

Route to: _____ Initials _____ Date: **675114** Sent to Randy Parrish
 Head, Geochronology Section _____ Age det. prog.
 Age Determination Committee _____ or
 Chief, R & EG Division _____ 'Spot age'

Project No.: 74078 Project Officer: Dr. K.H. Dawson Date: 12/29/84

AGE DETERMINATION METHOD:

Isotope system: Rb - Sr K - Ar U-Th-Pb Other: _____
 Type: Isochron Single determination Concordia Test
 Material: Whole rock Mineral(s) : zircon

SAMPLE INFORMATION:

Collected by: K.H. Dawson Field Note Reference: DY 2975 - Athol
 { Sample No.: DY 2975 Specimen No.: DY 2975 Thin Section No.: DY 2975
 { Nos. of related samples submitted for age det. } _____
 OR { Sample Nos. submitted for isochron test } possibly DY 2953, 2954, 2966, 2967

For single samples:

Specimen Grab Chip Mineral Other: _____
 Fresh Altered Weathered Any weathered surfaces? none detected
 If in rock, content of mineral(s) to be dated: _____, %; _____, % Approximate sample weight: _____

LOCATION AND REFERENCE:

Province: BC NTS: 104N/5 or UTM: Zone E N
 Longitude: 133° 31' 25" W; Latitude: 59° 28' 10" N
 Topographic location: McKee Ck, Athol: head of placer workings.

If applicable, map-unit No.: _____, & reference: _____

GEOLOGICAL INFORMATION: Geological setting (rock association, structure, etc.):

Diorite dyke cuts Cache Ck Gp melange of graphitic shale, chert greenstone, saponitized UB. Width 3cm. 078/605

Macroscopic description (rock name, type, grain size, texture, etc.):

fine to med - ground dioritic poly-crystalline hornblende intergrowths. Quartz xenocrysts up to 3%. Dissemp. pyrite. Partly digested shale & chert xenoliths.

Microscopic description (mineral composition, etc., with special reference to the mineral(s) to be dated):

Thin sections in preparation.

AGE PROBLEM:

Dyke is sheared at upper contact not lower. Zircon age immune because of Jurassic and Cretaceous thermal events. Dyke may be related to Au-quartz veins in headwaters of McKee Ck. Compare to K/Ar ages on host waste alteration on Au-quartz veins.

Comments by Geochronology Section:

Zircon - Pb
 Diorite dyke cuts Cache Ck melange at McKee Ck.

DY 2975

Route to: Head, Geochronology Section Age Determination Committee Chief, R&EG Division

Initials Date

Age det. prog. or 'Spot age'

Project No.: 740098 Project Officer: Dr. K.M. Dawson Date: 18/09/84

AGE DETERMINATION METHOD:

Isotope system: Rb-Sr, K-Ar, U-Th-Pb, Other; Type: Isochron, Single determination, Concordia, Test; Material: Whole rock, Mineral(s): fuchsite, muscovite

SAMPLE INFORMATION:

Collected by: K.M. Dawson Field Note Reference: DY 2967: Athin

Sample No.: DY 2967 Specimen No.: DY 2967 Thin Section No.: DY 2967; Nos. of related samples submitted for age det. (X) DY 2966, DY 2954; OR Sample Nos. submitted for isochron test

For single samples:

Specimen - Grab (X) Chip Mineral Other

Fresh Altered (X) Weathered Any weathered surfaces?

If in rock, content of mineral(s) to be dated: fuchsite, muscovite, 10%; Approximate sample weight: 3/16

LOCATION AND REFERENCE:

Province: BC NTS: 104N/11 or UTM: Zone E N Longitude: 133° 28' 45" W; Latitude: 59° 31' 15" N; Topographic location: Headwaters Dominion Spruce and McKee Creeks; Athin. 750 m ESE of Union Mtns. Discovery zone of Standard Gold: Trench 1; If applicable, map-unit No.: 7, & reference: 1082A; GSC Memoir 307

GEOLOGICAL INFORMATION: Geological setting (rock association, structure, etc.):

Rn Cache Ck Group of Athin area. NE trending zone included all Cache Ck Gp lithologies locally. Specimen is listwanite (quartz-biotite-carbonate-green mica) alteration assemblage after serpentinized ultramafics.

Macroscopic description (rock name, type, grain size, texture, etc.): Medium grained weakly foliated qtz-carbonate-mica rock.

Microscopic description (mineral composition, etc., with special reference to the mineral(s) to be dated): Thin section in preparation.

AGE PROBLEM: Obtain K Ar. date on white or green mica separate to determine age of related Au-quartz veins. If mica not available, try RbSr whole rock

Comments by Geochronology Section:

Discovery trench - listwan. after U3. KAR RbSr

Route to: Head, Geochronology Section Age Determination Committee Chief, R & EG Division

Initials Date

Age det. prog. or 'Spot age'

Project No.: 140098 Project Officer: Dr KM Dawson Date: 18/09/84

AGE DETERMINATION METHOD:

Isotope system: Rb-Sr, K-Ar, U-Th-Pb, Other; Type: Isochron, Single determination, Concordia, Test; Material: Whole rock, Mineral(s) muscovite, Cr-muscovite

SAMPLE INFORMATION:

Collected by: KM Dawson Field Note Reference: DY 2966: Athin

Sample No.: DY 2966 Specimen No.: DY 2966 Thin Section No.: DY 2966; Nos. of related samples submitted for age det.; OR Sample Nos. submitted for isochron test

For single samples:

Specimen - Grab, Chip, Mineral, Other; Fresh, Altered, Weathered, Any weathered surfaces?; If in rock, content of mineral(s) to be dated muscovite - fuchsite 25%; Approximate sample weight: 8/g

LOCATION AND REFERENCE:

Province: BC NTS: 104N/11 or UTM: Zone E N; Longitude: 133° 28' 45" W; Latitude: 59° 31' 15" N; Topographic location: Headwaters Dominion Spruce and Mekec Creeks, Athin; 750m ESE of Union Mtn. Discovery Zone of Stanford Gold Hd. Trench 2; If applicable, map-unit No.: 7, & reference: 1082A; GSC Mem. 307

GEOLOGICAL INFORMATION: Geological setting (rock association, structure, etc.):

In Cache Ck Group of Athin area NE trending shear zone includes all Cache Ck lithologies locally. Specimen is listwanite (quartz-carbonate-mica) alteration of ultramafic adjacent to Au-bearing quartz veins.

Macroscopic description (rock name, type, grain size, texture, etc.): Grey medium grained quartz-calcite (+ dolomite, siderite) - white to green mica (muscovite, fuchsite, mariposite) alteration assemblage after serpentine.

Microscopic description (mineral composition, etc., with special reference to the mineral(s) to be dated): Thin section in preparation.

AGE PROBLEM: Obtain K/Ar age on white mica separate to determine age of related Au-quartz veins. If mica not suitable, try Rb/Sr whole rock.

Comments by Geochronology Section:

Discovery trench listwanite KAr RbSr

Route to: Head, Geochronology Section Age Determination Committee Chief, R & EG Division

Age det. prog. or 'Spot age'

Project No.: 740048 Project Officer: Dr Kay Dawson Date: 18/09/84

AGE DETERMINATION METHOD:

Isotope system: Rb-Sr, K-Ar, U-Th-Pb, Other; Type: Isochron, Single determination, Concordia, Test; Material: Whole rock, Mineral(s): muscovite, fuchsite

SAMPLE INFORMATION:

Collected by: KM Dawson Field Note Reference: DY 2954 Athin

Sample No.: DY2954 Specimen No.: DY2954 Thin Section No.: DY2954; Nos. of related samples submitted for age det. or for isochron test

For single samples:

Specimen - Grab, Chip, Mineral, Other; Fresh, Altered, Weathered, Any weathered surfaces?; If in rock, content of mineral(s) to be dated: Cr-mica, 10%; Approximate sample weight: 25 lb.

LOCATION AND REFERENCE:

Province: BC NTS: 104 N/12 Longitude: 133° 33' 35" W; Latitude: 59° 32' N; Topographic location: West flank of Union Mtn, Golden View property of Del Norte M.A. Trench on small Au-quartz vein; If applicable, map-unit No.: 9, & reference: 1082 A; GSC Memoir 307

GEOLOGICAL INFORMATION: Geological setting (rock association, structure, etc.):

Altered ultramafics of Cache Ck Bp. Large EW dyke exposed on Union Mtn. Specimen is tailwaste (quartz-buff carbonate-green mica) after serpentized ultramafics.

Macroscopic description (rock name, type, grain size, texture, etc.): Medium grained weakly foliated qtz-carb-mica rock.

Microscopic description (mineral composition, etc., with special reference to the mineral(s) to be dated): Thin section in preparation

AGE PROBLEM: Obtain KAr age on green Cr-mica separate to determine age of related Au-quartz veins. If mica not suitable, try RbSr whole rock.

Comments by Geochronology Section:

Route to: _____ Initials _____ Date: _____
Head, Geochronology Section _____
Age Determination Committee _____
Chief, R & EG Division _____

Age det. prog.
or
'Spot age'

Project No.: 740098 Project Officer: Dr. Kai Dawson Date: 19/09/84

AGE DETERMINATION METHOD: *alternate*

Isotope system: Rb - Sr - K - Ar - - - - U - Th - Pb - Other: _____
Type: Isochron - Single determination - Concordia Test - - -
Material: Whole rock Mineral(s) - : muscovite, fuchsite

SAMPLE INFORMATION:

Collected by: Kai Dawson Field Note Reference: DY 2953 Athin.

{ Sample No.: DY 2953 Specimen No.: DY 2953 Thin Section No.: DY 2953
Nos. of related samples submitted for age det. - _____
OR
{ Sample Nos. submitted for isochron test - DY 2954, DY 2966, DY 2967

For single samples:

Specimen - Grab - - Chip - - - Mineral - Other: _____
Fresh - - Altered - Weathered - Any weathered surfaces? _____
If in rock, content of mineral(s) to be dated: Cr mica, 5% (?), % Approximate sample weight: 3/16

LOCATION AND REFERENCE:

Province: BC NTS: 104 N/12 or UTM: Zone- E- N-
Longitude: 123° 33' 35" W; Latitude: 59° 32' N
Topographic location: West flank Union Mtn, Athin: Golden View property of Del Norte M.L. Altered rock ~~at~~ (ultramafic) adjacent Au-gtz veins
If applicable, map-unit No.: 9, & reference: 1082A, GSC Memoir 307

GEOLOGICAL INFORMATION: Geological setting (rock association, structure, etc.):

Altered UM of Cache Ck Bp: large EW trending UM dyke exposed on Union Mtns. Specimen is 1st known (qtz - buff carbonate - silica - minor Cr muscovite) after serpentinized ultrabasic

Macroscopic description (rock name, type, grain size, texture, etc.): Medium - coarse grained crudely foliated grey silica - buff to grey carbonate - minor mica rock

Microscopic description (mineral composition, etc., with special reference to the mineral(s) to be dated): Thin section in preparation

AGE PROBLEM: Obtain K/Ar date on green Cr mica separate as in specimens DY 2954, 2966, 2967 to determine age of related Au-gtz veins. If mica not available, try Pb/Sr whole rock.

Comments by Geochronology Section:

Route to: _____ Initials: _____ Date: _____
 Head, Geochronology Section _____ Age det. prog.
 Age Determination Committee _____ or
 Chief, R & EG Division _____ 'Spot age'

Project No.: 740098 Project Officer: Dr. K.M. Dawson Date: 19/09/84

AGE DETERMINATION METHOD:

Isotope system: Rb - Sr - K - Ar - U-Th-Pb - Other: _____
 Type: Isochron - Single determination - Concordia Test -
 Material: Whole rock Mineral(s) - : Sericite (muscovite)

SAMPLE INFORMATION:

Collected by: K.M. Dawson Field Note Reference: DY 2957 - Athol

Sample No.: DY 2957 Specimen No.: DY 2957 Thin Section No.: DY 2957
 Nos. of related samples submitted for age det. - DY 2958
 OR
 Sample Nos. submitted for isochron test - DY 2960 Plaisirya galena, Cobin zone
DY 2960A S isotopes galena + pyrite, "

For single samples:

Specimen - Grab - Chip - Mineral - Other: _____
 Fresh - Altered - Weathered - Any weathered surfaces? _____
 If in rock, content of mineral(s) to be dated: Sericite 20%, _____, _____%. Approximate sample weight: 2 lb.

LOCATION AND REFERENCE:

Province: BC NTS: 104N/12 UTM: Zone- E- N-
 Longitude: 59° 32' 15" W; Latitude: 59° 32' 15" N
 Topographic location: Small stock in vicinity of small lakes midway between Union and Monarch Mtns, Athol. On Golden View property of Del Norte M.L.
 If applicable, map-unit No.: _____, & reference: Newly recognized pluton.

GEOLOGICAL INFORMATION: Geological setting (rock association, structure, etc.):

Small granite plug intrudes Cache Ck Gp ultramafics + sediments, volcanics. Contains v. l. qtz-molybdenite veins 130-140/90 enveloped by sericite. MoS₂ as coarse rosettes; minor pyrite, no vis Au.

Macroscopic description (rock name, type, grain size, texture, etc.): Sericitized granite + pyrite, quartz.

Microscopic description (mineral composition, etc., with special reference to the mineral(s) to be dated): Thin sections in preparation.

AGE PROBLEM: Obtain K/Ar date on sericite to determine age of molybdenite mineralization relative to (1) age of granite (see DY 2958) and (2) age of Au-quartz veins (DY 2953, 2954, 2966 and 2967). Compare to Pete Christoph's Surprise L Bath. data.

Comments by Geochronology Section:

Route to: Initials Date
Head, Geochronology Section
Age Determination Committee
Chief, R & EG Division

Age det. prog.
or
'Spot age'

Project No.: 740098 Project Officer: Dr K M Dawson Date: 19/09/84

AGE DETERMINATION METHOD:

Isotope system: Rb-Sr, K-Ar, U-Th-Pb, Other
Type: Isochron, Single determination, Concordia, Test
Material: Whole rock, Mineral(s): Biotite

SAMPLE INFORMATION:

Collected by: K M Dawson Field Note Reference: DY 2958 - Athin

Sample No.: DY 2958 Specimen No.: DY 2958 Thin Section No.: DY 2958
Nos. of related samples submitted for age det.
OR
Sample Nos. submitted for isochron test

For single samples:

Specimen - Grab, Chip, Mineral, Other
Fresh, Altered, Weathered, Any weathered surfaces?
If in rock, content of mineral(s) to be dated: Biotite 15% Approximate sample weight: 5/16

LOCATION AND REFERENCE:

UTM: Zone, E, N
Province: BC NTS: 104N/12 Longitude: 133°35'20" W; Latitude: 59°32'15" N
Topographic location: Small unmapped granite stock in vicinity of small lakes in valley midway between Union & Monarch Mtns, Athin.
If applicable, map-unit No.: & reference: Newly recognized pluton

GEOLOGICAL INFORMATION: Geological setting (rock association, structure, etc.):

Small granite plug ~750m diameter, intruded Cache Ck greenstone (andesite), ultramafics & sediments. Apatite & hornblende porphyry dykes. Sheared host rock to at E side (Cabinzone) at ~120/90

Macroscopic description (rock name, type, grain size, texture, etc.): porphyritic granite, leucopherous to sem, fine to medium grained quartz-biotite-plagioclase matrix. Recrystallized sphene(?) + garnet(?). Biotite fresh.

Microscopic description (mineral composition, etc., with special reference to the mineral(s) to be dated): Thin section in preparation.

AGE PROBLEM: Obtain KAr date on biotite to establish pluton age relative to other plutonic rocks in vicinity @ gtz-moly veins @ gtz-Au veins and related alteration. Compare to Surprise Batholith age.

Comments by Geochronology Section: