
Chloride	<1,000 ppm	93.00	26.00
SAR	<4%	2.19	1.70

GREENS	<u>Acceptable Range For Saturated Paste Sample</u>	<u>1,18(avg) 9/28/21</u>	<u>PG,3(avg) 9/22/22</u>
Nitrate - Bermudagrass	5-10 ppm	20.40	10.50
Phosphorus	2 - 7 ppm	0.80	1.89
Potassium	25-40 ppm	19.51	34.48
Calcium	50- 75 ppm	27.69	37.57
Magnesium	15-30 ppm	7.67	9.92
Sodium	0 - 30 ppm	28.72	30.37
Soluble Salts	<1,000 ppm	291.50	294.50
Bicarbonate	<60 ppm	138.01	99.88
Chloride	<200 ppm	15.50	13.00
SAR	<4%	1.25	1.13



	<u>7/15/20</u>	<u>6/17/21</u>	<u>6/11/22</u>
Humidity/Air Temperature	45%/85°	30%/100°	35%/98°
Greens Temperature	(avg)69.96°	(avg)68.76°	(avg)67.25°
Fairways Temperature	(avg)68.5°	(avg)72.16°	(avg)70.13°

WATER	Acceptable Range For Water Sample	Hole#3	Hole#5	New Water	Hole #6
		<u>7/15/20</u>	<u>6/17/21</u>	<u>6/17/21</u>	<u>6/11/22</u>
pH	6.0-6.5	7.55	6.67	7.37	7.09
EC	<2.25 mmhos/cm	0.46	0.84	0.62	0.49
Sodium		63.57	93.43	38.91	66.22
Calcium	20 - 60 ppm	21.92	39.87	56.63	22.83
Magnesium	10 - 25 ppm	5.96	15.68	10.96	5.34
Potassium	5 - 20 ppm	12.21	5.72	2.19	6.96
Phosphorus	0.1 - 0.4 ppm	2.31	0.69	<0.20	2.13
Nitrate	5 - 50 ppm	3.62	7.9	1.19	3.81
Sulfur	30 - 90 ppm	31.20	138.09	22.81	31.92
Bicarbonate	<120 ppm	147.38	150.29	214.18	151.18
Boron	<0.67 ppm	0.24	0.21	<0.05	0.28
Chloride	<177 ppm	42.38	74.04	33.70	46.13

TEES	Acceptable Range For Alkaline Soils Sample	4,11,15(avg)	5,12,14(avg)	6,7,16(avg)
		<u>7/15/20</u>	<u>6/17/21</u>	<u>6/11/22</u>
Organic Matter (Humus)	2 - 3%	4.27	2.97	3.26
Sulfur	12 - 16 ppm	45.00	86.67	37.67
Olsen - Phosphorus	13 - 20 ppm	12.33	13.00	23.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	1,911.33	1,746.67	2,427.33
	>7% base saturation or at least 200 lbs/acre			
Magnesium		19.81%/339.33	17.88%/304.66	17.58%/371.33
Potassium - TEC of 0 - 35	100 ppm	68.67	59.00	71.00
Manganese	>50 ppm	9.33	11.67	12.67

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	4,11,15(avg)	5,12,14(avg)	6,7,16(avg)
		<u>7/15/20</u>	<u>6/17/21</u>	<u>6/11/22</u>
Organic Matter (Humus)	2 - 3%	3.99	2.99	2.51
Sulfur	12 - 16 ppm	87.00	110.00	212.67
Olsen - Phosphorus	13 - 20 ppm	5.33	7.00	8.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,301.33	3,690.67	4,348.67
	>7% base saturation or at least 200 lbs/acre			
Magnesium		20.33%/606.66	18.93%/646.66	16.93%/658
Potassium - TEC of 0 - 35	100 ppm	117.33	88.00	88.33
Manganese	>50 ppm	33.00	52.67	64.67

GREENS	Acceptable Range For Alkaline Soils Sample	3,4,11,15(avg)	5,12,14,16(avg)	6,7,8,16(avg)
		<u>7/15/20</u>	<u>6/17/21</u>	<u>6/11/22</u>
Organic Matter (Humus)	2 - 3%	1.83	1.67	1.25
Sulfur	12 - 16 ppm	31.75	91.25	58.75
Olsen - Phosphorus	13 - 20 ppm	17.25	18.50	13.25
Calcium - TEC of 6 - 12	1,000 lbs/acre	1,501.50	1,551.00	1,617.00
	>7% base saturation or at least 200 lbs/acre			
Magnesium		16.98%/226	16.86%/239.5	13.94%/193
Potassium - TEC of 0 - 35	150 ppm	102.75	110.75	95.50
Manganese	>50 ppm	29.25	36.25	36.75

TEES	Acceptable Range For Saturated Paste Sample	4	5	6
		<u>7/15/20</u>	<u>6/17/21</u>	<u>6/11/22</u>
Nitrate	5 - 10 ppm	<0.5	2.90	<0.5
Phosphorus	2 - 10 ppm	1.90	1.88	1.47
Potassium	40 - 100 ppm	14.58	25.42	10.40
Calcium	60 - 200 ppm	34.23	60.34	16.71
Magnesium	20 - 70 ppm	12.90	21.83	6.26
Sodium	0 - 30 ppm	72.95	98.58	62.52
Soluble Salts	<1,920 ppm	349.00	574.00	243.00
Bicarbonate	<60 ppm	90.42	62.99	47.71
Chloride	<1,000 ppm	55.00	77.00	41.00
SAR	<4%	2.70	2.76	3.31

FAIRWAYS	Acceptable Range For Saturated Paste Sample	4	5	6
		<u>7/15/20</u>	<u>6/17/21</u>	<u>6/11/22</u>
Nitrate	5 - 10 ppm	<0.5	<0.5	<0.5
Phosphorus	2 - 10 ppm	1.33	0.55	0.35
Potassium	40 - 100 ppm	13.71	5.86	5.25
Calcium	60 - 200 ppm	75.08	48.59	51.76
Magnesium	20 - 70 ppm	27.56	17.25	16.30
Sodium	0 - 30 ppm	147.48	177.57	171.10
Soluble Salts	<1,920 ppm	659.00	637.00	648.00
Bicarbonate	<60 ppm	230.05	174.16	115.14
Chloride	<1,000 ppm	106.00	124.00	86.00
SAR	<4%	3.70	5.57	5.31

GREENS	Acceptable Range For Saturated Paste Sample	3,4(avg)	5,12(avg)	6,8(avg)
		<u>7/15/20</u>	<u>6/17/21</u>	<u>6/11/22</u>
Nitrate - Bentgrass/Poa	1-3 ppm	4.90	<0.5	<0.5
Phosphorus	2 - 7 ppm	5.41	1.92	0.98
Potassium	25-40 ppm	34.43	48.87	38.95
Calcium	50- 75 ppm	38.17	91.40	63.93
Magnesium	15-30 ppm	11.85	26.35	14.17
Sodium	0 - 30 ppm	78.46	135.41	109.99
Soluble Salts	<1,000 ppm	414.00	771.50	588.00
Bicarbonate	<60 ppm	114.39	99.06	38.33
Chloride	<200 ppm	62.00	117.50	77.50
SAR	<4%	2.84	3.22	3.25

Application for Tees:	200 pounds of product/acre (0-0-50)	500 pounds of product/acre (Gypsum)	125 pounds of product/acre (11-55-00)
Ashwood GC	yes		yes
Birch Hills GC			
Camarillo Springs GC			
Revere GC			
San Ramon GC	yes		
Tri-Palms Estates CC			
Yucaipa Valley GC	yes		

Application for Fairways:	200 pounds of product/acre (0-0-50)	500 pounds of product/acre (Gypsum)	125 pounds of product/acre (11-55-00)
Ashwood GC	yes		
Birch Hills GC			yes
Camarillo Springs GC			
Revere GC			
San Ramon GC			
Tri-Palms Estates CC			
Yucaipa Valley GC			

Monthly Applications for Greens:	2 pounds of product / 1,000 sq. ft. (0-0-50)	10 pounds of product / 1,000 sq. ft. (Gypsum)	3 pounds of product / 1,000 sq. ft. (Pro-Mag)	3 pounds of product / 1,000 sq. ft. (11-55-00)	3 pounds of product / 1,000 sq. ft. (Manganese)
Ashwood GC	yes		yes	yes	yes
Birch Hills GC	yes			yes	
Camarillo Springs GC	yes				
Revere GC	yes				
San Ramon GC					yes
Tri-Palms Estates CC			yes		
Yucaipa Valley GC	yes				yes