



SOIL AND WATER CONSULTING

Data Collection Report



2020



	<u>6/7/18</u>	<u>6/25/19</u>	<u>7/16/20</u>
Humidity/Air Temperature	50%/78°	55%/74°	55%/82°
Greens Temperature	89.2°	(avg)69°	(avg)69.85°
Fairways Temperature	86.4°	(avg)71°	(avg)74.23°

WATER	Acceptable Range For Water Sample	Irrigation Water 6/7/18	Irrigation Water 6/25/19	Irrigation Water 7/16/20
pH	6.0-6.5	7.78	8.00	7.58
EC	<2.25 mmhos/cm	1.01	0.48	0.56
Sodium		99.12	18.54	26.66
Calcium	20 - 60 ppm	68.88	63.29	62.42
Magnesium	10 - 25 ppm	22.97	11.69	13.24
Potassium	5 - 20 ppm	5.27	3.95	9.22
Phosphorus	0.1 - 0.4 ppm	<0.20	n/t	n/t
Nitrate	5 - 50 ppm	0.23	n/t	n/t
Sulfur	30 - 90 ppm	224.82	46.32	70.50
Bicarbonate	<120 ppm	164.08	177.91	212.72
Boron	<0.67 ppm	0.14	0.07	0.08
Chloride	<177 ppm	94.13	14.13	27.06

TEES	Acceptable Range For Alkaline Soils Sample	1,9,18(avg) 6/7/18	2,10,17(avg) 6/25/19	3,14,16(avg) 7/16/20
Organic Matter (Humus)	2 - 3%	1.05	1.52	2.08
Sulfur	12 - 16 ppm	64.33	63.00	63.67
Olsen - Phosphorus	13 - 20 ppm	7.33	14.00	20.67
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,466.67	2,262.67	2,309.33
	>7% base saturation or at least 200 lbs/acre	17.72%/355.33	16.56%/304.66	14.36%/271.33
Magnesium	100 ppm	55.67	99.67	93.00
Potassium - TEC of 0 - 35	>50 ppm	43.67	33.00	36.00
Manganese				

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	1,9,18(avg) 6/7/18	2,10,17(avg) 6/25/19	3,14,16(avg) 7/16/20
Organic Matter (Humus)	2 - 3%	3.09	5.25	3.27
Sulfur	12 - 16 ppm	287.67	95.00	249.00
Olsen - Phosphorus	13 - 20 ppm	4.33	9.33	2.67
Calcium - TEC of 6 - 12	1,000 lbs/acre	6,490.00	6,178.00	7,134.00
	>7% base saturation or at least 200 lbs/acre	18.38%/998	18.44%/946	19.05%/1,136.66
Magnesium	100 ppm	138.67	184.67	145.33
Potassium - TEC of 0 - 35	>50 ppm	48.33	39.33	47.00
Manganese				

GREENS	Acceptable Range For Alkaline Soils Sample	1,9,12,18(avg) 6/7/18	2,5,10,17(avg) 6/25/19	3,7,14,16(avg) 7/16/20
Organic Matter (Humus)	2 - 3%	0.41	0.53	0.73
Sulfur	12 - 16 ppm	45.75	22.00	28.25
Olsen - Phosphorus	13 - 20 ppm	4.75	6.50	8.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	846.50	968.50	1,216.00
	>7% base saturation or at least 200 lbs/acre	16.56%/131	11.49%/94	11.22%/114.5
Magnesium	150 ppm	100.25	139.25	155.00
Potassium - TEC of 0 - 35	>50 ppm	23.50	31.75	57.00
Manganese				

TEES	Acceptable Range For Saturated Paste Sample	1 6/7/18	2 6/25/19	3 7/16/20
Nitrate - Bermudagrass	10-15 ppm	<0.5	<0.5	<0.5
Phosphorus	2 - 10 ppm	1.51	8.45	4.46
Potassium	40 - 100 ppm	15.42	76.08	32.11
Calcium	60 - 200 ppm	73.08	172.83	70.73
Magnesium	20 - 70 ppm	20.37	46.39	17.43
Sodium	0 - 30 ppm	111.47	57.40	43.74
Soluble Salts	<1,920 ppm	707.00	1,000.00	403.00
Bicarbonate	<60 ppm	239.16	268.44	106.33
Chloride	<1,000 ppm	101.00	91.00	59.00
SAR	<4%	2.97	1.00	1.21

FAIRWAYS	Acceptable Range For Saturated Paste Sample	1 6/7/18	2 6/25/19	3 7/16/20
Nitrate - Bermudagrass	10-15 ppm	<0.5	<0.5	<0.5
Phosphorus	2 - 10 ppm	0.14	0.34	0.17
Potassium	40 - 100 ppm	11.15	12.71	7.42
Calcium	60 - 200 ppm	238.52	331.51	194.17
Magnesium	20 - 70 ppm	57.68	78.58	53.49
Sodium	0 - 30 ppm	198.88	213.51	140.05
Soluble Salts	<1,920 ppm	1,308.00	1,430.00	950.00
Bicarbonate	<60 ppm	222.08	256.24	105.95
Chloride	<1,000 ppm	132.00	81.00	57.00
SAR	<4%	3.00	2.74	2.29

GREENS	Acceptable Range For Saturated Paste Sample	1,18(avg) 6/7/18	2,17(avg) 6/25/19	3,7(avg) 7/16/20
Nitrate - Bentgrass/Poa	1-3 ppm	<0.5	<0.5	<0.5
Phosphorus	2 - 7 ppm	1.79	1.20	1.20
Potassium	25-40 ppm	31.23	99.35	55.01
Calcium	50- 75 ppm	50.43	104.66	63.46
Magnesium	15-30 ppm	13.32	18.63	10.69
Sodium	0 - 30 ppm	76.04	42.61	41.05
Soluble Salts	<1,000 ppm	533.50	640.00	403.00
Bicarbonate	<60 ppm	95.18	206.22	118.47
Chloride	<200 ppm	56.00	68.50	55.00
SAR	<4%	3.18	1.00	1.25



CAMARILLO SPRINGS Golf Course

	<u>6/8/18</u>	<u>6/27/19</u>	<u>7/17/20</u>
Humidity/Air Temperature	50%/77°	60%/72°	50%/75°
Greens Temperature	68°	(avg)71.1°	(avg)70°
Fairway Temperature	75°	(avg)68.1°	(avg)70.5°

WATER	Acceptable Range For Water Sample	Irrigation Pond <u>6/8/18</u>	Irrigation Pond <u>6/27/19</u>	Irrigation Pond <u>7/17/20</u>
pH	6.0-6.5	7.26	7.84	7.32
EC	<2.25 mmhos/cm	1.66	2.16	1.76
Sodium		181.00	198.50	142.20
Calcium	20 - 60 ppm	72.11	109.50	72.73
Magnesium	10 - 25 ppm	56.08	130.10	104.50
Potassium	5 - 20 ppm	4.06	4.87	7.78
Phosphorus	0.1 - 0.4 ppm	0.52	0.26	<0.20
Nitrate	5 - 50 ppm	0.52	<0.1	2.76
Sulfur	30 - 90 ppm	226.77	323.10	271.50
Bicarbonate	<120 ppm	378.26	614.94	427.63
Boron	<0.67 ppm	0.42	0.43	0.31
Chloride	<177 ppm	217.36	394.88	220.93

TEES	Acceptable Range For Alkaline Soils Sample	1,4,10(avg) <u>6/8/18</u>	2,10,17(avg) <u>6/27/19</u>	5,13,15(avg) <u>7/17/20</u>
Organic Matter (Humus)	2 - 3%	7.18	7.32	6.17
Sulfur	12 - 16 ppm	63.33	81.67	99.33
Olsen - Phosphorus	13 - 20 ppm	120.67	138.00	116.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	4,156.00	4,040.67	3,681.33
Magnesium	>7% base saturation or at least 200 lbs/acre	38.94%/1,994	36.24%/1,761.33	40.04%/1,830
Potassium - TEC of 0 - 35	100 ppm	361.00	405.67	267.00
Manganese	>50 ppm	21.33	29.67	25.67

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	1,4,10(avg) <u>6/8/18</u>	2,10,17(avg) <u>6/27/19</u>	5,13,15(avg) <u>7/17/20</u>
Organic Matter (Humus)	2 - 3%	7.51	12.26	7.86
Sulfur	12 - 16 ppm	833.67	199.00	242.67
Olsen - Phosphorus	13 - 20 ppm	103.33	160.33	102.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	6,697.33	5,790.67	6,257.33
Magnesium	>7% base saturation or at least 200 lbs/acre	38.06%/2,992	42.01%/3,238.66	40.44%/3,248
Potassium - TEC of 0 - 35	100 ppm	515.00	561.33	531.67
Manganese	>50 ppm	60.67	55.33	52.67

GREENS	Acceptable Range For Alkaline Soils Sample	1,4,8,10(avg) <u>6/8/18</u>	2,UPG,10,17(avg) <u>6/27/19</u>	5,9,13,15(avg) <u>7/17/20</u>
Organic Matter (Humus)	2 - 3%	0.93	1.43	1.13
Sulfur	12 - 16 ppm	92.00	128.00	116.00
Olsen - Phosphorus	13 - 20 ppm	17.75	36.00	37.25
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,532.00	3,442.00	2,828.50
Magnesium	>7% base saturation or at least 200 lbs/acre	21.99%/486.5	20.97%/632	20.97%/632
Potassium - TEC of 0 - 35	150 ppm	33.75	72.50	38.75
Manganese	>50 ppm	102.50	143.00	131.50

TEES	Acceptable Range For Saturated Paste Sample	1 <u>6/8/18</u>	2 <u>6/27/19</u>	5 <u>7/17/20</u>
Nitrate - Ryegrass	5 - 10 ppm	<0.5	45.20	21.10
Phosphorus	2 - 10 ppm	7.29	6.49	6.33
Potassium	40 - 100 ppm	34.47	96.01	61.25
Calcium	60 - 200 ppm	62.51	145.98	125.98
Magnesium	20 - 70 ppm	63.33	156.26	125.87
Sodium	0 - 30 ppm	121.62	230.16	175.31
Soluble Salts	<1,920 ppm	846.00	1,688.00	1,322.00
Bicarbonate	<60 ppm	246.48	329.45	242.28
Chloride	<1,000 ppm	189.00	400.00	277.00
SAR	<4%	2.59	3.15	2.64

FAIRWAYS	Acceptable Range For Saturated Paste Sample	1 <u>6/8/18</u>	2 <u>6/27/19</u>	5 <u>7/17/20</u>
Nitrate - Ryegrass	5 - 10 ppm	7.30	<0.5	<0.5
Phosphorus	2 - 10 ppm	2.17	6.26	3.64
Potassium	40 - 100 ppm	107.38	70.14	33.43
Calcium	60 - 200 ppm	521.51	142.82	72.90
Magnesium	20 - 70 ppm	494.93	151.85	77.02
Sodium	0 - 30 ppm	753.77	224.54	117.77
Soluble Salts	<1,920 ppm	4,588.00	1,508.00	801.00
Bicarbonate	<60 ppm	302.61	427.07	212.45
Chloride	<1,000 ppm	1,246.00	280.00	190.00
SAR	<4%	5.67	3.12	2.29

GREENS	Acceptable Range For Saturated Paste Sample	1,18(avg) <u>6/8/18</u>	2,17(avg) <u>6/27/19</u>	5,9(avg) <u>7/17/20</u>
Nitrate - Bentgrass/Poa	1-3 ppm	1.90	<0.5	<0.5
Phosphorus	2 - 7 ppm	0.98	1.61	1.68
Potassium	25-40 ppm	12.57	33.78	12.18
Calcium	50- 75 ppm	116.15	128.71	105.18
Magnesium	15-30 ppm	78.40	92.49	85.57
Sodium	0 - 30 ppm	180.07	189.83	114.61
Soluble Salts	<1,000 ppm	1,059.50	1,147.50	861.50
Bicarbonate	<60 ppm	135.45	314.82	176.47
Chloride	<200 ppm	225.00	220.00	148.50
SAR	<4%	3.18	3.12	2.01



	<u>3/8/19</u>	<u>3/3/20</u>	<u>9/22/19</u>	<u>10/15/20</u>
Humidity/Air Temperature	30%/60°	15%/73°	20%/90°	20%/89°
Greens Temperature	(avg)53.4°	(avg)54.4°	(avg)56°	(avg)57°
Fairway Temperature	(avg)51.2°	(avg)52°	(avg)60°	(avg)61°

WATER	Acceptable Range For Water Sample	Lexington Pond #5	Concord Hole #6	Concord Hole #16	Lexington Hole Pond
	<u>3/8/19</u>	<u>3/3/20</u>	<u>9/22/19</u>	<u>10/19/20</u>	
pH	6.0-6.5	7.39	7.82	7.07	6.17
EC	<2.25 mmhos/cm	1.95	1.88	2.00	1.90
Sodium		252.10	263.00	251.00	224.50
Calcium	20 - 60 ppm	83.45	86.58	93.22	82.35
Magnesium	10 - 25 ppm	24.47	27.51	30.87	25.52
Potassium	5 - 20 ppm	23.09	22.15	22.29	17.96
Sulfur	30 - 90 ppm	231.63	309.90	368.70	334.50
Bicarbonate	<120 ppm	213.05	162.04	115.67	68.97
Boron	<0.67 ppm	0.25	0.31	0.37	0.26
Chloride	<177 ppm	330.54	351.65	372.76	286.97

TEES	Acceptable Range For Alkaline Soils Sample	5,14,14(avg) <u>3/8/19</u>	1,1,10(avg) <u>3/3/20</u>	7,7,16(avg) <u>9/22/19</u>	6,8,17(avg) <u>10/15/20</u>
Organic Matter (Humus)	2 - 3%	3.86	4.86	4.86	2.41
Sulfur	12 - 16 ppm	22.33	80.67	80.67	54.00
Olsen - Phosphorus	13 - 20 ppm	20.33	45.00	45.00	12.67
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,958.67	4,343.33	4,343.33	3,625.33
	>7% base saturation or at least 200 lbs/acre	13.96%/468.6	14.12%/575.3	14.3%/488	12.99%/404.66
Magnesium					
Potassium - TEC of 0 - 35	100 ppm	264.67	407.33	407.33	329.33
Manganese	>50 ppm	31.00	27.33	27.33	21.33

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	5,14,14(avg) <u>3/8/19</u>	1,1,10(avg) <u>3/3/20</u>	7,7,16(avg) <u>9/22/19</u>	6,8,17(avg) <u>10/15/20</u>
Organic Matter (Humus)	2 - 3%	5.24	5.67	5.67	4.59
Sulfur	12 - 16 ppm	2,506.33	2,918.33	2,918.33	1,588.33
Olsen - Phosphorus	13 - 20 ppm	54.67	49.33	49.33	20.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	10,725.33	11,791.33	11,791.33	8,019.33
	>7% base saturation or at least 200 lbs/acre	7.19%/516	8.08%/704.66	6.35%/587.33	9.47%/594
Magnesium					
Potassium - TEC of 0 - 35	100 ppm	511.00	693.33	693.33	661.00
Manganese	>50 ppm	34.33	22.33	22.33	17.00

GREENS	Acceptable Range For Alkaline Soils Sample	5,14,14(avg) <u>3/8/19</u>	1,1,10(avg) <u>3/3/20</u>	7,7,16(avg) <u>9/22/19</u>	6,8,17(avg) <u>10/15/20</u>
Organic Matter (Humus)	2 - 3%	2.21	2.47	2.21	1.69
Sulfur	12 - 16 ppm	29.00	72.00	76.67	43.33
Olsen - Phosphorus	13 - 20 ppm	13.33	24.00	23.00	2.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,076.67	2,960.67	2,878.67	2,225.33
	>7% base saturation or at least 200 lbs/acre	10.98%/226	10.39%/293.33	11.88%/327.33	9.59%/214
Magnesium					
Potassium - TEC of 0 - 35	150 ppm	465.33	670.33	670.33	656.00
Manganese	>50 ppm	32.67	76.33	76.33	41.33

LEXINGTON TEES	Acceptable Range For Saturated Paste Sample	5,14(avg) <u>3/8/19</u>	1,10(avg) <u>3/3/20</u>	7,16(avg) <u>9/22/19</u>	6,8(avg) <u>10/19/20</u>
Nitrate - Ryegrass	5 - 10 ppm	<0.5	<0.7	<1.3	2.35
Phosphorus	2 - 10 ppm	2.47	3.15	3.15	3.93
Potassium	40 - 100 ppm	12.45	23.65	23.65	20.83
Calcium	60 - 200 ppm	52.79	84.55	84.55	75.63
Magnesium	20 - 70 ppm	15.42	26.76	26.76	23.17
Sodium	0 - 30 ppm	172.11	293.48	293.48	179.99
Soluble Salts	<1,920 ppm	624.00	965.00	965.00	733.50
Bicarbonate	<60 ppm	222.08	234.54	234.54	134.45
Chloride	<1,000 ppm	99.00	271.00	271.00	162.50
SAR	<4%	5.37	7.16	7.16	4.65

LEXINGTON FAIRWAYS	Acceptable Range For Saturated Paste Sample	5,14(avg) <u>3/8/19</u>	7,16(avg) <u>9/22/19</u>	7,16(avg) <u>9/22/19</u>	6,8(avg) <u>10/19/20</u>
Nitrate - Ryegrass	5 - 10 ppm	<0.5	<0.5	<0.5	3.70
Phosphorus	2 - 10 ppm	1.40	1.09	1.09	2.03
Potassium	40 - 100 ppm	48.65	44.30	44.30	49.47
Calcium	60 - 200 ppm	528.19	422.18	422.18	473.35
Magnesium	20 - 70 ppm	102.31	86.21	86.21	109.61
Sodium	0 - 30 ppm	328.67	398.95	398.95	401.94
Soluble Salts	<1,920 ppm	2,321.00	1,955.00	1,955.00	2,175.50
Bicarbonate	<60 ppm	294.07	209.25	209.25	155.28
Chloride	<1,000 ppm	206.50	316.50	316.50	273.50
SAR	<4%	3.42	4.63	4.63	4.34

ALL GREENS	Acceptable Range For Saturated Paste Sample	5,14,14(avg) <u>3/8/19</u>	1,1,10(avg) <u>3/3/20</u>	7,7,16(avg) <u>9/22/19</u>	6,8,17(avg) <u>10/15/20</u>
Nitrate - Bentgrass/Poa	1-3 ppm	<0.5	<0.5	<0.5	<0.5
Phosphorus	2 - 7 ppm	2.20	1.05	1.05	1.18
Potassium	25-40 ppm	10.77	14.07	14.07	16.98
Calcium	50-75 ppm	33.31	51.28	51.28	55.08
Magnesium	15-30 ppm	10.66	14.82	14.82	16.98
Sodium	0 - 30 ppm	83.85	93.98	93.98	85.73
Soluble Salts	<1,000 ppm	333.00	439.67	439.67	482.67
Bicarbonate	<60 ppm	101.69	142.90	142.90	107.22
Chloride	<200 ppm	27.33	43.67	43.67	62.67
SAR	<4%	3.28	2.96	2.96	2.60

SAN RAMON GOLF CLUB

	<u>9/10/18</u>	<u>9/17/19</u>	<u>10/19/20</u>
Humidity/Air Temperature	44%/74°	60%/78°	50%/85°
Greens Temperature	(avg)63.67°	(avg)60°	(avg)54°
Fairway Temperature	(avg)67.1°	(avg)62°	(avg)55°

WATER	Acceptable Range For Water Sample	Stream #9 <u>9/10/18</u>	Pond #18 <u>9/10/18</u>	Stream #9 <u>9/17/19</u>	Pond #18 <u>9/17/19</u>	Stream #9 <u>10/30/20</u>	Pond #18 <u>10/30/20</u>
pH	6.0-6.5	7.67	8.71	7.12	8.50	7.83	7.60
EC	<2.25 mmhos/cm	1.20	1.08	0.68	1.10	1.17	1.17
Sodium		122.20	153.20	69.79	148.10	119.30	169.80
Calcium	20 - 60 ppm	76.98	25.04	52.98	29.33	72.27	30.90
Magnesium	10 - 25 ppm	31.96	27.46	20.85	43.80	33.97	20.84
Potassium	5 - 20 ppm	8.25	8.48	4.93	5.05	6.95	6.29
Sulfur	30 - 90 ppm	66.75	47.76	55.05	82.98	74.34	3.14
Bicarbonate	<120 ppm	519.06	200.15	323.60	352.88	477.72	286.05
Boron	<0.67 ppm	0.35	0.64	0.26	0.49	0.35	1.09
Chloride	<177 ppm	109.78	161.36	54.64	118.46	98.21	199.14

TEES	Acceptable Range For Alkaline Soils Sample	1,9,18(avg) <u>9/10/18</u>	4,8,16(avg) <u>9/17/19</u>	5,11,15(avg) <u>10/19/20</u>
Organic Matter (Humus)	2 - 3%	4.32	4.27	5.55
Sulfur	12 - 16 ppm	47.33	51.33	48.00
Olsen - Phosphorus	13 - 20 ppm	21.00	24.67	11.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	4,008.67	5,110.67	5,313.33
Magnesium	>7% base saturation or at least 200 lbs/acre	23.77%/966	23.89%/1,175.33	28.81%/1,546.66
Potassium - TEC of 0 - 35	100 ppm	96.33	125.67	132.33
Manganese	>50 ppm	34.33	28.67	40.33

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	1,9,18(avg) <u>9/10/18</u>	4,8,16(avg) <u>9/17/19</u>	5,11,15(avg) <u>10/19/20</u>
Organic Matter (Humus)	2 - 3%	6.69	7.82	7.12
Sulfur	12 - 16 ppm	51.33	81.33	67.00
Olsen - Phosphorus	13 - 20 ppm	11.00	18.67	11.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	6,014.67	7,409.33	7,352.67
Magnesium	>7% base saturation or at least 200 lbs/acre	30.04%/1996.33	31.6%/2,650	30.47%/2,430
Potassium - TEC of 0 - 35	100 ppm	173.33	264.00	242.67
Manganese	>50 ppm	62.00	35.33	44.67

GREENS	Acceptable Range For Alkaline Soils Sample	1,9,12,18(avg) <u>9/10/18</u>	1,4,8,16(avg) <u>9/17/19</u>	5,11,15(avg) <u>10/19/20</u>
Organic Matter (Humus)	2 - 3%	1.63	2.75	1.34
Sulfur	12 - 16 ppm	37.00	80.50	39.50
Olsen - Phosphorus	13 - 20 ppm	10.00	19.00	11.75
Calcium - TEC of 6 - 12	1,000 lbs/acre	2,548.50	4,087.00	1,894.50
Magnesium	>7% base saturation or at least 200 lbs/acre	16.68%/350.50	15.27%/515.5	16.09%/350
Potassium - TEC of 0 - 35	150 ppm	69.75	132.00	100.00
Manganese	>50 ppm	38.50	34.00	25.00

TEES	Acceptable Range For Saturated Paste Sample	1 <u>9/10/18</u>	4 <u>9/17/19</u>	5 <u>10/19/20</u>
Nitrate - Ryegrass	5 - 10 ppm	18.20	20.80	<0.5
Phosphorus	2 - 10 ppm	0.18	1.18	1.93
Potassium	40 - 100 ppm	11.39	6.78	11.20
Calcium	60 - 200 ppm	39.64	45.51	61.50
Magnesium	20 - 70 ppm	21.57	21.67	26.96
Sodium	0 - 30 ppm	256.27	210.66	212.89
Soluble Salts	<1,920 ppm	950.00	880.00	659.00
Bicarbonate	<60 ppm	134.22	146.42	189.22
Chloride	<1,000 ppm	301.00	233.00	188.00
SAR	<4%	8.13	6.43	5.69

FAIRWAYS	Acceptable Range For Saturated Paste Sample	1 <u>9/10/18</u>	4 <u>9/17/19</u>	5 <u>10/19/20</u>
Nitrate - Ryegrass	5 - 10 ppm	2.50	22.20	0.60
Phosphorus	2 - 10 ppm	1.09	1.65	2.07
Potassium	40 - 100 ppm	8.94	11.61	9.81
Calcium	60 - 200 ppm	59.89	55.99	81.94
Magnesium	20 - 70 ppm	30.29	29.12	38.63
Sodium	0 - 30 ppm	235.63	255.94	236.78
Soluble Salts	<1,920 ppm	936.00	1,072.00	799.00
Bicarbonate	<60 ppm	178.15	165.95	225.11
Chloride	<1,000 ppm	283.00	275.00	241.00
SAR	<4%	6.19	6.91	5.40

GREENS	Acceptable Range For Saturated Paste Sample	1,18(avg) <u>9/10/18</u>	1,4(avg) <u>9/17/19</u>	5,15(avg) <u>10/19/20</u>
Nitrate - Bentgrass/Poa	1-3 ppm	3.90	2.65	<0.5
Phosphorus	2 - 7 ppm	0.45	0.57	1.84
Potassium	25-40 ppm	22.64	35.32	76.86
Calcium	50- 75 ppm	35.09	57.79	81.48
Magnesium	15-30 ppm	15.94	25.53	32.66
Sodium	0 - 30 ppm	121.26	189.89	174.22
Soluble Salts	<1,000 ppm	512.00	926.00	752.00
Bicarbonate	<60 ppm	93.96	114.70	170.74
Chloride	<200 ppm	109.50	213.50	138.50
SAR	<4%	3.18	5.22	4.05



	<u>6/6/18</u>	<u>6/25/19</u>	<u>7/16/20</u>
Humidity/Air Temperature	50%/80°	65%/75°	55%/89°
Field Temperature	(avg)86.6°	(avg)70.3°	(avg)72.5°

FIELDS	Acceptable Range For Alkaline Soils Sample	The Six Plus 6/25/19	The Six Plus 7/16/20	The Stadium 6/25/19	The Stadium 7/16/20	9-13 6/25/19	9-13 7/16/20	The Quad 6/25/19	The Quad 7/16/20
Organic Matter (Humus)	2 - 3%	2.61	2.91	2.33	2.08	2.16	2.32	3.06	2.79
Sulfur	12 - 16 ppm	88.00	51.00	122.00	75.00	108.00	65.00	134.00	199.00
Olsen - Phosphorus	13 - 20 ppm	9.00	6.00	45.00	46.00	13.00	15.00	10.00	4.00
Calcium - TEC of 6 - 12	1,000 lbs/acre	5,950.00	4,212.00	5,412.00	4,238.00	5,678.00	3,208.00	4,842.00	5,478.00
Magnesium	>7% base saturation or at least 200 lbs/acre	8.40%/368	10.06%/336	8.41%/338	10.19%/338	8.88%/374	11.46%/288	16.75%/702	15.64%/736
Potassium - TEC of 0 - 35	150 ppm	225.00	231.00	222.00	209.00	159.00	126.00	219.00	264.00
Manganese	>50 ppm	51.00	42.00	43.00	57.00	61.00	56.00	80.00	96.00

FIELDS	Acceptable Range For Saturated Paste Sample	The Six Plus 6/25/19	The Six Plus 7/16/20	The Stadium 6/25/19	The Stadium 7/16/20	9-13 6/25/19	9-13 7/16/20	The Quad 6/25/19	The Quad 7/16/20
Nitrate - Bandera Bermuda	10 -15 ppm	84.50	<0.5	129.60	<0.5	38.10	<0.5	87.20	<0.5
Phosphorus	2 - 10 ppm	0.73	2.90	1.06	5.18	0.55	1.46	1.22	0.34
Potassium	40 - 100 ppm	80.75	57.96	82.97	44.63	56.86	38.05	47.73	28.25
Calcium	60 - 200 ppm	209.11	89.28	333.01	77.73	199.72	142.98	320.01	183.72
Magnesium	20 - 70 ppm	35.95	18.70	53.61	18.53	38.64	28.36	69.32	42.48
Sodium	0 - 30 ppm	149.60	136.65	183.45	128.99	187.90	160.97	273.90	242.91
Soluble Salts	<1,920 ppm	1,184.00	749.00	1,622.00	667.00	1,178.00	929.00	1,772.00	1,269.00
Bicarbonate	<60 ppm	239.16	299.59	104.94	241.39	192.79	256.54	185.47	217.14
Chloride	<1,000 ppm	113.00	137.00	160.00	116.00	159.00	125.00	210.00	154.00
SAR	<4%	2.51	3.43	2.46	3.41	3.19	3.22	3.26	4.20

WATER	Acceptable Range For Water Sample	Stadium 6/6/18	Stadium 6/25/19	Stadium 7/16/20
pH	6.0-6.5	7.62	8.05	7.92
EC	<2.25 mmhos/cm	0.92	0.89	1.06
Sodium		106.30	101.50	110.70
Calcium	20 - 60 ppm	42.36	58.78	74.08
Magnesium	10 - 25 ppm	15.73	15.58	16.48
Potassium	5 - 20 ppm	12.68	12.26	17.84
Sulfur	30 - 90 ppm	109.29	102.03	106.14
Bicarbonate	<120 ppm	163.35	195.63	307.83
Boron	<0.67 ppm	0.27	0.25	0.30
Chloride	<177 ppm	147.23	120.17	131.23



	<u>6/7/18</u>	<u>6/23/19</u>	<u>7/15/20</u>
Humidity/Air Temperature	55%/85°	50%/88°	45%/85°
Greens Temperature	(avg)66.9°	(avg)65.5°	(avg)69.96°
Fairways Temperature	(avg)72.5°	(avg)66.2°	(avg)68.5°

WATER	Acceptable Range For Water Sample	Hole#9 <u>6/7/18</u>	Hole#2 <u>6/23/19</u>	Hole#3 <u>7/15/20</u>
pH	6.0-6.5	7.35	7.52	7.55
EC	<2.25 mmhos/cm	0.73	0.52	0.46
Sodium		73.51	67.71	63.57
Calcium	20 - 60 ppm	42.15	25.45	21.92
Magnesium	10 - 25 ppm	16.50	9.41	5.96
Potassium	5 - 20 ppm	0.31	8.10	12.21
Phosphorus	0.1 - 0.4 ppm	0.38	1.44	2.31
Nitrate	5 - 50 ppm	0.41	2.1	3.62
Sulfur	30 - 90 ppm	146.49	55.56	31.20
Bicarbonate	<120 ppm	124.88	129.19	147.38
Boron	<0.67 ppm	0.18	0.20	0.24
Chloride	<177 ppm	65.19	49.02	42.38

TEES	Acceptable Range For Alkaline Soils Sample	1,9,18(avg) <u>6/7/18</u>	2,10,17(avg) <u>6/22/19</u>	4,11,15(avg) <u>7/15/20</u>
Organic Matter (Humus)	2 - 3%	2.66	4.86	4.27
Sulfur	12 - 16 ppm	54.00	49.33	45.00
Olsen - Phosphorus	13 - 20 ppm	15.67	22.00	12.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	1,370.00	2,502.67	1,911.33
Magnesium	>7% base saturation or at least 200 lbs/acre	20.79%/267.3	20.50%/474.66	19.81%/339.33
Potassium - TEC of 0 - 35	100 ppm	50.00	102.00	68.67
Manganese	>50 ppm	8.00	11.33	9.33

FAIRWAYS	Acceptable Range For Alkaline Soils Sample	1,9,18(avg) <u>6/7/18</u>	2,10,17(avg) <u>6/22/19</u>	4,11,15(avg) <u>7/15/20</u>
Organic Matter (Humus)	2 - 3%	2.16	4.36	3.99
Sulfur	12 - 16 ppm	90.33	56.33	87.00
Olsen - Phosphorus	13 - 20 ppm	9.33	11.33	5.33
Calcium - TEC of 6 - 12	1,000 lbs/acre	3,202.00	3,412.00	3,301.33
Magnesium	>7% base saturation or at least 200 lbs/acre	20.87%/614.66	22.21%/706.66	20.33%/606.66
Potassium - TEC of 0 - 35	100 ppm	74.33	126.33	117.33
Manganese	>50 ppm	51.00	30.33	33.00

GREENS	Acceptable Range For Alkaline Soils Sample	1,9,12,18(avg) <u>6/7/18</u>	2,5,10,17(avg) <u>6/22/19</u>	3,4,11,15(avg) <u>7/15/20</u>
Organic Matter (Humus)	2 - 3%	0.95	2.16	1.83
Sulfur	12 - 16 ppm	38.25	48.50	31.75
Olsen - Phosphorus	13 - 20 ppm	11.50	18.25	17.25
Calcium - TEC of 6 - 12	1,000 lbs/acre	1,056.00	1,461.50	1,501.50
Magnesium	>7% base saturation or at least 200 lbs/acre	21.27%/206.5	18.67%/262.5	16.98%/226
Potassium - TEC of 0 - 35	150 ppm	38.25	138.50	102.75
Manganese	>50 ppm	23.00	26.25	29.25

TEES	Acceptable Range For Saturated Paste Sample	1 <u>6/7/18</u>	2 <u>6/23/19</u>	4 <u>7/15/20</u>
Nitrate - Ryegrass	5 - 10 ppm	<0.5	40.50	<0.5
Phosphorus	2 - 10 ppm	1.11	2.99	1.90
Potassium	40 - 100 ppm	15.26	25.04	14.58
Calcium	60 - 200 ppm	32.38	65.22	34.23
Magnesium	20 - 70 ppm	13.53	25.10	12.90
Sodium	0 - 30 ppm	71.49	92.42	72.95
Soluble Salts	<1,920 ppm	402.00	672.00	349.00
Bicarbonate	<60 ppm	95.18	65.89	90.42
Chloride	<1,000 ppm	61.00	81.00	55.00
SAR	<4%	2.66	2.46	2.70

FAIRWAYS	Acceptable Range For Saturated Paste Sample	1 <u>6/7/18</u>	2 <u>6/23/19</u>	4 <u>7/15/20</u>
Nitrate - Ryegrass	5 - 10 ppm	<0.5	2.10	<0.5
Phosphorus	2 - 10 ppm	0.31	0.92	1.33
Potassium	40 - 100 ppm	6.58	13.24	13.71
Calcium	60 - 200 ppm	61.16	60.57	75.08
Magnesium	20 - 70 ppm	21.13	23.17	27.56
Sodium	0 - 30 ppm	132.42	167.90	147.48
Soluble Salts	<1,920 ppm	661.00	674.00	659.00
Bicarbonate	<60 ppm	190.35	141.54	230.05
Chloride	<1,000 ppm	99.00	121.00	106.00
SAR	<4%	3.72	4.65	3.70

GREENS	Acceptable Range For Saturated Paste Sample	1,18(avg) <u>6/7/18</u>	2,17(avg) <u>6/23/19</u>	3,4(avg) <u>7/15/20</u>
Nitrate - Bentgrass/Poa	1-3 ppm	<0.5	31.80	4.90
Phosphorus	2 - 7 ppm	0.29	2.81	5.41
Potassium	25-40 ppm	9.17	54.06	34.43
Calcium	50- 75 ppm	31.87	60.73	38.17
Magnesium	15-30 ppm	10.55	20.30	11.85
Sodium	0 - 30 ppm	64.31	89.55	78.46
Soluble Salts	<1,000 ppm	362.50	655.00	414.00
Bicarbonate	<60 ppm	59.79	68.33	114.39
Chloride	<200 ppm	51.00	106.00	62.00
SAR	<4%	2.53	2.55	2.84

Application for Tees:	200 pounds of product/acre (0-0-50)	500 pounds of product/acre (Gypsum)
Birch Hills GC	yes	
Camarillo Springs GC		
Revere GC	yes	
San Ramon GC	yes	
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)
Birch Hills GC			yes
Camarillo Springs GC			
Revere GC			
San Ramon GC	yes		yes- (Quad & Six Plus only)
Silver Lakes Sports Complex			
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)
Birch Hills GC			yes	yes
Camarillo Springs GC	yes			
Revere GC	yes			yes
San Ramon GC	yes			
Yucaipa Valley GC				