BRITISH COLUMBIA

PROSPECTORS ASSISTANCE PROGRAM

MINISTRY OF ENERGY AND MINES

GEOLOGICAL SURVEY BRANCH

PROGRAM YEAR:	1995/1996
REPORT #:	PAP 95-40
NAME:	ROBERT BARTLETT

ROBERT J.BARTLETT'S CAMP PLACER TEST PROJECT

CARIBOO MINING DIVISION
BRITISH COLUMBIA

MAP 093A13E

LAT. 52X48.00

LONG. 121X33.00

Prepared For

MINISTRY OF ENERGY, MINES and PETROLEUM RESOURCES

PROVINCE OF BRITISH COLUMBIA

Prepared By

ROBERT J. BARTLETT

January, 1996

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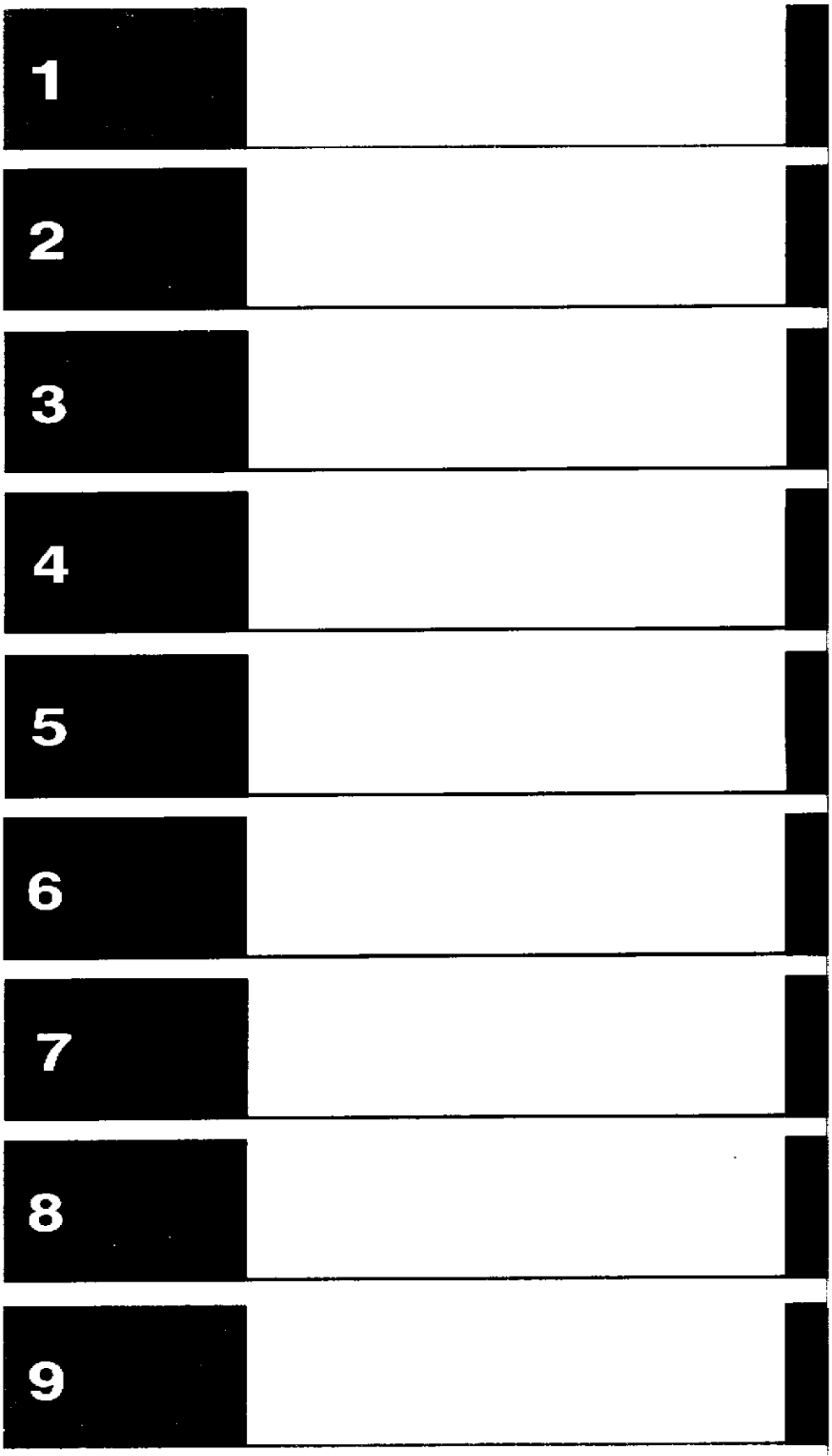
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RECOMMENDATIONS

Based on positive results obtained in the 1995 Sampling Program and the prospect of gold-bearing graels, the recommendation is to pursue a sampling program on the claim. If this testing program also yields positive results then an increased reserve base would greatly improve the economic potential of this property.

Secondly, a testing program should be initiated on the higher bench formations to test the hypothesis that placer gold is associated with the lower bench stratigraphies.

STATEMENT OF QUALIFICATIONS

I, Robert J. Bartlett, prospector, client number 101633, business address 566H David Street, Victoria, B.C. V8T 2C8, do hereby certify:

1. That I am a graduate of the Ontario Ministry of Northern Development and Mines, 1991, with a degree in Physical Geograpshy and Geology, under Dr. Paul Kingston.

1. That from 1973 to the present date I have been actively engaged in various disciplines relating to the mining industry, primarily at locations on Ontario, Alberta and British Columbia.

3. That I personally carried out the placer tests on tenure numbers 331998, 331999, 3312000, Cariboo District, from June to October 1995, to conduct a preliminary placer sampling program and to perform laboratory work on samples from the property.

4. That I approve of this report, or direct quotes from it, being used for a prospectus, statement of material facts, or in a news release, provided that all excerpts are taken in total context of the relevant passage.

Signed: _____

Robert J. Bartlett

Dated at Victoria, British Columbia this 16th day of January, 1996

APPLICATION PART B
PROGRAM PROPOSAL

See PROGRAM REQUIREMENTS paragraph 4 for details of information to be submitted.

Use extra pages as required.

PROJECT LOCATION: Mining District Cariboo, NTS map 93A13E (copy enclosed
Access from Likely, B.C. - drive 27 KM North toward Keithly Creek,
turn left on 1500 Road, go to 1512 at upper Keithly Creek bridge.
IP is located 600 metres upstream on left, or west side of the creek.
My method of transportation is ground truck 4X4.

Prospecting Target- commodity AU gold "placer" and pocket gold.
Area of test is about 200 M downstream from upper Keithly Creek Bridge,
just north of existing old workings on the east side. I plan a number
of pits to bedrock, estimated about 15' to 25', and also a trench on the
west bank. Further downstream I have recovered about 20 grams hand-
panning from bank gravel and silt. Very large boulders on the west
side of the creek have re-routed it to the east into rimrock and on
to solid bedrock. Gold recovered so far has been very coarse - no
black sands and with some white quartz showing. I believe pockets exist
steep bedrock banks on both the east and west sides.

The work described above will be carried out with a 1-yard excavator
120 Proclain and a 1-yard wash plant with a 3" Honda water pump.
Test operation: about 12 yards per day using two men. Estimated
work days - 70.

The proposed work is on Placer Claims owned by me:
PC331998, PC331999 and PC331200

Copy of Claim Map is enclosed, along with my notice of work and copies
of letters from A.H. Ludwig, P.Eng., inspector of mines, and from
Anna Pannekoek, Ministry of Forests.

BRITISH COLUMBIA
PROSPECTORS ASSISTANCE PROGRAM
PROSPECTING REPORT FORM (continued)

B. TECHNICAL REPORT

- One technical report to be completed for each project area.
- **Refer to Program Requirements/Regulations, section 15, 16 and 17.**
- If work was performed on claims a copy of the applicable assessment report may be submitted in lieu of the supporting data (*see* section 16) required with this TECHNICAL REPORT.

Name ROBERT J BARTLETT Reference Number 95/96 PDBS

LOCATION/COMMODITIES

Project Area (as listed in Part A) CARIBOO DIST. KEITHLEY CR MINFILE No. if applicable 093A

Location of Project Area NTS 93A13E Lat 52.4800 Long 121.3300

Description of Location and Access CARIBOO MINING DIST. ACCESS FROM LIKELY BC DRIVE 27 KM NORTH ON KEITHLEY CREEK ROAD TRUN LEFT UP 1500 M TO 1514 BRIDGE CROSSING UPPER KEITHLEY CREEK 355M PASS BRI

Main Commodities Searched For AU GOLD

Known Mineral Occurrences in Project Area OLD WORKING DOWN STREAM NO RECORD

WORK PERFORMED

1. Conventional Prospecting (area) EXCAVATOR + WASH PLANT
2. Geological Mapping (hectares/scale)
3. Geochemical (type and no. of samples) AS PER SAMPLES SECTION #9
4. Geophysical (type and line km)
5. Physical Work (type and amount) HAND CLEANING BEDROCK TEST PITS #5 #6
6. Drilling (no. holes, size, depth in m, total m)
7. Other (specify)

SIGNIFICANT RESULTS

Commodities AU GOLD Claim Name TRI ONE

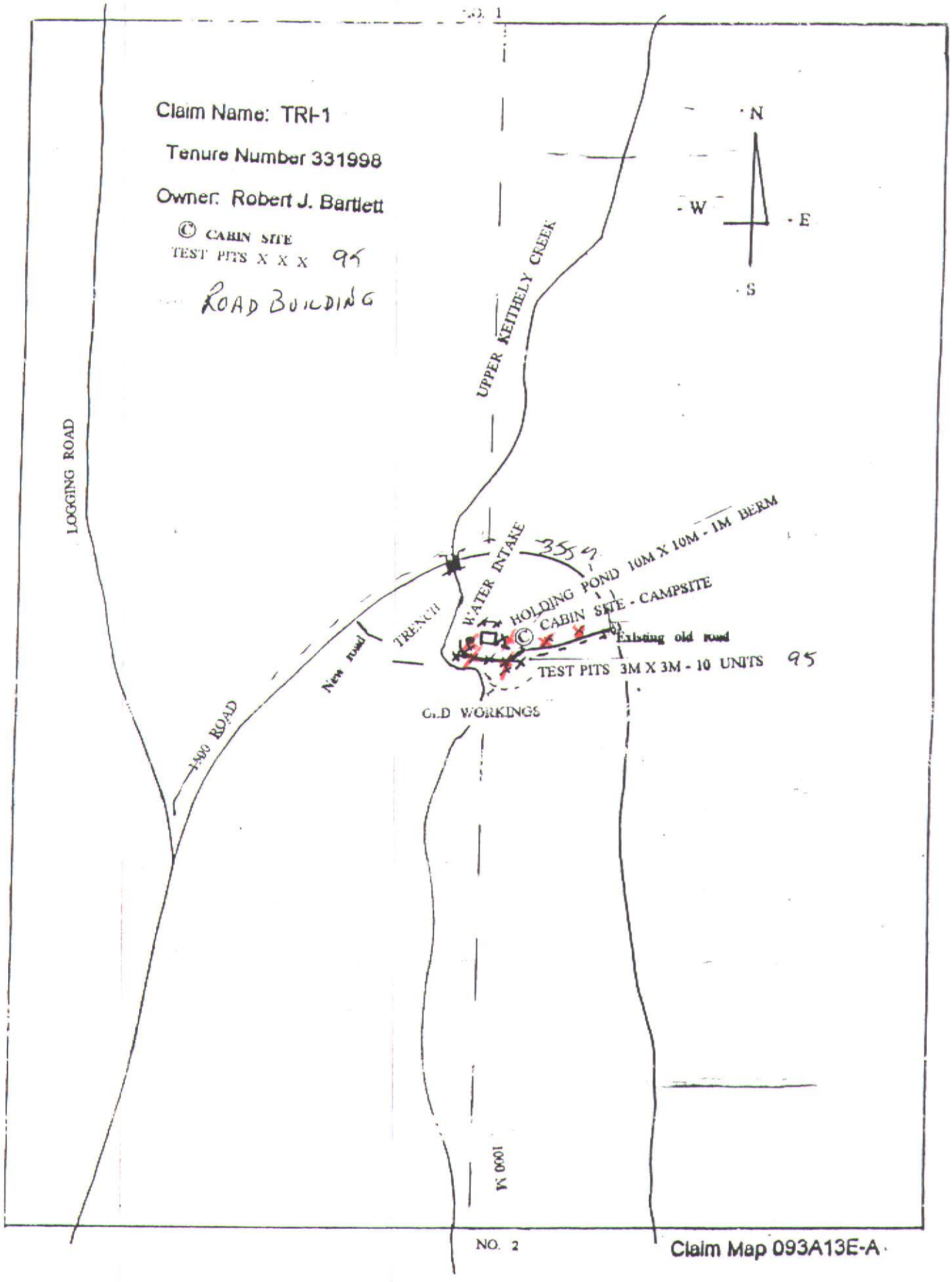
Location (show on map) Lat 52.4800 Long 121.3300 Elevation 4250' FEET

Best assay/sample type AU GOLD AS PER ASSAY REPORT SECTION #9

Description of mineralization, host rocks, anomalies AGE UNKNOWN. HOST ROCKS SEDIMENT HOST ROCK COMMENTS UNDERLAIN MAINLY BY METASEDIMENTARY SNOW SHOE GROUP ROCKS SEE SECTION #6 PAGE MARKED 8

JAN 19-96

Supporting data must be submitted with this TECHNICAL REPORT



Claim Map 093A13E-A

BC ENVIRONMENT COMMENTS ON MACHINE ASSISTED PLACER OPERATIONS.

SETTLING PONDS: Settling ponds shall be operated such that a minimum freeboard of 0.5 m is maintained at all times.

WASHWATER DELIVERY SYSTEM: The diameter of the intake of a washwater delivery system shall not exceed 38 mm (1.5 inches).

USE OF CHEMICALS: The use of mercury and/or other chemicals is prohibited unless authorized by a Permit or Approval from the Ministry of Environment, Lands and Parks.

WATERCOURSES: Forest Cover and vegetation within a minimum of ten (10) horizontal metres of the natural high water mark of any watercourse shall not be disturbed or removed, since streamside vegetation provides food and cover for fish, and wetlands also provide important wildlife habitat.

DRILLING: An adequate closed circuit facility must be provided for drilling mud and flocculating agents. Drill sludge and/or sediment laden runoff originating from drilling materials shall not be allowed to enter streams or lakes, or to run uncontrolled.
Drill holes shall not be located within ten (10) horizontal metres of the natural high water mark of any watercourse.

TRENCHING: Material excavated from trenches and/or sediment laden runoff originating from the excavated material must not be allowed to enter streams or lakes.

SEWAGE DISPOSAL: Pursuant to the Waste Management Act, a Waste Management Permit or Approval is required for the discharge of sewage effluent either directly to an open watercourse or, if discharged at a design capacity rate of 22.3 cubic metres per day (5000 gal/day) or more, to the ground. A design capacity discharge rate of less than 22.3 cubic metres per day is covered by the Ministry of Health under the Public Health Act and authorization must be obtained from that Ministry.

REFUSE DISPOSAL: Under the Waste Management Act Regulations, the discharge of solid domestic waste at an exploration camp does not require a Waste Management Permit or Approval if a properly designed incinerator is used. For camps under 10 person capacity, a Yukon type incinerator is acceptable. For camps having a 10 to 99 person capacity, incinerators having refractory linings, auxiliary air and combustion control systems are required.

Refuse in the camp must be collected and incinerated on a daily basis in such a manner as to minimize conflicts with wildlife. Otherwise, refuse must be removed from the camp site

and deposited in an authorized landfill.

All inert, non-combustible refuse such as fuel drums, broken rigging and other construction or drilling refuse must be removed from the site on abandonment and, where appropriate, deposited in an authorized landfill.

FUEL STORAGE: *Ministry of Environment, Lands and Parks bulk fuel storage* guidelines have been drawn from the Provincial Fire Code. Secondary containment is required and must be sized to accommodate 110% capacity of a single tank installation. The containment must be constructed and maintained to ensure maximum practical impermeability, and must be placed in a location far removed and, if possible, sloped away from any open watercourse.

SPILL REPORTING: Pursuant to the Waste Management Act all spills of fuel or other hazardous materials must be reported immediately to the Provincial Emergency Program at **1-800-663-3456 or 387-5956**.

Bronwen Lewis
Waste Management Officer
Cariboo, Northern Interior Region

DEPARTMENT of FISHERIES and OCEANS
FISH HABITAT PROTECTION GUIDELINES FOR PLACER MINING

INTRODUCTION

Most people are familiar with laws governing the harvest of salmon and understand why these regulations are necessary. In contrast, laws designed to protect fish habitat are generally not as well understood. This document was written to provide placer miners with: a brief description of fish habitat, a summary of laws which protect fish habitat; and an outline of why the placer mining guidelines for the protection of fish habitat were established.

FISH HABITAT

The Fisheries Act of Canada defines fish habitat as the "**spawning grounds and nursery, rearing, food supply and migration areas on which fish depend, directly or indirectly, in order to carry out their life processes**".

Fish habitat, as described in the previous section, includes all areas on which fish depend, directly or indirectly, in order to carry out various stages of their life cycle. In regards to pacific salmon, three of the four basic stages of their life cycle take place in fresh water - adult migration (including spawning), incubation and juvenile rearing. The fourth stage, adult rearing, takes place in the open ocean. Adult salmon typically return to their natal stream (where they were hatched) in late summer or early fall to spawn in clean and non-compacted gravel.

The eggs of pacific salmon, covered by gravel during spawning, are dependant on cool and clean (i.e. low in suspended solids) water which flows through this gravel and supplies oxygen and removes waste products. The eggs are very vulnerable to disease and disturbance during development. Fry usually emerge from the gravel in spring and either start the long trip back to the ocean or find a place to rear (often in smaller tributaries) for one to two years.

THE FISHERIES ACT

A number of sections of the Fisheries Act pertain to the protection of fish habitat. The two sections which are most relevant to placer mining are stated below:

- **Section 35(1) Harmful alteration, etc., of fish habitat prohibited.**
  No person shall carry on any work or undertaking that results in the harmful *alteration, disruption or destruction of fish habitat.*

- **Section 36(3) Deposit of deleterious substance prohibited.**
  Subject to subsection (4), no person shall deposit or permit the deposit of a deleterious substance of any type in water frequented by fish or in any place under any conditions where the deleterious substance or any other deleterious substance that results from the deposit of the deleterious substance may enter any such water.

Placer mining operations are typically close to watercourses and fish habitat is generally present. In addition, a number of activities typically associated with placer mining operations have a high potential to impact fish habitat (i.e. removal of vegetation, stockpiling of topsoil, excavation of mineral deposits, production of silty water, etc...). Guidelines were developed in order to provide

direction to placer mine operators in the protection of fish habitat and to help avoid any legal proceedings by the Department of Fisheries and Oceans (DFO) under the Fisheries Act. These guidelines are provided by the Ministry of Energy, Mines and Petroleum Resources (MEMPR) as conditions within the Permit Approving Reclamation Program.

THE GUIDELINES

Following a description of fish habitat and a summary of habitat related sections of the Fisheries Act, it is possible to list the fish habitat protection guidelines for placer mining and the reasons that these guidelines were developed. These reasons are discussed in terms of salmon and salmon habitat but they also apply to trout, whitefish and various other fish species.

1. **Forest cover and vegetation within a minimum of 10 horizontal metres of the natural boundary of any watercourse shall not be disturbed or removed.**

   For the purposes of this discussion, the "natural boundary of any watercourse" is defined as the visible high water mark of any lake, river, stream or other body of water.

   The roots of streamside vegetation help to stabilize the banks. This reduces erosion and the amount of sediment entering the stream which would otherwise cover over spawning grounds and choke developing eggs.

   Juvenile and adult salmon are susceptible to predation, so the more places there are for them to hide within a stream the better. Streamside vegetation provides cover in the form of logs, sticks, etc... that fall into the stream. In addition, this material is an important source of nutrients and many aquatic insects (a main food source for juvenile salmon) depend on it for food. Vegetation that hangs over the stream also provides cover and shade (important in cooling the stream).

2. **Gravel and other material shall not be displaced, or removed from, within a stream channel or within minimum 10 horizontal metres of the natural boundary of any watercourse.**

   Removal of gravel could destroy important salmon spawning areas by changing the composition of the stream bottom so that it is no longer suitable for salmon to use.

   Any alteration of the stream bottom could destroy any developing that eggs, cause increased sedimentation downstream (reducing the survival of any eggs that may be there) and disrupt the aquatic insect community which juvenile salmon feed upon.

   Removing material can also cause a shift in water flow which may result in stream channel instability. Any depressions left in the stream channel may act as traps for juvenile salmon, especially during low flows.

3. **Machinery or equipment shall not be operated within the wetted stream perimeter of any watercourse and all stream crossings by mechanical equipment must receive prior approval.**

Damage to salmon habitat can result from machines operating within the wetted perimeter. Any eggs developing in the gravel can be killed if machinery is driven over them. The substrate can also be compacted to the point where spawning is impossible and aquatic insects cannot utilize the stream bottom. Sediments can be stirred up and damage spawning and feeding areas downstream.

Streambanks are relatively sensitive to disturbance and machinery moving in and out of the stream can destroy sections of the bank leading to erosion and downstream sedimentation and/or alteration of the stream channel.

4. **Neither tailings nor any part of any tailings pond or settling pond shall be located within 10 horizontal metres of any watercourse, and where water infiltrates to ground, this must not result in the entry of suspended solids into watercourses downstream of the operation.**

Tailings or runoff from tailings can be harmful to salmon and other aquatic life due to the concentration of suspended solids. The high amount of suspended solids associated with tailings can lead to degradation and/or destruction of spawning and feeding areas downstream. In addition, the reduction of light entering the water can reduce the ability of aquatic plants to photosynthesis and therefore disrupt the entire food chain.

Keeping the tailings a minimum of 10 metres from the watercourse allows the streamside vegetation to provide a buffer (safety) zone where suspended solids and possible spills (i.e. fuels) can be contained or filtered out.

5a. **Every effort shall be made to minimize the impacts of access and development and mining operations on fisheries and wildlife habitats, and to maximize the opportunity to reclaim mine site upon abandonment.**

5b. **Forest cover, topsoil and debris shall be disposed of in such a manner as to prevent their entry into any watercourse, defined as any stream, lake, pond, river, creek, spring, ravine or swamp.**

5c. **All mined or otherwise disturbed ground surfaces, including cutbanks, fill slopes and tailings piles, shall be stabilized annually by contouring and revegetating to prevent erosion and surface run-off from carrying sediment into adjacent watercourses.**

The best form of reclamation is prevention. Less disturbance during placer mining activities results in less time and money for reclamation. A minimum amount of vegetation should be cleared and topsoil should be stored (away from watercourses) so that disturbed areas can be covered with topsoil and quickly restored following the completion of mining activities. When a site is left bare, erosion and increased sedimentation often results. If topsoil and/or debris is not stored away from watercourses, heavy rains can transport it into the stream causing increased sedimentation, substrate scouring, migration barriers and stream diversions. In general, disturbances to streamside areas can have long-term implications to the health of both aquatic and terrestrial environments and it is far easier to prevent excessive damage than it is to repair a damaged site.

6. **Location for storage of fuels shall be sited and designed in a manner which will prevent any spillage entering any watercourse. Fuel storage in excess of 25 litres shall be located on an impermeable base within a berm of sufficient height to fully contain any spillage which may occur.**

   Any petroleum based fuel entering a stream can be devastating to salmon at all stages of their life history. Petroleum products are lethal to fish and fish food (i.e. aquatic insects) at extremely low concentrations. Flowing water makes containment of petroleum products virtually impossible and a small spill will typically contaminate a large area.

7. ***Water intakes shall be screened in accordance with specifications provided by DFO and the Ministry of Environment, Lands and Parks to prevent the entry of fish.***

   The screening of intakes is not only a guideline but a specific regulation under the Fisheries Act. Proper screening ensures that young salmon will not be injured or killed and the survival of more young helps to ensure that more adults will return in years to come.

   The screen hole diameter is to be no larger than 1/10th of an inch and made of stainless steel or aluminum to prevent corrosion and subsequent malfunction. Since it is often necessary to locate the pump within the 10 metre vegetation strip, care should be taken **not** to disturb the area in a way that will increase the amount of sediment entering the stream or significantly alter the vegetation.

CONCLUSION

Due to the fact that many streams have large numbers of placer claims and/or leases associated with them, the potential for culmulative impacts to fish habitat is often extremely high. **It is the responsibility of all placer miners to do their part and help to protect fish habitat associated with any streams adjacent to their operations.**

It is hoped that the above information will provide placer miners with a thorough and clear understanding of why it is necessary to following fish habitat guidelines. With adherence to these guidelines, which are listed as conditions within the MEMPR's Permit Approving Reclamation Program document, placer miners should be able to avoid any violations of the Fisheries Act and the legal consequences which may result.

Questions regarding these guidelines or any other DFO matters should be directed towards the nearest DFO office.

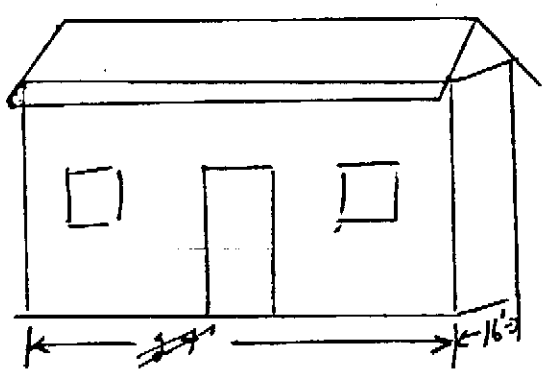
Prince George	Quesnel	Williams Lake
2392 Ospika Blvd.	1205 N. Caribou Hwy 97	260 D. N. Boundary
Prince George, B.C.	Quesnel, B.C.	Williams Lk. B.C.
V2N 3N5	V2J 2Y3	V2G 2X9
561-5366	992-2434	398-6563

SKIO C MP.

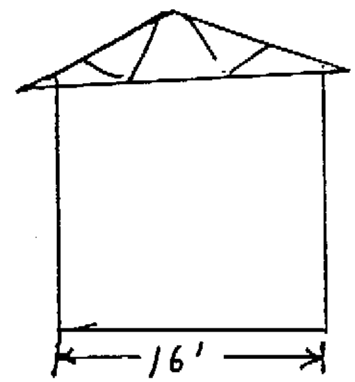
NOTE: r T To SCAL

MARCH 11-1995

FRONT.



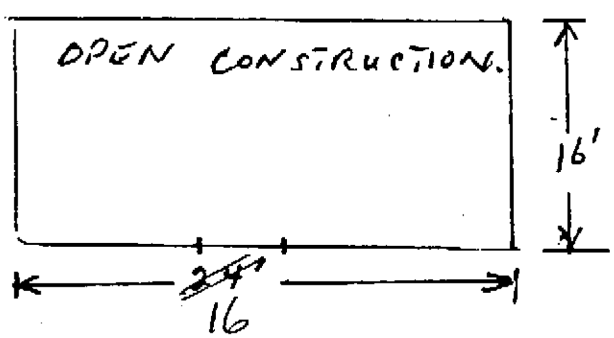
SIDE.

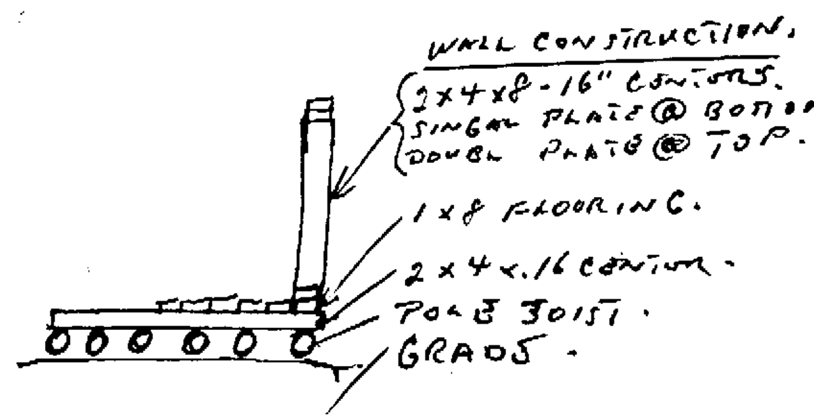


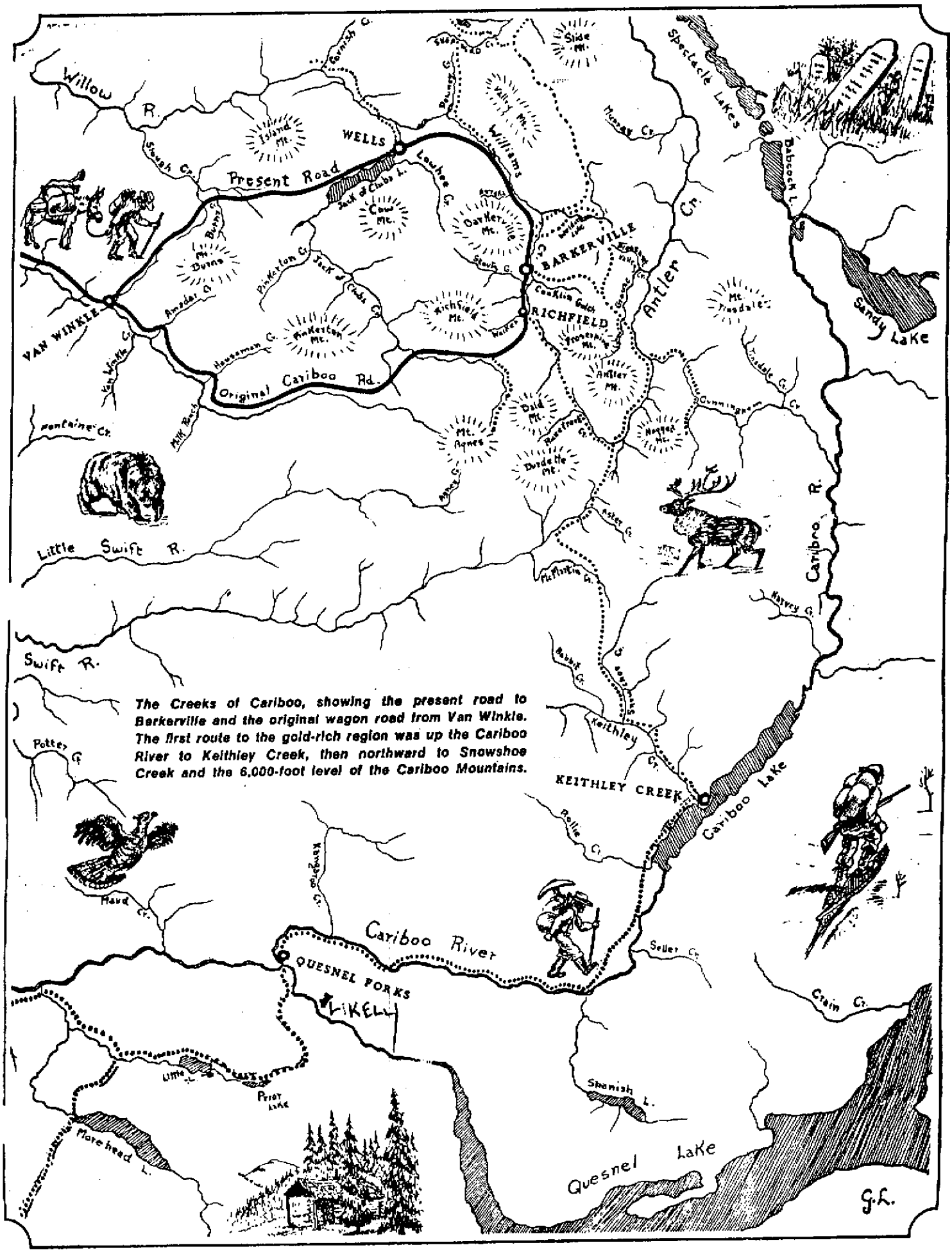
ROOF.

TRUST. ON. 24" CEN

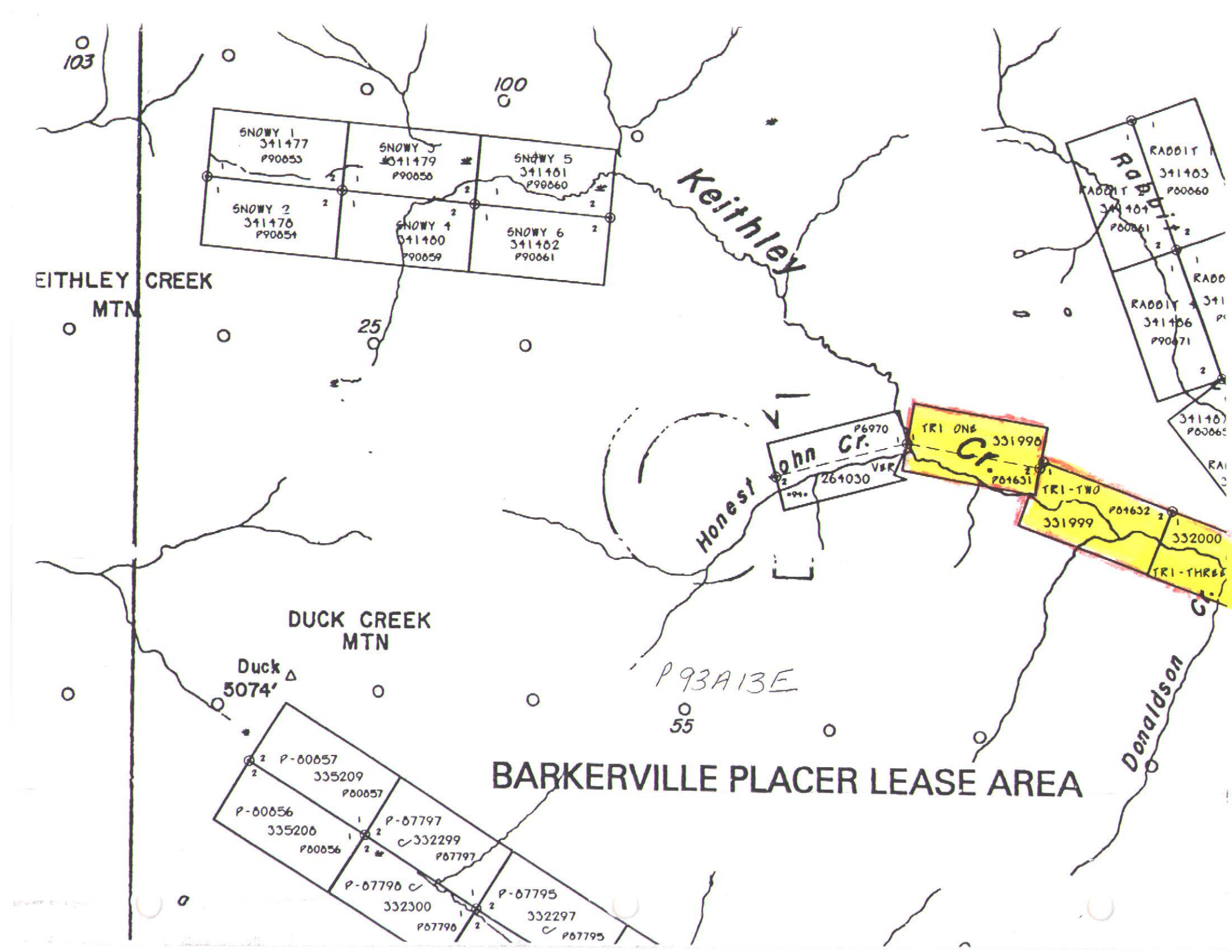
FLOOR. PLAN







The Creeks of Cariboo, showing the present road to Barkerville and the original wagon road from Van Winkle. The first route to the gold-rich region was up the Cariboo River to Keithley Creek, then northward to Snowshoe Creek and the 6,000-foot level of the Cariboo Mountains.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P90059
SNOWY 6
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P90061
EITHLEY CREEK
MTN
25
Keithley
RABBIT
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RABBIT
341404
P90061
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P90071
Honest John Cr.
P6970
264030
VSR
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Cr.
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TRI-TWO
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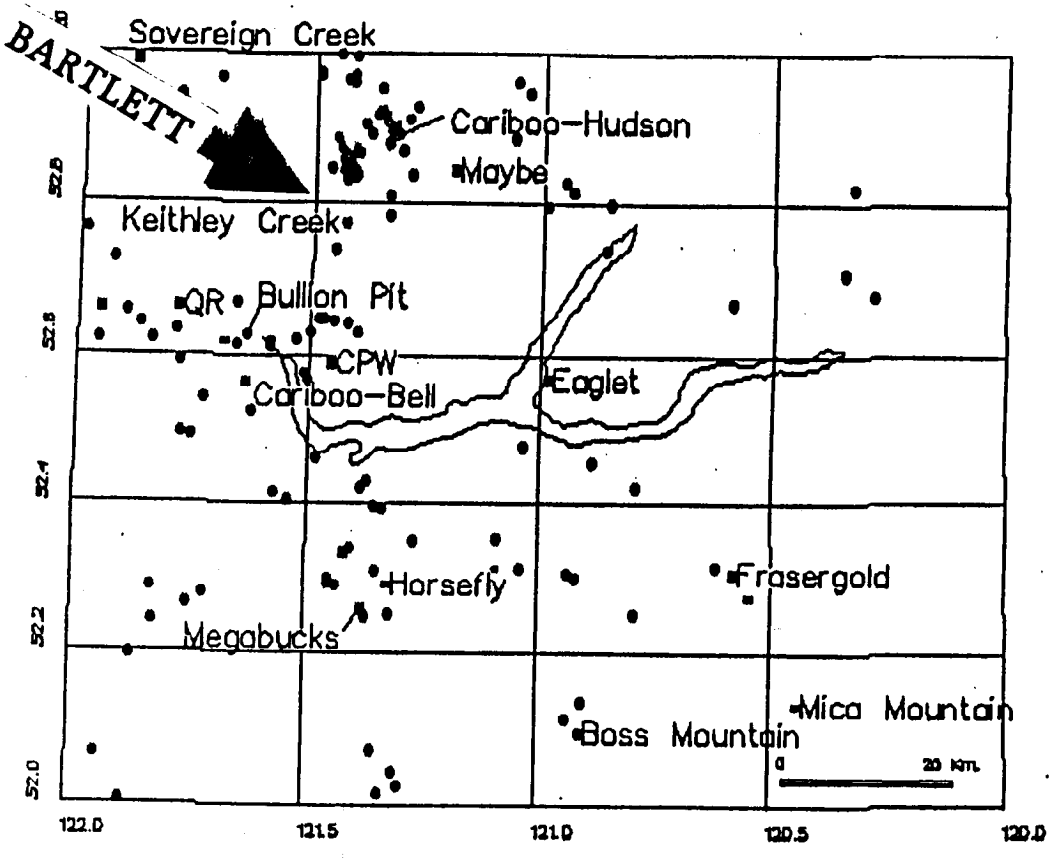
P01632
332000
TRI-THREE
DUCK CREEK
MTN
Duck
5074'
55
P93A13E
Donaldson Cr.
P-60657
335209
P60057
P-60656
335206
P60056
P-67797
332299
P67797
P-67796
332300
P67796
P-67795
332297
P67795
BARKERVILLE PLACER LEASE AREA


MAP 93A13E
LAT 52×48 LONG 121×33
CARIBOO DIST.
TRI ONE CLAIM TEN 331998
TRI TWO CLAIM TEN 331999
TRI THREE CLAIM TEN 3312000
NO1
95 TEST AREA
TRI ONE 331998
NO2
NO1
TRI TWO
331999
KWATTAL
KEITHLEY CK
NO2
NO1
TRI THREE
3312000
NO2
NOBLE
METALS

MINFILE
093A
QUESNEL LAKE

The Quesnel Lake map area contains 157 recorded mineral occurrences and covers parts of the Omineca and Intermontane tectonic belts, and is dominated by the Quesnellia and Barkerville terranes. The map area is predominantly underlain by Upper Triassic to Lower Jurassic Nicola Group island arc volcanic and sedimentary rocks and associated intrusions, and to a lesser extent, Lower Paleozoic metasedimentary rocks.

Exploration in the Quesnel trough is at a high level. Targets are precious metals in quartz veins and vein replacements (Cariboo-Hudson, Megabucks and CPW), alkali porphyry (Cariboo-Bell) and porphyry-related deposits (QR and Boss Mountain), stratabound lead-zinc (Maybe), and basal phyllite-hosted gold deposits (Frasergold). In placer mining there is a trend towards exploiting interglacial and preglacial deposits or buried channels in the Horsefly, Likely (Bullion Pit) and Keithley Creek areas. Other commodities of interest are fluorite and silver at the Eaglet, silica in volcanic ash at the Horsefly, talc at Sovereign Creek, and mica at Mica Mountain.



Release Date: September 1989 Printout Price: $15.00

This project is a contribution to the Canada/British Columbia Mineral Development Agreement 1985-1990.

Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources
Energy, Mines and Resources Canada
Énergie, Mines et Ressources Canada

MINFILE NUMBER: 093A 004 NAME: KEITHLEY CREEK STATUS: Past Producer

Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1945	1		Gold	1,100,891	

SUMMARY TOTALS: 093A 004 NAME: KEITHLEY CREEK

	Metric		Imperial	
Mined:	1	tonnes	1	tons
Milled:		tonnes		tons
Recovery:				
Gold:	1,100,891	grams	35,394	ounces

Comments:

1945: Amount mined unknown. Production from 1874 to 1945.

MINFILE NUMBER: 093A 004

NATIONAL MINERAL INVENTORY:

NAME(S): KEITHLEY CREEK, KITCHENER, HOWICK, ONWARD

STATUS: Past Producer Open Pit Underground
NTS MAP: 093A14W
LATITUDE: 52 46 27
LONGITUDE: 121 25 43
ELEVATION: 1069 Metres
LOCATION ACCURACY: Within 1 KM

MINING DIVISION: Cariboo
UTM ZONE: 10
NORTHING: 5848088
EASTING: 606006

COMMODITIES: Gold

MINERALS
SIGNIFICANT: Gold
MINERALIZATION AGE: Unknown

DEPOSIT
CHARACTER: Unconsolidated
CLASSIFICATION: Placer Residual

HOST ROCK
DOMINANT HOST ROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Tertiary			Glacial/Fluvial Gravels

LITHOLOGY: Tertiary Gravel

HOST ROCK COMMENTS: Underlain mainly by metasedimentary Snowshoe Group rocks.

GEOLOGICAL SETTING
TECTONIC BELT: Omineca
TERRANE: Barkerville

PHYSIOGRAPHIC AREA: Quesnel Highland

CAPSULE GEOLOGY

Placer gold workings have been situated at a number of sites along Keithley Creek for 8 kilometres from its mouth. One of the main areas of activity was on the Kitchener claim located about two kilometres upstream from the mouth of the creek. A considerable amount of underground work was carried out on a bench situated over 30 metres above the creek. Around 1920 hydraulic operations largely replaced underground mining. The creek drains an area that is mainly underlain by Snowshoe Group rocks. For the period 1874 to 1945 there is a recorded production of 1,100,891 grams of gold.

"Data from the Cariboo mining district indicate that supergene leaching of gold dispersed within massive sulphides by Tertiary deep weathering followed by Cenozoic erosion is the most likely explanation for the occurrence of coarse gold nuggets in Quaternary sediments" (Exploration in British Columbia 1989, page 147).

BIBLIOGRAPHY

EMPR AR 1874-5,table; 1875-11,13,table; 1876-419,table; 1877-399; 1878-373,374,table; 1879-236,238,table; 1880-424,426,table; 1881-394; 1883-402,table; 1884-420; 1885-381; 1886-197,239; 1887-257,258; 1888-292,294,325; 1889-274,277; 1890-360,361,362; 1891-561,562; 1892-528,529,table; 1893-1039,table; 1894-727,732,733, table; 1895-656,659,table; 1896-499,515,516; 1897-465; 1898-982, 1899-610,614,633; 1900-741; 1901-963,969; 1902-60,88,116; 1903-69; 1904-41,50; 1905-51,59; 1906-47; 1908-44; 1909-47; 1910-46; 1911-51,52; 1912-53; 1913-60,66; 1914-73; 1915-57; 1916-41; 1917-140; 1918-143; 1920-99; 1921-115; 1922-131; 1923-132; 1924-127; 1925-160; 1926-177,178; 1927-179; 1928-202; 1929-204; 1930-175; 1931-95; 1932-113; 1933-136; 1935-C38; 1937-C35; 1938-C50; 1939-109; 1940-9; 1941-89,90; 1942-88; 1943-84; 1944-79; 1945-127; 1946-201; 1947-196; 1948-179; 1949-243; 1950-201; 1951-205; 1952-239;

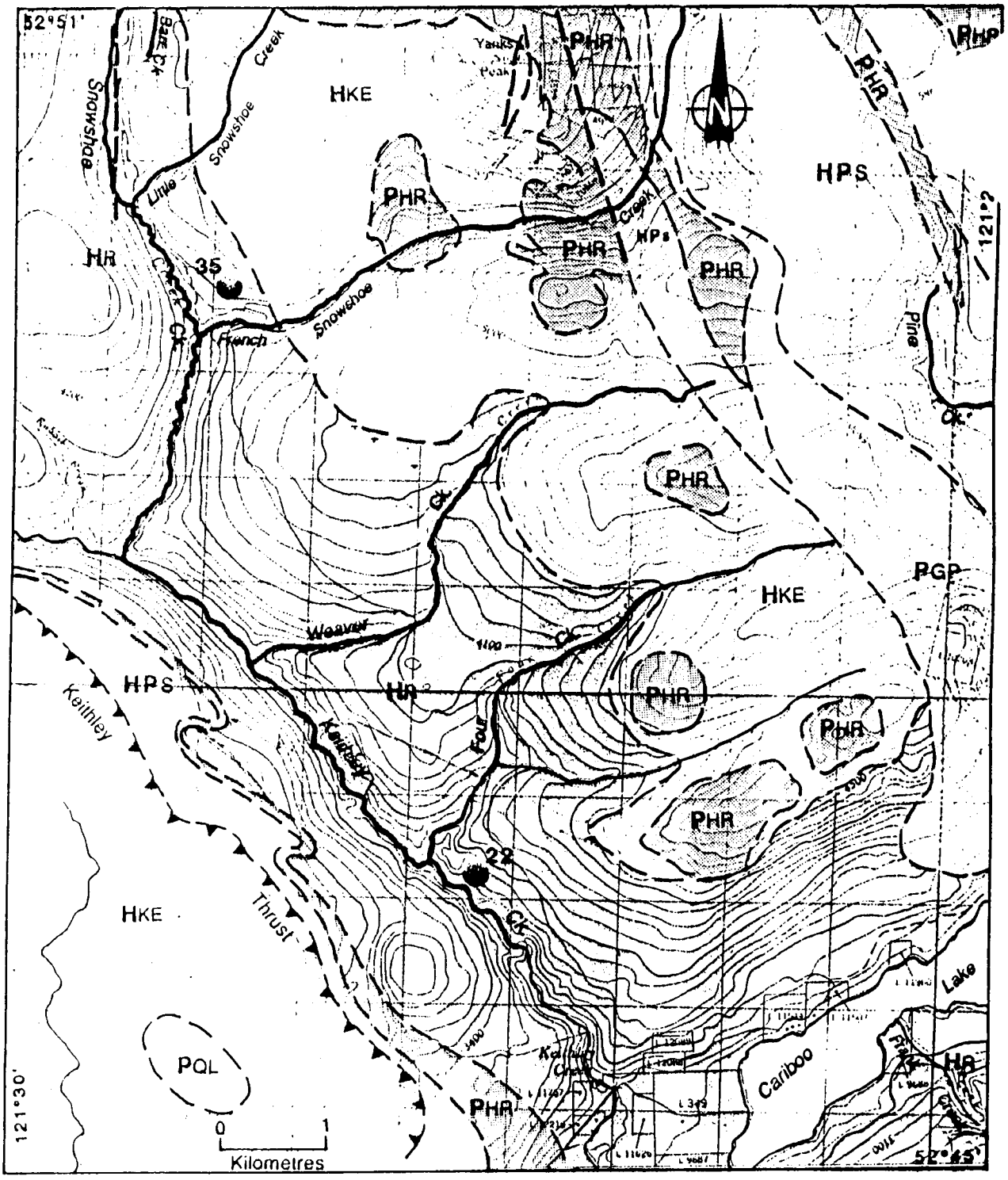
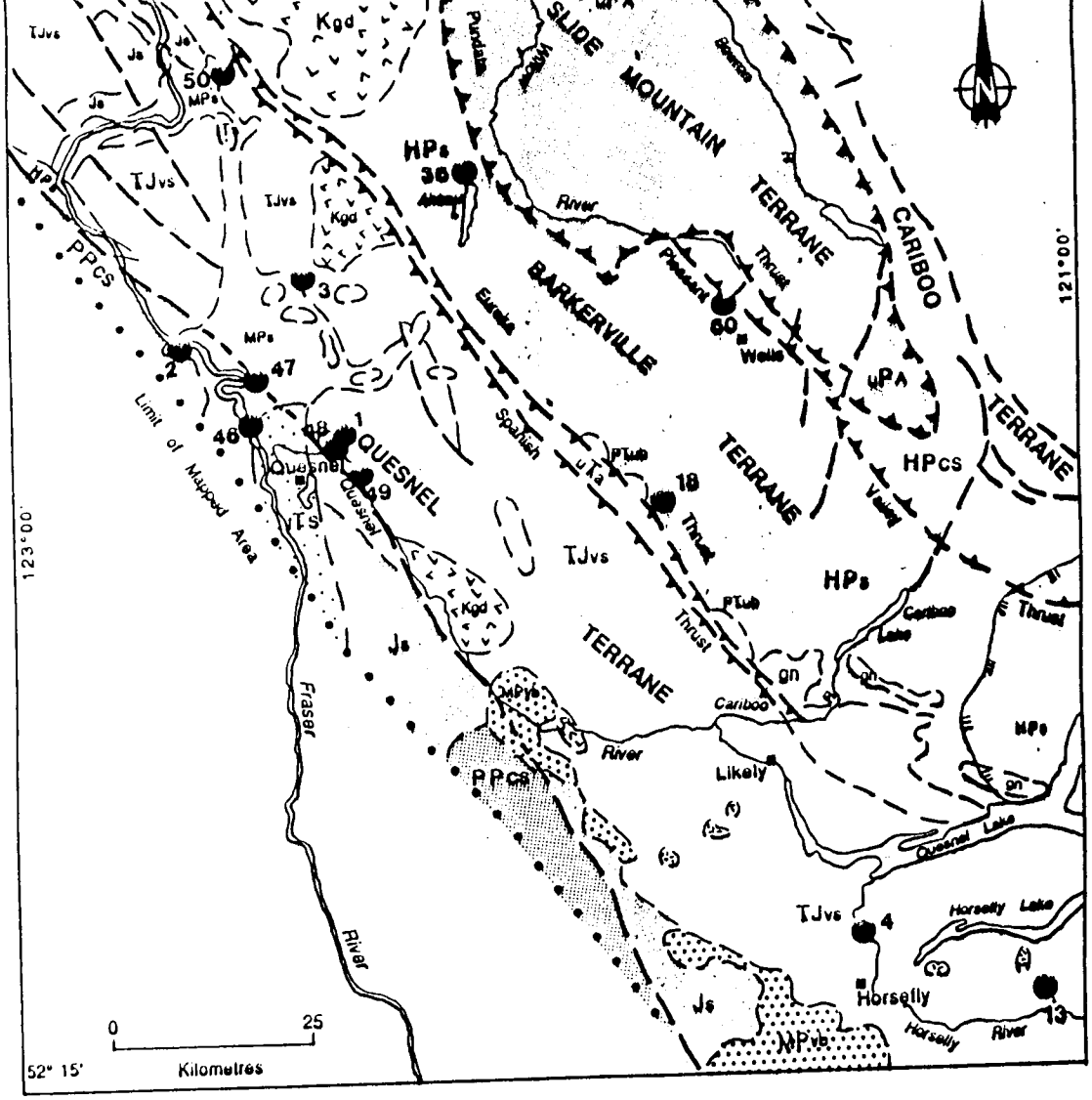


Figure 9. Bedrock geology, placer producing streams (heavy lines) and detailed study sites (solid circles) in the Keithley Creek area. Formations with known lode source potential are shaded (*see* common legend page 9).



LEGEND

TERTIARY

- MPvb — Olivine basalt flows, breccia, tuff
- MPs — Sandstone, shale, conglomerate, diatomite, lignite
- Ts — Paleogene conglomerate, sandstone, mudstone, lignite

CRETACEOUS

- Kgd — Granodiorite, quartz monzonite, quartz diorite

TRIASSIC - JURASSIC

- Js — Shale, greywacke, conglomerate
- TJvs — Andesite, basalt, tuff, breccia, conglomerate, greywacke, shale, limestone
- uTa — Phyllite, argillite, siltstone, limestone, quartzite, schist
- Syenite, monzonite and diorite; minor ultramafics, gabbro

PERMIAN AND/OR TRIASSIC

- PTub — Peridotite, dunite, pyroxenite, serpentinite

PENNSYLVANIAN AND PERMIAN

- PPCs — CACHE CREEK GROUP: Ribbon chert, argillite, limestone, greenstone

MISSISSIPPIAN TO PERMIAN

- uPA — SLIDE MOUNTAIN GROUP: Basalt, breccia, tuff, chert, argillite, sandstone, limesto

HADRYNIAN TO PALEOZOIC

- HPCs — CARIBOO, BLACK STUART AND KAZA GROUPS: Limestone, dolomite, argillite, phyllite, quartzite, schist sandstone, conglomerate
- HPs — SNOWSHOE GROUP: Mainly micaceous quartzite and phyllite; sandstone, c schist, amphibolite, marble, gneiss

UNKNOWN AGE

- gn — Augen granite, granodiorite, gneiss
- Geological Contact
- Fault (Known or Inferred)
- Thrust Fault
- Placer Sites Visited
- Placer Producing Streams

Modified from:

Tipper, H.W., R.B. Campbell, G.C. Taylor and D.F. Stott. 1979. Parsn
Columbia, Sheet 93; Geological Survey of Canada, Map 142
Struik, L.C. 1988. Structural Geology of the Cariboo Gold Mining Distr
British Columbia; Geological Survey of Canada Memoir 421.

The Hon. JOHN ROBSON, Minister of Mines.

1885-6

QUARTZ VEINS & PLACER MINES OF

LITTLE SNOWSHOE AND KEITHLEY CREEKS

CARIBOO DISTRICT, BRITISH COLUMBIA.

Scale 2½ Inches to One Mile.
Nat. Scale. 1/253440

40 Chs. 30 20 10 0 ½ 80 Chs = 1 Mile.

Data:— Wheel traverse of Saw Mill Flat, Harvey Creek and Quesnel Forks trails by J. McElroy and S. P. Tuck, Aug. 14-21, 1885. Track Surveys by A. Bowman: from Breakneck Ridge to Yanks Peak, Aug. 15, '85; along Keithley Creek, &c., Aug. 21, 1885 and July 19-22, 1886. Paced Survey of Little Snowshoe Creek, L. R. Voligny, Aug. 17, '85. Transit work (triangulation and topographical sketches) on Yanks Peak, A. Bowman, Aug. 15, '85; on Base Mountain, J. McElroy, Aug. 23, '86, with intersections from Goose Creek range, July 13, '86, and Round Top, Aug. 27, '85, &c.

Explanation: Contours, 4 to every 1000 ft. vertical, = 250 ft. interval. Dotted, = 50 ft. vertical interval.

Slate country rock. *Cariboo Schists—Lower Palæozoic.*

Pre-glacial Gravels, including gravels below present drainage levels—*Tertiary.*

Hill Gravels, occasionally exposed by slides. Deep Gravel Deposits, Above Or Below.

Terraces. Water levelled surfaces.

Superficial Hill Gravels, and terraced surfaces—*Pleistocene.*

Alluvium—Recent.

Placer Mining.

Superficial

Deep Channel. *High (older) side channel.* *Ditch.* *Shaft.* *Dip & Strike.*

Dip Vertical. *Quartz Ledge.* *Routes travelled.*

All bearings are from true meridian. Figures indicate height above sea level.

ONWARD CLAIM SHAFT 1885

THOMVENEAU CLAIM 1880-1887

DISCOVERY CLAIM 1880)

GROTTO CLAIM

KEITHLEY

South Bay

CARIBOO

TRAIL TO QUESNEL FORKS

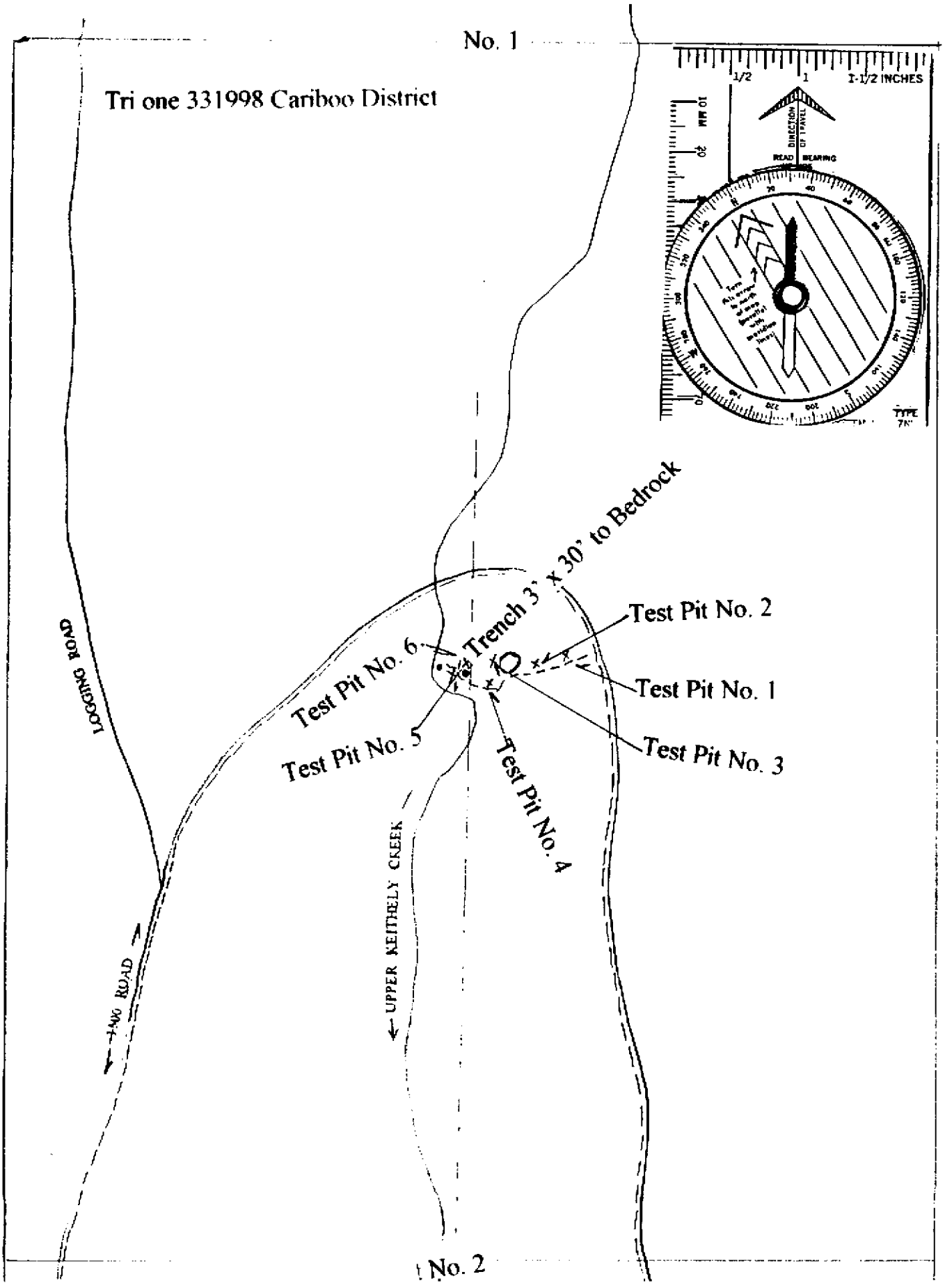
TRAIL TO THOMVENEAU'S

DRAIN

Autographed by J. B. Harvey, at the Surveyor General's Office, Victoria.

SURVEYS CARRIED OUT with the CO-OPERATION of the PROVINCIAL GOVERNMENT of BRITISH COLUMBIA

Robert J. Bartlett 95/96 reference No. P085



ROBERT J. BARTLETT REF # 95/96 P085

NEW ROAD TO CABIN AND WORK AREA TEST PIT # 1 JUST OFF TO RIGHT

NEW ROAD OFF 1500 ROAD 4M IN WIDTH

ROBERT J. BARTLETT 95/96 REF# P085

ROBERT J BARTLETT 95/96 REF # P085

ROA BUILDING TEST SET UP

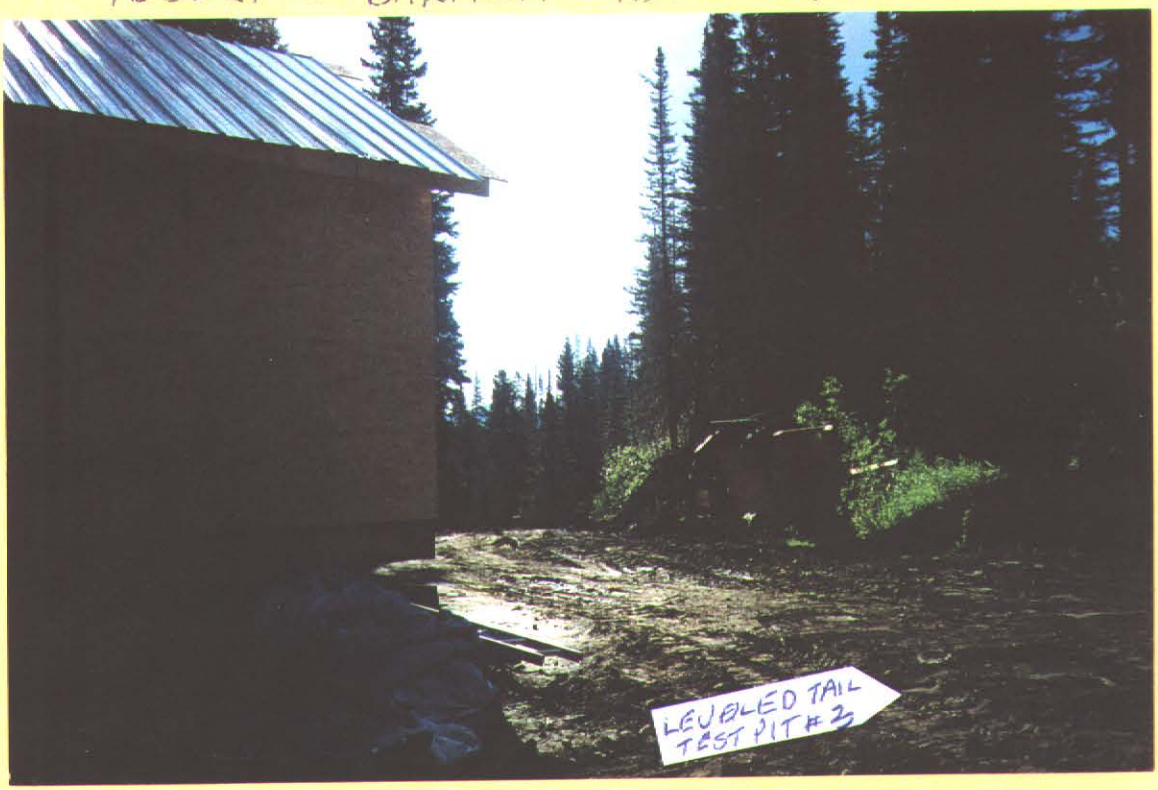
TEST WASH PLANT 1 YARD

ROBERT J BARTLETT 95/96 REF# P085

TEST PIT'S 3,4 USED AS HOLDING POND FOR 5, 6) ON OLD RIVER BED ALL ROCK'S ARE ROUND FINE GOLD AT 17' IN AND WITH BLACK SAND

ROBERT J. BARTLETT REF # 95/96 P085

WEST SIDE CABIN. TO THE RIGHT TEST PIT #2



ROBERT J. BARTLETT REF # 95/96 P085

OLD RIVER BED OVER CLAY 14' FROM GRAY TO BLUE

H1 ABOVE KEITHLEY CR. ROAD TO TEST PIT # 3, 4, 5. ONE TRENCH

SUMMARY OF TEST PITS AND SAMPLES (Ref. #P085)

Test Pit 1. Washed a total of 19 yards from 0 - 4 feet. Gravel and sand over clay - no showing found in this pit. Small amount of clay to reach bedrock. 30 to 40 feet further, stopped digging at 16 feet. Test pit located 57m on new entrance road from 1500 road. Three samples inspected with microscope - no visible gold, just black sand.

Test Pit 2. Washed a total of 36 yards. Pit depth 25 feet. Top was 3-4 feet of sand, then washed looking gravel with some rounded boulders. After washing from various depths, this pit also abandoned. Bedrock more than 40 feet deep. 5 samples insepected, only black sand found. Pit 2 located 30m from Pit 1, on same road and is marked with red flagging.

Test Pit 3. Total of 18 yards washed. Pit located on road 30m west of Pit 2. Looked very good - gray to blue clay with pockets of rusty gravel. Very difficult to wash, so we dug 25 feet to try to break through the clay. I estimate a further 25 feet to get through clay. Five samples taken on sign of AU gold.

Test Pit 4. Washed a total of 24 yards. Main material is clay with some rocks. After running 24 yards and taking 5 samples, samples showed only a small amount of black sand. Bedrock looks to be 20 to 25 feet. Pit is located 20 feet lower and 32m further on the road from Pit 3.

Test Trench. I pushed a road further down hill to a lower bench at the face of a cliff. Bedrock was showing. Trench is 30 ft. long and 3 ft. wide, with depth ranging from 4 - 6 feet. White quartz visible running through bedrock. Material not washed. Moved equipment about 150m from test trench.

Test Pit 5. Washed a total of 30 yards - old riverbed material, all gravel with large boulders. Fine AU gold was showing from 17 ft. to bedrock. Six samples taken. Assay #1 samples shows 3.087 AU at a fineness of 82.35. 65 grams of black sand gave 8 grams of AU gold.

Test Pit 6. Based on Pit 5 findings, Pit 6 was set up on the same bench, about 15m left and was the largest. A total of 103 yards was sampled right to bedrock - 21 to 22 ft. Main material was washed looking gravel and large boulders with one seam of clay. Eleven samples taken which showed black sand and fine to rice-sized pieces of AU gold. Fire assay sample #3: 2.122.23 AU gold opt concentrate. Sample #4 assayed for fineness and showed 82.35. I estimate it would take 10,000 yard to retreive one ton of concentrate. A sample taken at 16 feet showed 4.873 opt AU gold. I plan a notice of work for 1996 to do further testing on this bench.

All of the above test pits have been back-filled and graded and planted with grass seed, as was part of the roadway. Test Pits 1 and 2 are part of a drainage runoff and are now full of water. The holding pond has also been cleaned up, back-filled and seeded.

Bondar Clegg
Inchcape Testing Services

Bondar-Clegg & Co.
130 Pemberton Ave.
North Vancouver, B
V7P 2R5
Tel: (604) 985-0681

"URGENT & CONFIDENTIAL"

To: TRI-ZONE RESOURCES LTD.
Attention : Mr. Bob Bartlett
Reference :
Submitter : R. BARTLETT

Our Fax No: (604) 985-1071
Your Fax No: 1-604-388-3022
Number of Pages : 2 including this page.

Report : V96-00092.4 Status : COMPLETE Total number of samples: 4

Element Method	Totl	Element Method	Totl	Element Method	Totl
Au FIRE ASSAY	1	Au FIRE ASSAY	3		

Sample Preparations	Totl	Sample Type	Totl	Size Fraction	Totl	Remarks
AS RECEIVED	4	PREPARED PULP	4	AS RECEIVED	4	
PULP HANDLING	4					

Notes:

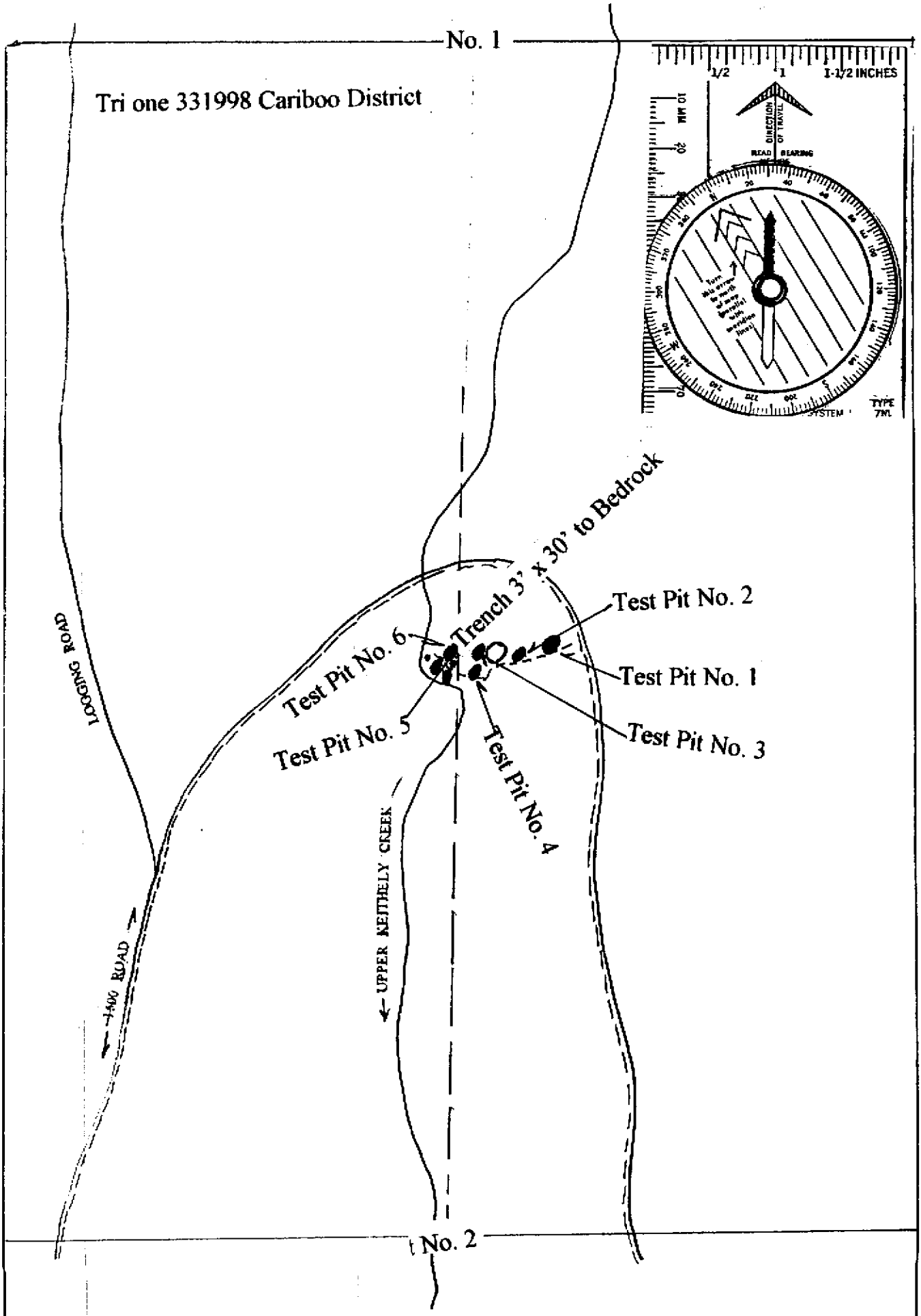
If you do not receive the entire transmission in legible form, please contact us as soon as possible.

CLIENT: TRI-ZONE RESOURCES LTD.
REPORT: V96-00092.4 (COMPLETE)

PROJECT: NONE GIVEN
DATE PRINTED: 19-JAN-96 PAGE 1

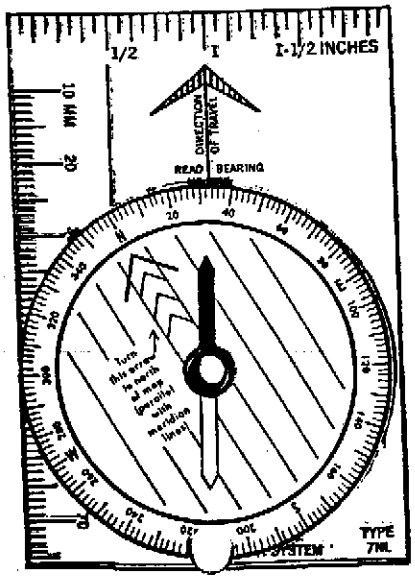
SAMPLE NUMBER	ELEMENT UNITS	Au PCT	Au OPT
P4 1			3.087
P4 2			4.873
P4 3			2122.23
P4 4		82.35	

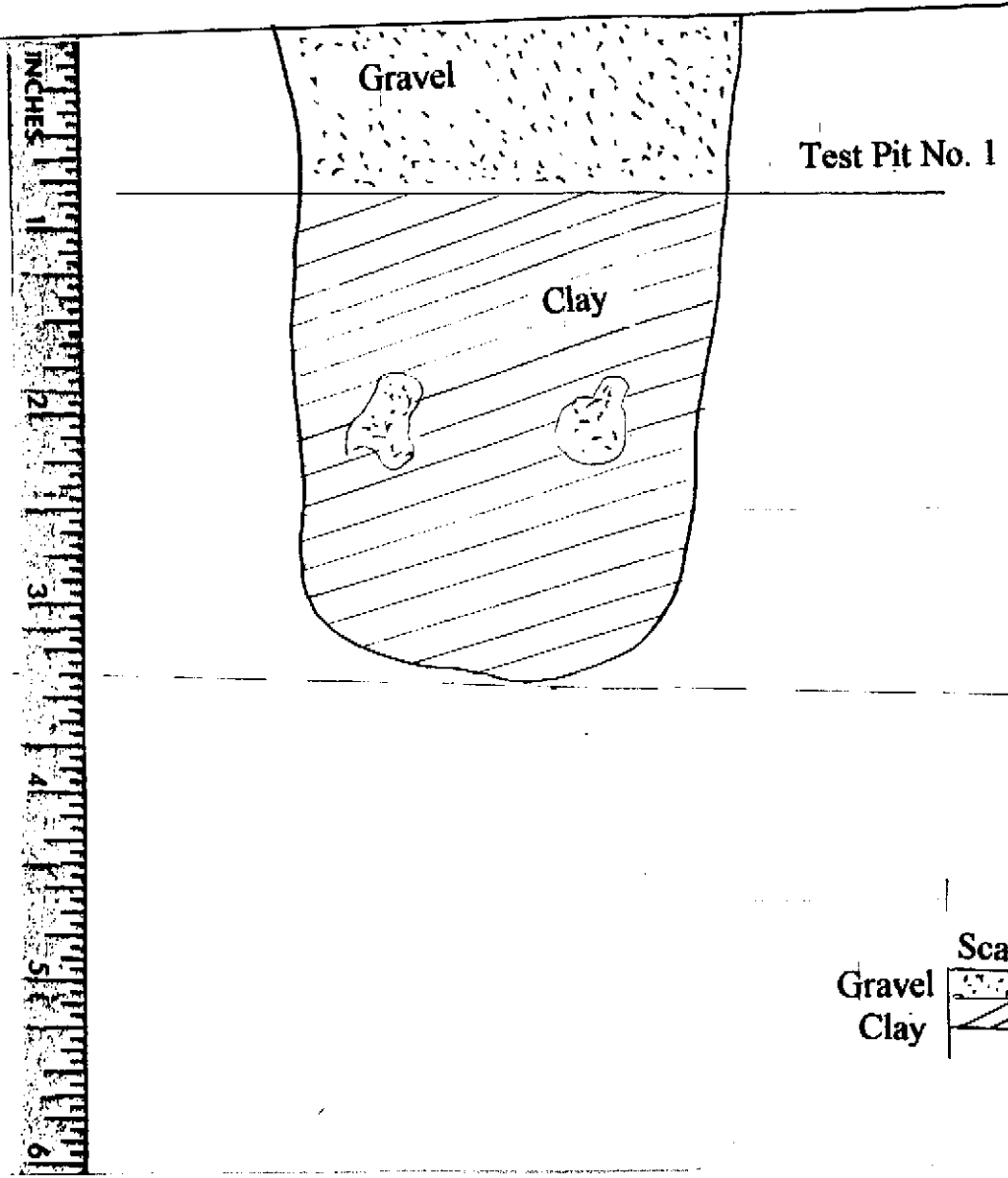
Robert J. Bartlett 95/96 reference No. P085



Robert J. Bartlett 95/96 reference No. P085

Tri one 331998 Cariboo District

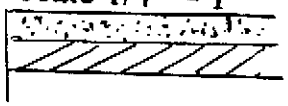


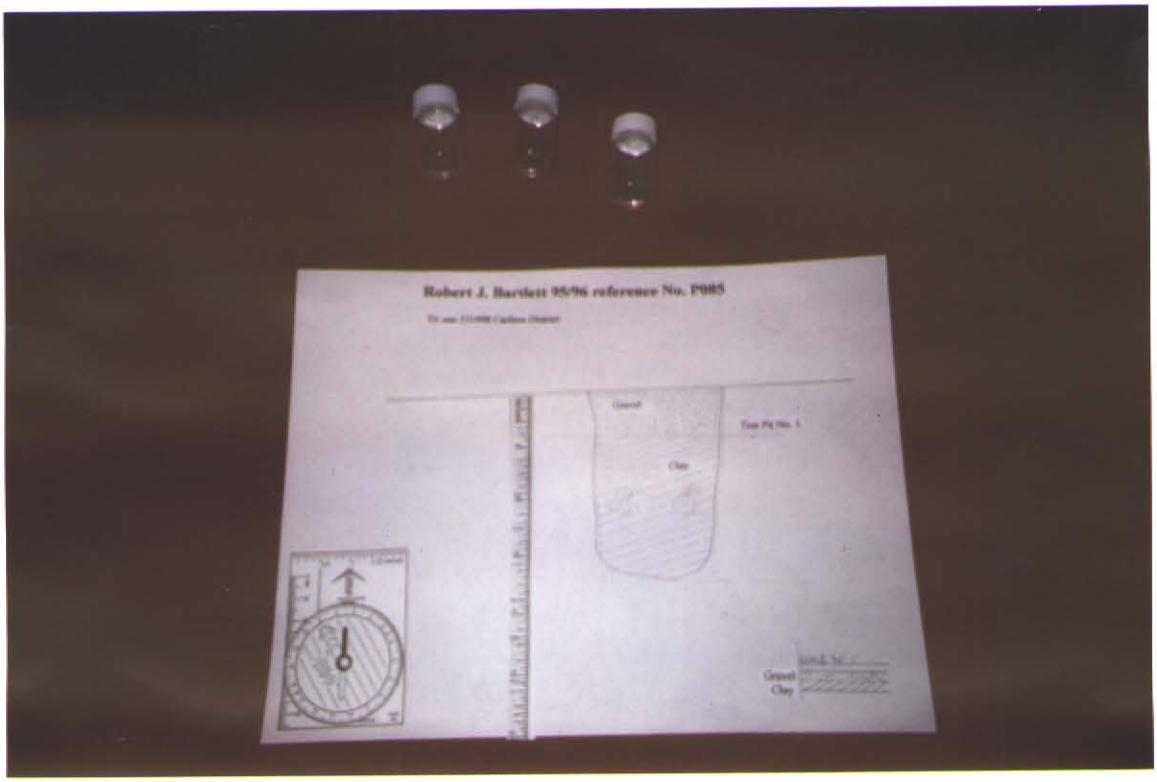


Test Pit No. 1

Scale 1/4" = 1'

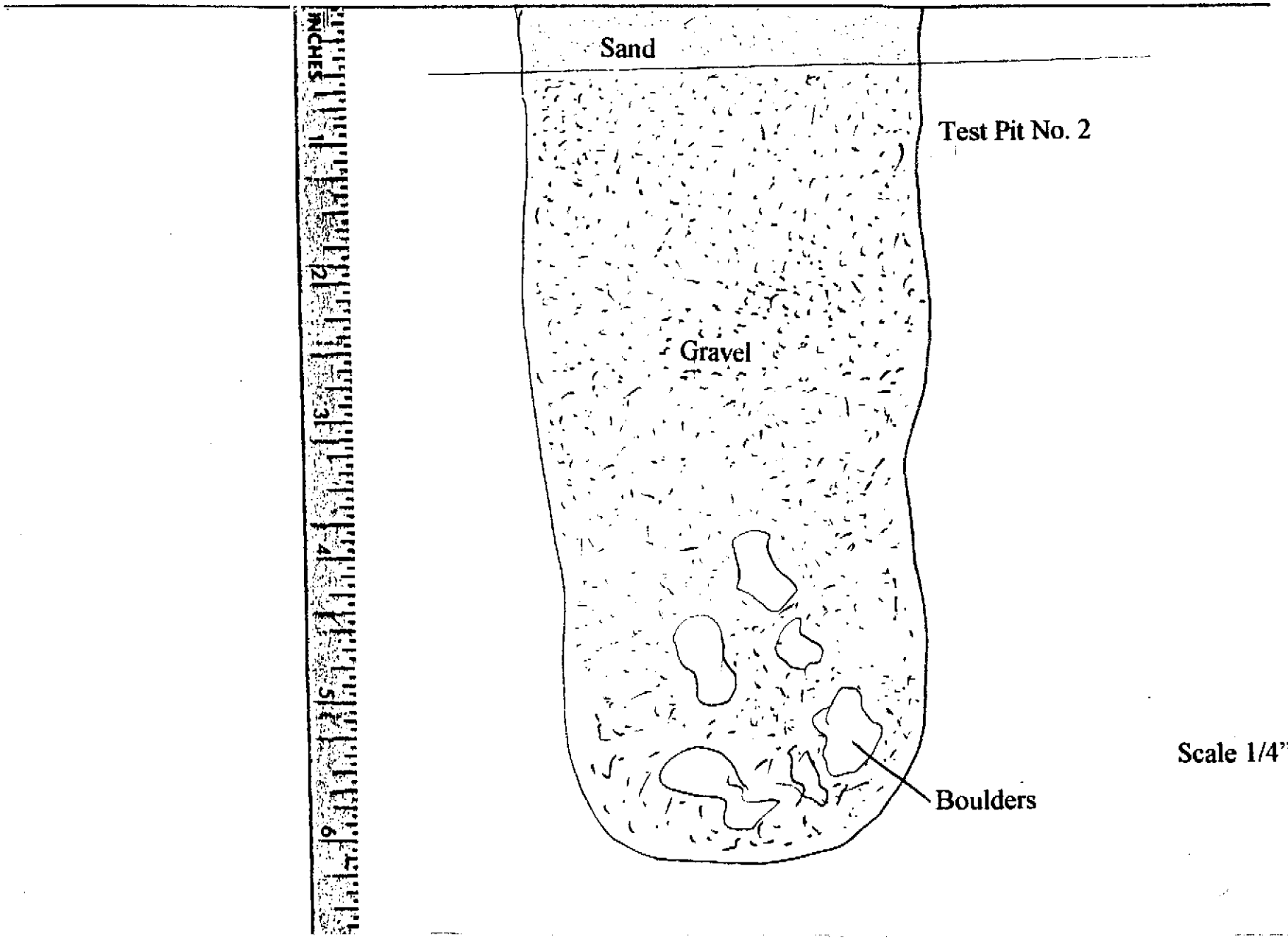
Gravel
Clay

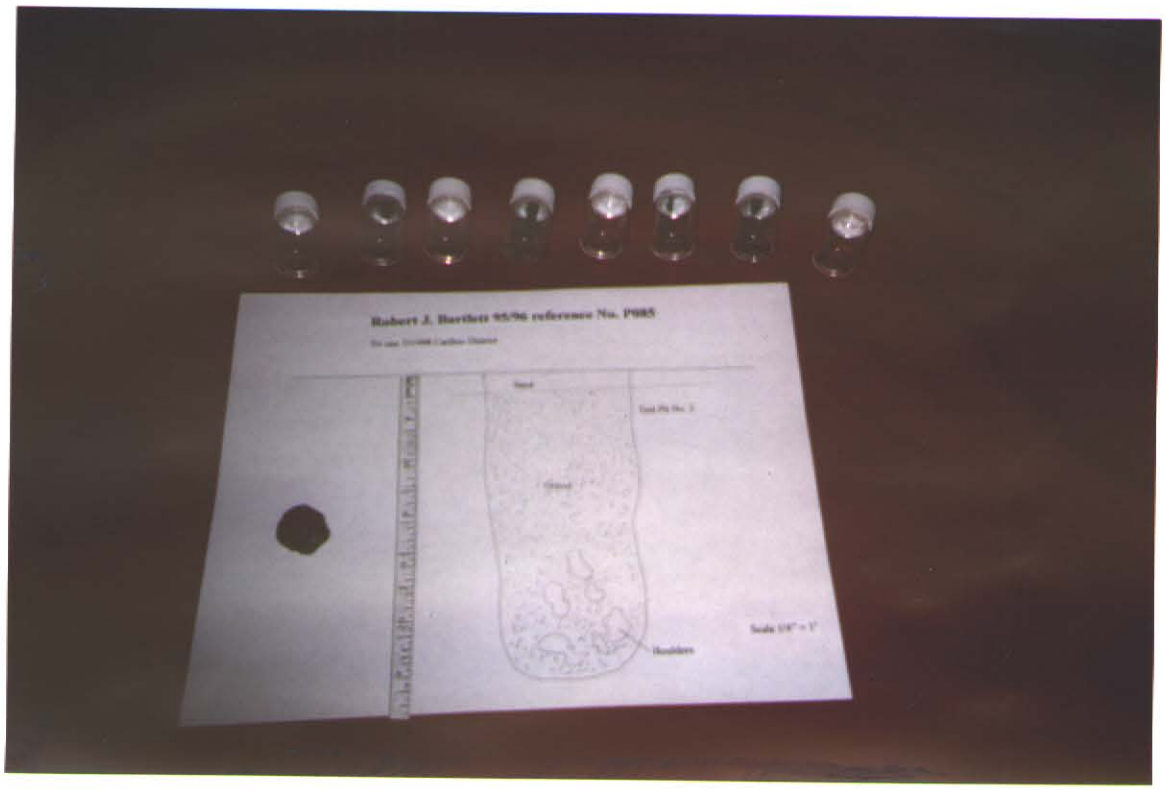



Robert J. Bartlett 95/96 reference No. P085
Gravel
Clay
Test Pit No. 1
Gravel
Clay

Robert J. Bartlett 95/96 reference No. P085

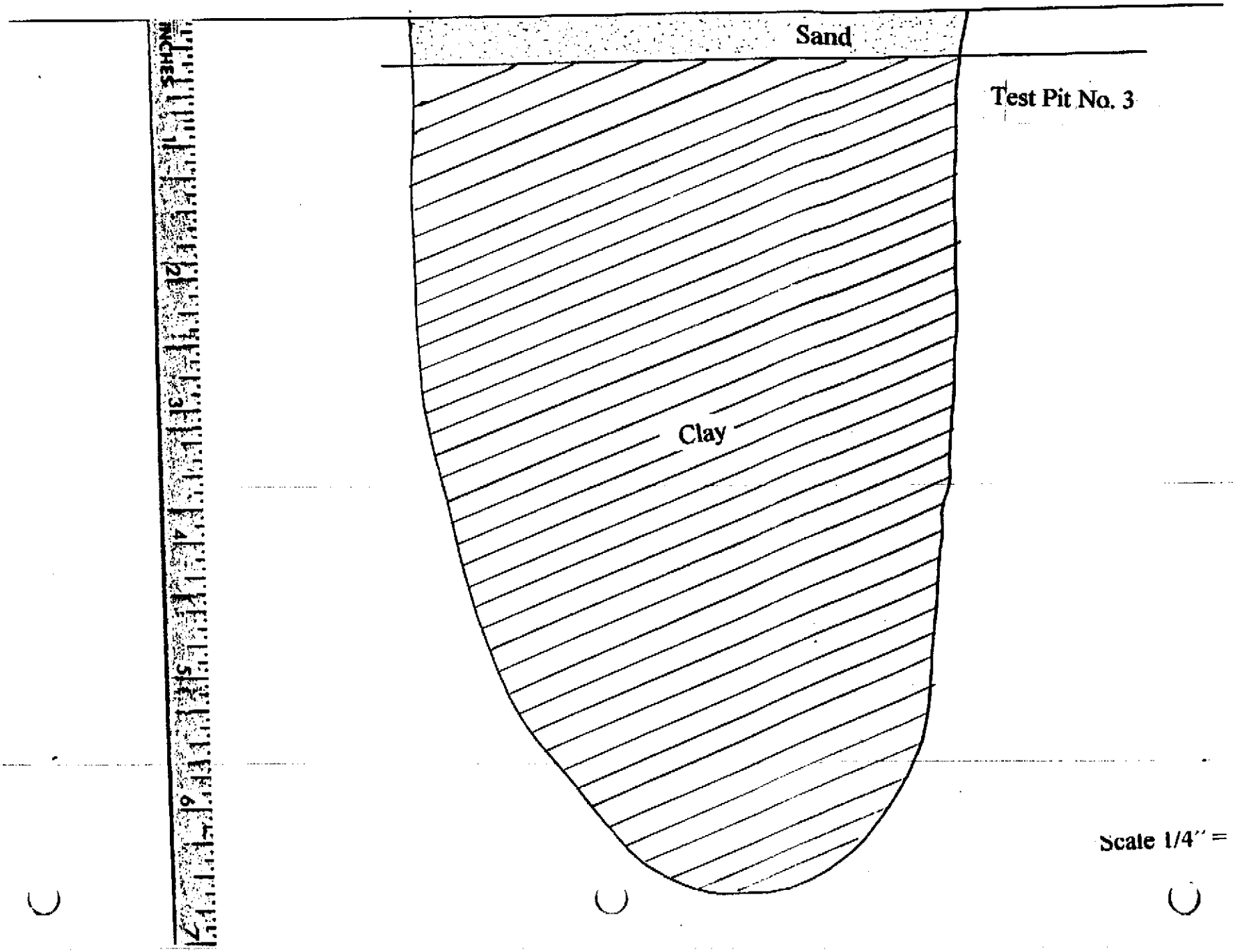
Tri one 331998 Cariboo District

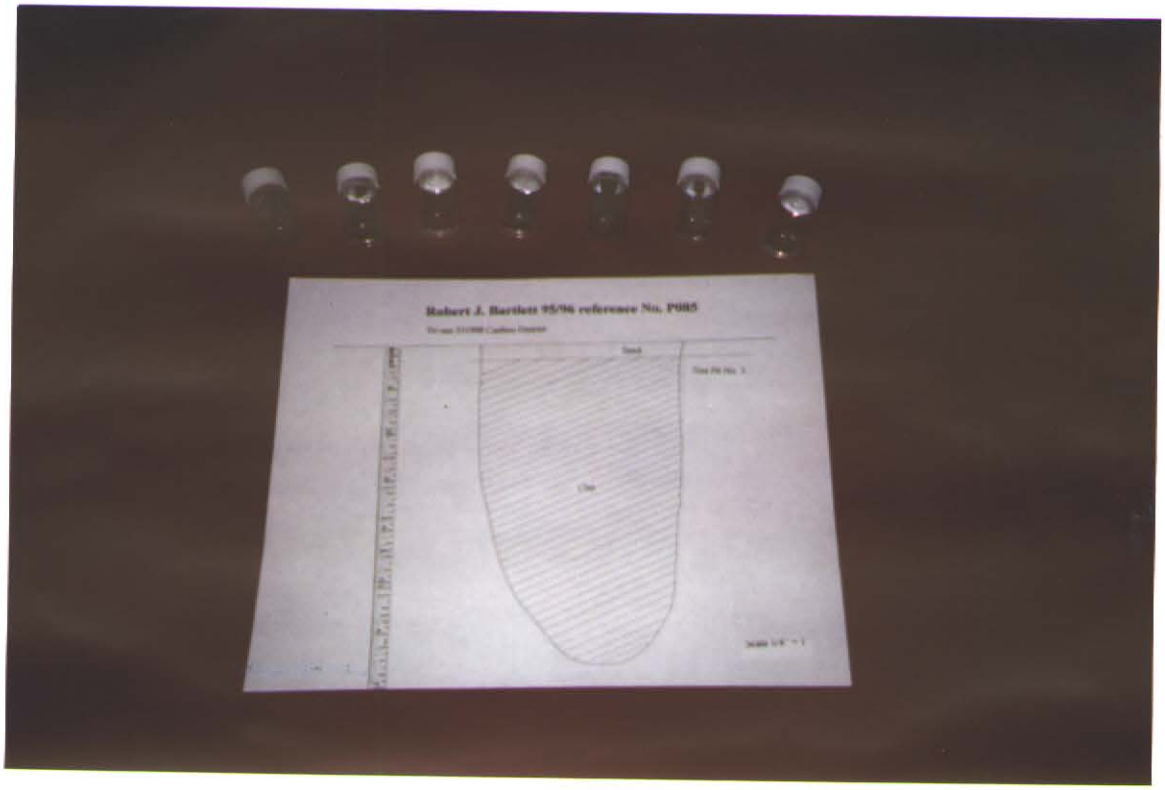



Robert J. Bartlett 95/96 reference No. P085
Sand
Sand
Boulders

Robert J. Bartlett 95/96 reference No. P085

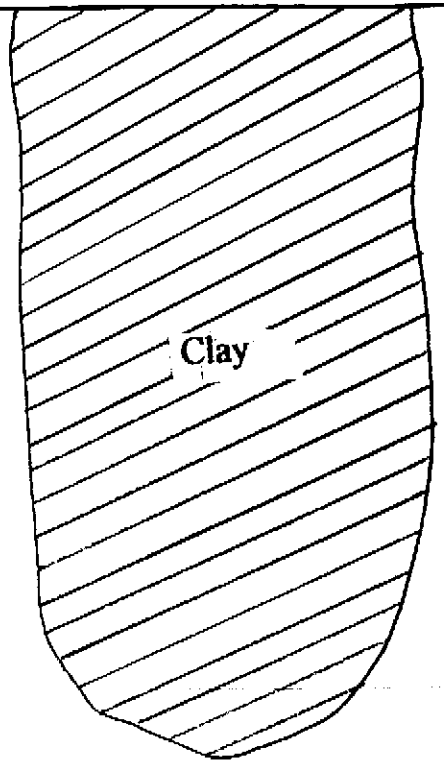
Tri one 331998 Cariboo District




Robert J. Bartlett 95/96 reference No. P085
Clay

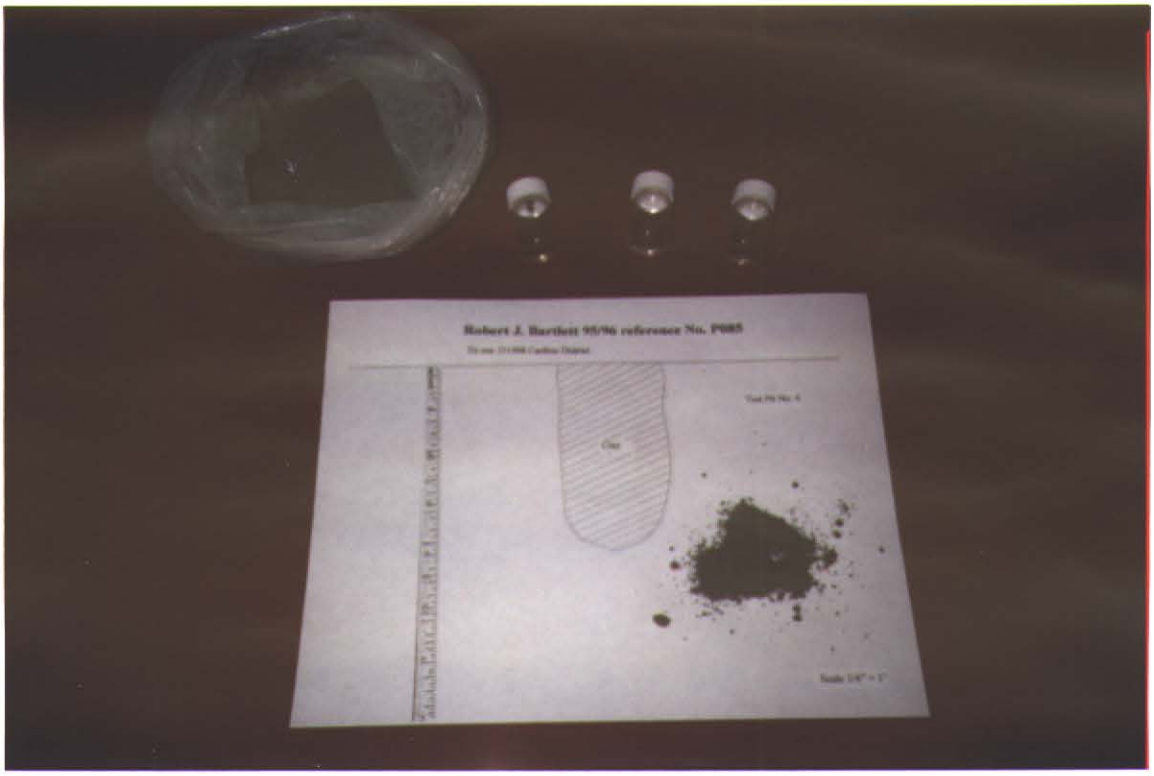
Robert J. Bartlett 95/96 reference No. P085

Tri one 331998 Cariboo District



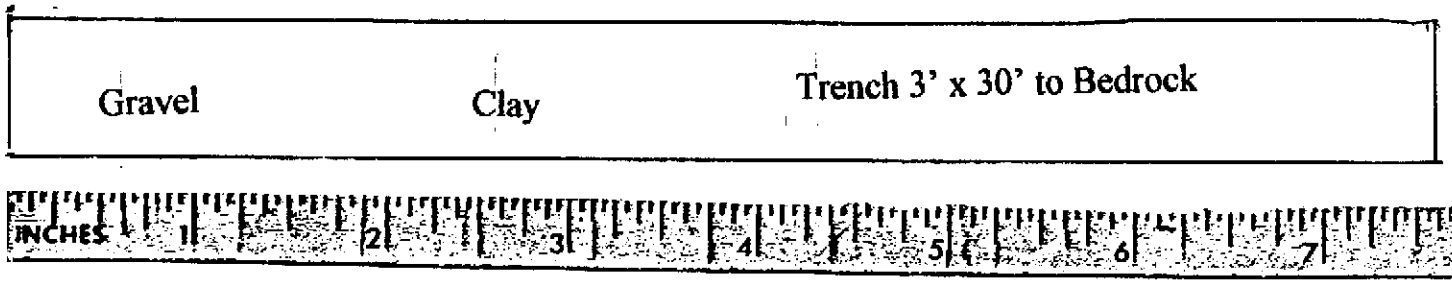
Test Pit No. 4

Scale 1/4" = 1'


Robert J. Bartlett 95/96 reference No. P085

Robert J. Bartlett 95/96 reference No. P085

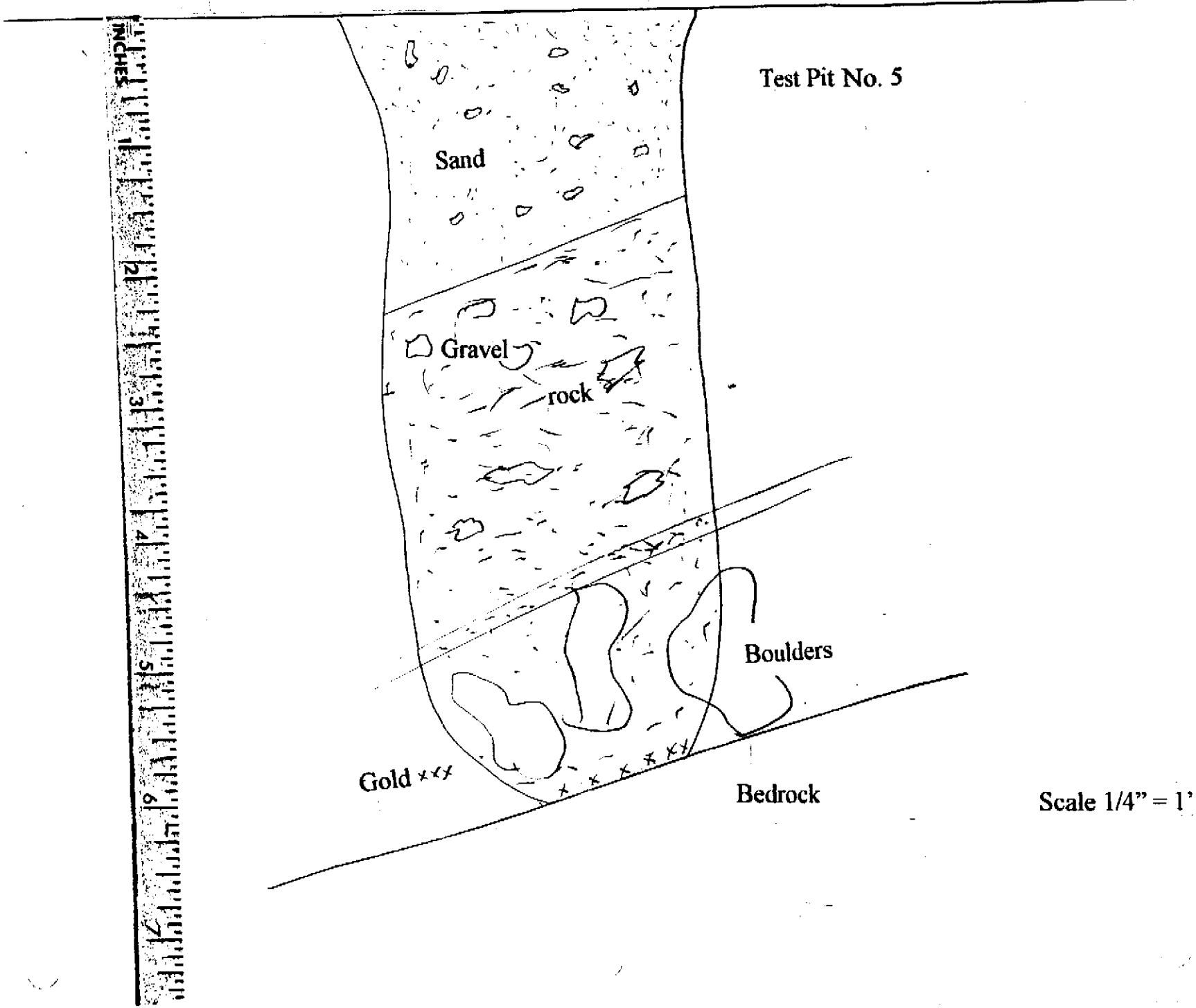
Tri one 331998 Cariboo District

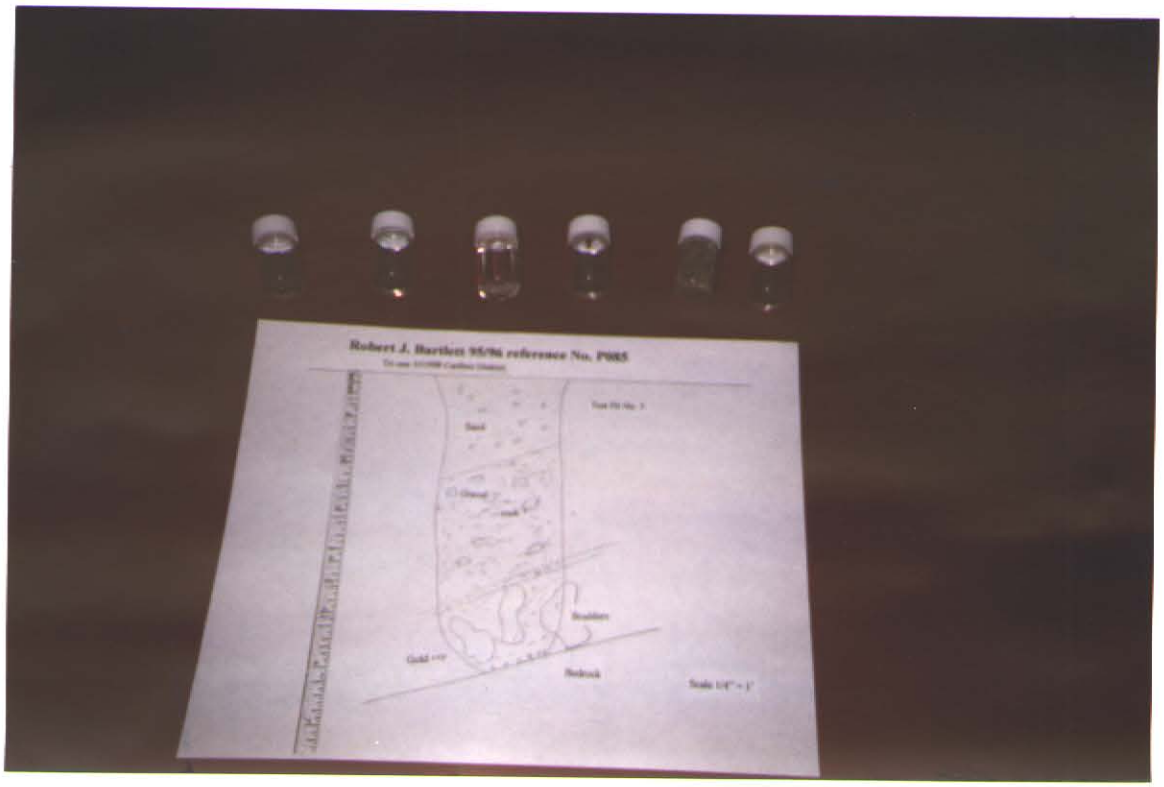


Scale 1/4" = 1'

Robert J. Bartlett 95/96 reference No. P085

Tri one 331998 Cariboo District

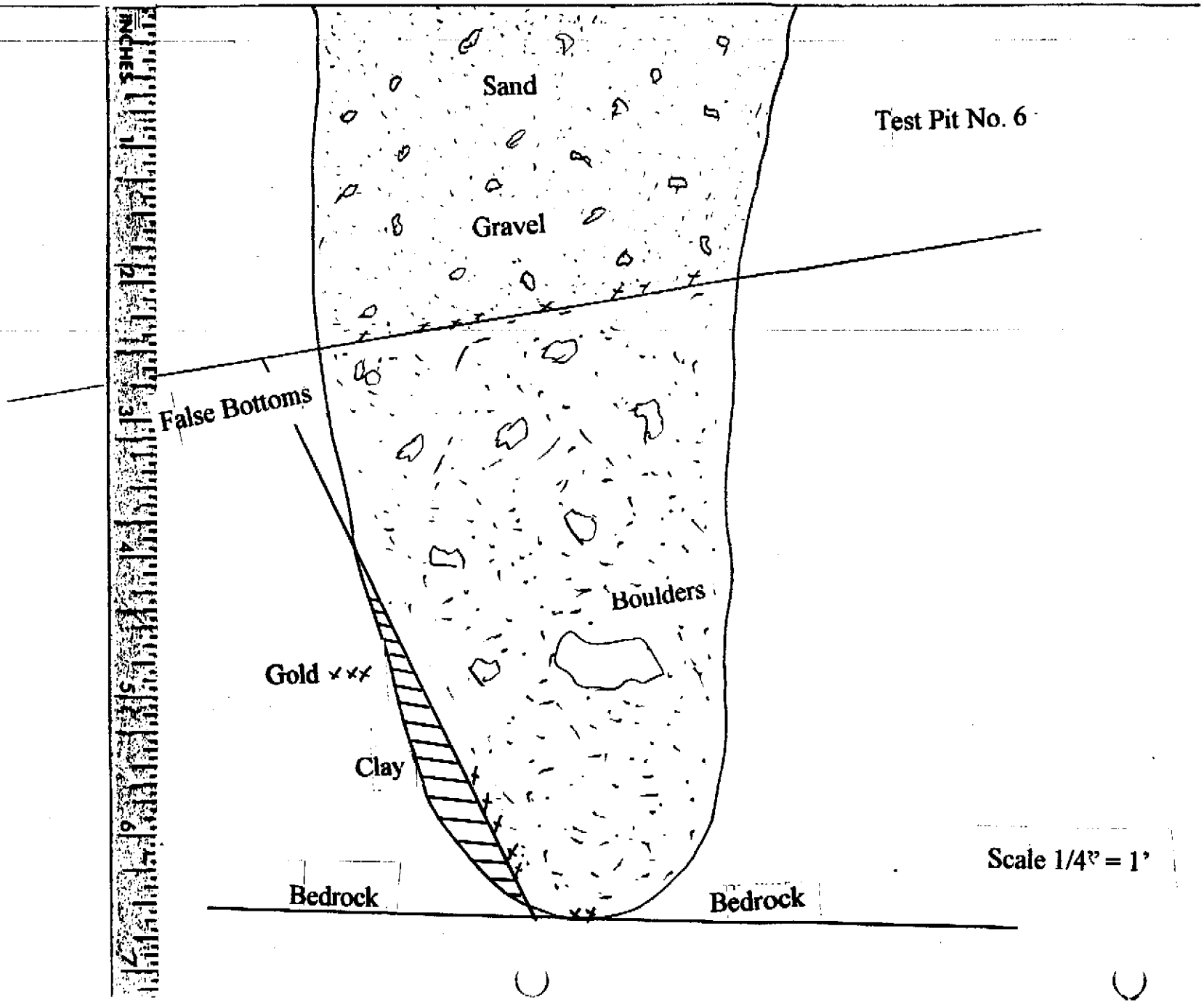


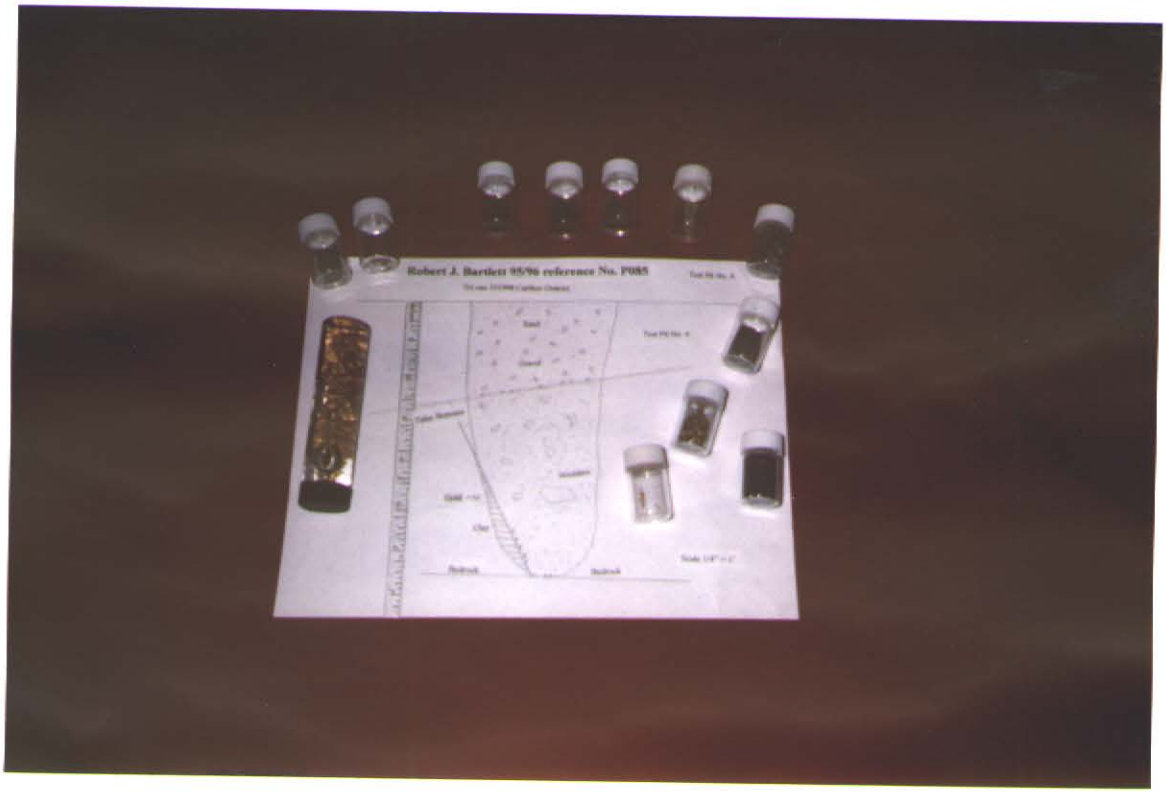

Robert J. Barthen 95/96 reference No. P085
Sand
Boulders
Bedrock

Robert J. Bartlett 95/96 reference No. P085

Test Pit No. 6

Tri one 331998 Cariboo District

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