

INDIVIDUAL SAMPLE DATA

ANNAPOLIS COUNTY

Sample Number

CP-54

TOPOGRAPHICAL SHEET: 21A/14

LOCATION: On the northern side of the Annapolis River at Belleisle, approximately 8 km west of Bridgetown (Fig. 5).

UTM: 311320 E
4964140 N

GEOLOGICAL UNIT: Clay, Quaternary age

DESCRIPTION: Banded, red clay with extensive carbonaceous material and muscovite, easily seen on the bedding planes. The clay outcrops intermittently along the shore for about 61 m, becoming sandy and brown to the east.

ATTITUDE OF BEDDING: Essentially horizontal

SAMPLE INTERVAL: Vertical channel sample from the top 15 cm of clay.

TYPE OF MATERIAL: Clay

UNFIRED CHARACTERISTICS: Pale red, slightly calcareous clay containing some stones. Very good workability. Highly plastic. Water of plasticity 33.6%. Safe drying. Air shrinkage 9.3%. Modulus of rupture 334 p.s.i. Benzidine test negative.

P.C.E.: 3+ (bloated at cone 02)

FIRED CHARACTERISTICS:

Cone No.	Fired Shrinkage %	Absorption %	Colour	Hardness
06	7.59	1.48	Moderate reddish brown	Steel hard
04	8.09	0.04	Moderate reddish brown	Steel hard
02	nil	0.11	Moderate reddish brown	Steel hard

POTENTIAL USES: Common brick

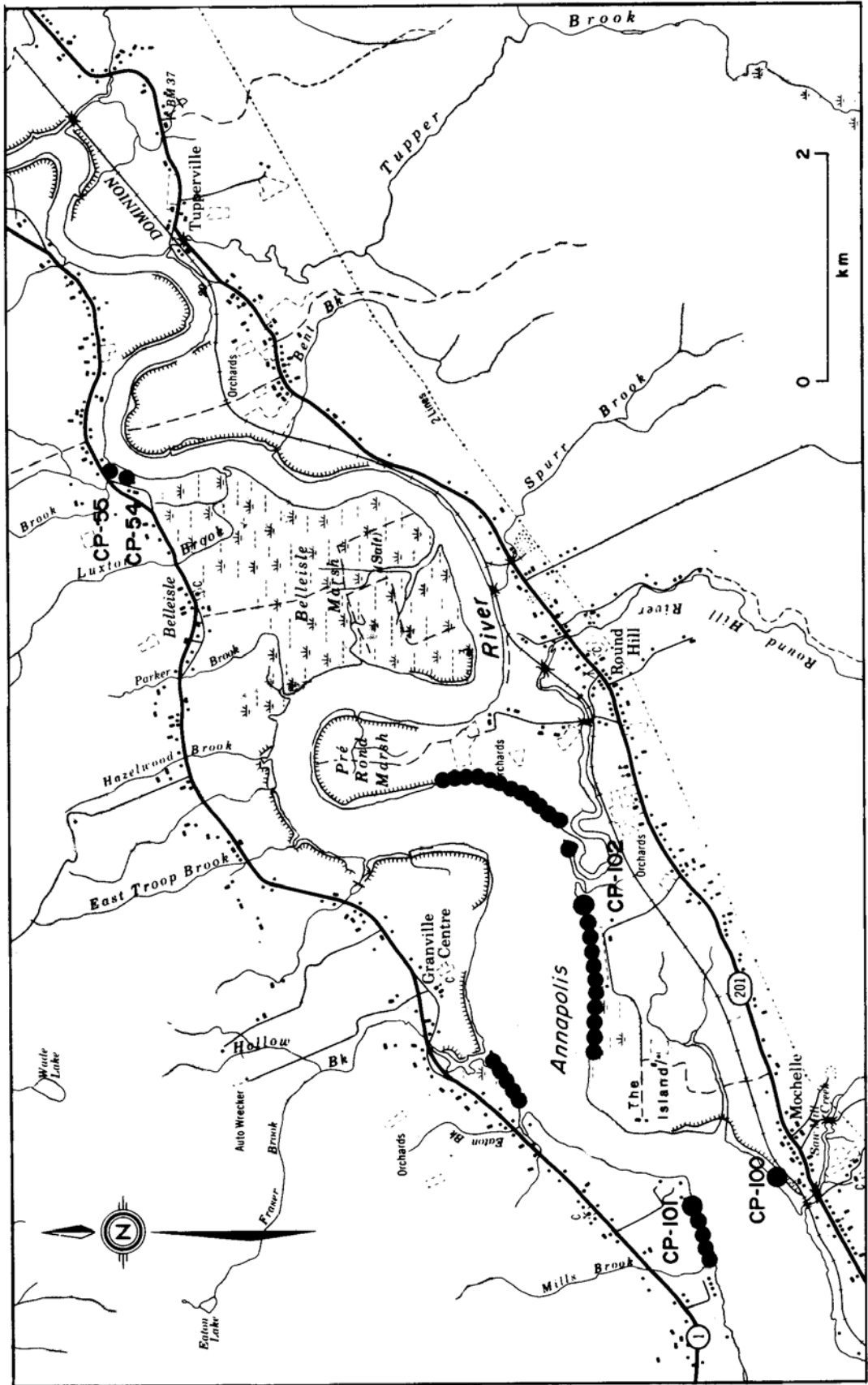


Figure 5. Location map for samples CP-54, 55, 100-102 (Granville Centre)

Ref. Map 21-A-14

ANNAPOLIS COUNTY**Sample Number**

CP-55

TOPOGRAPHICAL SHEET: 21A/14**LOCATION:** Near Belleisle, in Gesner Brook which flows into the Annapolis River, approximately 61 m northeast of sample CP-54 (Fig. 5).**UTM:** 311300 E
4964280 N**GEOLOGICAL UNIT:** Clay, Quaternary age**DESCRIPTION:** Red clay, which upon weathering becomes mottled grey and red. The clay is in excess of 91 cm thick and extends along the stream for about 31 m.**ATTITUDE OF BEDDING:** Essentially horizontal**SAMPLE INTERVAL:** Channel sample across top 30 cm of thickness.**TYPE OF MATERIAL:** Clay**UNFIRED CHARACTERISTICS:** Medium grey, noncalcareous clay. Poor workability. Poorly plastic. Water of plasticity 36.0%. Safe drying. Air shrinkage 5.4%. Benzidine test negative. Dark scum on top of briquettes after drying.**P.C.E.:** 7-8**FIRED CHARACTERISTICS:**

Cone No.	Fired Shrinkage %	Absorption %	Colour	Hardness
04	3.36	20.32	Moderate reddish orange	Soft to hard
02	7.19	8.24	Moderate reddish brown	Very hard
1	10.94	6.02	Moderate reddish brown	Steel hard

POTENTIAL USES: None

ANNAPOLIS COUNTY

Sample Number

CP-56

TOPOGRAPHICAL SHEET: 21A/14

LOCATION: Brickyard Road, northwest of Highway 201 approximately 1.6 km southwest of Bridgetown. The exposure is in a clay pit for a brickyard which was once operated at this site (Fig. 6).

UTM: 317750 E
4966860 N

GEOLOGICAL UNIT: Clay, Quaternary age

DESCRIPTION: Red clay containing organic material. It has a thickness of at least 30 cm.

SAMPLE INTERVAL: Channel sample across top 30 cm of thickness

TYPE OF MATERIAL: Clay

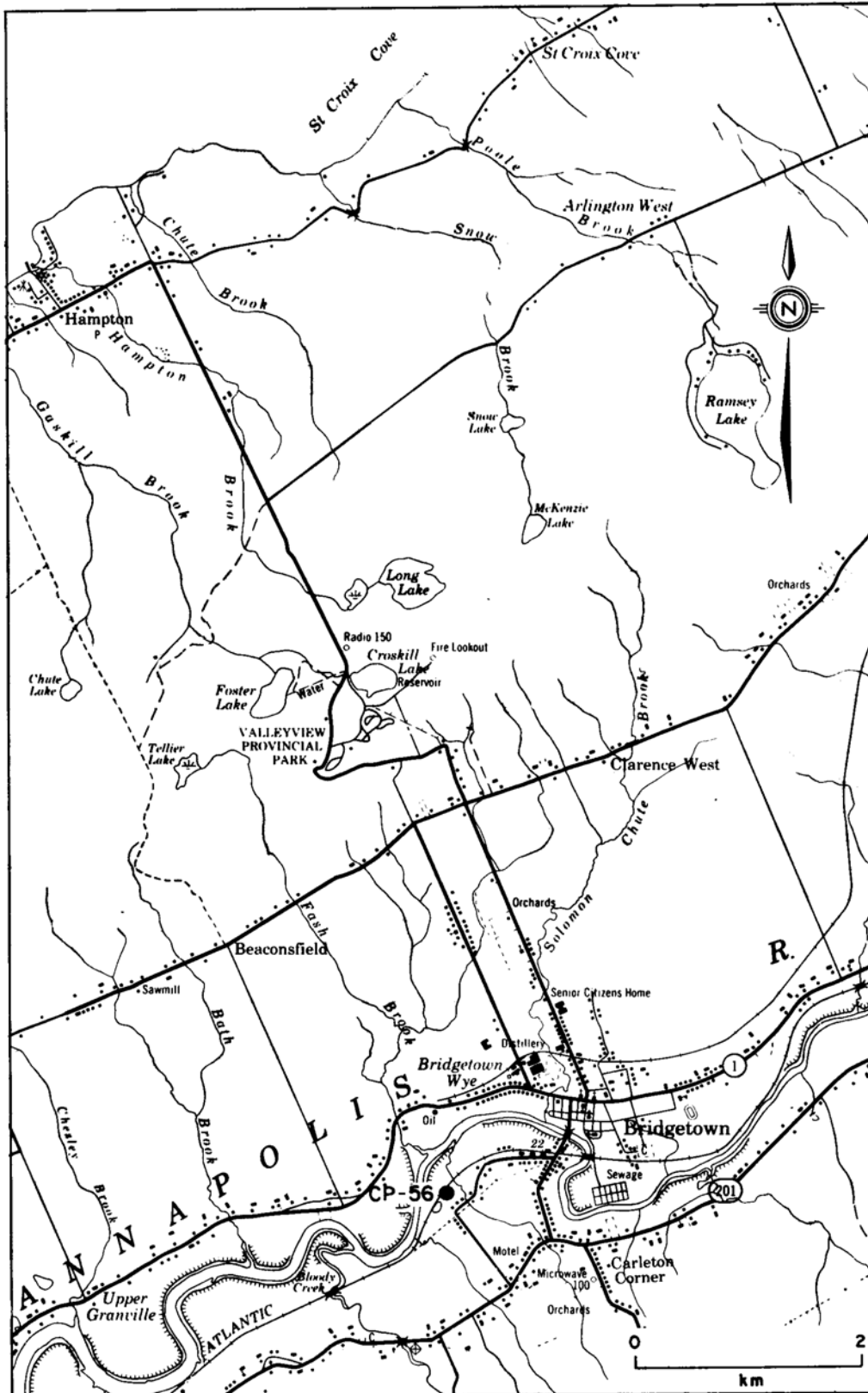
UNFIRED CHARACTERISTICS: Pale reddish-brown, calcareous clay. Very good workability. Highly plastic. Water of plasticity 34.0%. Safe drying. Air shrinkage 8.6%. Modulus of rupture 294 p.s.i. Benzidine test negative.

P.C.E.: 3+

FIRED CHARACTERISTICS:

Cone No.	Fired Shrinkage %	Absorption %	Colour	Hardness
06	2.55	10.79	Light mod. reddish brown	Very hard
04	4.39	7.14	Moderate reddish brown	Steel hard
02	7.86	0.50	Dark mod. reddish brown	Steel hard

POTENTIAL USES: Earthenware, artware and structural products.



Ref. Map 21-A-14

Figure 6. Location map for sample CP-56 (Bridgetown)

ANNAPOLIS COUNTY

Sample Number

CP-57

TOPOGRAPHICAL SHEET: 21A/14

LOCATION: On the property of Mr. L. Simpson, about 1.6 km east of Spa Springs on Route 221. The clay outcrops in a small intermittent stream approximately 610 m northeast of Mr. Simpson's house (Fig. 7).

UTM: 339350 E
4983060 N

GEOLOGICAL UNIT: Clay, Quaternary age

DESCRIPTION: Bluish-grey clay containing organic material and patches of red and yellow iron stains. The clay is overlain by 2-5 m of overburden, and has a thickness in excess of 46 cm.

SAMPLE INTERVAL: 46 cm channel sample

TYPE OF MATERIAL: Clay

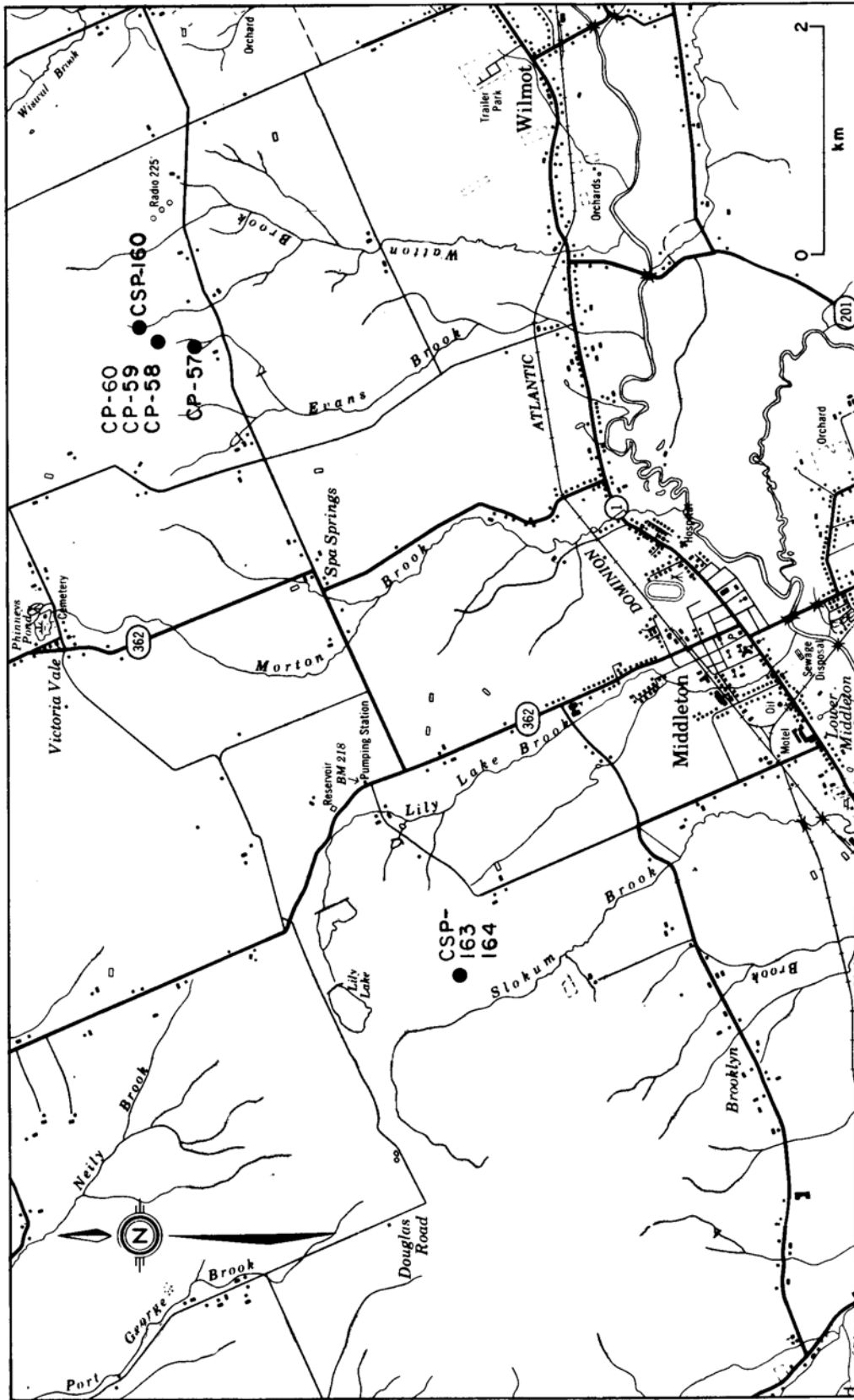
UNFIRED CHARACTERISTICS: Greyish-yellow, green with red (light brownish-grey after grinding and mixing), noncalcareous clay containing small stones. Very good workability. Highly plastic. Water of plasticity 27.2%. Safe drying. Air shrinkage 7.3%. Modulus of rupture 236 p.s.i. Benzidine test negative.

P.C.E.: 6+

FIRED CHARACTERISTICS:

Cone No.	Fired Shrinkage %	Absorption %	Colour	Hardness
06	2.52	10.50	Moderate orange pink	Very hard
04	4.12	7.05	Pale moderate red orange	Very hard to steel hard
02	5.97	2.41	Pale reddish	Steel hard

POTENTIAL USES: Earthenware, artware and structural products.



Ref. Map 21-A-14

Figure 7. Location map for samples CP-57-60, CSP-160, 163, 164 (Middleton)

ANNAPOLIS COUNTY

Sample Number
CP-58

TOPOGRAPHICAL SHEET: 21A/14

LOCATION: On the property of Mr. R. Banks, 1.9 km northeast of Spa Springs on Route 221. The clay outcrops in small brook approximately 370 m northwest of the Banks' house (Fig. 7).

UTM: 339390 E
4983400 N

GEOLOGICAL UNIT: Clay, Quaternary age

DESCRIPTION: Four distinguishable horizons of clay occur at this location. The uppermost horizon is 91 cm thick and consists of medium grey clay with grit. See Sample Numbers CP-59,-60.

SAMPLE INTERVAL: 91 cm channel sample

TYPE OF MATERIAL: Clay

UNFIRED CHARACTERISTICS: Light greenish-grey, noncalcareous clay containing numerous stones. Very good workability. Highly plastic. Water of plasticity 26.4%. Safe drying. Air shrinkage 5.9%. Modulus of rupture 159 p.s.i. Benzidine test positive.

P.C.E.: 6+

FIRED CHARACTERISTICS:

Cone No.	Fired Shrinkage %	Absorption %	Colour	Hardness
06	3.19	10.67	Light mod. orange pink	Very hard
04	5.33	7.22	Light greyish orange	Steel hard
02	8.13	2.85	Greyish orange	Steel hard

POTENTIAL USES: Artware and structural products

ANNAPOLIS COUNTY**Sample Number**

CP-59

TOPOGRAPHICAL SHEET: 21A/14

LOCATION: On the property of Mr. R. Banks, 1.9 km northeast of Spa Springs on Route 221. The outcrop is the same one where sample CP-58 was taken (Fig. 7).

UTM: 339390 E
4983400 N

GEOLOGICAL UNIT: Clay, Quaternary age

DESCRIPTION: This layer of clay directly underlies sample CP-58. It is 8 cm of dark grey clay containing lenses of black clay. The clay sampled is one of four clay horizons at this site. See Sample Numbers CP-58,-60

SAMPLE INTERVAL: 8 cm channel sample**TYPE OF MATERIAL:** Clay

UNFIRED CHARACTERISTICS: Greenish-grey, noncalcareous clay containing numerous stones. Very good workability. Very plastic. Water of plasticity 24.4%. Safe drying. Air shrinkage 6.0%. Modulus of rupture 182 p.s.i. Benzidine test positive.

P.C.E.: 7**FIRED CHARACTERISTICS:**

Cone No.	Fired Shrinkage %	Absorption %	Colour	Hardness
04	3.73	10.42	Light greyish orange	Hard
02	5.67	6.59	Greyish orange	Very hard
1	5.85	5.14	Greyish orange	Steel hard

POTENTIAL USES: Earthenware, artware and structural products

ANNAPOLIS COUNTY**Sample Number**

CP-60

TOPOGRAPHICAL SHEET: 21A/14

LOCATION: On the property of Mr. R. Banks, 1.9 km northeast of Spa Springs on Route 221. The clay outcrops in a small brook about 370 m northwest of the Banks' house (Fig. 7).

UTM: 339390 E
4983400 N

GEOLOGICAL UNIT: Clay, Quaternary age

DESCRIPTION: Four horizons of clay occur at this locality. Bluish-grey clay, 23 cm thick, was sampled as CP-60. It underlies sample CP-59. The bluish-grey clay grades down into a layer of purple clay, the lowest visible layer, which is more than 30 cm thick. See Sample Numbers CP-58, -59

SAMPLE INTERVAL: 23 cm channel sample**TYPE OF MATERIAL:** Clay

UNFIRED CHARACTERISTICS: Red with some greenish-grey (pale red-purple after grinding and mixing), slightly calcareous clay with shale. Very good workability. Highly plastic. Water of plasticity 24.4%. Cracks with rapid drying at 85°C. Air shrinkage 5.7%. Modulus of rupture 137 p.s.i. Benzidine test negative.

P.C.E.: 8**FIRED CHARACTERISTICS:**

Cone No.	Fired Shrinkage %	Absorption %	Colour	Hardness
04	3.53	11.41	Moderate orange pink	Hard
02	5.14	8.31	Salmon	Very hard
01	6.01	6.83	Salmon	Steel hard

POTENTIAL USES: Artware

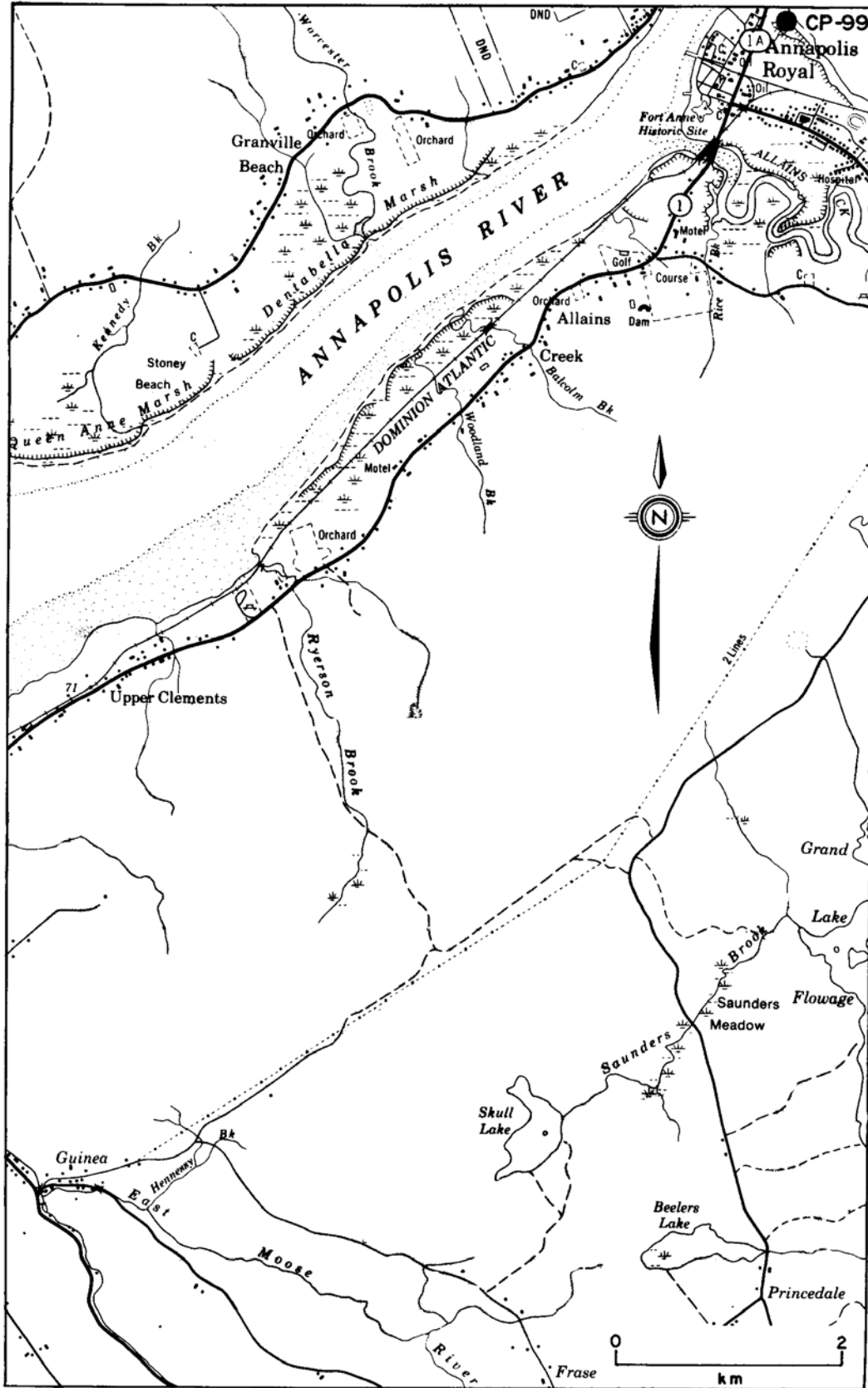
ANNAPOLIS COUNTY**Sample Number**

CP-99

TOPOGRAPHICAL SHEET: 21A/12**LOCATION:** Annapolis Royal, on the southern side of the Annapolis River, approximately 457 m south of the causeway (Fig. 8).**UTM:** 301240 E
4957920 N**GEOLOGICAL UNIT:** Clay, Quaternary age**DESCRIPTION:** Grey clay containing abundant organic material. The clay exhibits extensive iron carbonate staining and shows colour banding. Visible thickness of the exposure is about 91 cm.**ATTITUDE OF BEDDING:** Horizontal**SAMPLE INTERVAL:** Grab sample**TYPE OF MATERIAL:** Clay**UNFIRED CHARACTERISTICS:** Pale olive, slightly calcareous clay containing abundant soil material and silt. Poor workability. Poorly plastic. Water of plasticity 34.0%. Safe drying. Air shrinkage 5.1%. Benzidine test negative.**P.C.E.:** 4-**FIRED CHARACTERISTICS:**

Cone No.	Fired Shrinkage %	Absorption %	Colour	Hardness
02	7.15	11.30	Moderate reddish brown	Hard
1	5.63	12.41	Dark mod. reddish brown	Hard
3	7.25	10.22	Dark moderate red	Very hard

POTENTIAL USES: None



Ref. Map 21-A-12

Figure 8. Location map for sample CP-99 (Annapolis Royal)

ANNAPOLIS COUNTY**Sample Number**

CP-100

TOPOGRAPHICAL SHEET: 21A/14**LOCATION:** The occurrence is on the southern side of the Annapolis River at Mochelle (Fig. 5).**UTM:** 4958700 N
304970 E**GEOLOGICAL UNIT:** Clay, Quaternary age**DESCRIPTION:** Micaceous red clay. The outcrop forms the face of a 9 m bank and follows along the floodplain of the Annapolis River.**SAMPLE INTERVAL:** Grab sample**TYPE OF MATERIAL:** Clay**UNFIRED CHARACTERISTICS:** Moderate reddish-brown, calcareous clay. Very good workability. Very plastic. Water of plasticity 28.0%. Safe drying. Air shrinkage 7.5%. Modulus of rupture 446 p.s.i. Benzidine test negative.**P.C.E.:** 4-**FIRED CHARACTERISTICS:**

Cone No.	Fired Shrinkage %	Absorption %	Colour	Hardness
06	5.41	4.97	Light mod. reddish brown	Steel hard
04	6.27	0.53	Moderate reddish brown	Steel hard
02	6.46	0.04	Dark mod. reddish brown	Steel hard

REMARKS: Due to the apparent large extent of the material a further investigation is warranted.**POTENTIAL USES:** Earthenware, artware and common brick

ANNAPOLIS COUNTY**Sample Number**

CP-101

TOPOGRAPHICAL SHEET: 21A/14**LOCATION:** Exposure along the northern side of the Annapolis River, approximately 3.2 km southwest of Granville Centre (Fig. 5).**UTM:** 304710 E
4959370 N**GEOLOGICAL UNIT:** Clay, Quaternary age**DESCRIPTION:** Micaceous, red clay which extends for about 457 m along the shore of the Annapolis River. It is overlain by 91 cm to 1.2 m of marsh mud.**SAMPLE INTERVAL:** Grab sample**TYPE OF MATERIAL:** Clay**UNFIRED CHARACTERISTICS:** Light brown, calcareous clay. Very good workability. Highly plastic. Water of plasticity 32.0%. Safe drying. Air shrinkage 7.7%. Modulus of rupture 347 p.s.i. Benzidine test negative.**P.C.E.:** 3**FIRED CHARACTERISTICS:**

Cone No.	Fired Shrinkage %	Absorption %	Colour	Hardness
06	4.14	7.11	Lgt. mod. reddish brown	Steel hard
04	7.19	0.84	Lgt. mod. reddish brown	Steel hard
02	6.73	0.07	Lgt. mod. reddish brown	Steel hard

REMARKS: The clay appears to cover an extensive area**POTENTIAL USES:** Artware and common brick

ANNAPOLIS COUNTY**Sample Number**

CP-102

TOPOGRAPHICAL SHEET: 21A/14

LOCATION: Exposure along the southern side of the Annapolis River approximately 4 km west of Round Hill. The outcrop is about 152 m east of the mouth of a small tributary flowing into Annapolis River from Round Hill (Fig. 5).

UTM: 307380 E
4960270 N

GEOLOGICAL UNIT: Clay, Quaternary age**DESCRIPTION:** Blue clay containing organic material**SAMPLE INTERVAL:** Grab sample**TYPE OF MATERIAL:** Clay

UNFIRED CHARACTERISTICS: Grey and brown (greyish yellow-green after grinding and mixing), noncalcareous clay containing soily material. Fair workability. Fairly plastic. Water of plasticity 34.0%. Cracks with rapid drying at 85°C. Air shrinkage 5.3%. Modulus of rupture 178 p.s.i. Benzidine test negative.

P.C.E.: 3-4**FIRED CHARACTERISTICS:**

Cone No.	Fired Shrinkage %	Absorption %	Colour	Hardness
02	7.06	2.80	Moderate reddish brown	Very hard to steel hard
1	7.03	7.30	Moderate reddish brown	Very hard to steel hard
3	10.70	1.86	Dark reddish brown	Steel hard

POTENTIAL USES: None

ANNAPOLIS COUNTY**Sample Number**

CSP-160

TOPOGRAPHICAL SHEET: 21A/14

LOCATION: On the property of Mr. R. Banks, approximately 2 km northeast of Spa Springs. The sample was taken from a trench dug 650 m north of Route 221, in a small brook (Fig. 7).

UTM: 339540 E
4983560 N

GEOLOGICAL UNIT: Clay overlying the Blomidon Formation, Late Triassic age.

DESCRIPTION: 2 m of greyish-blue clay grading into reddish-brown Blomidon Formation shale.

SAMPLE INTERVAL: Channel sample

TYPE OF MATERIAL: Clay

UNFIRED CHARACTERISTICS: Good workability. Water of plasticity 28.0%. Air shrinkage 5.8%. Sample cracks with rapid drying at 85°C.

P.C.E.: 6

FIRED CHARACTERISTICS:

Temp °F	Fired Shrinkage %	Absorption %	Colour	Hardness
1745	1.47	18.44	Light cream to white	Hard
1805	1.98	17.47	Light cream to white	Hard
1855	2.85	15.39	Light cream to white	Very hard
1900	4.09	14.37	Light cream to white	Very hard
1940	4.56	10.80	Buff	Very hard
1975	6.16	8.68	Buff	Steel hard
2005	7.13	6.50	Buff	Steel hard
2040	8.34	5.94	Buff	Steel hard
2065	9.74	3.82	Light green	Steel hard
2085	10.50	2.82	Light green	Steel hard
2100	10.65	2.31	Light green	Steel hard

POTENTIAL USES: Face brick, wall tile and terra cotta

ANNAPOLIS COUNTY

Sample Number
CSP-163

TOPOGRAPHICAL SHEET: 21A/14

LOCATION: Baker property, Brooklyn, located 3 km northwest of Middleton. The clay was exposed by trenching in a small brook channel running northwest of North Mountain (Fig. 7).

UTM: 333700 E
4981020 N

GEOLOGICAL UNIT: Clay overlying the Blomidon Formation, Late Triassic age

DESCRIPTION: The trench revealed 30 cm of highly plastic, mottled, greyish-white clay overlying 1.7 m of hard, gritty, mottled clay.

SAMPLE INTERVAL: Channel sample across the 30 cm of plastic clay**TYPE OF MATERIAL:** Clay

UNFIRED CHARACTERISTICS: Very good workability. Very plastic. Water of plasticity 35.6%. Air shrinkage 9.9%. Sample cracks with rapid drying at 85°C.

P.C.E.: 10**FIRED CHARACTERISTICS:**

Temp °F	Fired Shrinkage %	Absorption %	Colour	Hardness
1475	0.48	15.21	Light buff	Very hard
1550	3.35	8.74	Light buff	Steel hard
1625	4.28	4.96	Light brown	Steel hard
1695	2.81	4.60	Light brown	Steel hard
1755	2.36	0.27	Light brown	Steel hard
1810	0.10	5.34	Light brown	Steel hard
1865	bloated	5.63	Light brown	Steel hard
1915	bloated	6.21	Light brown	Steel hard
1960	bloated	7.73	Light brown	Steel hard
2005	bloated	6.17	Light brown	Steel hard
2050	bloated	7.50	Light green	Steel hard
2090	bloated	7.49	Light green	Steel hard
2135	bloated	11.49	Light green	Steel hard
2165	bloated	8.05	Light green	Steel hard

REMARKS: Contains some magnetite. Has high drying shrinkage**POTENTIAL USES:** Possible use as lightweight aggregate; sample bloated from 1755°F-2165°F

ANNAPOLIS COUNTY

Sample Number
CSP-164

TOPOGRAPHICAL SHEET: 21A/14**LOCATION:** Baker property, Brooklyn. Same location as CSP-163 (Fig. 7).**UTM:** 333700 E
4981020 N**GEOLOGICAL UNIT:** Clay overlying Blomidon Formation. Late Triassic age**DESCRIPTION:** Mottled greyish-white, highly plastic clay overlying 1.7 m of mottled, hard, gritty clay**SAMPLE INTERVAL:** Channel sample across the lower 1 .7 m of clay**TYPE OF MATERIAL:** Clay**UNFIRED CHARACTERISTICS:** Good workability. Good plasticity. Water of plasticity 26.6%. Air shrinkage 4.0%. Sample cracks with rapid drying at 85°C.**P.C.E.:** 10**FIRED CHARACTERISTICS :**

Temp °F	Fired Shrinkage %	Absorption %	Colour	Hardness
1655	1.67	17.45	Brownish cream	Very hard
1725	2.68	15.69	Brownish cream	Very hard
1785	3.62	14.08	Brownish cream	Very hard
1845	4.51	12.80	Brownish cream	Very hard
1905	5.51	10.98	Brownish cream	Steel hard
1945	6.61	8.92	Light greenish brown	Steel hard
1995	8.02	6.95	Light greenish brown	Steel hard
2035	9.36	4.80	Light greenish brown	Steel hard
2065	10.56	3.09	Light greenish brown	Steel hard
2105	11.56	1.95	Light green	Steel hard
2130	12.08	1.28	Light green	Vitrified
2160	11.91	1.08	Light green	Vitrified
2185	11.62	1.46	Light green	Vitrified
2205	10.09	2.16	Light green	Vitrified
2225	9.04	1.67	Light green	Vitrified

POTENTIAL USES: Brick

ANNAPOLIS COUNTY

Sample Number
CSP-167

TOPOGRAPHICAL SHEET: 21A/14

LOCATION: Eel Weir Brook, approximately 400 m south of Lawrencetown (Fig. 9).

UTM: 329730 E
4970810 N

GEOLOGICAL UNIT: Pleistocene clay, Quaternary age

DESCRIPTION: Reddish-brown, pebbly, glacial clay. The exposure is 1 m thick and 3 m² in area.

SAMPLE INTERVAL: Grab sample

TYPE OF MATERIAL: Clay

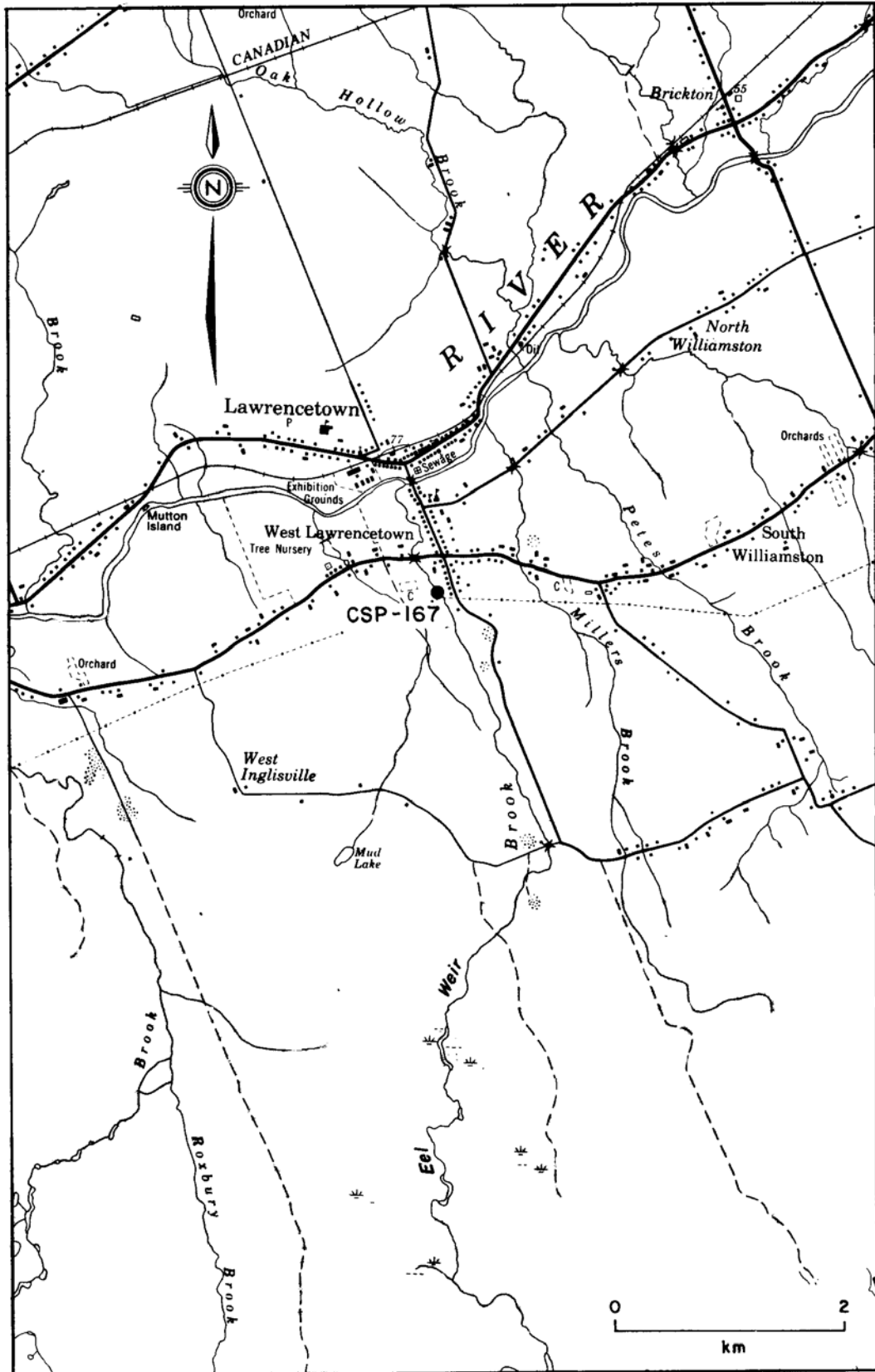
UNFIRED CHARACTERISTICS: Good workability. Good plasticity. Water of plasticity 21.6%. Air shrinkage 6.6%. Sample cracked with rapid drying at 85°C. Highly calcareous. (D.T.A. showed it was MgCO₃)

P.C.E.: 3

FIRED CHARACTERISTICS:

Temp °F	Fired Shrinkage %	Absorption %	Colour	Hardness
1630	0.18	13.48	Light orange brown	Hard
1685	0.14	13.66	Light orange brown	Hard
1740	0.13	13.60	Light orange brown	Hard
1785	0.05	13.31	Light orange brown	Hard
1835	0.06	11.86	Light orange brown	Hard
1875	0.55	12.41	Medium reddish brown	Very hard
1915	1.11	10.89	Medium reddish brown	Very hard
1955	1.96	9.19	Medium reddish brown	Very hard
1990	3.13	6.63	Medium reddish brown	Very hard
2020	4.78	4.56	Dark reddish brown	Steel hard
2040	5.89	2.86	Dark reddish brown	Steel hard
2060	6.45	2.16	Dark reddish brown	Steel hard

POTENTIAL USES: Common brick



Ref. Map 21-A-14

Figure 9. Location map for sample CSP-167 (Lawrencetown)