



SOIL AND WATER CONSULTING

Data Collection Report



ASHWOOD
GOLF COURSE



2025



ASHWOOD

GOLF COURSE

	<u>9/23/22</u>	<u>10/21/23</u>	<u>10/23/24</u>
Humidity/Air Temperature	20%/91°	30%/85	15%/87°
Greens Temperature	(avg)58.9°	(avg)57.2°	(avg)52°
Fairways Temperature	(avg)60.7°	(avg)60.8°	(avg)54°

WATER	Acceptable Range For Water Sample	Irrigation Water 9/23/22	Irrigation Water 10/21/23	Irrigation Water 10/23/24
pH	6.0-6.5	8.48	8.48	7.62
EC	<2.25 mmhos/cm	0.25	0.28	6.00
Sodium		17.07	15.15	17.38
Calcium	20 - 60 ppm	23.77	30.16	22.93
Magnesium	10 - 25 ppm	6.54	5.60	6.31
Potassium	5 - 20 ppm	2.30	2.15	1.73
Sulfur	30 - 90 ppm	19.88	21.74	20.11
Bicarbonate	<120 ppm	45.90	63.69	68.33
Boron	<0.67 ppm	<0.05	<0.05	0.07
Chloride	<177 ppm	19.57	22.64	24.68

TEES	Acceptable Range For Alkaline Soils Sample	2,2,2(avg) 9/23/22	7,7,7(avg) 10/21/23	4,4,4(avg) 10/23/24
Organic Matter (Humus)	2 - 3%	4.18	2.57	3.42
Sulfur	12 - 16 ppm	12.67	11.33	19.00
Olsen - Phosphorus	13 - 20 ppm	7.00	8.33	11.67
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,691.33	2,836.00	2,796.00
	>7% base saturation or at least 200 lbs/acre			
Magnesium		13.65%/279.33	13.1%/280.67	14.5%/312
Potassium - TEC of 0 - 35	100 ppm	69.33	63.33	69.33
Manganese	>50 ppm	19.67	23.33	18.67

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	2,2,2(avg) 9/23/22	7,7,7(avg) 10/21/23	4,4,4(avg) 10/23/24
Organic Matter (Humus)	2 - 3%	3.26	1.94	2.41
Sulfur	12 - 16 ppm	16.00	14.33	28.00
Olsen - Phosphorus	13 - 20 ppm	7.00	6.67	12.67
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,594.67	2,167.33	2,543.33
	>7% base saturation or at least 200 lbs/acre			
Magnesium		14.35%/286	13.4%/218	13.7%/266.67
Potassium - TEC of 0 - 35	100 ppm	66.67	53.67	79.33
Manganese	>50 ppm	21.33	18.67	23.33

GREENS	Acceptable Range For Alkaline Soils Sample	PG,2,2,2(avg) 9/23/22	7,7,7,8(avg) 10/21/23	PG,4,4,4(avg) 10/23/24
Organic Matter (Humus)	2 - 3%	1.80	0.94	1.32
Sulfur	12 - 16 ppm	15.25	24.50	26.50
Olsen - Phosphorus	13 - 20 ppm	4.50	4.25	5.75
Calcium - TEC of 6 - 12	1,000 lbs/acre	1,572.00	1,525.00	1,527.00
	>7% base saturation or at least 200 lbs/acre			
Magnesium		11.96%/142.5	9.28%/103.5	10.49%/122.5
Potassium - TEC of 0 - 35	150 ppm	45.75	62.50	69.00
Manganese	>50 ppm	28.75	27.25	28.75

TEE	Acceptable Range For Saturated Paste Sample	B2 9/23/22	B7 10/21/23	B4 10/23/24
Nitrate	10-15 ppm	<0.5	<0.5	<0.5
Phosphorus	2 - 10 ppm	3.70	3.32	3.07
Potassium	40 - 100 ppm	21.76	12.72	18.64
Calcium	60 - 200 ppm	47.52	36.64	38.76
Magnesium	20 - 70 ppm	12.62	8.13	10.01
Sodium	0 - 30 ppm	28.27	25.04	27.70
Soluble Salts	<1,920 ppm	312.00	207.00	289.00
Bicarbonate	<60 ppm	147.71	113.90	104.27
Chloride	<1,000 ppm	31.00	21.00	42.00
SAR	<4%	0.94	0.97	1.03

FAIRWAY	Acceptable Range For Saturated Paste Sample	B2 9/23/22	B7 10/21/23	B4 10/23/24
Nitrate	10-15 ppm	<0.5	1.20	<0.5
Phosphorus	2 - 10 ppm	6.21	3.04	0.97
Potassium	40 - 100 ppm	28.77	14.19	17.70
Calcium	60 - 200 ppm	45.61	41.89	34.42
Magnesium	20 - 70 ppm	12.21	10.09	8.62
Sodium	0 - 30 ppm	29.03	24.63	27.03
Soluble Salts	<1,920 ppm	319.00	237.00	265.00
Bicarbonate	<60 ppm	137.74	126.93	72.67
Chloride	<1,000 ppm	40.00	18.00	42.00
SAR	<4%	0.99	0.89	1.07

GREENS	Acceptable Range For Saturated Paste Sample	PG,B2(avg) 9/28/21	B7,B8(avg) 10/21/23	B4,PG(avg) 10/23/24
Nitrate - Bentgrass/Poa	1-3 ppm	<0.5	<0.5	<0.5
Phosphorus	2 - 7 ppm	0.99	0.48	1.27
Potassium	25-40 ppm	17.76	25.89	48.05
Calcium	50- 75 ppm	49.83	34.88	54.50
Magnesium	15-30 ppm	9.06	5.57	9.21
Sodium	0 - 30 ppm	22.97	19.87	31.35
Soluble Salts	<1,000 ppm	277.75	230.50	379.50
Bicarbonate	<60 ppm	111.40	57.54	103.61
Chloride	<200 ppm	30.00	18.50	45.00
SAR	<4%	0.79	0.83	1.04



	6/6/23	6/19/24	6/15/25
Humidity/Air Temperature	55%/69°	55%/80°	50%/90°
Greens Temperature	(avg)66.6°	(avg)68°	(avg)68°
Fairways Temperature	(avg)65.75°	(avg)72°	(avg)65x°

WATER	Acceptable Range For Water Sample	Wash Pad 6/6/23	Driving Range 6/19/24	Potable 6/15/25
pH	6.0-6.5	8.01	8.00	8.22
EC	<2.25 mmhos/cm	0.40	0.85	0.56
Sodium		28.76	79.65	18.91
Calcium	20 - 60 ppm	37.32	62.72	75.31
Magnesium	10 - 25 ppm	8.61	20.12	13.39
Potassium	5 - 20 ppm	3.05	4.28	4.17
Sulfur	30 - 90 ppm	55.83	179.70	52.29
Bicarbonate	<120 ppm	123.14	167.02	192.17
Boron	<0.67 ppm	0.07	0.12	<0.05
Chloride	<177 ppm	19.74	86.64	25.87

TEES	Acceptable Range For Alkaline Soils Sample	2,10,17(avg) 6/25/19	2,10,17(avg) 6/15/25
Organic Matter (Humus)	2 - 3%	1.52	3.30
Sulfur	12 - 16 ppm	63.00	230.00
Olsen - Phosphorus	13 - 20 ppm	14.00	44.67
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,262.67	3,587.33
Magnesium	>7% base saturation or at least 200 lbs/acre	16.56%/304.66	15.15%/490.6
Potassium - TEC of 0 - 35	100 ppm	99.67	232.00
Manganese	>50 ppm	33.00	37.00

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	2,10,17(avg) 6/25/19	2,10,17(avg) 6/15/25
Organic Matter (Humus)	2 - 3%	5.25	6.14
Sulfur	12 - 16 ppm	95.00	80.33
Olsen - Phosphorus	13 - 20 ppm	9.33	6.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	6,178.00	4,658.67
Magnesium	>7% base saturation or at least 200 lbs/acre	18.44%/946	20.31%/808.66
Potassium - TEC of 0 - 35	100 ppm	184.67	233.00
Manganese	>50 ppm	39.33	39.33

GREENS	Acceptable Range For Alkaline Soils Sample	2,5,10,17(avg) 6/25/19	2,5,10,17(avg) 6/15/25
Organic Matter (Humus)	2 - 3%	0.53	1.27
Sulfur	12 - 16 ppm	22.00	46.25
Olsen - Phosphorus	13 - 20 ppm	6.50	12.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	968.50	1,026.00
Magnesium	>7% base saturation or at least 200 lbs/acre	11.49%/94	12.32%/107
Potassium - TEC of 0 - 35	150 ppm	139.25	112.75
Manganese	>50 ppm	31.75	61.50

TEES	Acceptable Range For Saturated Paste Sample	2 6/25/19	2 6/15/25
Nitrate - Bermudagrass	10-15 ppm	<0.5	8.90
Phosphorus	2 - 10 ppm	8.45	2.11
Potassium	40 - 100 ppm	76.08	49.05
Calcium	60 - 200 ppm	172.83	110.86
Magnesium	20 - 70 ppm	46.39	26.18
Sodium	0 - 30 ppm	57.40	59.40
Soluble Salts	<1,920 ppm	1,000.00	651.00
Bicarbonate	<60 ppm	268.44	85.97
Chloride	<1,000 ppm	91.00	87.00
SAR	<4%	1.00	1.32

FAIRWAYS	Acceptable Range For Saturated Paste Sample	2 6/25/19	2 6/15/25
Nitrate - Bermudagrass	10-15 ppm	<0.5	4.80
Phosphorus	2 - 10 ppm	0.34	0.47
Potassium	40 - 100 ppm	12.71	7.66
Calcium	60 - 200 ppm	331.51	80.78
Magnesium	20 - 70 ppm	78.58	19.75
Sodium	0 - 30 ppm	213.51	89.19
Soluble Salts	<1,920 ppm	1,430.00	551.00
Bicarbonate	<60 ppm	256.24	115.49
Chloride	<1,000 ppm	81.00	64.00
SAR	<4%	2.74	2.31

GREENS	Acceptable Range For Saturated Paste Sample	2,17(avg) 6/25/19	2,17(avg) 6/15/25
Nitrate - Bentgrass/Poa	1-3 ppm	<0,5	<0,5
Phosphorus	2 - 7 ppm	1.20	2.11
Potassium	25-40 ppm	99.35	53.18
Calcium	50- 75 ppm	104.66	60.46
Magnesium	15-30 ppm	18.63	12.71
Sodium	0 - 30 ppm	42.61	31.46
Soluble Salts	<1,000 ppm	640.00	424.50
Bicarbonate	<60 ppm	206.22	96.20
Chloride	<200 ppm	68.50	57.00
SAR	<4%	1.00	0.96



	6/7/23	6/19/24	6/17/25
Humidity/Air Temperature	60%/67°	70%/75°	50%/87°
Greens Temperature	(avg)65°	(avg)68°	(avg)65°
Fairway Temperature	(avg)66.7°	(avg)72°	(avg)70°

WATER	Acceptable Range For Water Sample	Irrigation Pond 6/7/23	Irrigation Pond 6/19/24	Irrigation Pond 6/17/25
pH	6.0-6.5	7.71	7.94	8.03
EC	<2.25 mmhos/cm	2.24	1.85	2.19
Sodium		192.13	170.86	215.07
Calcium	20 - 60 ppm	118.76	77.66	134.86
Magnesium	10 - 25 ppm	126.07	118.91	138.12
Potassium	5 - 20 ppm	3.09	1.65	3.30
Phosphorus	0.1 - 0.4 ppm	<0.20	0.26	1.27
Nitrate	5 - 50 ppm	<0.10	<0.10	0.45
Sulfur	30 - 90 ppm	353.33	311.50	362.44
Bicarbonate	<120 ppm	692.15	488.82	581.17
Boron	<0.67 ppm	0.45	0.35	0.27
Chloride	<177 ppm	365.95	272.50	314.54

TEES	Acceptable Range For Alkaline Soils Sample	2,10,17(avg) 6/27/19	2,10,17(avg) 6/17/25
Organic Matter (Humus)	2 - 3%	7.32	5.66
Sulfur	12 - 16 ppm	81.67	140.00
Olsen - Phosphorus	13 - 20 ppm	138.00	141.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	4,040.67	2,863.33
Magnesium	>7% base saturation or at least 200 lbs/acre	36.24%/1,761.33	41.79%/1,710.66
Potassium - TEC of 0 - 35	100 ppm	405.67	315.33
Manganese	>50 ppm	29.67	26.67

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	2,10,17(avg) 6/27/19	2,10,17(avg) 6/17/25
Organic Matter (Humus)	2 - 3%	12.26	11.75
Sulfur	12 - 16 ppm	199.00	169.33
Olsen - Phosphorus	13 - 20 ppm	160.33	82.67
Calcium - TEC of 6 - 12	1,000 lbs/acre	5,790.67	4,188.00
Magnesium	>7% base saturation or at least 200 lbs/acre	42.01%/3,238.66	45.96%/2,961.33
Potassium - TEC of 0 - 35	100 ppm	561.33	534.00
Manganese	>50 ppm	55.33	41.00

GREENS	Acceptable Range For Alkaline Soils Sample	2,UPG,10,17(avg) 6/27/19	2,UPG,10,17(avg) 6/17/25
Organic Matter (Humus)	2 - 3%	1.43	1.36
Sulfur	12 - 16 ppm	128.00	144.75
Olsen - Phosphorus	13 - 20 ppm	36.00	27.25
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,442.00	2,648.00
Magnesium	>7% base saturation or at least 200 lbs/acre	20.97%/632	27.10%/707
Potassium - TEC of 0 - 35	150 ppm	72.50	54.50
Manganese	>50 ppm	143.00	161.25

TEES	Acceptable Range For Saturated Paste Sample	2 6/27/19	2 6/17/25
Nitrate - Coolseason grass	5 - 10 ppm	45.20	48.60
Phosphorus	2 - 10 ppm	6.49	7.60
Potassium	40 - 100 ppm	96.01	83.08
Calcium	60 - 200 ppm	145.98	153.04
Magnesium	20 - 70 ppm	156.26	188.78
Sodium	0 - 30 ppm	230.16	321.39
Soluble Salts	<1,920 ppm	1,688.00	1,985.00
Bicarbonate	<60 ppm	329.45	185.54
Chloride	<1,000 ppm	400.00	611.00
SAR	<4%	3.15	4.11

FAIRWAYS	Acceptable Range For Saturated Paste Sample	2 6/27/19	2 6/17/25
Nitrate - Coolseason grass	5 - 10 ppm	<0.5	<0.5
Phosphorus	2 - 10 ppm	6.26	8.00
Potassium	40 - 100 ppm	70.14	54.93
Calcium	60 - 200 ppm	142.82	114.06
Magnesium	20 - 70 ppm	151.85	116.51
Sodium	0 - 30 ppm	224.54	220.64
Soluble Salts	<1,920 ppm	1,508.00	1,359.00
Bicarbonate	<60 ppm	427.07	359.85
Chloride	<1,000 ppm	280.00	270.00
SAR	<4%	3.12	3.47

GREENS	Acceptable Range For Saturated Paste Sample	2,17 6/27/19	2,17 6/27/19
Nitrate - Bentgrass/Poa	1-3 ppm	<0.5	8.55
Phosphorus	2 - 7 ppm	1.61	2.71
Potassium	25-40 ppm	33.78	26.56
Calcium	50- 75 ppm	128.71	126.00
Magnesium	15-30 ppm	92.49	101.36
Sodium	0 - 30 ppm	189.83	207.42
Soluble Salts	<1,000 ppm	1,147.50	1,212.00
Bicarbonate	<60 ppm	314.82	216.20
Chloride	<200 ppm	220.00	262.50
SAR	<4%	3.12	3.33



	<u>6/14/23</u>	<u>6/11/25</u>
Humidity/Air Temperature	20%/92°	10%/107°
Greens Temperature	(avg)70.05°	(avg)79°
Fairway Temperature	(avg)68.2°	(avg)80°

WATER	Acceptable Range For Water Sample	Concord Course Pond 6/14/23	Concord Course #4 6/11/25
pH	6.0-6.5	9.30	8.84
EC	<2.25 mmhos/cm	1.51	1.97
Sodium		195.82	267.87
Calcium	20 - 60 ppm	81.37	94.86
Magnesium	10 - 25 ppm	28.73	29.91
Potassium	5 - 20 ppm	13.54	20.80
Sulfur	30 - 90 ppm	267.49	284.68
Bicarbonate	<120 ppm	58.03	169.15
Boron	<0.67 ppm	0.21	0.06
Chloride	<177 ppm	262.29	355.90

CONCORD TEES	Acceptable Range For Alkaline Soils Sample	7,12,18(avg) 6/14/23	4,12,18(avg) 6/11/25
Organic Matter (Humus)	2 - 3%	3.35	3.24
Sulfur	12 - 16 ppm	61.00	129.33
Olsen - Phosphorus	13 - 20 ppm	19.67	24.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,556.67	3,074.67
	>7% base saturation or at least		
Magnesium	200 lbs/acre	15.56%/496	15.98%/516
Potassium - TEC of 0 - 35	100 ppm	219.33	307.00
Manganese	>50 ppm	23.33	21.67

CONCORD FAIRWAYS	Acceptable Range For Alkaline Soils Sample	7,12,18(avg) 6/14/23	4,12,18(avg) 6/11/25
Organic Matter (Humus)	2 - 3%	6.25	5.41
Sulfur	12 - 16 ppm	1,552.00	3,256.00
Olsen - Phosphorus	13 - 20 ppm	24.00	40.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	8,093.33	10,242.67
	>7% base saturation or at least		
Magnesium	200 lbs/acre	9.04%/569.33	9.7%/692.6
Potassium - TEC of 0 - 35	100 ppm	540.33	710.00
Manganese	>50 ppm	13.67	17.33

CONCORD GREENS	Acceptable Range For Alkaline Soils Sample	7,12,18,PG(avg) 6/14/23	4,12,18,PG(avg) 6/11/25
Organic Matter (Humus)	2 - 3%	1.66	1.58
Sulfur	12 - 16 ppm	53.00	112.25
Olsen - Phosphorus	13 - 20 ppm	22.67	18.50
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,190.67	2,587.00
	>7% base saturation or at least		
Magnesium	200 lbs/acre	12.61%/271.5	11.94%/310
Potassium - TEC of 0 - 35	150 ppm	383.00	509.75
Manganese	>50 ppm	55.33	65.00

CONCORD TEES	Acceptable Range For Saturated Paste Sample	7 6/14/23	4 6/11/25
Nitrate - Bermudagrass	10-15 ppm	1.90	40.30
Phosphorus	2 - 10 ppm	2.88	3.92
Potassium	40 - 100 ppm	14.84	65.86
Calcium	60 - 200 ppm	28.85	160.54
Magnesium	20 - 70 ppm	11.76	54.71
Sodium	0 - 30 ppm	80.82	518.37
Soluble Salts	<1,920 ppm	329.00	2,020.00
Bicarbonate	<60 ppm	119.89	173.94
Chloride	<1,000 ppm	54.00	776.00
SAR	<4%	3.20	9.01

CONCORD FAIRWAYS	Acceptable Range For Saturated Paste Sample	7 6/14/23	4 6/11/25
Nitrate - Bermudagrass	10-15 ppm	<0.5	19.00
Phosphorus	2 - 10 ppm	1.75	1.57
Potassium	40 - 100 ppm	58.84	116.61
Calcium	60 - 200 ppm	409.77	496.79
Magnesium	20 - 70 ppm	67.89	121.56
Sodium	0 - 30 ppm	378.07	796.01
Soluble Salts	<1,920 ppm	2,133.00	3,351.00
Bicarbonate	<60 ppm	141.30	195.89
Chloride	<1,000 ppm	381.00	967.00
SAR	<4%	4.56	8.30

CONCORD GREENS	Acceptable Range For Saturated Paste Sample	7,12(avg) 6/14/23	4,18(avg) 6/11/25
Nitrate - Bentgrass/Poa	1-3 ppm	<0.5	<0.85
Phosphorus	2 - 7 ppm	2.70	3.03
Potassium	25-40 ppm	19.08	34.43
Calcium	50- 75 ppm	43.71	89.68
Magnesium	15-30 ppm	11.91	27.21
Sodium	0 - 30 ppm	118.44	188.88
Soluble Salts	<1,000 ppm	532.00	944.00
Bicarbonate	<60 ppm	70.09	171.90
Chloride	<200 ppm	100.00	137.00
SAR	<4%	4.08	4.46

SAN RAMON GOLF CLUB

	10/6/22	10/16/23	10/25/24
Humidity/Air Temperature	35%/87°	50%/76°	25%/77°
Greens Temperature	(avg)68.25°	(avg)58.4°	(avg)59.5°
Fairway Temperature	(avg)68.7°	(avg)61°	(avg)61.5°

WATER	Acceptable Range For Water Sample	Stream #9 10/6/22	Pond #18 10/6/22	Stream #9 10/16/23	Pond #18 10/16/23	Stream #9 10/25/24	Pond #18 10/24/24
pH	6.0-6.5	7.77	7.63	7.52	7.43	7.71	7.95
EC	<2.25 mmhos/cm	0.97	1.12	1.00	1.05	1.01	0.99
Sodium		108.10	156.70	99.21	150.42	106.13	116.33
Calcium	20 - 60 ppm	71.62	49.85	73.13	48.33	78.38	59.69
Magnesium	10 - 25 ppm	30.37	19.74	31.08	21.68	33.53	34.84
Potassium	5 - 20 ppm	2.52	2.21	2.19	3.40	1.62	2.07
Sulfur	30 - 90 ppm	66.63	2.53	59.32	2.65	60.21	60.79
Bicarbonate	<120 ppm	416.61	306.03	425.18	354.32	450.25	433.17
Boron	<0.67 ppm	0.34	1.01	0.33	0.78	0.32	0.37
Chloride	<177 ppm	94.81	221.78	96.68	168.17	104.68	116.59

TEES	Acceptable Range For Alkaline Soils Sample	10,13,14(avg) 10/6/22	10,13,16(avg) 10/25/24
Organic Matter (Humus)	2 - 3%	4.39	4.33
Sulfur	12 - 16 ppm	48.33	42.00
Olsen - Phosphorus	13 - 20 ppm	12.67	20.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,706.67	4,178.00
	>7% base saturation or at least 200 lbs/acre		
Magnesium		27.37%/1,045.33	30.43%/1,336
Potassium - TEC of 0 - 35	100 ppm	80.00	94.67
Manganese	>50 ppm	50.00	47.67

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	10,13,14(avg) 10/6/22	10,13,16(avg) 10/25/24
Organic Matter (Humus)	2 - 3%	6.34	8.74
Sulfur	12 - 16 ppm	76.33	54.67
Olsen - Phosphorus	13 - 20 ppm	13.67	12.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	5,926.67	5,835.33
	>7% base saturation or at least 200 lbs/acre		
Magnesium		32.1%/2,723	35.1%/2,434
Potassium - TEC of 0 - 35	100 ppm	195.00	195.67
Manganese	>50 ppm	47.00	41.00

GREENS	Acceptable Range For Alkaline Soils Sample	PG,10,13,14(avg) 10/6/22	10,13,14,16(avg) 10/25/24
Organic Matter (Humus)	2 - 3%	1.78	2.46
Sulfur	12 - 16 ppm	72.00	82.00
Olsen - Phosphorus	13 - 20 ppm	20.50	31.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,604.00	2,592.00
	>7% base saturation or at least 200 lbs/acre		
Magnesium		14.70%/424	16.0%/358.5
Potassium - TEC of 0 - 35	150 ppm	147.25	168.50
Manganese	>50 ppm	40.00	33.50

TEE	Acceptable Range For Saturated Paste Sample	10 10/6/22	10 10/25/24
Nitrate - Ryegrass	5 - 10 ppm	3.00	0.60
Phosphorus	2 - 10 ppm	2.45	1.04
Potassium	40 - 100 ppm	14.55	5.17
Calcium	60 - 200 ppm	63.08	42.13
Magnesium	20 - 70 ppm	33.12	22.52
Sodium	0 - 30 ppm	215.33	162.52
Soluble Salts	<1,920 ppm	810.00	661.00
Bicarbonate	<60 ppm	226.27	192.27
Chloride	<1,000 ppm	220.00	178.00
SAR	<4%	5.46	5.03

FAIRWAY	Acceptable Range For Saturated Paste Sample	10 10/6/22	10 10/25/24
Nitrate - Ryegrass	5 - 10 ppm	<0.5	<0.5
Phosphorus	2 - 10 ppm	2.02	1.44
Potassium	40 - 100 ppm	8.79	4.84
Calcium	60 - 200 ppm	71.23	34.59
Magnesium	20 - 70 ppm	39.28	18.78
Sodium	0 - 30 ppm	342.63	104.83
Soluble Salts	<1,920 ppm	1,119.00	474.00
Bicarbonate	<60 ppm	290.23	158.95
Chloride	<1,000 ppm	327.00	113.00
SAR	<4%	8.09	3.56

GREENS	Acceptable Range For Saturated Paste Sample	PG,10(avg) 10/6/22	10,14(avg) 10/25/24
Nitrate - Bentgrass/Poa	1-3 ppm	<0.5	<0.5
Phosphorus	2 - 7 ppm	2.89	2.78
Potassium	25-40 ppm	95.82	53.49
Calcium	50- 75 ppm	69.65	47.16
Magnesium	15-30 ppm	30.75	19.37
Sodium	0 - 30 ppm	190.30	92.02
Soluble Salts	<1,000 ppm	912.50	580.50
Bicarbonate	<60 ppm	178.27	136.56
Chloride	<200 ppm	164.50	76.00
SAR	<4%	4.76	2.85



	6/11/24	6/10/25
Humidity/Air Temperature	8%/107°	10%/108°
Greens Temperature	(avg)83°	(avg)77°
Fairway Temperature	(avg)85°	(avg)80°

WATER	Acceptable Range For Water Sample	Irrigation Water 6/11/24	Irrigation Water 6/10/25
pH	6.0-6.5	7.69	7.75
EC	<2.25 mmhos/cm	1.91	1.97
Sodium		272.65	273.28
Calcium	20 - 60 ppm	95.51	95.83
Magnesium	10 - 25 ppm	28.50	30.58
Potassium	5 - 20 ppm	20.17	21.37
Sulfur	30 - 90 ppm	273.46	288.29
Bicarbonate	<120 ppm	201.58	195.11
Boron	<0.67 ppm	0.32	0.07
Chloride	<177 ppm	357.44	337.35

TEES	Acceptable Range For Alkaline Soils Sample	3,10,17(avg) 6/11/24	4,7,16(avg) 6/10/25
Organic Matter (Humus)	2 - 3%	4.12	4.00
Sulfur	12 - 16 ppm	131.00	129.33
Olsen - Phosphorus	13 - 20 ppm	39.67	34.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	4,338.67	3,416.67
Magnesium	>7% base saturation or at least 200 lbs/acre	15.33%/642	15.82%/515.66
Potassium - TEC of 0 - 35	100 ppm	269.33	232.67
Manganese	>50 ppm	21.33	22.67

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	3,10,17(avg) 6/11/24	4,7,16(avg) 6/10/25
Organic Matter (Humus)	2 - 3%	5.15	6.25
Sulfur	12 - 16 ppm	137.67	80.67
Olsen - Phosphorus	13 - 20 ppm	48.00	38.67
Calcium - TEC of 6 - 12	1,000 lbs/acre	5,664.67	3,900.00
Magnesium	>7% base saturation or at least 200 lbs/acre	13.08%/838.67	13.12%/581.33
Potassium - TEC of 0 - 35	100 ppm	1,225.67	849.66
Manganese	>50 ppm	44.00	34.00

GREENS	Acceptable Range For Alkaline Soils Sample	2,3,10,17(avg) 9/12/23	4,6,7,16(avg) 6/10/25
Organic Matter (Humus)	2 - 3%	2.07	1.97
Sulfur	12 - 16 ppm	95.25	66.75
Olsen - Phosphorus	13 - 20 ppm	22.25	22.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,949.00	2,466.50
Magnesium	>7% base saturation or at least 200 lbs/acre	12.68%/341.50	13.93%/317.5
Potassium - TEC of 0 - 35	150 ppm	234.00	204.50
Manganese	>50 ppm	90.25	59.75

TEES	Acceptable Range For Saturated Paste Sample	3 6/11/24	4 6/10/25
Nitrate - Bermudagrass	10-15 ppm	94.30	32.30
Phosphorus	2 - 10 ppm	3.52	2.98
Potassium	40 - 100 ppm	83.21	39.67
Calcium	60 - 200 ppm	229.88	159.06
Magnesium	20 - 70 ppm	78.72	46.10
Sodium	0 - 30 ppm	653.66	398.63
Soluble Salts	<1,920 ppm	2,589.00	1,679.00
Bicarbonate	<60 ppm	147.23	237.11
Chloride	<1,000 ppm	173.00	444.00
SAR	<4%	9.49	7.16

FAIRWAYS	Acceptable Range For Saturated Paste Sample	3 6/11/24	4 6/10/25
Nitrate - Bermudagrass	10-15 ppm	99.00	18.60
Phosphorus	2 - 10 ppm	4.33	5.35
Potassium	40 - 100 ppm	46.74	30.79
Calcium	60 - 200 ppm	155.22	42.10
Magnesium	20 - 70 ppm	52.86	17.08
Sodium	0 - 30 ppm	529.14	263.57
Soluble Salts	<1,920 ppm	2,248.00	916.00
Bicarbonate	<60 ppm	169.11	221.26
Chloride	<1,000 ppm	443.00	174.00
SAR	<4%	9.36	8.66

GREENS	Acceptable Range For Saturated Paste Sample	3,10(avg) 6/11/24	4,16(avg) 6/10/25
Nitrate - Bermudagrass	1-3 ppm	22.65	40.85
Phosphorus	2 - 7 ppm	5.45	5.52
Potassium	25-40 ppm	39.06	44.75
Calcium	50- 75 ppm	115.51	49.93
Magnesium	15-30 ppm	32.95	17.18
Sodium	0 - 30 ppm	278.19	197.69
Soluble Salts	<1,000 ppm	1,231.50	963.50
Bicarbonate	<60 ppm	128.83	180.28
Chloride	<200 ppm	221.00	184.00
SAR	<4%	5.86	6.13



	<u>9/22/22</u>	<u>10/20/23</u>	<u>9/10/24</u>
Humidity/Air Temperature	10%/100°	13%/104	20%/110°
Greens Temperature	(avg)78.5°	n/r	(avg)76°
Fairways Temperature	(avg)79.9°	n/r	(avg)78°

WATER	Acceptable Range For Water Sample	Irrigation Water <u>9/22/22</u>	Irrigation Water <u>10/20/23</u>	Irrigation Water <u>9/10/24</u>
pH	6.0-6.5	8.12	n/r	7.92
EC	<2.25 mmhos/cm	0.33	n/r	0.37
Sodium		21.58	n/r	22.02
Calcium	20 - 60 ppm	36.50	n/r	41.75
Magnesium	10 - 25 ppm	7.26	n/r	7.21
Potassium	5 - 20 ppm	5.20	n/r	4.70
Sulfur	30 - 90 ppm	34.92	n/r	38.53
Bicarbonate	<120 ppm	113.37	n/r	165.95
Boron	<0.67 ppm	<0.05	n/r	<0.05
Chloride	<177 ppm	3.74	n/r	5.45

TEES	Acceptable Range For Alkaline Soils Sample	3,11,16(avg) <u>9/22/22</u>	6,8,12(avg) <u>10/20/23</u>	2,7,10(avg) <u>9/10/24</u>
Organic Matter (Humus)	2 - 3%	3.71	3.01	2.74
Sulfur	12 - 16 ppm	13.33	12.00	37.67
Olsen - Phosphorus	13 - 20 ppm	4.67	6.67	14.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,727.33	3,538.67	3,497.33
Magnesium	>7% base saturation or at least 200 lbs/acre	11.88%/329.33	10.82%/283.33	12.81%/352
Potassium - TEC of 0 - 35	100 ppm	116.00	126.33	211.00
Manganese	>50 ppm	34.33	37.67	33.00

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	3,11,16(avg) <u>9/22/22</u>	6,8,12(avg) <u>10/20/23</u>	2,7,10(avg) <u>9/10/24</u>
Organic Matter (Humus)	2 - 3%	4.30	2.35	3.03
Sulfur	12 - 16 ppm	32.00	33.67	42.00
Olsen - Phosphorus	13 - 20 ppm	11.00	4.00	18.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	5,093.33	4,800.67	4,268.00
Magnesium	>7% base saturation or at least 200 lbs/acre	12.47%/486.66	8.68%/299.33	12.98%/299.33
Potassium - TEC of 0 - 35	100 ppm	229.33	170.00	255.67
Manganese	>50 ppm	31.00	46.00	47.67

GREENS	Acceptable Range For Alkaline Soils Sample	PG,3,11,16(avg) <u>9/22/22</u>	6,8,12,13(avg) <u>10/20/23</u>	2,7,10,17(avg) <u>9/10/24</u>
Organic Matter (Humus)	2 - 3%	2.19	2.22	1.80
Sulfur	12 - 16 ppm	12.50	16.25	7.75
Olsen - Phosphorus	13 - 20 ppm	14.25	22.50	23.75
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,400.50	2,846.00	1,970.50
Magnesium	>7% base saturation or at least 200 lbs/acre	13.8%/263.5	13.85%/312.50	14.41%/220
Potassium - TEC of 0 - 35	150 ppm	156.75	183.50	66.00
Manganese	>50 ppm	42.00	64.00	52.75

TEE	Acceptable Range For Saturated Paste Sample	3 <u>9/22/22</u>	6 <u>10/20/23</u>	2 <u>9/10/24</u>
Nitrate-Ryegrass	5-10 ppm	<0.5	<0.5	1.60
Phosphorus	2 - 10 ppm	2.11	5.99	2.34
Potassium	40 - 100 ppm	11.82	26.05	13.53
Calcium	60 - 200 ppm	42.29	100.16	39.43
Magnesium	20 - 70 ppm	8.80	16.67	8.99
Sodium	0 - 30 ppm	23.50	22.40	22.41
Soluble Salts	<1,920 ppm	241.00	359.00	211.00
Bicarbonate	<60 ppm	140.32	172.35	129.05
Chloride	<1,000 ppm	11.00	25.00	12.00
SAR	<4%	0.86	0.55	0.84

FAIRWAY	Acceptable Range For Saturated Paste Sample	3 <u>9/22/22</u>	6 <u>10/20/23</u>	2 <u>9/10/24</u>
Nitrate-Ryegrass	5-10 ppm	<0.5	<0.5	<0.5
Phosphorus	2 - 10 ppm	1.33	2.41	1.20
Potassium	40 - 100 ppm	26.98	39.06	6.78
Calcium	60 - 200 ppm	89.08	133.68	17.58
Magnesium	20 - 70 ppm	18.77	22.65	3.46
Sodium	0 - 30 ppm	67.77	34.51	16.56
Soluble Salts	<1,920 ppm	499.00	532.00	584.00
Bicarbonate	<60 ppm	221.34	280.91	244.12
Chloride	<1,000 ppm	26.00	30.00	70.00
SAR	<4%	1.70	0.73	0.94

GREENS	Acceptable Range For Saturated Paste Sample	PG,3(avg) <u>9/22/22</u>	6,13(avg) <u>10/20/23</u>	2,10(avg) <u>9/10/24</u>
Nitrate - Bermudagrass	5-10 ppm	12.15	<0.5	3.95
Phosphorus	2 - 7 ppm	1.84	2.52	0.49
Potassium	25-40 ppm	28.77	45.81	4.65
Calcium	50- 75 ppm	33.36	65.31	13.68
Magnesium	15-30 ppm	9.14	15.69	3.14
Sodium	0 - 30 ppm	26.96	28.97	11.90
Soluble Salts	<1,000 ppm	261.75	377.50	94.00
Bicarbonate	<60 ppm	83.96	196.42	40.58
Chloride	<200 ppm	11.50	26.00	2.00
SAR	<4%	1.06	0.83	0.54



	<u>6/6/23</u>	<u>6/18/24</u>	<u>6/14/25</u>
Humidity/Air Temperature	55%/69°	50%/84°	30%/89°
Greens Temperature	(avg)61.2°	(avg)65°	(avg)62°
Fairways Temperature	(avg)65.3°	(avg)68°	(avg)66°

WATER	Acceptable Range For Water Sample	Hole #13 6/6/23	Hole #10 6/18/24	Hole #18 6/14/25
pH	6.0-6.5	7.68	8.10	8.05
EC	<2.25 mmhos/cm	0.54	0.57	0.84
Sodium		41.39	47.10	76.62
Calcium	20 - 60 ppm	54.41	51.37	54.72
Magnesium	10 - 25 ppm	10.03	11.26	27.60
Potassium	5 - 20 ppm	2.63	2.47	6.39
Phosphorus	0.1 - 0.4 ppm	<0.20	<0.20	0.67
Nitrate	5 - 50 ppm	3.17	2.52	0.91
Sulfur	30 - 90 ppm	24.50	30.59	153.18
Bicarbonate	<120 ppm	207.36	197.98	187.30
Boron	<0.67 ppm	<0.05	<0.05	<0.05
Chloride	<177 ppm	55.66	58.89	65.19

TEES	Acceptable Range For Alkaline Soils Sample	2,10,17(avg) 6/22/19	2,10,17(avg) 6/14/25
Organic Matter (Humus)	2 - 3%	4.86	4.47
Sulfur	12 - 16 ppm	49.33	47.00
Olsen - Phosphorus	13 - 20 ppm	22.00	17.67
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,502.67	2,100.67
Magnesium	>7% base saturation or at least 200 lbs/acre	20.50%/474.66	20.87%/400.66
Potassium - TEC of 0 - 35	100 ppm	102.00	85.00
Manganese	>50 ppm	11.33	approx 10

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	2,10,17(avg) 6/22/19	2,10,17(avg) 6/14/25
Organic Matter (Humus)	2 - 3%	4.36	3.70
Sulfur	12 - 16 ppm	56.33	51.33
Olsen - Phosphorus	13 - 20 ppm	11.33	12.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,412.00	3,216.00
Magnesium	>7% base saturation or at least 200 lbs/acre	22.21%/706.66	20.69%/622.66
Potassium - TEC of 0 - 35	100 ppm	126.33	118.33
Manganese	>50 ppm	30.33	approx 30

GREENS	Acceptable Range For Alkaline Soils Sample	2,5,10,17(avg) 6/22/19	2,5,10,17(avg) 6/14/25
Organic Matter (Humus)	2 - 3%	2.16	2.09
Sulfur	12 - 16 ppm	48.50	42.25
Olsen - Phosphorus	13 - 20 ppm	18.25	28.75
Calcium - TEC of 6 - 12	1,000 lbs/acre	1,461.50	1,868.50
Magnesium	>7% base saturation or at least 200 lbs/acre	18.67%/262.5	14.01%/215.5
Potassium - TEC of 0 - 35	150 ppm	138.50	120.75
Manganese	>50 ppm	26.25	approx 20

TEES	Acceptable Range For Saturated Paste Sample	2 6/22/19	2 6/14/25
Nitrate - Ryegrass	5 - 10 ppm	40.50	<0.5
Phosphorus	2 - 10 ppm	2.99	1.84
Potassium	40 - 100 ppm	25.04	15.86
Calcium	60 - 200 ppm	65.22	35.22
Magnesium	20 - 70 ppm	25.10	10.10
Sodium	0 - 30 ppm	92.42	60.12
Soluble Salts	<1,920 ppm	672.00	303.00
Bicarbonate	<60 ppm	65.89	89.09
Chloride	<1,000 ppm	81.00	43.00
SAR	<4%	2.46	2.30

FAIRWAYS	Acceptable Range For Saturated Paste Sample	2 6/22/19	2 6/14/25
Nitrate - Ryegrass	5 - 10 ppm	2.10	2.60
Phosphorus	2 - 10 ppm	0.92	0.81
Potassium	40 - 100 ppm	13.24	6.91
Calcium	60 - 200 ppm	60.57	45.06
Magnesium	20 - 70 ppm	23.17	14.48
Sodium	0 - 30 ppm	167.90	140.24
Soluble Salts	<1,920 ppm	674.00	499.00
Bicarbonate	<60 ppm	141.54	133.19
Chloride	<1,000 ppm	121.00	101.00
SAR	<4%	4.65	4.65

GREENS	Acceptable Range For Saturated Paste Sample	2,17(avg) 6/22/19	2,17(avg) 6/14/25
Nitrate - Bentgrass/Poa	1-3 ppm	31.80	2.05
Phosphorus	2 - 7 ppm	2.81	4.29
Potassium	25-40 ppm	54.06	41.04
Calcium	50- 75 ppm	60.73	58.61
Magnesium	15-30 ppm	20.30	11.90
Sodium	0 - 30 ppm	89.55	63.31
Soluble Salts	<1,000 ppm	655.00	452.50
Bicarbonate	<60 ppm	68.33	106.58
Chloride	<200 ppm	106.00	72.00
SAR	<4%	2.55	1.98

Application for Tees:	100 pounds of product/acre (0-0-50)	500 pounds of product/acre (Gypsum)	125 pounds of product/acre(11-55-00)
Ashwood GC			
Birch Hills GC			
Camarillo Springs GC			
Revere GC			
San Ramon GC			
Tri-Palms Estates CC			
The Legacy GC			
Yucaipa Valley GC	yes		

Application for Fairways:	100 pounds of product/acre (0-0-50)	500 pounds of product/acre (Gypsum)	125 pounds of product/acre(11-55-00)
Ashwood GC			
Birch Hills GC			yes
Camarillo Springs GC			
Revere GC			
San Ramon GC			
Tri-Palms Estates CC			
The Legacy GC			
Yucaipa Valley GC	yes		

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					
Birch Hills GC	yes		yes		
Camarillo Springs GC	yes				
Revere GC					
San Ramon GC					
Tri-Palms Estates CC					
The Legacy GC	yes(after flush)	yes(with flush)			
Yucaipa Valley GC					yes