NAPT Program
North American Proficiency Testing

Soil Science Society of America

2024 North American Proficiency Testing Program
Quarter 2 Report - 7/18/2024

Laboratory ID
General

PAP certification requirments: All 20 soil and/or 12 plant samples have to have data submitted with an average score >60% for each method to be certified, as well as an overall of all methods >80%.

Overall PAP Score for this Year
#DIV/0!

Soil			Soil 2024-106			Soil 2024-107			Soil 2024-108			Soil 2024-109			Soil 2024-110			Current
Analysis - Modus Code	**Units**	***n***	**Median**	**MAD**	**Lab Result**	**Median**	**MAD**	**Lab Result**	**Median**	**MAD**	**Lab Result**	**Median**	**MAD**	**Lab Result**	**Median**	**MAD**	**Lab Result**	**PAP Score**
Saturated Paste																		
Moisture - sp	%	17	**39.0**	2.35		**28.0**	1.49		**48.0**	4.00		**43.4**	2.87		**54.8**	3.60		
pH - sp	Unit	22	**7.79**	0.16		**6.75**	0.15		**5.00**	0.100		**6.80**	0.14		**6.87**	0.14		
ECe - sp	dS/m	23	**0.84**	0.076		**1.77**	0.19		**2.04**	0.16		**0.82**	0.088		**1.31**	0.12		
HCO3 - sp	mmolc/L	11	**4.23**	1.34		**1.00**	0.30		**0.47**	0.22		**3.62**	1.22		**2.41**	0.71		
Ca - sp	mmolc/L	21	**6.45**	0.53		**11.1**	1.82		**10.7**	1.38		**4.91**	0.92		**6.50**	1.00		
Mg - sp	mmolc/L	21	**1.52**	0.15		**4.41**	0.81		**3.51**	0.46		**1.51**	0.28		**4.00**	0.47		
Na - sp	mmolc/L	19	**0.24**	0.045		**2.17**	0.21		**0.65**	0.11		**0.43**	0.085		**0.22**	0.040		
SAR - sp	value	16	**0.13**	0.033		**0.73**	0.020		**0.25**	0.020		**0.21**	0.040		**0.10**	0.020		
Cl - sp	mmolc/L	12	**0.41**	0.22		**1.40**	0.18		**0.32**	0.13		**0.37**	0.10		**0.50**	0.045		
SO4 - sp	mmolc/L	11	**0.53**	0.030		**3.92**	0.60		**0.60**	0.061		**1.01**	0.050		**1.48**	0.15		
NO3 - sp	mmolc/L	7	**4.28**	1.23		**12.6**	2.80		**17.7**	1.58		**3.43**	1.20		**7.54**	2.06		
B - sp	mg/L	13	**0.16**	0.049		**0.055**	0.036		**0.16**	0.030		**0.17**	0.050		**0.11**	0.028		
pH & EC (1:1 or 1:2)																		
EC (1:1)	(dS/m)	30	**0.41**	0.040		**0.47**	0.058		**0.65**	0.057		**0.41**	0.047		**0.64**	0.068		
EC (1:2)	(dS/m)	33	**0.25**	0.042		**0.34**	0.057		**0.49**	0.060		**0.25**	0.040		**0.43**	0.047		
pH (1:1) Water	Unit	73	**8.04**	0.16		**6.94**	0.14		**5.13**	0.10		**7.00**	0.14		**7.00**	0.14		
pH (1:2) Water	Unit	17	**8.17**	0.16		**7.03**	0.14		**5.23**	0.11		**7.06**	0.14		**7.04**	0.14		
pH (1:1) 0.01M CaCl2	Unit	21	**7.64**	0.15		**6.64**	0.13		**4.84**	0.097		**6.60**	0.13		**6.70**	0.13		
pH (1:2) 0.01M CaCl2	Unit	9	**7.56**	0.15		**6.68**	0.13		**4.87**	0.097		**6.56**	0.13		**6.71**	0.13		
Lime Req.																		
SMP Buffer pH	Unit	20	**7.48**	0.15		**7.22**	0.14		**6.30**	0.17		**7.19**	0.14		**7.08**	0.14		
Adams-Evans Buf pH	Unit	7	**7.73**	0.16		**7.72**	0.15		**7.30**	0.15		**7.66**	0.15		**7.62**	0.15		
Woodruff Buf. pH	Unit	16	**7.16**	0.14		**6.97**	0.14		**6.32**	0.13		**6.96**	0.14		**6.94**	0.14		
Mehlich Buffer pH	Unit	8	**6.84**	0.14		**6.49**	0.13		**5.87**	0.12		**6.47**	0.13		**6.55**	N/A		
Sikora Buffer pH	Unit	31	**7.50**	0.15		**7.30**	0.15		**6.44**	0.13		**7.23**	0.14		**7.12**	0.14		
Titratable Acidity	cmol/kg																	
Inorganic Nitrogen (NO3-N & NH4-N)																		
NO3-N Cd. Rd.	mg/kg	58	**25.5**	1.39		**53.2**	4.03		**113.0**	10.7		**23.8**	1.25		**62.1**	4.05		
NO3-N ISE	mg/kg	6	**24.5**	N/A		**48.6**	3.70		**126.0**	15.5		**25.1**	4.08		**61.0**	N/A		
NO3-N CTA	mg/kg	1	**14.3**	N/A		**42.2**	N/A		**116.0**	N/A		**14.7**	N/A		**53.9**	N/A		
NO3-N Ion Chr.	mg/kg	1	**29.0**	N/A		**58.8**	N/A		**120.0**	N/A		**26.6**	N/A		**71.3**	N/A		
NO3-N Other	mg/kg	10	**26.5**	2.79		**51.0**	3.27		**108.0**	9.38		**23.4**	0.47		**62.8**	3.48		
NH4 - N (KCl Extr.)	mg/kg	40	**6.01**	0.53		**9.24**	0.90		**9.31**	0.96		**27.1**	1.71		**135.0**	10.1		
Phosphorus and Sulfur																		
PO4-P Bray P (1:10)	mg/kg	36	**44.8**	4.50		**16.4**	1.39		**99.7**	5.85		**70.3**	3.46		**39.6**	2.40		
PO4-P Bray P1 (1:7)	mg/kg	9	**33.8**	4.07		**14.0**	1.60		**102.0**	20.7		**66.9**	5.85		**27.1**	3.01		
PO4-P Olsen/Bicarb	mg/kg	51	**15.4**	1.25		**9.91**	0.96		**56.8**	6.10		**37.6**	2.51		**48.0**	3.51		
PO4-P AB-DTPA	mg/kg	1	**7.77**	N/A		**6.42**	N/A		**36.1**	N/A		**19.9**	N/A		**16.6**	N/A		
PO4-P Modified Morgan	mg/kg	5	**43.5**	N/A		**2.90**	N/A		**10.9**	N/A		**21.4**	N/A		**7.60**	N/A		
PO4-P True Morgan	mg/kg	6	**44.3**	N/A		**2.88**	0.80		**13.5**	0.95		**25.7**	N/A		**9.09**	0.97		
PO4-P Mod. Kelowna	mg/kg																	
PO4-P Stong Bray (1:10)	mg/kg	12	**633.0**	75.2		**194.0**	16.2		**172.0**	8.95		**322.0**	14.1		**104.0**	4.47		
PO4-P Water Soluble	mg/kg																	
SO4 - S (PO4 Extr.)	mg/kg	23	**4.11**	1.13		**18.0**	1.90		**6.00**	1.09		**6.73**	0.74		**13.2**	3.10		
Bases																		

K NH4OAc	mg/kg	65	**851.0**	36.7	**128.0**	10.2	**710.0**	65.9	**693.0**	28.0	**213.0**	10.5
Ca NH4OAc	mg/kg	61	**4840.0**	462.0	**1820.0**	182.0	**1600.0**	90.5	**2500.0**	92.9	**2830.0**	96.5
Mg NH4OAc	mg/kg	60	**395.0**	16.3	**327.0**	27.7	**207.0**	14.2	**344.0**	11.4	**693.0**	20.0
Na NH4OAc	mg/kg	50	**13.1**	2.30	**51.4**	3.03	**19.0**	2.61	**18.4**	1.53	**11.4**	1.91
Bray Extractable K	mg/kg	6	**505.0**	N/A	**104.0**	N/A	**484.0**	17.5	**477.0**	29.9	**142.0**	N/A
K- Bicarb.	mg/kg	3	**575.0**	N/A	**86.0**	N/A	**660.0**	N/A	**521.0**	N/A	**164.0**	N/A
K - Modified Morgan	mg/kg	4	**844.0**	N/A	**118.0**	N/A	**763.0**	N/A	**672.0**	N/A	**212.0**	N/A
K - True Morgan	mg/kg	4	**408.0**	N/A	**72.8**	N/A	**541.0**	N/A	**404.0**	N/A	**144.0**	N/A
Ca Modified Morgan	mg/kg	3	**10600.0**	N/A	**1650.0**	N/A	**1790.0**	N/A	**2680.0**	N/A	**3350.0**	N/A
Aluminum KCL Extr.	mg/kg	4	**1.00**	N/A	**6.90**	N/A	**1.30**	N/A	**1.00**	N/A	**1.00**	N/A
Mehlich-1 Multi Element												
Scoop Soil Mass	g											
P	mg/kg	10	**240.0**	15.9	**185.0**	11.6	**115.0**	9.75	**259.0**	14.9	**12.0**	2.64
K	mg/kg	9	**282.0**	26.2	**83.5**	3.25	**459.0**	18.4	**412.0**	22.6	**133.0**	6.44
Ca	mg/kg	9	**5040.0**	311.0	**2080.0**	155.0	**1670.0**	81.0	**2540.0**	208.0	**2870.0**	105.0
Mg	mg/kg	8	**323.0**	24.5	**302.0**	12.6	**181.0**	5.35	**309.0**	11.4	**645.0**	12.9
Mn	mg/kg	7	**6.90**	1.69	**65.2**	1.40	**101.0**	4.53	**115.0**	2.29	**267.0**	16.4
Zn	mg/kg	8	**0.17**	0.065	**2.66**	0.14	**1.57**	0.16	**2.23**	0.15	**3.25**	0.22
Mehlich-3 Multi-Element												
Scoop Soil Mass	g											
Assumed Density	g/cm3											
Volume of Scoop	cm3											
Extractrant Volume mL	mL											
P Colorimetric	mg/kg	11	**65.4**	7.40	**24.0**	1.67	**104.0**	8.60	**86.0**	2.50	**59.0**	4.00
P ICP-AES	mg/kg	52	**74.7**	5.88	**25.4**	1.38	**123.0**	7.07	**99.9**	3.78	**66.0**	4.10
K	mg/kg	50	**897.0**	35.4	**143.0**	9.50	**682.0**	35.5	**730.0**	20.8	**218.0**	8.80
Ca	mg/kg	49	**6370.0**	267.0	**2120.0**	98.5	**1750.0**	84.0	**2730.0**	68.3	**3250.0**	84.1
Mg	mg/kg	48	**526.0**	11.9	**383.0**	12.6	**215.0**	8.70	**389.0**	10.0	**762.0**	28.1
Na	mg/kg	40	**14.4**	1.67	**57.4**	4.12	**20.3**	1.85	**20.4**	1.68	**13.6**	0.80
S	mg/kg	42	**10.3**	0.86	**26.4**	1.92	**14.0**	1.09	**12.8**	0.66	**20.4**	1.26
Al	mg/kg	32	**538.0**	27.7	**618.0**	28.1	**860.0**	47.2	**628.0**	27.5	**677.0**	30.2
Zn	mg/kg	46	**1.94**	0.14	**3.32**	0.21	**2.12**	0.11	**3.51**	0.14	**2.54**	0.14
Mn	mg/kg	43	**296.0**	21.5	**86.0**	4.84	**131.0**	8.39	**240.0**	13.0	**199.0**	11.5
Fe	mg/kg	45	**32.3**	1.70	**236.0**	12.9	**195.0**	13.6	**146.0**	8.08	**491.0**	48.7
Cu	mg/kg	45	**2.90**	0.17	**9.42**	0.49	**2.37**	0.20	**3.19**	0.10	**1.23**	0.51
B	mg/kg	36	**2.35**	0.13	**0.43**	0.065	**0.49**	0.087	**1.19**	0.075	**1.29**	0.12
Micronutrients												
Zn - DTPA	mg/kg	51	**0.69**	0.080	**1.34**	0.17	**1.61**	0.11	**1.61**	0.100	**1.83**	0.11
Mn - DTPA	mg/kg	51	**10.1**	2.45	**30.7**	2.29	**114.0**	12.0	**86.8**	4.58	**108.0**	7.00
Fe - DTPA	mg/kg	49	**3.80**	0.64	**36.3**	5.55	**75.4**	6.95	**34.0**	3.03	**207.0**	22.1
Cu - DTPA	mg/kg	47	**1.02**	0.085	**5.00**	0.55	**1.51**	0.14	**1.84**	0.095	**3.82**	0.15
Zn - HCl	mg/kg											
Mn-H3PO4	mg/kg	6	**5.60**	0.90	**37.9**	4.80	**91.3**	1.83	**81.0**	3.10	**161.0**	14.1
Cl - Ca(NO3)2 Extr.	mg/kg	14	**3.49**	1.61	**16.0**	2.40	**5.70**	1.38	**4.96**	0.86	**8.56**	1.05
B - Hot Wat.	mg/kg	18	**1.07**	0.23	**0.18**	0.040	**0.49**	0.18	**0.80**	0.15	**0.68**	0.050
B - DTPA/Sorbitol	mg/kg	16	**1.36**	0.090	**0.17**	0.050	**0.25**	0.050	**0.66**	0.020	**0.66**	0.075
N & C												
Total N - Kjeldahl	%	7	**0.13**	0.020	**0.060**	0.020	**0.17**	0.020	**0.14**	0.020	**0.21**	0.020
Total N - combustion	%	36	**0.12**	0.020	**0.059**	0.020	**0.17**	0.020	**0.15**	0.020	**0.23**	0.020
TOC - combustion	%	21	**1.22**	0.088	**0.50**	0.028	**1.96**	0.060	**1.37**	0.030	**2.46**	0.079
Total C - combustion	%	33	**1.61**	0.040	**0.52**	0.030	**1.99**	0.080	**1.38**	0.055	**2.53**	0.090
OM - Walkley-Black	%	18	**2.11**	0.16	**1.00**	0.10	**3.34**	0.15	**2.46**	0.053	**4.14**	0.25
OM - LOI (% Wt loss)	%	60	**2.59**	0.15	**1.52**	0.088	**3.94**	0.15	**2.76**	0.12	**4.63**	0.15
Miscellaneous												

CaCO3 Content	%	7	**3.51**	0.35	**0.40**	0.21	**0.30**	0.070	**0.43**	0.24	**0.79**	0.31
CEC - Cation Displacement	cmol/kg	6	**21.3**	N/A	**10.7**	1.14	**16.9**	1.70	**18.2**	1.36	**24.4**	N/A
CEC - Estimation	cmol/kg	13	**29.3**	0.97	**13.4**	1.90	**17.9**	2.18	**17.7**	0.73	**21.2**	1.85
Soil Density (Scoop)	g/cc											
Particle Size Analysis - Hydrometer												
Sand 2000 - 50 um	%	27	**27.0**	3.24	**66.5**	2.16	**17.0**	3.16	**23.3**	4.67	**11.6**	3.05
Silt 50 - 2 um	%	26	**47.3**	6.05	**24.2**	1.84	**62.0**	3.10	**56.5**	3.80	**59.1**	3.25
Clay 2 - 0 um	%	28	**26.4**	3.55	**8.00**	2.08	**20.0**	2.84	**19.8**	2.75	**28.0**	3.00
Particle Size Analysis - Pipette												
Sand 2000 - 50 um	%	5	**21.9**	N/A	**69.1**	N/A	**10.0**	N/A	**17.0**	N/A	**5.00**	N/A
Silt 50 - 2 um	%	5	**50.0**	N/A	**23.6**	N/A	**67.5**	N/A	**59.2**	N/A	**65.1**	N/A
Clay 2 - 0 um	%	5	**28.0**	N/A	**6.20**	N/A	**21.0**	N/A	**22.0**	N/A	**30.0**	N/A
Soil Health												
Autoclave-Citrate Extractable (ACE) protein	mg/g	3	**1.71**	N/A	**1.52**	N/A	**4.38**	N/A	**2.84**	N/A	**5.40**	N/A
Microbial CO2 respiration (1 day incubation-ST	mg/g	6	**0.052**	0.020	**0.020**	N/A	**0.043**	0.020	**0.11**	0.029	**0.085**	0.040
Microbial CO2 respiration (4 day incubation-ST	mg/g	1	**0.032**	N/A	**0.009**	N/A	**0.030**	N/A	**0.048**	N/A	**0.076**	N/A
Microbial enzyme activity - As	mg PNP/kg soil h											
Microbial enzyme activity - Beta Glucosidase (E	mg PNP/kg soil h											
Microbial enzyme activity - NAG	mg PNP/kg soil h											
Microbial enzyme activity - Pase	mg PNP/kg soil h											
PMN 7 day anaerobic	mg/kg	1	**30.0**	N/A	**3.10**	N/A	**24.0**	N/A	**38.0**	N/A	**32.0**	N/A
Reactive carbon - permanganate oxidizable (PC	mg/kg	6	**306.0**	71.5	**212.0**	47.7	**538.0**	46.8	**473.0**	56.9	**800.0**	N/A

Plant			Plant 2024-204			Plant 2024-205			Plant 2024-206			PAP Score
Analysis - Modus Code	**Units**	**n**	**Median**	**MAD**	**Lab Result**	**Median**	**MAD**	**Lab Result**	**Median**	**MAD**	**Lab Result**	**#DIV/0!**
Dry Matter & Non-Digest Nutrients												
Dry Matter	%	19	**95.1**	1.90		**94.4**	1.89		**95.0**	1.90		
NO3 - N Cd Rd.	mg/kg	18	**44.6**	13.5		**18400.0**	1620.0		**36.8**	13.7		
NO3 - N ISE	mg/kg	3	**136.0**	N/A		**18000.0**	N/A		**237.0**	N/A		
NO3 - N Other	mg/kg	4	**75.0**	N/A		**18000.0**	N/A		**83.6**	N/A		
NH4 - N	mg/kg	4	**139.0**	N/A		**104.0**	N/A		**101.0**	N/A		
PO4 - P	mg/kg	8	**540.0**	38.0		**1270.0**	78.6		**656.0**	46.6		
SO4 - S	mg/kg	3	**1510.0**	N/A		**1400.0**	N/A		**410.0**	N/A		
Cl	%	21	**0.20**	0.080		**2.82**	0.13		**0.11**	0.065		
Total Nâ€“Kjeldahl	%	7	**2.48**	0.049		**2.08**	0.070		**2.39**	0.065		
Total N-combustion	%	62	**2.56**	0.051		**3.40**	0.068		**2.46**	0.050		
Total S-combustion	%	8	**0.27**	0.020		**0.20**	0.020		**0.13**	0.020		
Total C-combustion	%	16	**42.7**	0.86		**31.6**	0.63		**47.4**	0.95		
Nitric / Perchloric Digest												
P	%	57	**0.13**	0.020		**0.21**	0.020		**0.21**	0.020		
K	%	52	**0.95**	0.030		**8.00**	0.30		**1.40**	0.040		
Ca	%	58	**4.37**	0.13		**2.16**	0.093		**1.77**	0.056		
Mg	%	55	**0.36**	0.020		**1.12**	0.047		**0.51**	0.020		
S	%	48	**0.26**	0.020		**0.20**	0.020		**0.13**	0.020		
Na	%	42	**0.020**	0.020		**0.10**	0.020		**0.008**	0.020		
B	mg/kg	48	**61.4**	2.03		**29.3**	1.33		**46.0**	1.05		
Cu	mg/kg	57	**63.5**	2.78		**5.27**	0.24		**9.30**	0.49		
Fe	mg/kg	56	**122.0**	8.37		**163.0**	20.4		**111.0**	9.75		
Mn	mg/kg	56	**19.6**	0.98		**76.0**	3.25		**33.3**	1.44		
Mo	mg/kg	14	**0.13**	0.030		**0.39**	0.027		**0.91**	0.031		
Zn	mg/kg	57	**100.0**	5.35		**30.6**	1.45		**16.2**	0.97		
Al	mg/kg	35	**90.4**	20.6		**113.0**	28.3		**64.4**	16.4		
Ba	mg/kg	5	**47.7**	N/A		**73.9**	N/A		**23.0**	N/A		
Cd	mg/kg	3	**0.005**	N/A		**1.53**	N/A		**0.008**	N/A		
Co	mg/kg	4	**0.073**	N/A		**0.26**	0.070		**0.054**	N/A		
Cr	mg/kg	4	**0.20**	N/A		**2.33**	0.63		**0.28**	N/A		
Ni	mg/kg	5	**0.96**	N/A		**1.36**	N/A		**1.10**	N/A		
Pb	mg/kg	4	**0.18**	N/A		**0.21**	N/A		**0.48**	N/A		
Se	mg/kg	2	**0.044**	N/A		**0.039**	N/A		**0.52**	N/A		
Sr	mg/kg	4	**228.0**	N/A		**82.6**	N/A		**52.6**	N/A		
V	mg/kg	4	**0.27**	N/A		**0.48**	N/A		**0.19**	N/A		
Dry Ash												
P	%	15	**0.12**	0.020		**0.20**	0.020		**0.20**	0.020		
K	%	15	**0.90**	0.065		**7.62**	0.68		**1.31**	0.080		
Ca	%	13	**4.06**	0.13		**2.05**	0.15		**1.66**	0.033		
Mg	%	15	**0.35**	0.020		**1.08**	0.075		**0.51**	0.030		
Na	%	12	**0.022**	0.020		**0.11**	0.020		**0.010**	0.020		
B	mg/kg	13	**57.9**	1.61		**27.8**	1.00		**44.2**	1.75		
Cu	mg/kg	12	**60.0**	2.34		**6.06**	1.40		**8.86**	0.50		
Fe	mg/kg	14	**119.0**	6.00		**172.0**	12.8		**105.0**	9.47		
Mn	mg/kg	15	**17.5**	2.17		**75.2**	7.40		**32.0**	2.00		
Mo	mg/kg	3	**0.53**	N/A		**0.72**	N/A		**1.22**	N/A		
Zn	mg/kg	14	**96.6**	6.50		**29.0**	3.00		**16.5**	1.76		
Al	mg/kg	6	**96.1**	7.03		**181.0**	13.3		**88.8**	12.5		
Ba	mg/kg											
Cd	mg/kg											
Co	mg/kg											
Cr	mg/kg											
Ni	mg/kg											
Pb	mg/kg											
Se	mg/kg											
Sr	mg/kg											
V	mg/kg											

Water			Water 2024-304			Water 2024-305			Water 2024-306		
Analysis - Modus Code	**Units**	***n***	**Median**	**MAD**	**Lab Result**	**Median**	**MAD**	**Lab Result**	**Median**	**MAD**	**Lab Result**
pH & EC											
pH		28	**8.00**	0.16		**7.91**	0.16		**8.19**	0.16	
EC	dS/m	26	**0.20**	0.020		**0.13**	0.020		**1.00**	0.023	
Cations											
Ca	mmolc/L	25	**1.61**	0.085		**1.07**	0.050		**3.48**	0.18	
Mg	mmolc/L	24	**0.39**	0.020		**0.18**	0.020		**4.06**	0.18	
Na	mmolc/L	27	**0.12**	0.020		**0.080**	0.020		**3.05**	0.13	
K	mmolc/L	24	**0.020**	0.020		**0.011**	0.020		**0.30**	0.020	
NH4-N	mmolc/L	5	**0.008**	N/A		**0.010**	N/A		**0.010**	N/A	
Sum Cations	mmolc/L	11	**2.17**	0.075		**1.37**	0.064		**10.6**	1.00	
SAR	---	12	**0.12**	0.020		**0.11**	0.020		**1.55**	0.031	
Adj-SAR	---	4	**0.18**	N/A		**0.11**	N/A		**2.84**	N/A	
Anions											
HCO3	mmolc/L	20	**1.73**	0.066		**1.17**	0.12		**6.48**	0.53	
CO3	mmolc/L	7	**0.11**	N/A		**0.00**	N/A		**0.50**	0.21	
Cl	mmolc/L	19	**0.050**	0.020		**0.040**	0.020		**3.13**	0.19	
NO3	mmolc/L	14	**0.020**	0.020		**0.010**	0.020		**0.082**	0.020	
SO4	mmolc/L	19	**0.28**	0.020		**0.11**	0.020		**0.48**	0.035	
Sum Anions	mmolc/L	10	**2.12**	0.21		**1.39**	0.19		**10.3**	0.25	
Cation-Anion Difference	---	5	**0.11**	N/A		**0.16**	0.10		**0.61**	N/A	
Miscellaneous											
Boron	mg/L	17	**0.010**	0.020		**0.007**	0.020		**0.12**	0.020	
PO4-P Phosphorus - Spec	mg/L	3	**0.096**	N/A		**0.088**	N/A		**0.14**	N/A	
Phosphorus - ICP (Total)	mg/L	7	**0.014**	N/A		**0.025**	N/A		**0.060**	0.020	
TKN	mg/L	1	**0.020**	N/A		**0.070**	N/A		**1.24**	N/A	
Nitrogen Combustion (Total)	mg/L	1	**0.36**	N/A		**0.16**	N/A		**2.48**	N/A	
Total Organic Carbon	mg/L	2	**0.14**	N/A		**1.36**	N/A		**1.74**	N/A	

Environmental			Soil 2024-106			Soil 2024-107			Soil 2024-108			Soil 2024-109			Soil 2024-110		
Soil Analyses - Modus Code	**Units**	***n***	**Median**	**MAD**	**Lab Result**	**Median**	**MAD**	**Lab Result**	**Median**	**MAD**	**Lab Result**	**Median**	**MAD**	**Lab Result**	**Median**	**MAD**	**Lab Result**
Metals																	
Ag	mg/kg																
Al	mg/kg	5	**17700.0**	N/A		**8450.0**	N/A		**17100.0**	N/A		**14600.0**	N/A		**12700.0**	N/A	
As	mg/kg	4	**6.89**	N/A		**3.04**	N/A		**3.43**	N/A		**3.63**	N/A		**6.79**	N/A	
Ba	mg/kg	3	**150.0**	N/A		**113.0**	N/A		**156.0**	N/A		**125.0**	N/A		**133.0**	N/A	
Be	mg/kg	1	**1.51**	N/A		**0.59**	N/A		**0.94**	N/A		**1.58**	N/A		**1.28**	N/A	
Bi	mg/kg																
B	mg/kg	4	**15.2**	N/A		**3.42**	N/A		**5.20**	N/A		**9.68**	N/A		**6.78**	N/A	
Ca	mg/kg	5	**19400.0**	N/A		**4970.0**	N/A		**3700.0**	N/A		**4940.0**	N/A		**5550.0**	N/A	
Cd	mg/kg	4	**0.59**	N/A		**0.26**	N/A		**0.25**	N/A		**0.60**	N/A		**0.33**	N/A	
Co	mg/kg	6	**6.97**	0.44		**12.9**	2.06		**10.0**	1.00		**6.61**	0.37		**9.18**	0.74	
Cr	mg/kg	6	**21.0**	3.77		**7.67**	N/A		**17.5**	N/A		**19.8**	3.12		**21.5**	4.36	
Cu	mg/kg	5	**19.0**	N/A		**27.8**	N/A		**18.2**	N/A		**17.1**	N/A		**17.6**	N/A	
Fe	mg/kg	5	**17300.0**	N/A		**33000.0**	N/A		**19200.0**	N/A		**15400.0**	N/A		**17400.0**	N/A	
K	mg/kg	5	**6570.0**	N/A		**1150.0**	N/A		**3800.0**	N/A		**4020.0**	N/A		**1820.0**	N/A	
Li	mg/kg																
Mg	mg/kg	5	**8080.0**	N/A		**4800.0**	N/A		**3320.0**	N/A		**4120.0**	N/A		**3400.0**	N/A	
Mn	mg/kg	4	**766.0**	N/A		**498.0**	N/A		**556.0**	N/A		**533.0**	N/A		**670.0**	N/A	
Mo	mg/kg	5	**0.41**	N/A		**0.24**	N/A		**0.25**	N/A		**0.37**	N/A		**0.71**	N/A	
Na	mg/kg	5	**132.0**	N/A		**304.0**	N/A		**182.0**	N/A		**159.0**	N/A		**58.7**	N/A	
Ni	mg/kg	6	**14.8**	0.90		**8.66**	0.96		**13.7**	1.29		**14.4**	0.83		**17.1**	N/A	
P	mg/kg	5	**1700.0**	N/A		**1130.0**	N/A		**798.0**	N/A		**826.0**	N/A		**588.0**	N/A	
Pb	mg/kg	5	**12.8**	N/A		**5.31**	0.76		**7.37**	N/A		**11.2**	N/A		**15.4**	0.97	
S	mg/kg	5	**199.0**	N/A		**155.0**	N/A		**200.0**	N/A		**195.0**	N/A		**275.0**	N/A	
Sb	mg/kg	1	**3.36**	N/A		**2.92**	N/A		**3.22**	N/A		**3.56**	N/A		**2.79**	N/A	
Se	mg/kg	2	**1.67**	N/A		**3.46**	N/A		**3.58**	N/A		**2.11**	N/A		**2.32**	N/A	
Sn	mg/kg																
Sr	mg/kg	1	**35.5**	N/A		**25.9**	N/A		**32.8**	N/A		**41.9**	N/A		**14.4**	N/A	
V	mg/kg	1	**22.6**	N/A		**49.0**	N/A		**33.5**	N/A		**19.4**	N/A		**33.5**	N/A	
Zn	mg/kg	5	**63.7**	N/A		**66.3**	N/A		**48.3**	N/A		**64.1**	N/A		**54.4**	N/A	
Hg (US-EPA 7470 or 7471)	mg/kg																

n = Number of labs submtting results
MAD = Median Average Deviation
N/A = Not applicable as there are too few labs submitting data for this test to run statistics

H = High - Outside 2.5* +/- MAD VH = Very High - Outside 4* +/- MAD
L = Low - Outside 2.5* +/- MAD VL = Very Low - Outside 4* +/- MAD
✓ = Passing