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**REPORT ON RADIOLARIANS**

1993

BRALORNE 92J/15  
17 localities

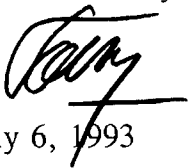
TO:

Mr. Franck Callaghan  
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Fabrice Cordey



July 6, 1993

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**Field No.:** 93CH-6 (3 samples processed)

**Collector:** Cordey

**LOCATION:**

**NTS:** 92J/15

**UTM:** Zone 10U; E510200, N5635700

**Description:** Gun Lake, southeast shore

**GEOLOGY:**

**Formation:** Bridge River group

**Lithology:** grey/brown ribbon chert, bed thickness 0.5 to 5 cm, average 1.5 cm.

**Outcrop:** isolated, west of greenstone "1" (Chevron map)

**RADIOLARIANS:**

*Pseudoalbaillella lomentaria* Ishiga and Imoto

*Pseudoalbaillella longicornis* Ishiga and Imoto

*Scharfenbergia* sp.

**AGE:** Early Permian; late Asselian-early Artinskian.

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**Field No.:** 93CH-7 (2 samples processed)

**Collector:** Cordey

**LOCATION:**

**NTS:** 92J/15

**UTM:** Zone 10U; E510400, N5635750

**Description:** Gun Lake, southeast shore

**GEOLOGY:**

**Formation:** Bridge River group

**Lithology:** black ribbon chert

**Outcrop:** isolated; east of greenstone "1"; argillite on west side

**RADIOLARIANS:**

poorly preserved shells

?*Canoptum* sp.

**AGE:** probably Middle or Late Triassic.

---

**Field No.:** 93CH-8 (3 samples processed)

**Collector:** Cordey

**LOCATION:**

**NTS:** 92J/15

**UTM:** Zone 10U; E510500, N5635800

**Description:** Gun Lake, southeast shore

**GEOLOGY:**

**Formation:** Bridge River group

**Lithology:** red and grey ribbon chert

**Outcrop:** isolated; 50 meters east of pillow-lavas

**RADIOLARIANS:**

*Pseudostylosphaera helicata* (Nakaseko and Nishimura)

*Pseudostylosphaera japonica* (Nakaseko and Nishimura)

*Pseudostylosphaera longispinosa* Kozur and Mostler

*Pseudostylosphaera tenuis* (Nakaseko and Nishimura)

*Plafkerium cochleatum* (Nakaseko and Nishimura)

*Sarla* cf. *kretaensis* Kozur and Krahl

**AGE:** Middle Triassic; Anisian-Ladinian.

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**Field No.:** 93CH-9 (3 samples processed)

**Collector:** Cordey

**LOCATION:**

**NTS:** 92J/15

**UTM:** Zone 10U; E510950, N5636100

**Description:** Gun Lake, southeast shore

**GEOLOGY:**

**Formation:** Bridge River group

**Lithology:** grey and black ribbon chert

**Outcrop:** chert associated with thin greenstone slice (fault contact); chert located on the other side of greenstone is barren.

**RADIOLARIANS:**

*Archaeosemantis* sp.

unidentified entactiniids

**AGE:** possibly Early Triassic.

---

**Field No.:** 93CH-21 (1 sample processed)

**Collector:** Cordey

**LOCATION:**

**NTS:** 92J/15

**UTM:** Zone 10U; E510800, N5635900

**Description:** Gun Lake, southeast shore

**GEOLOGY:**

**Formation:** Bridge River group

**Lithology:** grey ribbon chert

**Outcrop:** disrupted chert section in contact with thin greenstone slice; contact is tectonic, possibly former stratigraphic contact previous to decollement.

**RADIOLARIANS:**

*Follicucullus monacanthus* Ishiga and Imoto

**AGE:** Late Permian; Kazanian.

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**Field No.:** 93CH-22 (1 sample processed)

**Collector:** Cordey

**LOCATION:**

**NTS:** 92J/15

**UTM:** Zone 10U; E510700, N5635850

**Description:** Gun Lake, southeast shore

**GEOLOGY:**

**Formation:** Bridge River group

**Lithology:** grey/brown ribbon chert

**Outcrop:** isolated

**RADIOLARIANS:**

*Hegleria* cf. *mammifera* Nazarov and Ormiston

*Pseudoalbaillella fusiformis* (Holdsworth and Jones)

*Pseudoalbaillella globosa* Ishiga and Imoto

*Quinqueremis* cf. *robusta* Nazarov and Ormiston

**AGE:** Late Permian; Kungurian.

---

**Field No.:** 93CH-23 (1 sample processed)

**Collector:** Cordey

**LOCATION:**

**NTS:** 92J/15

**UTM:** Zone 10U; E510700, N5635700

**Description:** Gun Lake, southeast shore

**GEOLOGY:**

**Formation:** Bridge River group

**Lithology:** grey/brown ribbon chert

**Outcrop:** isolated

**RADIOLARIANS:**

*Albaillella sinuata* Ishiga and Imoto

*Latentibifistula* cf. *kamigoriensis* (De Wever and Caridroit)

*Pseudoalbaillella fusiformis* (Holdsworth and Jones)

*Quadriremis* sp.

*Quinqueremis* cf. *robusta* Nazarov and Ormiston

**AGE:** Permian; late Artinskian-Kungurian.

---

**Field No.:** 93CH-24 (1 sample processed)

**Collector:** Cordey

**LOCATION:**

**NTS:** 92J/15

**UTM:** Zone 10U; E510700, N5635600

**Description:** Gun Lake, southeast shore

**GEOLOGY:**

**Formation:** Bridge River group

**Lithology:** light grey/brown ribbon chert

**Outcrop:** isolated

**RADIOLARIANS:**

poorly preserved and undescribed conical forms

**AGE:** Permian or Triassic

---

**Field No.:** 93CH-11 (1 sample processed)

**Collector:** Cordey

**LOCATION:**

**NTS:** 92J/15

**UTM:** Zone 10U; E511500, N5636200

**Description:** between Gun and Carpenter lakes, south slope of hill

**GEOLOGY:**

**Formation:** Bridge River group

**Lithology:** red ribbon chert

**Outcrop:** isolated

**RADIOLARIANS:**

very poorly preserved spumellarians

**AGE:** Phanerozoic.

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**Field No.:** 93CH-12 (1 sample processed)

**Collector:** Cordey

**LOCATION:**

**NTS:** 92J/15

**UTM:** Zone 10U; E511800, N5635300

**Description:** Carpenter Lake, northwest shore, along road

**GEOLOGY:**

**Formation:** Bridge River group

**Lithology:** grey ribbon chert

**Outcrop:** isolated

**RADIOLARIANS:**

poorly preserved spumellarians and nassellarians

?*Pseudostylosphaera* sp.

**AGE:** probably Middle or Late Triassic.

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**Field No.:** 93CH-17 (1 sample processed)

**Collector:** Cordey

**LOCATION:**

**NTS:** 92J/15

**UTM:** Zone 10U; E511500, N5635000

**Description:** Carpenter Lake, northwest shore

**GEOLOGY:**

**Formation:** Bridge River group

**Lithology:** green/brown ribbon chert

**Outcrop:** isolated, but locally associated with greenstone

**RADIOLARIANS:**

*?Eptingium manfredi* Dumitrica

*Oertlispongy inaequispinosus* Dumitrica, Kozur and Mostler

*Pseudostylosphaera* aff. *compacta* (Nakaseko and Nishimura)

**AGE:** Middle Triassic; Anisian-Ladinian.

---

**Field No.:** 93CH-18 (1 sample processed)

**Collector:** Cordey

**LOCATION:**

**NTS:** 92J/15

**UTM:** Zone 10U; E511600, N5635600

**Description:** Carpenter Lake, northwest shore

**GEOLOGY:**

**Formation:** Bridge River group

**Lithology:** grey ribbon chert

**Outcrop:** isolated

**RADIOLARIANS:**

*?Plafkerium* sp.

*Triassocampe* sp.

**AGE:** Middle or Late Triassic; Anisian-Carnian.

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**Field No.:** 93CH-19 (1 sample processed)

**Collector:** Cordey

**LOCATION:**

**NTS:** 92J/15

**UTM:** Zone 10U; E511600, N5635600

**Description:** Carpenter Lake, northwest shore

**GEOLOGY:**

**Formation:** Bridge River group

**Lithology:** grey ribbon chert

**Outcrop:** isolated

**RADIOLARIANS:**

*Canoptum* sp.

*Paratriassoastrum* sp.

*Pseudostylosphaera* sp.

*Triassocampe* sp.

**AGE:** Middle or Late Triassic; Ladinian-Carnian.

---

**Field No.:** 93CH-13 (1 sample processed)

**Collector:** Cordey

**LOCATION:**

**NTS:** 92J/15

**UTM:** Zone 10U; E512600, N5635400

**Description:** Carpenter Lake, southeast shore

**GEOLOGY:**

**Formation:** Bridge River group

**Lithology:** red ribbon chert

**Outcrop:** above cliff, south side of road

**RADIOLARIANS:**

very poorly preserved spumellarians, recrystallized silica spheres  
unidentifiable radiolarians

**AGE:** Phanerozoic.

---

**Field No.:** 93CH-14-2 (2 samples processed)

**Collector:** Cordey

**LOCATION:**

**NTS:** 92J/15

**UTM:** Zone 10U; E512700, N5635500

**Description:** Carpenter Lake, southeast shore, along road

**GEOLOGY:**

**Formation:** Bridge River group

**Lithology:** red ribbon chert

**Outcrop:** isolated

**RADIOLARIANS:**

very poorly preserved spumellarians  
specimens evoke Triassic Sarlinae

**AGE:** probably Triassic.

---

**Field No.:** 93CH-14-3 (1 sample processed)

**Collector:** Cordey

**LOCATION:**

**NTS:** 92J/15

**UTM:** Zone 10U; E512700, N5635500

**Description:** Carpenter Lake, southeast shore, along road

**GEOLOGY:**

**Formation:** Bridge River group

**Lithology:** red ribbon chert

**Outcrop:** isolated

**RADIOLARIANS:**

poorly preserved spumellarians and nassellarians  
?Pseudostylosphaera sp.  
?Sarla sp.

**AGE:** Middle or Late Triassic.

---

**Field No.:** 93CH-25 (3 samples processed)

**Collector:** Cordey

**LOCATION:**

**NTS:** 92J/15

**UTM:** Zone 10U; E513800, N5624000

**Description:** Bralorne mine, entrance adit level 800

**GEOLOGY:**

**Formation:** ?Bridge River group

**Lithology:** siltstone with sandy levels

**Outcrop:** section along level 800; bedding tends to disappear to the east  
(increasing proximity of fault)

**RADIOLARIANS:**

?poorly preserved silica forms visible on surface of sample;  
no identifiable fauna in residue

**AGE:** undetermined.

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### **Radiolarian ages synthesis**

#### **1 - Gun Lake, southeast shore**

- 93CH-6: Early Permian; late Asselian-early Artinskian
- 93CH-7: probably Middle or Late Triassic
- 93CH-8: Middle Triassic; Anisian-Ladinian
- 93CH-9: possibly Early Triassic
- 93CH-21: Late Permian; Kazanian
- 93CH-22: Late Permian; Kungurian
- 93CH-23: Middle or Late Permian; late Artinskian-Kungurian
- 93CH-24: Permian or Triassic
- LOC.2(\*): Middle or Late Permian; Sakmarian-Kazanian
- LOC.4(\*): Middle Triassic; Ladinian

#### **2 - Carpenter Lake, northwest shore**

- 93CH-11: Phanerozoic
- 93CH-12: probably Middle or Late Triassic
- 93CH-17: Middle Triassic; Anisian-Ladinian
- 93CH-18: Middle or Late Triassic; Anisian-Carnian
- 93CH-19: Middle or Late Triassic; Ladinian-Carnian

#### **3 - Carpenter Lake, southeast shore**

- 93CH-13: Phanerozoic
- 93CH-14-2: probably Triassic
- 93CH-14-3: Middle or Late Triassic

#### **4 - Bralorne mine**

- 93CH-25: undetermined

(\*) Cordey, F., and Schiarizza, P., 1993: A long-lived panthalassic remnant: the Bridge River accretionary complex, Canadian Cordillera; **Geology**, vol. 21, p. 263-266.

### Conclusion

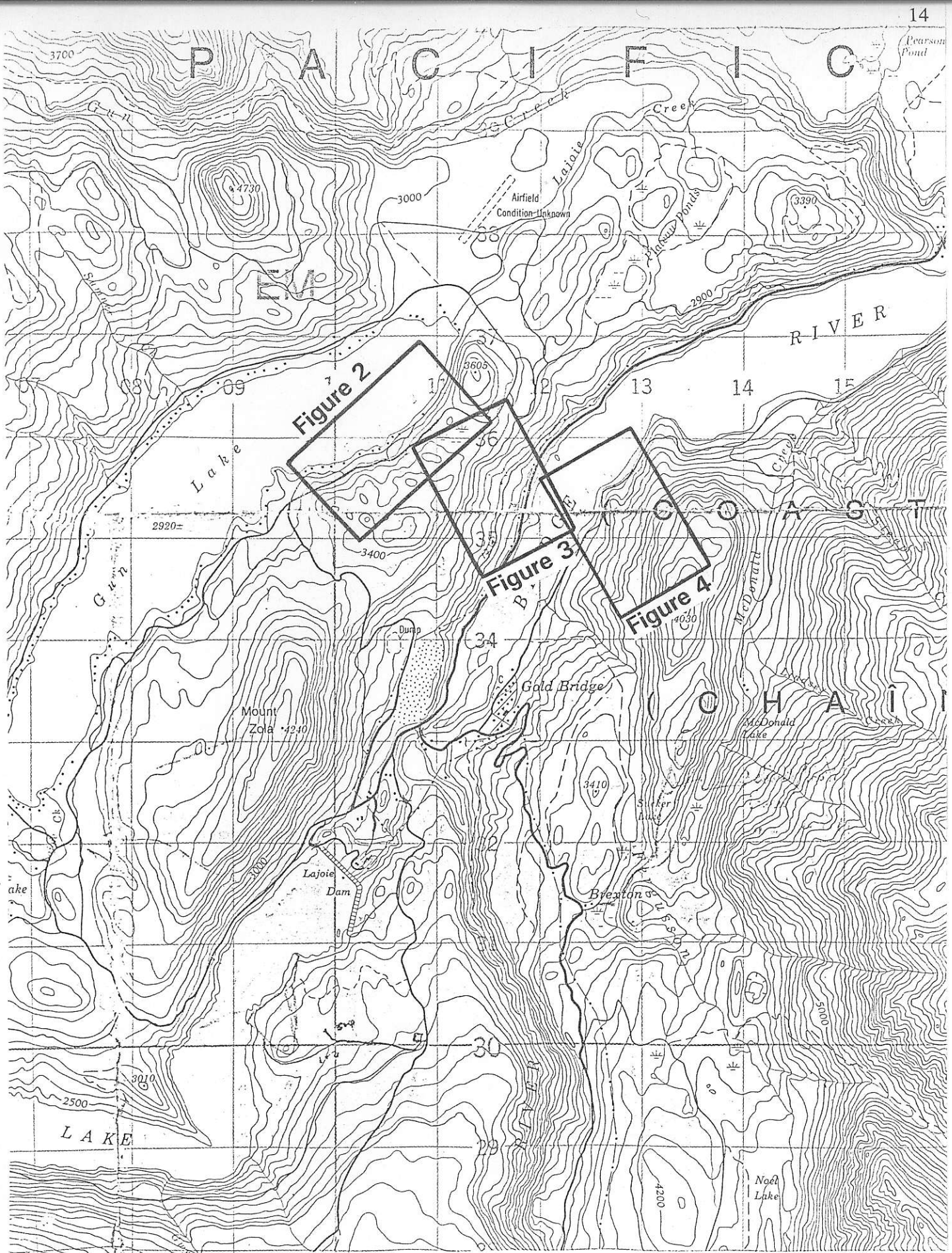
Chert exposures near Gold Bridge and Bralorne have been investigated in order to detect occurrences of radiolarian fauna.

Best radiolarian assemblages are encountered in Gun Lake area (Figure 2); chert slices exposed along the southeastern shore are associated with massive greenstone in fault slice and, in place, pillow-lavas. In this area, ribbon chert range in age from Early Permian to Middle or Late Triassic, including intermediate ages (late Asselian-early Artinskian, Kungurian, Kazanian, possibly Early Triassic, Anisian-Ladinian, Ladinian). Chert more closely associated with greenstone is Late Permian (93CH-21), possibly Early Triassic (93CH-9), and Middle or Late Triassic (93CH-8).

To the south on the northwest shore of Carpenter Lake (Wayside property), several localities turned out to be productive (Figure 3). Radiolarian preservation is poor to moderate, and chert ranges in age from Middle Triassic (Anisian-Ladinian) to Middle or Late Triassic (Ladinian-Carnian). Although not indicated at the scale of the geological map by Chevron, locality 93CH-17 (Middle Triassic; Anisian-Ladinian) is found in association with massive greenstone (contact not observed).

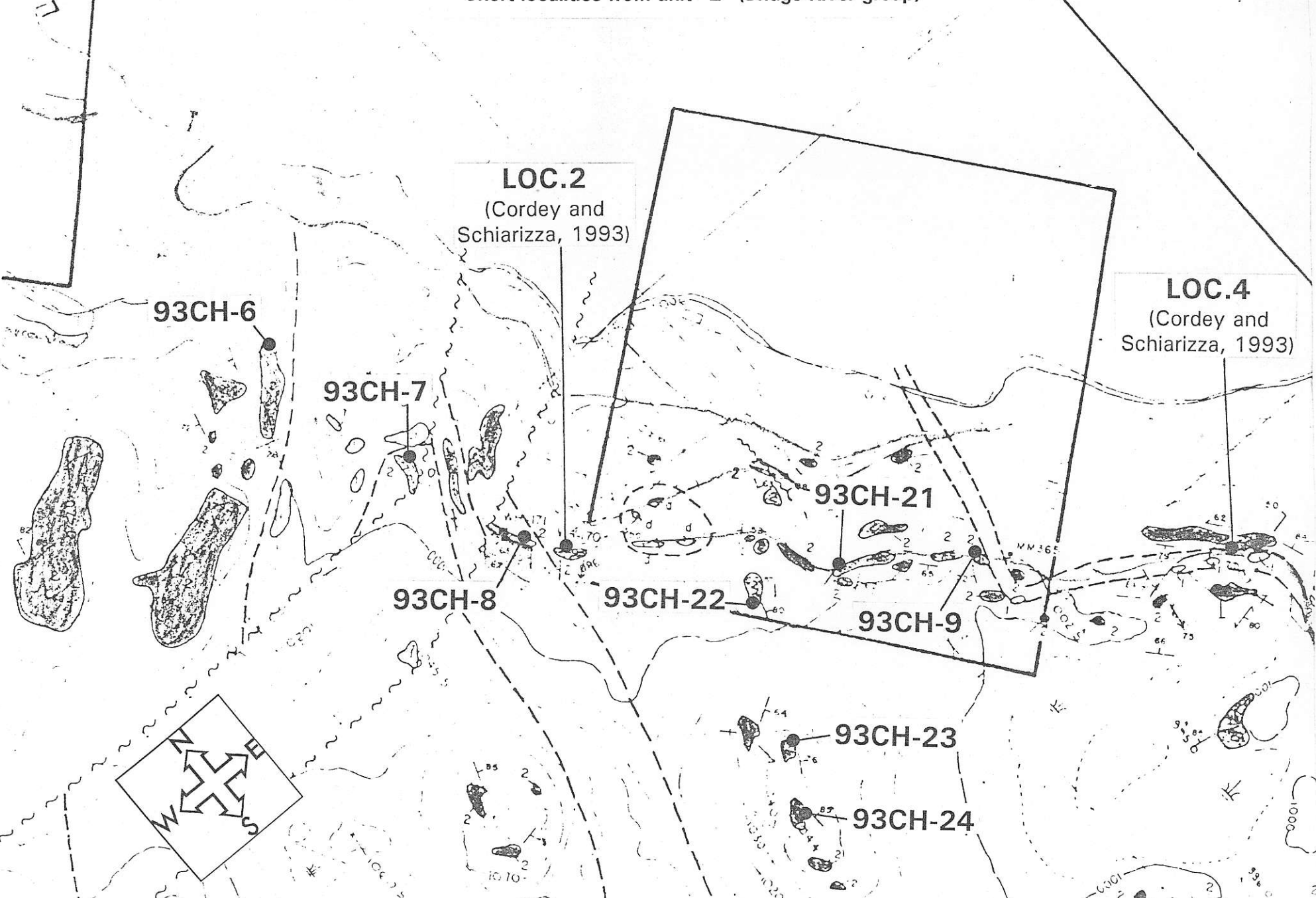
On the other side of Carpenter Lake (Figure 4), chert exposures yield poorly preserved radiolarian faunas. Radiolarian assemblage recovered at one locality (93CH-14-3) is Middle or Late Triassic in age. This age is potentially similar to the age obtained from chert on the other side of Carpenter Lake (93CH-12), indicating a possible correlation between the two packages.

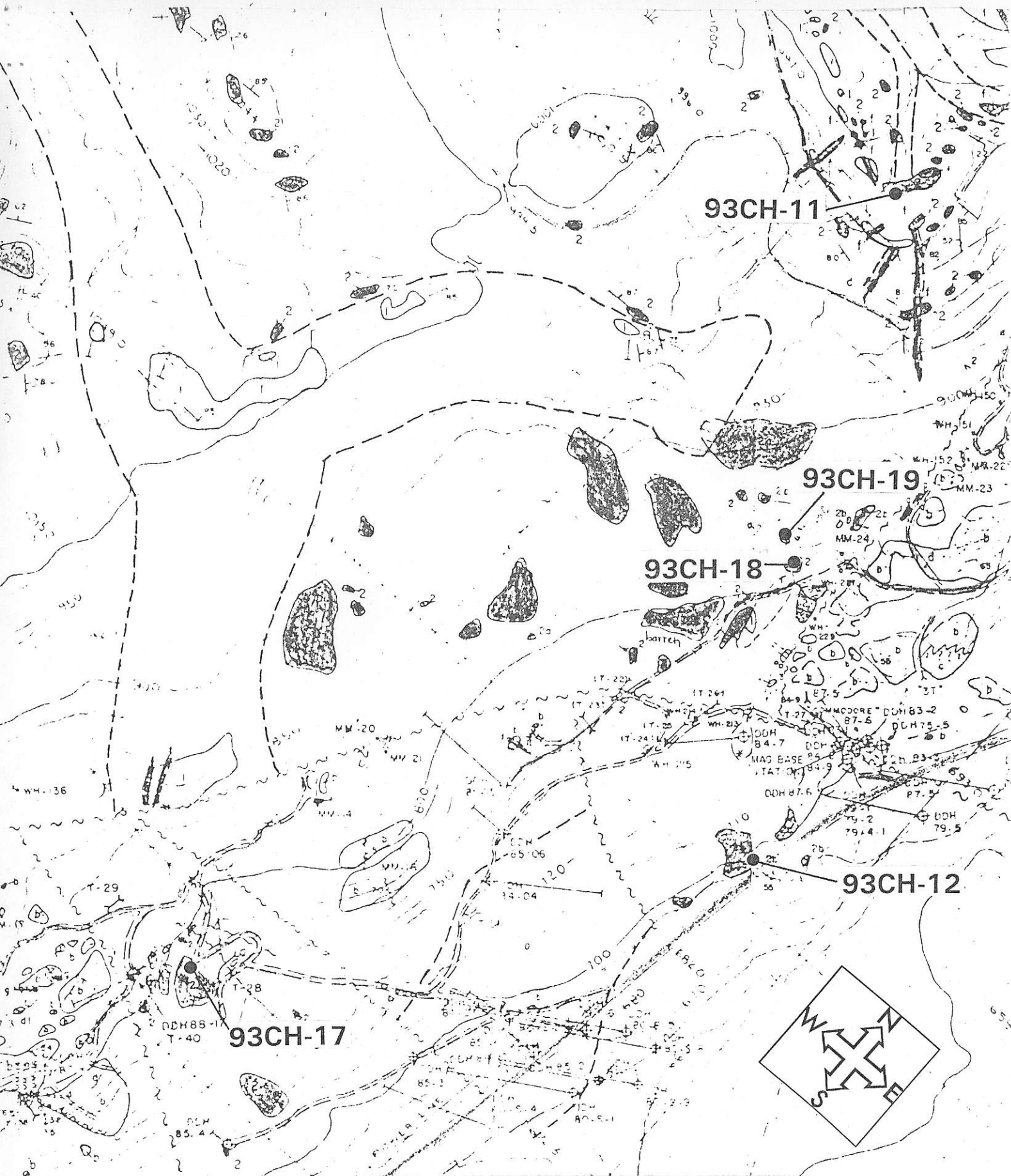
Chert exposures observed on the western side of Mount Fergusson Creek, as well as the outcrops exposed near Sucker Lake and headwaters of McDonald Creek have yielded no identifiable radiolarian fauna. Samples from Bralorne mine (entrance level 800, 93CH-25) have not been productive in spite of several extraction attempts.



**Figure 1 - Location of radiolarian localities**  
 map area Bralorne 92J/15, 1:50,000

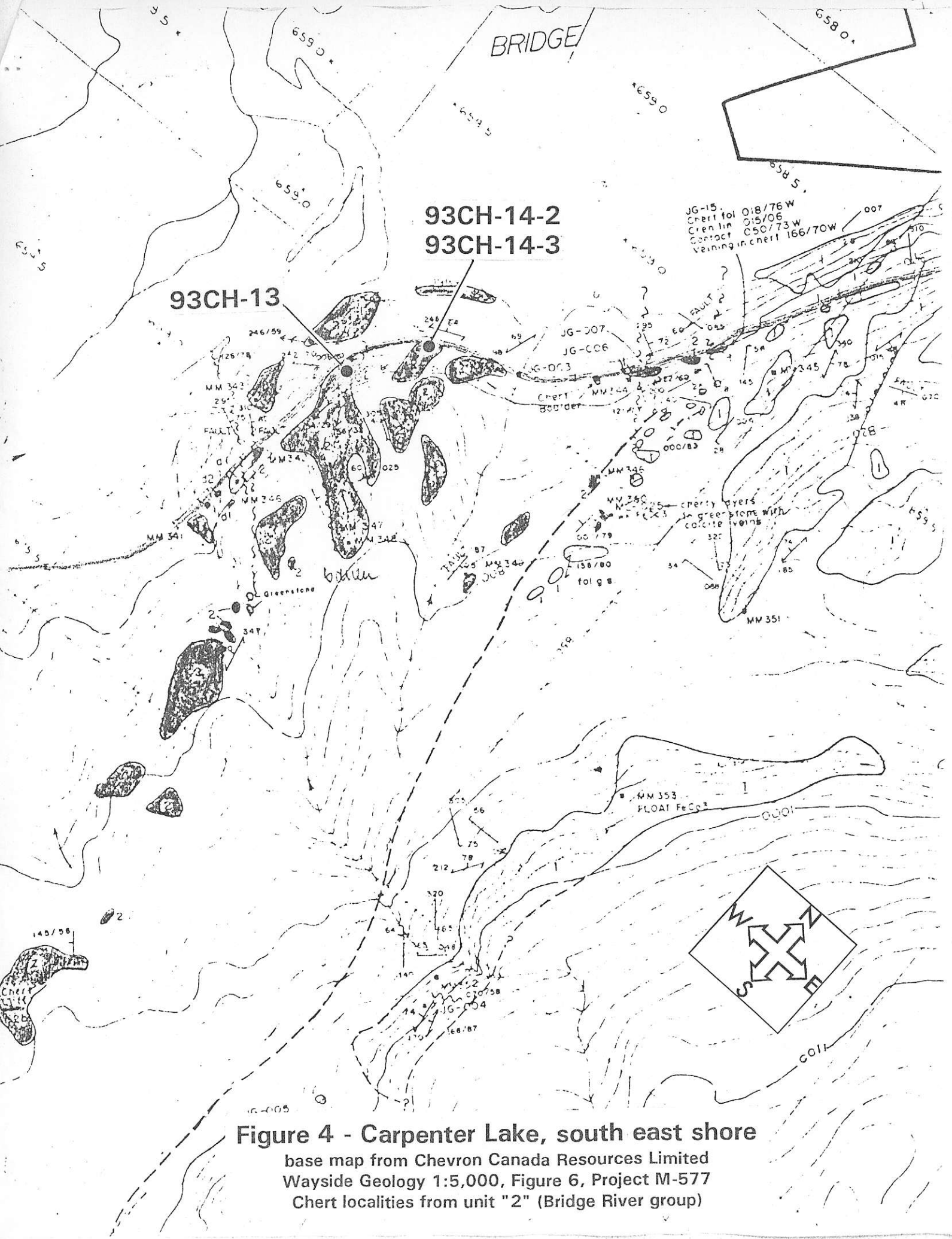
**Figure 2 - Gun Lake, south east shore**  
base map from Chevron Canada Resources Limited  
Wayside Geology 1:5,000, Figure 6, Project M-577  
Chert localities from unit "2" (Bridge River group)





**Figure 3 - Carpenter Lake, north west shore**  
 base map from Chevron Canada Resources Limited  
 Wayside Geology 1:5,000, Figure 6, Project M-577  
 Chert localities from unit "2" (Bridge River group)





**Figure 4 - Carpenter Lake, south east shore**  
 base map from Chevron Canada Resources Limited  
 Wayside Geology 1:5,000, Figure 6, Project M-577  
 Chert localities from unit "2" (Bridge River group)

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**REPORT ON RADIOLARIANS**

**No. 2**

1993

**BRALORNE 92J/15**

1 locality

TO:

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Energy, Mines and Resources  
Geological Survey of Canada  
100 West Pender  
Vancouver V6B 1R8

Fabrice Cordey



September 7th, 1993

**Field No.:** 93CH-27

**Collectors:** Fabrice Cordey/ Jim Miller-Tait (ONIVA Int.)/ Franck Callaghan

**LOCATION:**

**NTS:** 92J/15

**UTM:** Zone 10U; E514300, N5625300

**Description:** 1 km north-east of Bralorne

**GEOLOGY:**

**Formation:** Bridge River group

**Lithology:** grey ribbon chert

**Outcrop:** isolated; greenstone in vicinity although no contact observed.

**RADIOLARIANS:**

?*Capnuchosphaera* sp.

?*Pseudostylosphaera* sp.

*Sarla* sp.

**AGE:** Middle or Late Triassic; possibly Carnian-Norian.

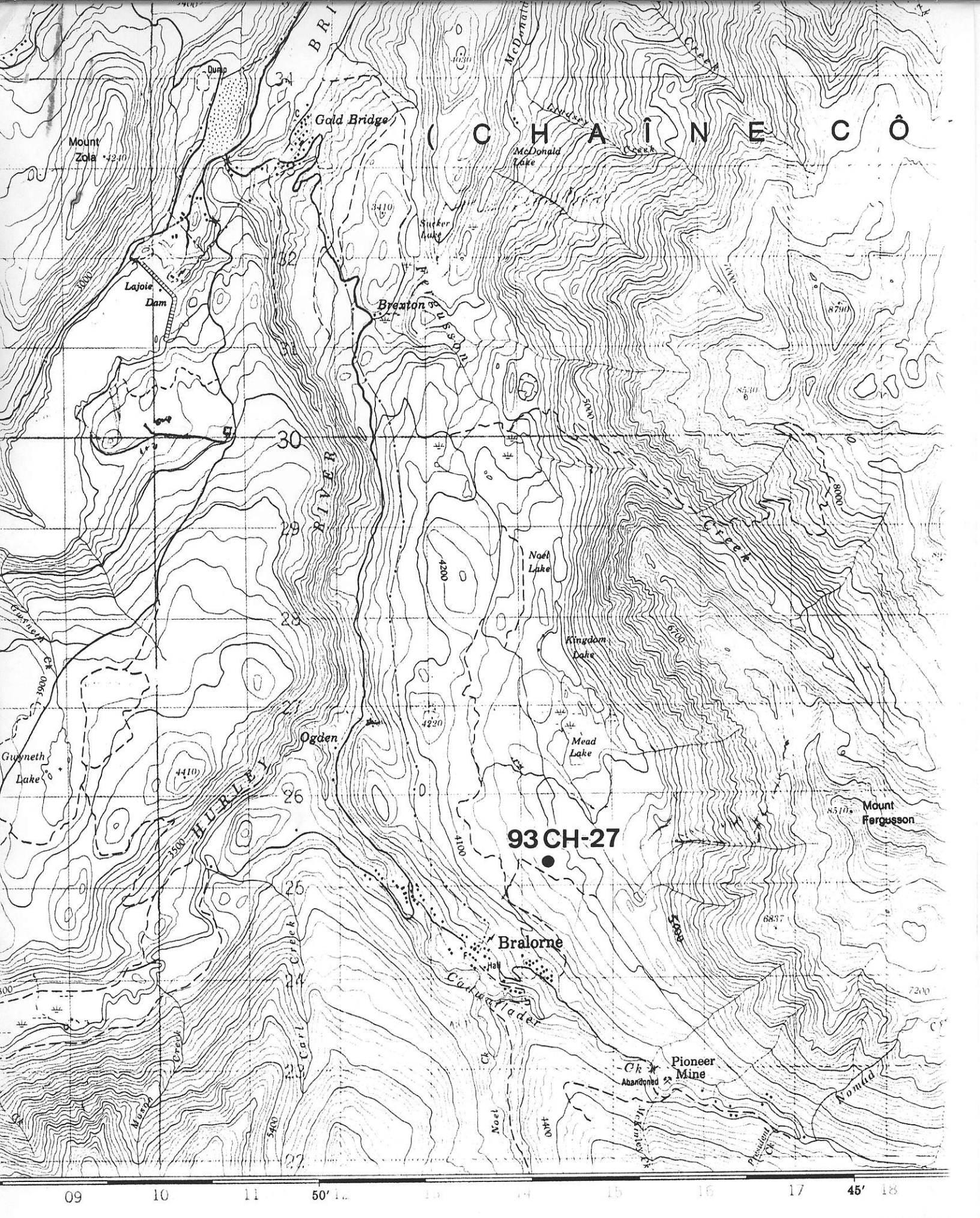
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**Conclusion**

For the first time, a chert locality of the Bridge River group has yielded identifiable radiolarians near Bralorne. This association is Middle or Late Triassic in age, possibly Carnian-Norian. This date overlaps previous ages obtained on chert packages of the Bridge River Group:

- (1) on the north shore of Carpenter Lake, including Wayside property (locality 93CH-12, cf report on radiolarians dated July 6, 1993).
- (2) on the south side of Carpenter Lake, northeast of Gold Bridge (locality 93CH-14-3, cf report on radiolarians dated July 6, 1993)

This date reinforces the interpretation that these chert packages are partly coeval and therefore correlative.



( C H A Î N E C Ò )

Mount Zola \*4210

Gold Bridge

McDonald Lake

Lajoie Dam

Breton

Noel Lake

Kingdom Lake

Mead Lake

Ogden

93CH-27

Mount Fergusson

Bralorne

Pioneer Mine

09 10 11 50' 12 13 14 15 16 17 45' 18