REPORT on DRILLING in 1997

on the SOUP

GOLD-COPPER PROPERTY

Claims:	**SOUP #3, SOUP #4, SOUP 15**
Mining Division:	**Omineca**
NTS:	**094D/08E**
Latitude:	**56° 28'N**
Longitude:	**126° 04'W**
Owner:	**Vital Pacific Resources Ltd.**
Operator:	**Vital Pacific Resources Ltd.**

for

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06 October 1997

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INTRODUCTION

The SOUP Property is a magnetite skarn-type gold-copper occurrence owned by Vital Pacific Resources Ltd. [VPR]. Its comparatively isolated location in north central British Columbia makes exploration an expensive affair especially due to the necessarily intensive use of helicopter support.

After completing its 1996 Phase 1 drill program during the summer of 1996, VPR decided to proceed with a second phase of drilling in October 1996. Just before the drill could be collared at a location that would test both anomalous soil results and a magnetic high, the winter season descended on it, causing the program to be suspended. The Phase 1 Program of 1997, and the subject of this Report, is, in large part, simply a resumption of the efforts begun the year before. Total expenditures on this year's Program amounted to $523,937[1] over its 46-day duration.

Fieldwork was conducted from 22Jun97 to 06Aug97[2], which began with construction a 12 person camp and core logging facility followed by assembly of an 800m water pipeline that extends from the campsite towards the drill setup. The camp was sited on Kliyul Creek on the SOUP 15 claim with the pipeline extending from there onto SOUP #3. All drilling was conducted within the SOUP #4 claim.

Apart from testing mineralization that might be associated with the anomalous geochemical and geophysical response, the goal of the drilling was to cut skarn alteration at greater depth than previous programs had attempted. By doing so, good recoveries from unoxidized intersections could provide the first truly credible assays. Furthermore, drilling deeply would test the stratigraphy, with the chance of intercepting additional mineralization.

1997 Drill Program Snapshot

Duration of Fieldwork:
22 June – 06 August [46days]
(includes 1 day mobilization & 1 day demobilization)

Drilling:
4 holes – (97-01, -02, -03, -04)
706.83m [2,319 ft]
633.26m or 90% recovery
Size: 357.22m NQ reduced to 349.61m BTW
Cost: **$221.77**/meter
Core stored at 1997 campsite on Kliyul Creek

Assaying
130 split core samples
assayed for Au (1 assay ton, AA finish) of which multi-element ICP run on 82 samples
highest Au assay: **4.71**gm/tne

Contractors
Project Administration:
Minconsult Ltd.
Drilling:
Aggressive Diamond Drilling Ltd.
Geology:
Integrex Engineering
Helicopter:
Northern Mountain Helicopters Ltd.

After a month of difficult drilling during the month of July 1997, a total of 707 meters were completed in four holes [97-01, -02, -03 & -04]. All holes were collared NQ in size; three reduced to BTW at depth. The first three holes, drilled from the setup established at the end of last year, intersected skarn alteration and magnetite but returned only low grade assays. The highest gold assay from the 130 core samples was 4.71 grams/tonne. A fourth hole was collared to the southeast of the others but had to be abandoned short of any intersection. All intersections cut an *Upper Zone* of magnetite while the *Lower Zone* was an equally important target but was not reached. The two holes that were planned to intersect the Lower Zone had to be abandoned due to bad ground conditions. It remains a viable drill target even though its grade may not be much different than that of the Upper Zone.

[1] Includes 7% GST.
[2] Includes a day each of mobilization and demobilization.

In spite of efforts to save costs, the Program's rate of expense was far in excess of that budgeted, and considering the generally disappointing assay results, the Program was terminated. Direct drilling costs[3] came to the ghastly rate of nearly $222/meter, but unlike that experienced in earlier programs, good recoveries were obtained especially in mineralization.

A Regional Stream Sediment survey released while the Program was underway showed that the area in and around the SOUP Property is comparatively anomalous. That, combined with recent staking that has enlarged the Property, leads to the suggestion that further work ought to consist of geological mapping and prospecting in geology that is probably more complex than that appreciated by earlier operators. The prospect of discovering significant mineralization will be based on how well the geology can be unraveled by basic fieldwork. This new effort, budgeted at $160,000, could benefit from significant cost savings by reusing the existing campsite that was established at the start of the 1997 Program.

This Report details the entire 1997 drill Program and relates to Statement of Work [SoW]. #3111368, recorded on 06Oct97. The total of the costs in the SoW amount to that itemized in the Statement of Costs section of this Report.

[3] Excludes GST.

PROPERTY, LOCATION and ACCESS

Located about 350 kilometers northwest of Prince George, the SOUP Property straddles Kliyul Creek in rugged topography of the Omineca Mountains in north-central British Columbia (see figures 1 & 2).

Direct access to the Property is by helicopter based in Mackenzie or Fort St.James. During the summer months, while the Omineca Highway is open, rudimentary services and a staging area is available at Kilometer400 about 15 minutes flight time by helicopter north of the Property. And at about 12 km to the southeast, an unimproved road terminates along the Mesilinka River after turning off the Omineca Highway at Aiken Lake. Last summer, traffic on the gravel Highway was especially high, due, at least in part, to construction of Royal Oak's Kemess gold-copper deposit which is scheduled to begin production in the next few months.

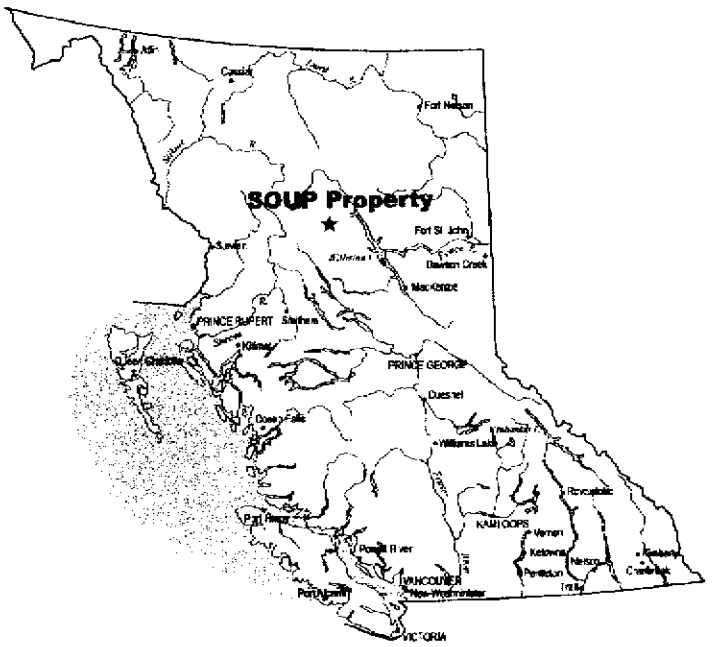


Figure 1: General location of the SOUP Property in British Columbia.
Map Base: BC Ministry of Lands and Parks, 1991

The claims fall on both east and west banks of the Kliyul Creek and extend east and northeast beyond the prominent northwest trending Soup Ridge to enclose parts of the deeply incised northeast facing cirques that drain into Croydon Creek. Both Kliyul and Croydon creeks join the Mesilika River, which feeds Aiken Lake and flows beyond it into Williston Lake. Elevations range from about 1260m in Kliyul Creek to 2325m at the highest spot on the ridge tops (Orthoshop, 1996)[4].

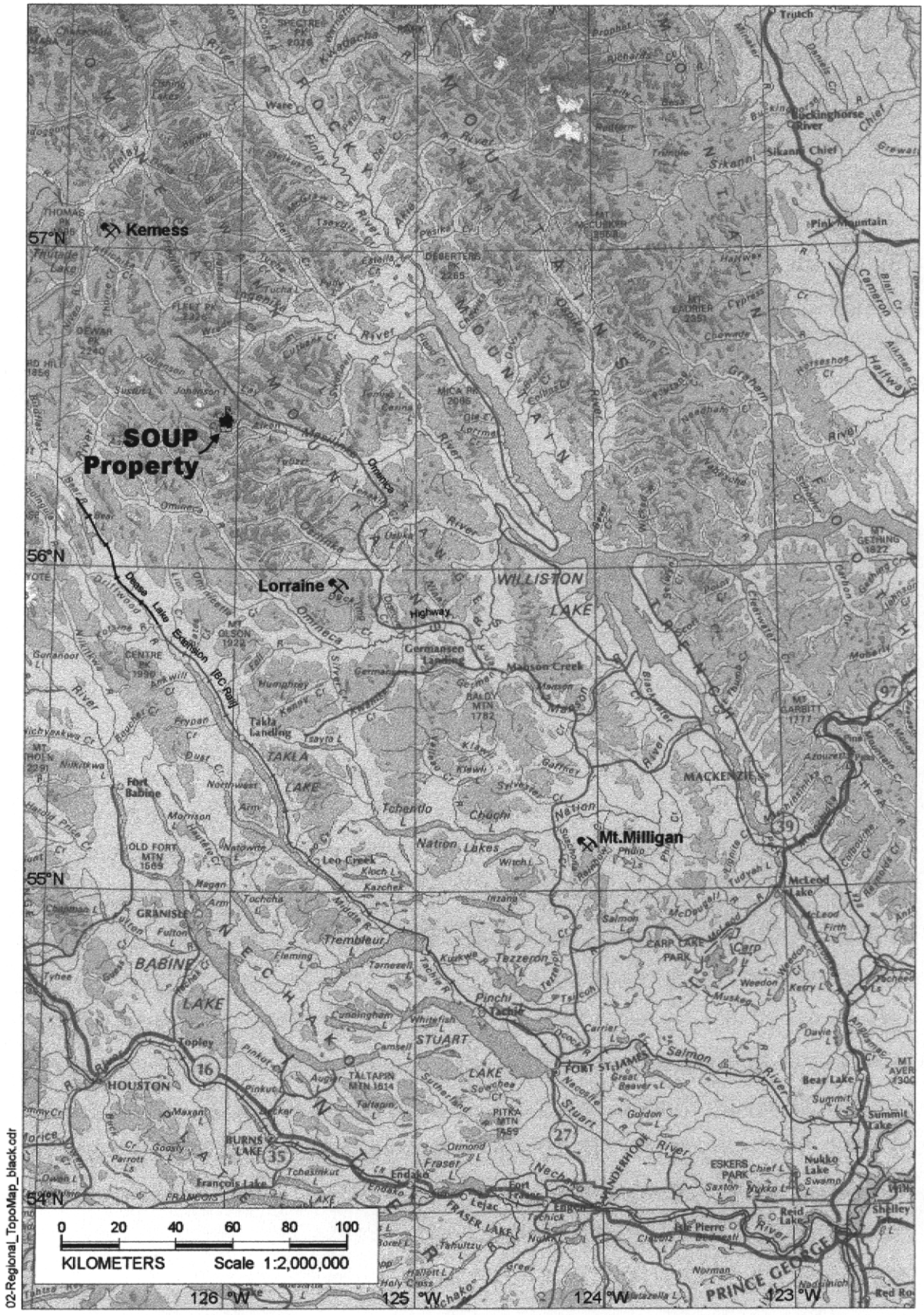
All the 1997 drill holes were collared on the SOUP 4 claim (see figures 3 & 4) which occupies part of the high southwest-facing slope of Soup Ridge above 1900m elevation. Outcrop is abundant on the steep talus-covered slopes inclined at 30° or steeper. Treeline is roughly marked by the 1600m-elevation contour. A rare patch of nearly open ground was selected for the campsite [1293m elevation] on the west bank of Kliyul Creek in an area that was otherwise thickly covered by coniferous cover and tangled bush.

SOUP PROPERTY

NTS:	094D/08E	
Latitude:	56° 28'N	
Longitude:	126° 04'W	
UTM	Zone 09	
[NAD83]	6,262,500N	680,600E
[NAD27]	6,262,306N	680,716E
Owner:	Vital Pacific Resources Ltd.	
Operator:	Vital Pacific Resources Ltd.	
Minfile Ref.	094D00025 [OLD SOUP]	

Omineca Mining Division
MacKenzie Forest District
MacKenzie LRMP District

[4] Still unresolved is the discrepancy in carrying elevations from specific points on high ground in the center and east portion of the Orthoshop's coverage to the campsite. Using the author's altimeter, a camp elevation of 1325m was consistently obtained – about 32m too high compared to the Orthoshop's reading. For this report field altimeter readings were ignored, and drill hole elevations assigned based on their locations identified on the orthophoto.



02-Regional_TopoMap_black.cdr

Other notable Mineral Prospects

Topographic base scanned at actual size from portion of BC Min. of Lands and Parks, 1991 with additions sketched from Canada Dept Energy, Mines & Res, 1988b.

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SOUP Property Location

Location Map showing SOUP Claims in the Omineca Mountains about 350 kilometers northwest of Prince George

October 1997

Figure **02**

CLAIMS and OWNERSHIP

A total of 72 contiguous Located Mineral claims including two fractions, all 100% owned by VPR (BC MEI, 1997a), make up the SOUP Property—an area of about 985 hectares bounded by an irregular outline roughly 3 kilometers across. [Refer to figures 3 & 4. Claim boundaries in figure 4 have been adjusted from those on BC MEI(1996) Mineral Titles References, reproduced in figure 3, on the basis of claim post locations mapped by Gilmour (1996) and by careful plotting of adjoining claims.]

The original claims consisted of the string of 2-Post units, SOUP 1 to SOUP 10, staked by W.H. White in 1964 (Sinclair, 1975, p3). SOUP 12 and SOUP 13, of 20 of units each, were added in 1983, with SOUP 14 staked the next year and SOUPFR fraction recorded in 1986. Staking in 1996 added the 20 units in SOUP 15 along with a cluster of four 2-Post claims, SOUP 16 to SOUP 19. Details of the claims that make up the SOUP Property are tabulated below[5]:

Group Name	Claim Name	Tenure No.	Units	Date Recorded	Good to Date
SOUP97	SOUP 1	244014	1	07 Aug 1964	07 Aug 2008
SOUP97	SOUP 2	244015	1	07 Aug 1964	07 Aug 2008
SOUP97	SOUP 3	244016	1	07 Aug 1964	07 Aug 2008
SOUP97	SOUP 4	244017	1	07 Aug 1964	07 Aug 2008
SOUP97	SOUP 5	244018	1	07 Aug 1964	07 Aug 2008
SOUP97	SOUP 6	244019	1	07 Aug 1964	07 Aug 2008
SOUP97	SOUP 7	244020	1	07 Aug 1964	07 Aug 2008
SOUP97	SOUP 8	244021	1	07 Aug 1964	07 Aug 2008
SOUP97	SOUP 9	244022	1	07 Aug 1964	07 Aug 2008
SOUP97	SOUP 10	244023	1	07 Aug 1964	07 Aug 2008
SOUP97	SOUP 11FR	238499	1	15 Aug 1981	15 Aug 2008
	SOUP 12	238688	12	05 Oct 1983	05 Oct 2005
SOUP97	SOUP 13	238689	12	05 Oct 1983	05 Oct 2008
SOUP97	SOUP 14	238824	12	13 Aug 1984	13 Aug 2008
SOUP97	SOUP 15	349166	20	07 Aug 1996	29 Jul 2008
SOUP97	SOUP 16	350780	1	25 Sep 1996	08 Sep 2008
SOUP97	SOUP 17	350781	1	25 Sep 1996	08 Sep 2008
SOUP97	SOUP 18	350782	1	25 Sep 1996	08 Sep 2008
SOUP97	SOUP 19	350783	1	25 Sep 1996	08 Sep 2008
SOUP97	SOUPFR	239221	1	01 Aug 1986	01 Aug 2008
	TOTAL Number of Units		72		

Grouping of the SOUP97 claims was recorded on 26Sep97 [event #3110906][6]. This Report, if accepted, will fulfill assessment requirements on the SOUP97 Group from the year 2005 to the furthest allowable year, 2008, as listed in the table above.

To take advantage of newly opened ground on claims that expired last July, VPR contracted Minconsult Ltd. to enlarge the Property with staking, which has been just recently completed (BC MEI 1997a). As of the writing, these claims, SOUP 20-23, are still in the name of Craig Lynes of Minconsult, but ownership is expected to be transferred to VPR in the next few days. Details of the new claims are tabulated below:

[5] Details from BC MEI(1997a); recording dates obtained from Mineral Titles Branch, Vancouver office.
[6] As SOUP 12 & SOUP 14 occupy the same ground, it is recommended that no further assessment be applied to SOUP 12. It can either be let to expire or be combined with SOUP 14 when the combined assessment credited to them falls to 10 years or less.

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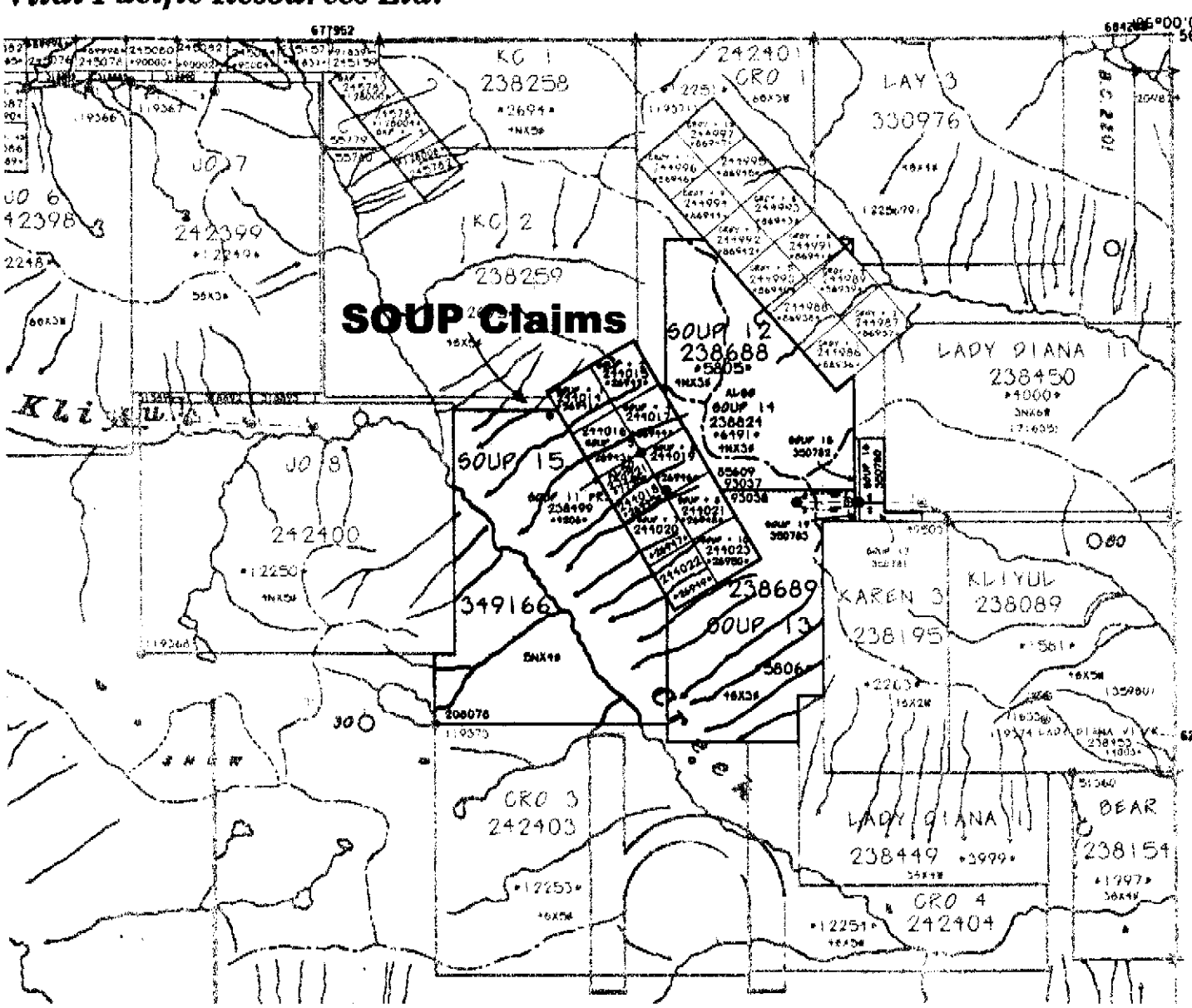

MINISTRY OF EMPLOYMENT AND INVESTMENT

ENERGY AND MINERALS DIVISION

MINERAL TITLES BRANCH

MINERAL TITLES REFERENCE

MAP 094D08E

U.T.M. ZONE 09

LAST MAP UPDATE: 1996 NOV 20

ORIGINAL PRODUCED AT 1: 31680

METRES

500 0 500 1000 1500 2000

ADMINISTRATIVE AREAS

MINING DIVISIONS: OMINECA

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SOUP claims are highlighted in this reproduction released by the Mineral Titles Branch (Vancouver). The newest claims, SOUP 20, 21, 22 & 23 recorded in Sep97 are not shown (see following figure for their location & arrangement). SOUP 12 and SOUP 14 appear to cover the same ground. The line of 2-post claims consisting of SOUP 1 to10 and Fractions are shown with a somewhat different arrangement in most detailed maps prepared by previous workers. SOUPFR is not named but is identified by tenure #239221 next to SOUP11FR. **Scale is 1:50,000 (approx).**

03_SOUP_Claim_Sheet.cdr

SOUP CLAIMS

Figure **03**

Group Name	Claim Name	Tenure No.	Units	Date Recorded	Good to Date
	SOUP 20	358959	18	09 Sep 1997	23 Aug 1998
	SOUP 21	358960	12	09 Sep 1997	22 Aug 1998
	SOUP 22	358961	1	09 Sep 1997	23 Aug 1998
	SOUP 23	358962	1	09 Sep 1997	23 Aug 1998
	TOTAL Number of Units		**32**		

Once the transfer of ownership is complete, the SOUP Property will be extended to the north and south by a total 541 hectares, making the combined Property about 1,526 hectares in size. [Figures 4 & 4a outline the full extent of the enlarged Property[7].]

[7] Claim locations for SOUP 20, 21, 22, & 32 taken from a portion of a recently updated MEI Mineral Titles Reference received from Smithers office 10Sep97.

PREVIOUS WORK

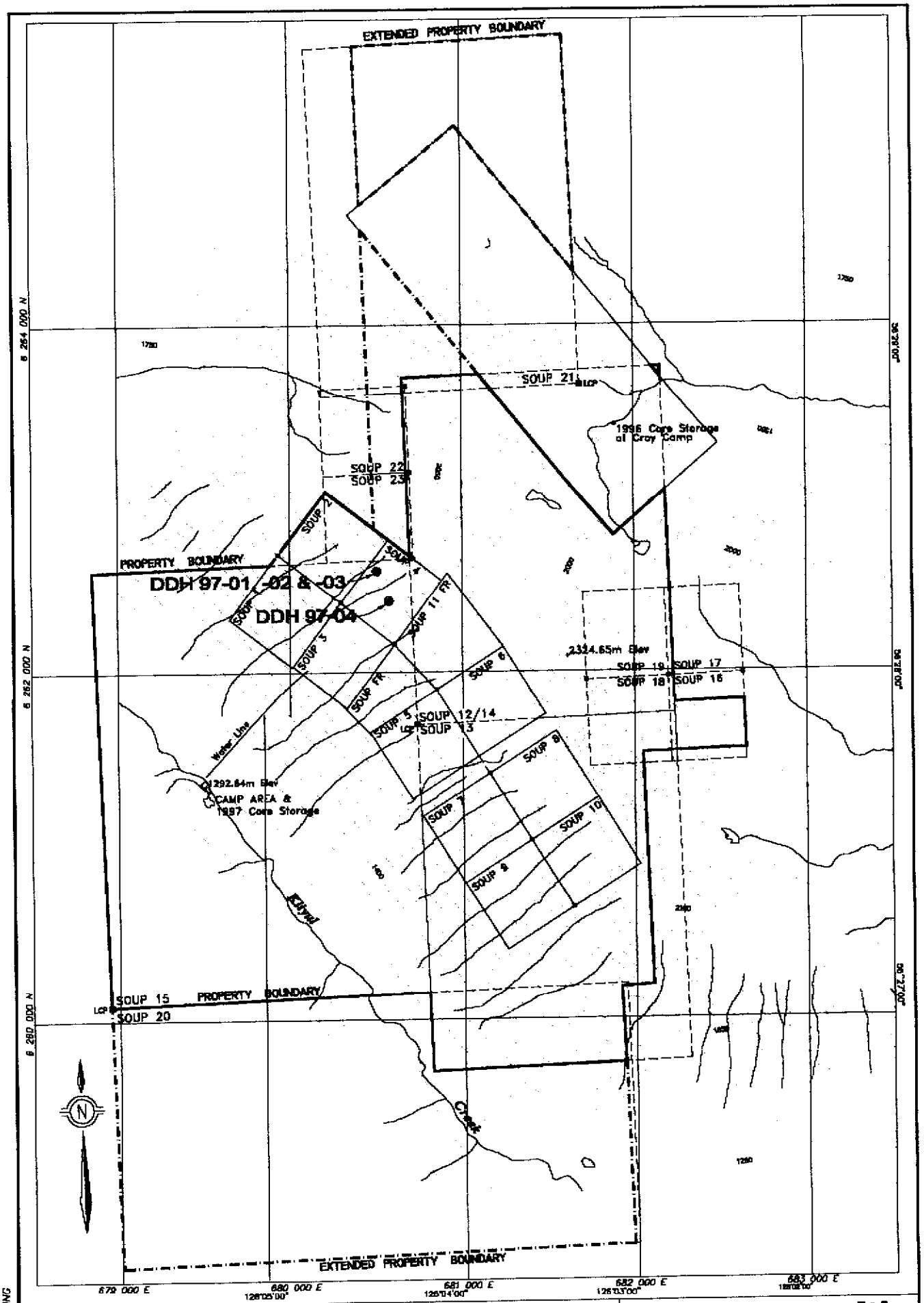
Mineral exploration history on the SOUP Property area begins in 1899 when placer gold was discovered in McConnell Creek, west of Johanson Lake, which sparked sporadic activity into the 1930's. The Geological Survey of Canada found gold bearing quartz veins 12km northwest of the Property near Goldway Peak in 1945, and further reporting by the GSC in the following year resulted in an influx of activity in 1947. The Shell Group showings staked in 1946, may have included a portion in the north of what is now SOUP ground. It was not until 1964 when Thompson and White staked the original string of 2-Post claims that make up the original SOUP Property. Since then exploration has been conducted by several interests as summarized below:

Year	Operator	Program of Work	Source
1964	R.M. Thompson & W.H. White	Staking of first claim group: SOUP 1 to SOUP 10	Gilmour,1996, p5
1965	K.C. McTaggart	Plane-table mapping, sampling; SOUP11 FR staked by W.H. White	McTaggart, 1965
1966	Kennco	Property examination	Leahey, 1982, p5
1971	Falconbridge Nickel Mines Ltd.	4 X-ray holes totaling 100 feet (30m) on SOUP 10	BC Min.E&I, 1971
1975	A.J. Sinclair	Mineralographic investigation of surface & core specimens	Sinclair, 1975
1976	A.J. Sinclair	1.1km orientation magnetometer survey & modeling	Sinclair, 1976
1977	BP Minerals Ltd.	201 chip samples from 11 lines across mineralization	Bates, 1977
1978	BP Minerals Ltd.	Statistical analysis of 1977 sampling	Sinclair, 1978
1981	Vital Resources Ltd.	113 chip & 82 soil samples	Rogers, 1981
1982	Noranda Exploration Co. Ltd.	161 rock & 440 soil samples, mapping & 5km magnetometer survey	Leahey, 1982
1984	BP Resources Canada Ltd.	345 chip & 200 talus fines samples, detailed mapping	Smit,1984
1986	Lemming Resources Ltd.	45 chip samples, 2.9km mag survey	Rebagliati, 1986
1987	Lemming Resources Ltd.	29 rock samples, 18.5km mag survey	Rebagliati, 1987
1989	Athlone Resources Ltd.	7 DDHs totaling 338.9m	Rebagliati, 1989
1990	Teck Explorations Ltd.	248 chip samples, prospecting & mapping	Toohey, 1991
1993	Hemlo Gold Mines Ltd.	34 rock & 63 soil samples	Gill, 1994a
		airborne mag & K40 radiometric surveys	Gilmour, 1995,'97
1994	Hemlo Gold Mines Ltd.	25 rock samples, 6.45km mag survey	Gill, 1994b
1995	Hemlo Gold Mines Ltd.	4 DDHs totaling 317.6m	Erdman, 1995
1996	Vital Pacific Resources Ltd.	73 rock & 311 talus fines samples,4.3km mag survey, 10 DDHs totaling 913m	Howe, 1996

Even though several operators have been involved over the history of the Property, exploration has proceeded in logical steps starting from prospecting, sampling and orientation surveys to more detailed stages, including mapping, soil geochemical sampling, airborne and ground magnetometer surveys and drilling. In the process, many operators, for the purpose of verification, have duplicated earlier work and have come up with generally consistent results. At the same time, they have advanced the knowledge base to the point where subsequent exploration can make good use of earlier experience.

EXPLORATION DATA (to-1996 incl)

Soil/Talus Samples	1,096
Rock/Chip samples	1,274
Magnetometer Survey	38 km
Diamond Drilling	25holes 1,600 m



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NOTES:
Zone 08 UTM Coordinates [NAD83].
Contour Interval 50m.

SOURCES:
Hypsography & topographic detail by The ORTHOSHOP(1996).
Claim Boundaries partly from Gilmour(1996) & BC EMI Mineral Titles References.

0 250 500 750 1000
METRES Scale 1:30,000

Drawing: 04-Property_Claims_block OCTOBER 1997

Vital Pacific Resources Ltd.

SOUP PROPERTY

NTS 094C/05W, 094D/08E & /09E

Fig 04

REGIONAL GEOLOGY & MINERALIZATION

Rocks that host the mineralization at the SOUP Property are part of the island-arc assemblage of the Quesnel Terrane—a slice of accreted crust near the eastern edge of the Intermontane geomorphological belt of the Canadian Cordillera. Quesnel Terrane is bounded by, and is pinched out to the north by the Lay Creek Fault on the east and on the west by the Finlay Fault.

At the northern end of the island-arc assemblage of the Quesnel Terrane, where the SOUP Property is located, three broad classes of rock types are represented:

- the predominant upper Triassic to lower Jurassic **Takla Group** of andesitic and basaltic augite porphyry fragmental rocks and metasediments, which host SOUP mineralization,
- Triassic to Cretaceous **plutonic rocks** of the Hogem Batholith that dominate the south end of the Property and the country further south, and
- several scattered **Alaskan-type ultramafic-gabbroic intrusive bodies** thought to be upper Triassic to lower Jurassic in age.

Takla Group

In his mapping of 1948, C.S. Lord (GSC Memoir 251) assigned the 3,000m[8] thick, predominantly volcanic assemblage of rocks in the SOUP area to the Upper Triassic, Takla Group. Ferri (1993, p122) while mapping east of the Property, around Aiken Lake, named this lower division of the Takla Group the Plughat Mountain Formation, having a thickness of at least 4000m.

Takla volcanics are remarkably uniform (Roots 1954, p156) usually pyroclastic, light green andesitic to greenish gray basaltic flows with derived intercalated coarse agglomerates and black, gray and green tuffs. The volcanics contain 10-50% black stubby phenocrysts of hornblende or augite[9] partly replaced by hornblende.

Layering tends to be massive to thickly bedded with more thinly banded tuffs. Attitudes of the rocks are north to northwesterly in strike with southwest or northeast dips that vary in concert with generally broad and open folding. Faults and shear zones are abundant more or less parallel to the enclosing Finlay and Lay Creek faults, but they show no evidence of major displacements. Some degree of alteration to sub-greenschist facies is nearly pervasive. Rocks originally essentially composed of plagioclase, feldspar, hornblende and pyroxene have been saussuritized, sercitized and carbonatized to aggregates of clinozoisite, epidote, chlorite or ankeritic carbonate. Original larger-scale texture may survive but the groundmass and smaller grains or fragments are typically completely altered (Roots 1954, p159 & 160).

Occasional bands of rusty interbedded limestone, tuff and argillite intercalated with the volcanics were mapped in a few places by Lord (1948, p19 Roots (1954, p156) notes that about equal proportions of volcanics and sediments exist in the area east of Kliyul Creek. The sediments, principally of calcareous tuff, show garnet-calcite-epidote contact-metamorphism near intrusive bodies.

Roots mentions (1954, p161) that volcanic rocks show almost negligible contact-metamorphic effects against a typically sharp plutonic contact; an observation that Ferri disagrees

[8] "10,000 feet thick" (Lord, 1948, p15).

[9] Augite, a pyroxene found in ultrabasic and basic volcanic and plutonic rocks

with somewhat (see next section). But Roots goes on to describe an exposure about 15km southeast of the SOUP Property where the most significant thermal metamorphism effects of a basic phase of a Takla andesite, resulting in recrystallization of the rock to a distance of 15m from its contact with the Hogem Batholith. Feldspar was partly altered to sericite and epidote, and uralization of pyroxene to hornblende and magnetite gave the rock a poikilitic crystalloblastic texture.

Plutonic Rocks

A complex body of intrusives (see figure 5) occupy the northern part of the Hogem Batholith and are categorized by Woodsworth (1976, p69-71) into three major types:

- *Mafic-rich, quartz-poor plutons* of the Thane Creek Pluton and related intrusives of dark green-gray diorite to monzonite. Alteration of hornblende to biotite and chlorite and plagioclase to epidote occurs everywhere to some degree. Irregular K-feldspar and plagioclase alteration accompanies epidotized fractures.
- *Biotite and quartz-rich plutons* of the Mesilinka Pluton showing widely and rapidly variable composition, predominantly medium grained quartz monzodiorite and granodiorite often containing coarse K-feldspar porphyroblasts. It is relatively unaltered, but is sometimes cut by aplite or pegmatite dikes.
- *Leucocratic massive granodiorite to granite plutons* of low mafic content, with conspicuous quartz eyes and scattered miarolitic[10] cavities. They intrude all other units and are elongated northerly, parallel to the dominant structural grain of the Batholith. This includes the Kliyul Creek[11] intrusive that extends onto the SOUP Property. Contacts with other rocks are marked by swarms of leucogranitic dikes penetrating up to a kilometer from the contact.

Except for the massive plutons, which are dated to mid-Cretaceous age, the age of the other plutons is uncertain but estimated at Late Jurassic or older.

Ferri apparently disagrees with Roots about the affect Hogem intrusions make on adjacent Takla rocks when he says that Takla rocks are hornfelsed and coarsely recrystallized for up to a kilometer away from the Hogem contact. Ferri also mentions that the contact of Hogem plutonics with the Takla rocks is often marked by an intrusive breccia and is where minor amounts of copper are commonly found (1993, p.127).

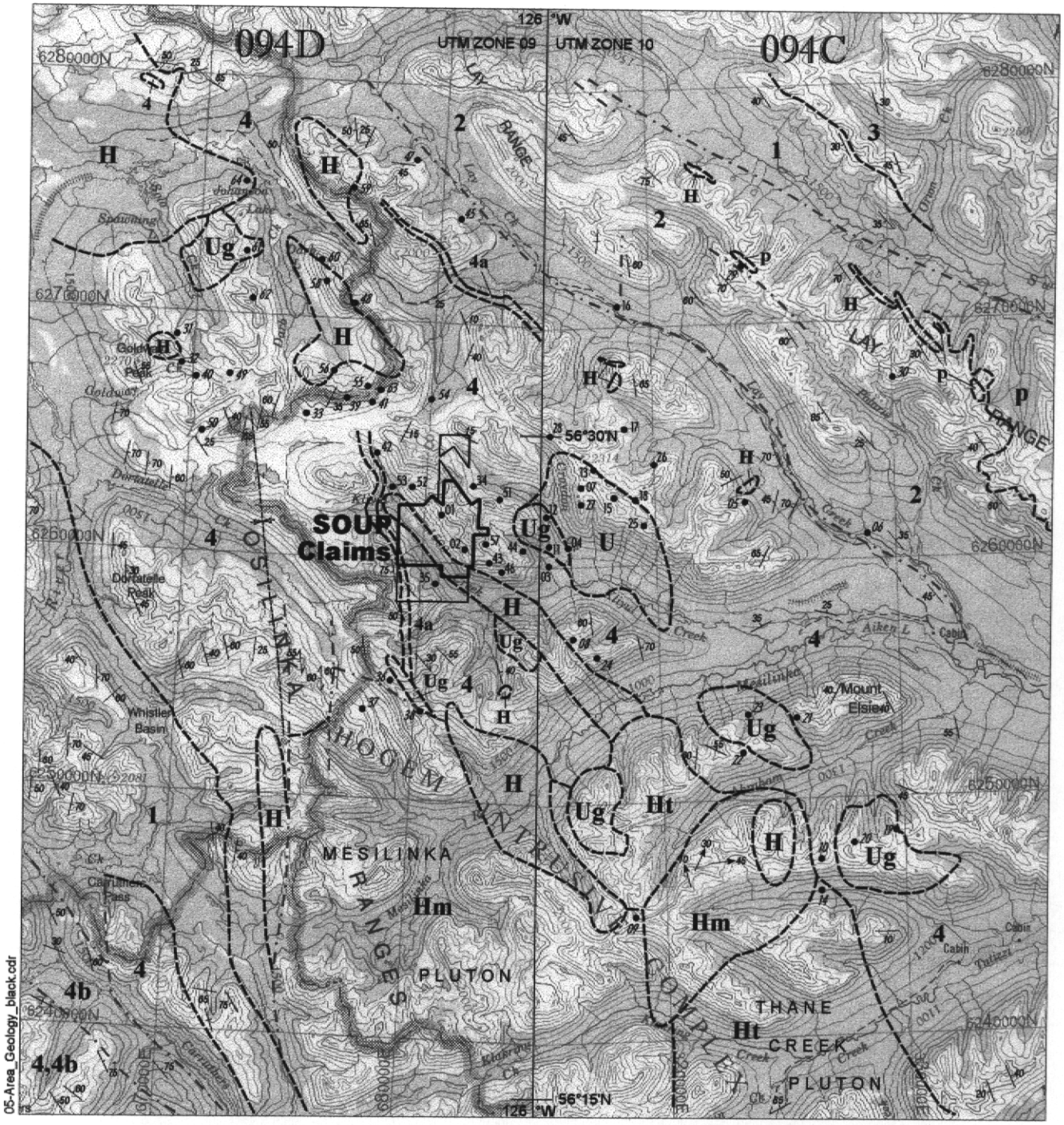
Ultramafic-Gabbroic Bodies

Several Alaskan-type ultramafic-gabbroic bodies described by Irvine (1976), outcrop within 20km of the SOUP claims and are collectively termed the Mesilika Complex. A small gabbroic body was mapped by Howe (1996, map2) near the center of the Property (see figures 6 & 6a).

An Alaskan-type ultramafic-gabbroic intrusion are characterized by Irvine (1976, p76) as containing some or all of the series of rocks ranging from dunite, peridotite, olivine clinopyroxene, hornblende clinopyroxene to hornblendite. The rocks are typically free of plagioclase and orthopyroxene while the clinopyroxene phases can be locally magnetite-rich. Hornblende-gabbro or diorite and varieties of pegmatitic hornblende with or without Ca-feldspar are common.

[10] miarolitc: small cavities into which crystals project.

[11] Woodsworth (1976) shows the Kliyul Creek intrusive unconnected to the Batholith while Irvine (1974) shows it attached. In any case Woodsworth clearly implies a close association between the two intrusive bodies.



05-Area_Geology_black.cdr

0 5 Kilometers 10 15
Scale 1:250,000

claim group location approximate
Geology & Mineral Occurrence legend on overleaf

Sources:
Geology from Ferri(1993), Irvine(1976), Lord(1948), Roots (1954), Woodsworth(1976)
Topographic base from Energy, Mines and Resources Canada (1986 & 1988a)
Mineral occurrences from BC Min of Employment & Investment (Minfile 1997)

SYMBOL LEGEND

- Bedding (inclined, vertical)
- Schistosity, gneissosity
- Lineation
- Synclinal axis
- Geological contact (known, inferred, assumed)
- Fault trace (known, inferred, assumed)
- 10 Mineral occurrence from Minfile(1997) ref. table on overleaf

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AREA GEOLOGY

Generalized Geological Setting of the SOUP Claims

Sheet 1/2

Figure **05**

Vital Pacific Resources Ltd.

GEOLOGICAL LEGEND

LAYERED ROCKS

Triassic and Jurassic

4 **Takla Group**
basic volcanics, sediments, tuffaceous sediments
4a - limestone, tuff and argillite (Lord, 1948)
4b - greywacke, pebble-conglomerate, shale, argillite (Lord, 1948)

Pennsylvanian and Permian

3 Cache Creek Group [094C (Roots, 1954)]
Asitka Group [094D (Lord, 1948)]
rhyolitic, andesitic and basaltic flows, tuff, breccia, agglomerate; derived sediments

Mississippian to Permian

2 tuff, andesitic and basaltic flows, agglomerate, greywacke (Roots, 1954)

Cambrian and Earlier

1 Ingenika Group & Tenaki Group (Roots, 1954)
limestone, quartzites, schists, slate, phyllite

INTRUSIVE ROCKS

Late Triassic to Cretaceous

H Hogem Intrusive Complex and similar rocks
monzonite, quartz monzonite, syenite, granodiorite, granite, diorite, pyroxenite
Hm - Mesilinka Pluton: quartz monzonite, granodiorite (Woodsworth, 1976)
Ht - Thane Creek Pluton or similiar: diorite, monzodiorite (Woodsworth, 1976)

Triassic or Jurassic

U Mafic - Ultramafic body
U - Alaskan type: ultramafic (Irvine, 1976)
Ug - gabbroic bodies (Irvine, 1976)

Lower Jurassic

P Polaris Ultramafic Complex (Roots, 1954)
dunite, wehrlite, pyroxenite, gabbro

KEY of MINERAL OCCURRENCES

Map Ref	Mineral Occurrence	Commodities	DEPOSIT Mineralization Character	Classification	Status	MINFILE No	UTM (NAD27) Zone	Northing	Easting
01	**SOUP**	**Au Cu Fe MA**	**Massive**	**Skarn**	**Prospect**	**094D00025**	**09**	**6252065**	**680780**
02	**SOUP**	**Au Cu Fe MA**	**Massive**	**Skarn**	**Showing**	**094D00105**	**09**	**6260550**	**681804**
03	PORPHYRY CREEK	Cu Au Mo Pb Zn	Disseminated	Porphyry	Prospect	094C00007	10	6260200	315500
04	CROYDON	Au Cu Mo	Vein	Hydrothermal	Prospect	094C00008	10	6260800	316400
05	GRANITE BASIN	Au Cu	Disseminated	Porphyry	Prospect	094C00009	10	6262600	323800
06	JUPITER	Au Ag Cu Pb Zn	Vein	Epigenetic	Prospect	094C00012	10	6251100	328800
07	BLOOM CIRQUE	CO Cu	Vein	Porphyry	Showing	094C00039	10	6263400	317000
08	MES (LINK)	Cu Mo	Stockwork	Porphyry	Showing	094C00040	10	6257100	316400
09	ABRAHAM CREEK	Pb Cu	Vein	Hydrothermal	Showing	094C00054	10	6245400	318800
10	GROUSE NORTH	Mo	Vein	Porphyry	Showing	094C00064	10	6247400	326500
11	PORPHYRY CREEK Mo	Mo	unknown	unknown	Showing	094C00065	10	6260700	315700
12	CROYDON NORTH	Au	unknown	unknown	Showing	094C00066	10	6262100	315700
13	SARAH	Cu Au Ag	Vein	Hydrothermal	Showing	094C00075	10	6264000	317400
14	GROUSE	Mo	Vein	Hydrothermal	Showing	094C00078	10	6246100	326500
15	BLOOM CIRQUE SKARNS	Cu Fe	Stratabound	Replacement	Showing	094C00084	10	6262700	318400
16	LCF	Au Ag	Vein	Hydrothermal	Showing	094C00122	10	6270800	318700
17	RAVEN	Cu Pb Zn	Disseminated	Porphyry	Showing	094C00127	10	6265700	318600
18	SOUTH SARAH	Cu Au Ag MG	Vein	Hydrothermal	Showing	094C00128	10	6262600	319200
19	ANT	Cu	unknown	unknown	Showing	094C00148	10	6248700	329500
20	WELT	Cu Ag	unknown	Igneous-contact	Showing	094C00149	10	6248110	327875
21	BELL	Cu	Disseminated	Igneous-contact	Showing	094C00150	10	6253600	325700
22	MISTY	Cu Ag	Vein	Hydrothermal	Showing	094C00151	10	6252000	323430
23	SHOT	Cu Au	Disseminated	Hydrothermal	Showing	094C00152	10	6253800	323600
24	AMORAK	Cu	Shear	Hydrothermal	Showing	094C00153	10	6256300	317400
25	JUMP	Cu	Disseminated	Igneous-contact	Showing	094C00154	10	6261875	319660
26	RAVE	Cu	unknown	unknown	Showing	094C00155	10	6264250	320300
27	LONELY	Cu Au Ag	Vein	Porphyry	Showing	094C00156	10	6262680	316950
28	HOWL	Cu Au Ag	Vein	Hydrothermal	Showing	094C00157	10	6265525	315860
29	WEBB	Cu	Shear	Hydrothermal	Showing	094C00158	10	6272400	324000
30	HOOT	Cu	Shear	Hydrothermal	Showing	094C00159	10	6267550	330025
31	SOLO	Au Ag	Vein	Hydrothermal	Showing	094D00012	09	6269005	669280
32	BRUCE	Au Ag Pb	Vein	Hydrothermal	Showing	094D00013	09	6267680	669685
33	GINGER B	Au Ag Cu Pb	Vein	Hydrothermal	Showing	094D00014	09	6265950	674865
34	CROY	Au Cu Ag Mo Zn Pb	Shear	Hydrothermal	Showing	094D00015	09	6263325	682085
35	KLI	Cu	Disseminated	Skarn	Showing	094D00019	09	6259180	680555
36	RINGO	Mo Cu	Disseminated	Porphyry	Showing	094D00020	09	6255145	678835
37	DORTATELLE	Mo Cu Ag	Vein	Hydrothermal	Showing	094D00021	09	6253775	677985
38	MESILINKA RIVER	CR	Disseminated	Magmatic	Showing	094D00022	09	6253855	680115
39	KENNCO	Au Cu Fe Ag	Podiform	Skarn	Dev.Pros.	094D00023	09	6266805	676725
40	GOLDWAY	Au Ag Pb	Vein	Hydrothermal	Showing	094D00027	09	6267245	670120
41	INDEPENDENCE	Au Ag Cu Pb	Vein	Hydrothermal	Showing	094D00028	09	6266050	677600
42	BANJO	Au Cu Ag Pb Zn	Shear	Hydrothermal	Showing	094D00029	09	6264550	677850
43	LADY DIANA	Au Ag Cu Pb Zn	Stockwork	Hydrothermal	Showing	094D00092	09	6260075	682720
44	KLIYUL	Mo Cu W	Disseminated	Porphyry	Dev.Pros.	094D00113	09	6260750	684205
45	BRECCIA	Cu Mo Ag	Vein	Hydrothermal	Showing	094D00115	09	6274285	680890
46	KELLY	Mo	Disseminated	Porphyry	Showing	094D00125	09	6252975	683155
47	LAY CREEK	Au Cu Ag	Massive	Hydrothermal	Showing	094D00134	09	6276895	676823
48	DARB	Cu Mo	Shear	Hydrothermal	Showing	094D00135	09	6270855	676560
49	GLACIER	Au	Stockwork	Hydrothermal	Showing	094D00136	09	6267550	671575
50	JOHAN	Au	Vein	Hydrothermal	Showing	094D00137	09	6265005	670725
51	AUPPER	Au Cu Ag	Vein	Hydrothermal	Showing	094D00139	09	6262800	683075
52	KC	Au Ag Pb Zn MA	Vein	Hydrothermal	Showing	094D00140	09	6263320	679630
53	MAL	Cu Au Ag	Vein	Hydrothermal	Showing	094D00141	09	6263185	678505
54	DENUM	Cu	Vein	Hydrothermal	Showing	094D00142	09	6266720	679905
55	CRITTER	Cu	unknown	Igneous-contact	Showing	094D00143	09	6267250	676580
56	MORAINE	Cu	unknown	unknown	Showing	094D00144	09	6267825	675880
57	KAREN CREEK	Au Ag Cu	Stockwork	Hydrothermal	Showing	094D00145	09	6260810	682555
58	JOH 4	Cu Au	Disseminated	Hydrothermal	Showing	094D00165	09	6271500	675550
59	JOH 12	Cu Au	Stockwork	Hydrothermal	Showing	094D00166	09	6275425	676250
60	JOH 2	Cu Au	Shear	Hydrothermal	Showing	094D00167	09	6272300	675200
61	JOH 1	Cu Au	Vein	Hydrothermal	Showing	094D00168	09	6272600	671950
62	JOH 3	Au Cu	Vein	Hydrothermal	Showing	094D00169	09	6270700	672350
63	JOH 9	Au Cu	Vein	Hydrothermal	Showing	094D00170	09	6267050	677650
64	JOH 11	Cu Au Ag	unknown	unknown	Showing	094D00171	09	6275500	671750

MA => Magnetitie
Dev.Pros. => Developed Prospect

Sources:
Geology from Ferri(1993), Irvine(1976), Lord(1948), Roots (1954), Woodsworth(1976)
Topographic base from Energy, Mines and Resources Canada (1986 & 1988a)
Mineral occurrences from BC Min of Employment & Investment (Minfile 1997)

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AREA GEOLOGY

Legend for Generalized Geological Setting of the SOUP Claims
& Table of Neighboring Mineral Occurrences

Sheet 2/2

Figure **05**

Mineralization

Porphyry, hydrothermal vein or shear and skarn styles of mineralization are known in the SOUP area. Takla rocks host a large number of copper ± gold occurrences in both porphyry-style systems and hydrothermal veins, often associated with shearing. Copper mineralization in some occurrences show direct correlation with ultramafic dikes or sills, and porphyry mineralization is related to plutonic phases of the Hogem Batholith. Ferri (1993, p129) mentions that skarn mineralization in some of the numerous limestone horizons within the Takla Group suggests a strong potential for similar mineralization along its contact with the Hogem Batholith

Perhaps the Porphyry Creek occurrence (BC Min. E&I, 1997, Minfile #094D00007) is the best example of a porphyry system. Takla volcanics, pyroclastics and lesser, partly calcareous sediments are intruded by felsics related to the Hogem Batholith and by an ultramafic body. Disseminations, fracture fillings and shears host the mineralization consisting predominantly of chalcopyrite; lesser native gold, galena and sphalerite. Nearby, to the north-northeast, the Davie Creek stock is a porphyry molybdenum system where 100 million tonnes grading 0.1% MoS_2 has been outlined in granodiorite stock (BC Min. E&I, 1997, Minfile #094D00113). The system shows a weaker copper halo locally coincident with tungsten, and additional intrusive breccias peripheral to the stock, indicates additional copper and gold mineralization potential.

An example of a hydrothermal copper-gold occurrence is the Shell, which was first staked in 1946 and may now be contained by claims that cut through SOUP 14 & 21 in the north of the Property. Its claims, when first staked in 1946 (Lord, 1948, p60), may have included part of the SOUP ground. Gold, silver and copper mineralization occurs in north-northwest trending shear zones and veins related to feldspar porphyry dikes intruding Takla rocks. The mineralized structures are of massive to disseminated sulfides veins containing chalcopyrite, pyrite, magnetite and pyrrhotite with lesser galena, calcite and chlorite, and quartz-carbonate veins with pyrite and pyrrhotite. Grab samples as high as 42 grams/tonne gold, 78 grams/tonne silver and 20% copper have been recorded from one of numerous showings on the Shell property (BC Min. E&I, 1997, Minfile #094D0015 'Croy').

About 7km northwest of the SOUP Property, the Kennco prospect is classified a skarn type. Mineralization here too occurs in Takla volcanics, in altered andesitic feldspar crystal tuffs. A 200-by 100-meter fine-grained magnetite-rich skarn zone with associated silicification and widespread epidote and chlorite alteration characterizes the most significant mineralization. Disseminated within the skarn, chalcopyrite and pyrite can contain native gold, returning assays as high as 82 grams/tonne gold and 0.46% copper. Auriferous quartz veins and mineralized shear zones occur sporadically returning grades up to 34 grams/tonne gold. Drilling outlined 2.3 million tonnes of 1.3 grams/tonne gold, 6.9 grams/tonne silver and 0.45% copper (BC Min E&I, 1997, Minfile #094D00023).

PROPERTY GEOLOGY & MINERALIZATION

In general, the SOUP Property is underlain by Takla volcanics, tuffs and fragmentals intruded by the Kliyul Creek Pluton and a gabbroic body. The main feature of economic interest is the stratiform magnetite band that is exposed intermittently throughout the length of the original 2-Post claim group [SOUP 1-10]. Southeast of Rockslide Cirque in SOUP 6, the magnetite is sometimes known as the South Zone while the North Zone refers to exposures on the other side of the cirque where the 1997 drilling took place.

Takla Group

The sequence of Takla rocks can be divided into three units which from lower to upper-most are summarized:

- Massive and weakly foliated **andesitic flows** and tuffs of fine to medium grained plagioclase and augite crystals with minor ash and lapilli tuff. Silicification and iron-carbonate alteration of portions of this unit explains the prominent orange gossanous weathering in the northeast of the original SOUP claims. Its upper contact is gradational where it interfingers with the overlying augite porphyry.
- **Augite porphyry** of highly variable andesitic to basaltic composition containing medium-coarse grained augite crystals in a fine-grained chloritic and saussuritized plagioclase groundmass. Groundmass displays local plagioclase phenocrysts and pervasive weak to moderate epidote alteration. Patchy uralization of augite to hornblende and magnetite makes this unit variably magnetic.
- Intercalated with augite porphyry at lower levels, **pyroclastics** of lapilli tuff to agglomerate often display patches of epidote alteration.

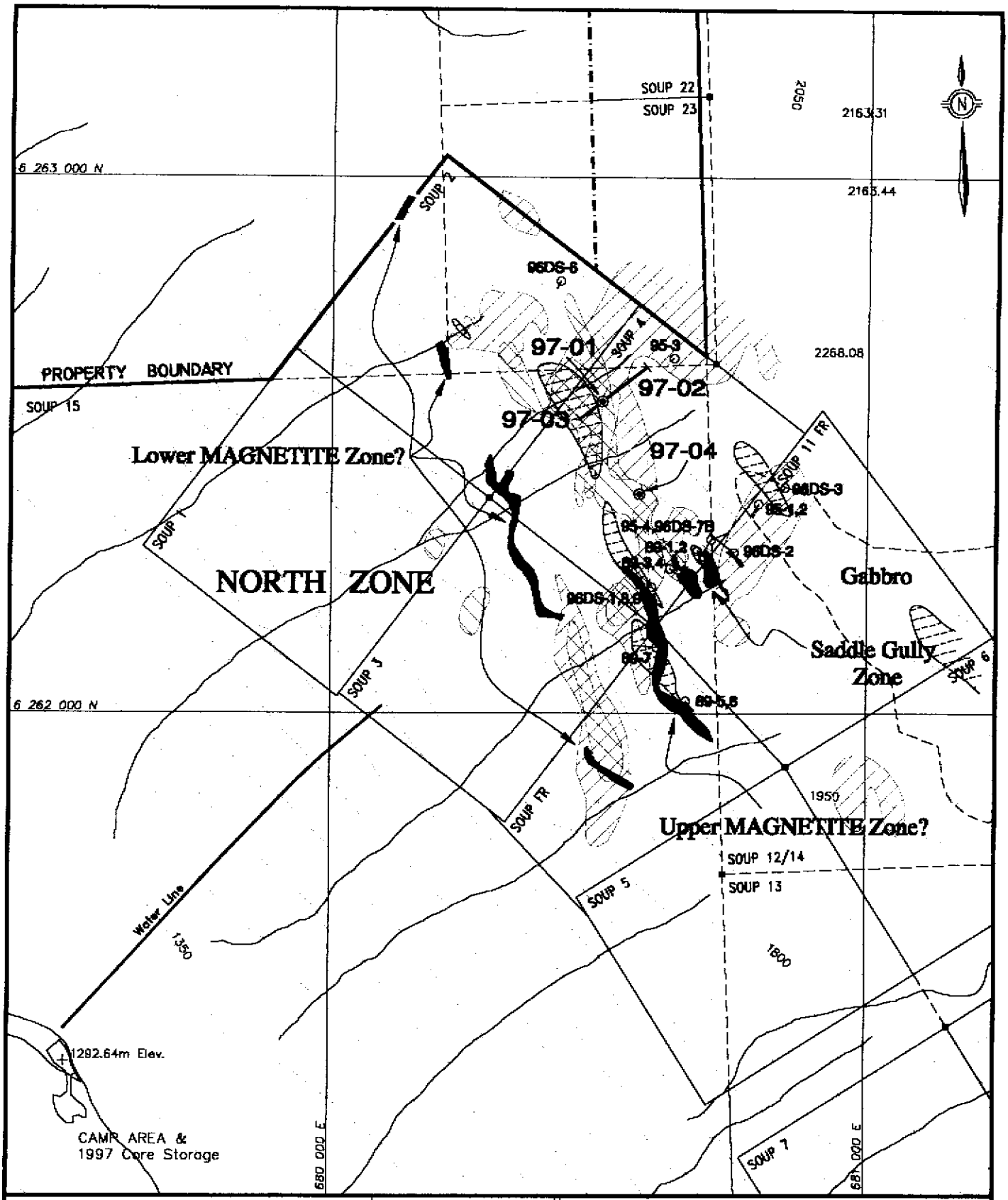
Intrusives

Two large intrusions are exposed on the Property. The largest is the Kliyul Creek Pluton, of quartz diorite to quartz-monzonite composition. It is exposed only near the south of the Property along the east bank of Kliyul Creek and does not appear to have had a great influence in the area of the 1997 drilling. The other but more important dioritic-gabbroic intrusion, is best exposed in the headwall of Rockslide Cirque, and is strongly implicated in the genesis of mineralization on the SOUP (Williams 1997b). It consists of medium to coarse-grained porphyritic hornblende and plagioclase, in rapidly inconsistent proportions, highly altered to saussurite, chlorite, carbonate and epidote. A long interval of gabbro was cut in hole 97-01 and a similar fine-grained dioritic phase in 97-03.

Numerous dikes of a wide range of compositions are found in core. The most abundant, and the type causing greatest difficulty in identification, is a fine gained massive sometimes porphyritic material logged as diabase. They are found everywhere, and are rarely logged as discrete intervals but are always mentioned as subintervals. A prominent dioritic coarse-grained feldspar porphyry, sometimes weakly magnetic and composed of plagioclase with minor chlorite, quartz and hornblende is mapped in several places in outcrop and was cut in the first three holes.

Structure

Attitudes are generally northwest with dips ranging from 20° to 30° to the northeast. Core from the 1997 Program showed abundant evidence of faulting but of unknown magnitude. Mapping (by Howe 1996, Gill 1994a, Smit 1984) in the immediate area indicates a few north to easterly striking faults of uncertain importance.



NOTES:
Zone 09 UTM Coordinates [NAD83].
Contour Interval 50m.

SOURCES:
Hypsography & topographic detail by The ORTHOSHOP(1996).
Claim Boundaries from Gilmour(1996) & BC EMI Mineral Titles References.
Geology & DDH locations modified after Howe(1996) & Gilmour(1997)
Geophysics from Gil(1994) by Gilmour(1997)
Soil Geochemistry from Gil(1994a), location very approximate

LEGEND

- MAGNETITE
- MAG (>6000nt)
- GOLD (soil >5000ppb)
- COPPER (soil >750ppm)

200 METRES 0 100 200 300 400 500

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Vital Pacific Resources Ltd.

SOUP PROJECT 1997
AREA OF ACTIVITY

DATE: OCTOBER 1997	SCALE: 1 : 10,000	Figure No.
DRAWN By: J.D.WILLIAMS, P.Eng.	JOB No.: SOUP PROJECT	06
DRAWING: 06-Project_Area97_black	N.T.S. 094D/08E-h	

Mineralization

The generally conformable magnetite band is exposed intermittently over a total strike length of about 2.5km. It consists of a 1 to 5-meter thick layer of 60 to 100% massive magnetite with disseminated pyrite and much lesser chalcopyrite. Weaker magnetite, ranging from 2% to 10% and 5 to 20 meters thick can be found in either or both of the footwall or hanging-wall. Previous workers report the magnetite zone is usually found at or near the base of the augite porphyry.

In the area of the 1997 drilling, two magnetite layers are mapped (see figures 6 & 6a). The Upper Zone appears to die south of 97-04, but the magnetometer survey by Gill (1994) shows contours overtop the mineralization aligned with accompanying high readings to the north. This suggests the Upper Zone may extend at depth along strike beyond the mapped outcrops. Paralleling the Upper Zone about 100 meters down-slope, the Lower Zone, although mapped as discontinuous outcrops, might be better-organized down-dip[12]. Both the magnetic highs and the Lower Zone were primary targets of the 1997 Program.

Establishing the tenor of gold and copper associated with the magnetite mineralization has been a problem for previous workers. The often-extreme degree of oxidation of the magnetite in outcrop and in much of their core may account for their disappointing assay results. From the dozens of samples gathered over the years only a small minority returned gold values above 3 grams/tonne.

In contrast to sampling from the magnetite layers, gold assays from the Saddle Gully Zone [SGZ] are far more favorable; as high as 68grams/tonne (Toohey 1991, fig.6). Located southeast of 97-04, and stratigraphically above the main magnetite layer, it appears to be structurally controlled by a series of northeast striking, steeply dipping mineralized shears that localize discontinuous but stratigraphically conformable magnetite and sulfide mineralization.

Elsewhere, scattered, variably oriented, narrow quartz-carbonate-chlorite veins with up to 20% chalcopyrite and pyrite, both sometimes occurring as very coarse euhedral crystals, and magnetite occur throughout the Property. The veins tend to occur adjacent to fault and shear zones, at the contacts with feldspar porphyry and in parts of the gabbroic body. Sampling has returned several assays exceeding a gram/tonne of gold with the highest at 27 grams/tonne gold and 4.3% copper (Howe 1996, map4b, appendix2).

Although no formal statistics on the population of assays has been reported, elevated gold assays roughly correlate with higher copper values (Sinclair 1975, p2 and others).

[12] The magnetometer survey by Gill (1994) does not appear to have extended far enough west to cover the Lower Zone.

SUMMARY of DRILL PROGRAM

Program Description & Technical Issues

The 1997 Program began on 22Jun97 with the construction of a 12 person camp on the west bank of Kliyul Creek, followed by installation of an 800m pipeline extending from the camp-site towards the drill area up the east slope of SOUP Ridge. Drilling was conducted throughout July'97, beginning on the 1st and ending on the 31st. The campsite was cleaned and stripped by 05Aug97 with the tent frames and pipeline left behind for future use or to be reclaimed sometime later.

Four holes were drilled in ground conditions that were unanimously agreed to be among the worst in the experience of those involved. This Program obtained intersections with nearly 100% recovery and in a condition largely unaffected by weathering or oxidization—a feat that no previous operator had been successful at, especially at depths in excess of 100 meters.

Water for drilling was not as much of a problem as anticipated. Throughout the entire Program, a natural spring about halfway up the slope ran at great enough volume to supply the drill, and was used for about half the drilling. Even so, the installed 800-meter 2inch heavy-wall pipeline was brought on-line in case that source dried up without warning. As of this writing it is still intact and, as it is self-draining, that should facilitate its reuse.

Even though the supply of water was not a problem, getting it to the drill bit was. It appears that the mountain to a depth of at least 100 meters is so highly fractured that water circulation cannot be maintained[13]. In spite of the best efforts by the drill contractor to pump as much bentonite, polymer and sealant into the hole, burnt bits was a frequent occurrence. Pulling rods to change the bit often caused portions of the hole to cave, thereby further slowing progress. These difficulties were especially evident in holes 97-03 & -04, both of which had to be abandoned after drilling equipment was lost or broken off in the hole.

Among the lessons learned from this work is to drill either vertically, with the hope that the wall-rock can support itself without caving, or in a direction that minimizes the amount of broken rock to be penetrated. In this respect, hole 97-03 was particularly badly oriented as it dipped in a direction that kept it within 100m of the surface for all of its length, even though it cut stratigraphy at a nearly optimum angle. Progress in hole 97-04 was slow but improving with depth. It was probably just bad luck that the core barrel broke off, with ground caving in behind it making it impossible to recover.

Given the difficulty and expense of establishing new setups on the steep slopes of the Property, the existing drill setup was used for the first three holes before moving to a newly constructed setup for the last hole. At the close of the Program, both setups were cleaned and stripped of planks but the helicopter pads adjacent to each setup were retained in case they could be used for future work. All core from the 1997 Program is stacked outside the core shack at the campsite. Towards the end of the Program, the site of the 1996 core storage area was cleaned up and made more secure.

While drilling was proceeding, it was apparent that the difficulties that arose would amount to greater costs. Drilling costs were particularly higher than those budgeted, and they were already

[13] Circulation of water that is pumped down the drill string to cool the bit and wash cuttings back to surface.

expected to be high. Invoices from the drill contractor amounted to $156,757.61[14] which for a total Program advance of 706.83 meters, computes to a unit cost of $221.77/m. This compares unfavorably with last year's program which completed 913 meters for a still pricey $130.24/m (Howe 1996). Hemlo's drilling in 1995 was a much lower $80.34/m for a 318-meter program (Erdman 1995).

What can be said for the 1997 Program is that it was somewhat more ambitious than previous programs—deeper intersections were a priority in a mostly successful attempt at acquiring unoxidized mineralization. By contrast, in 1995, of 5 holes, 4 failed to reach target depth. In the final hole, "highly oxidized" (Erdman 1996, p13) mineralization was recovered[15]. For the 8 holes collared in 1996 in the SGZ and North Zone, 5 were abandoned short of their planned depth, and the notable mineralization of the two most successful holes was recovered in a rubbly and/or oxidized condition. In 1997, drilling for mineralization in a condition good enough to provide samples of credible value came at a high price.

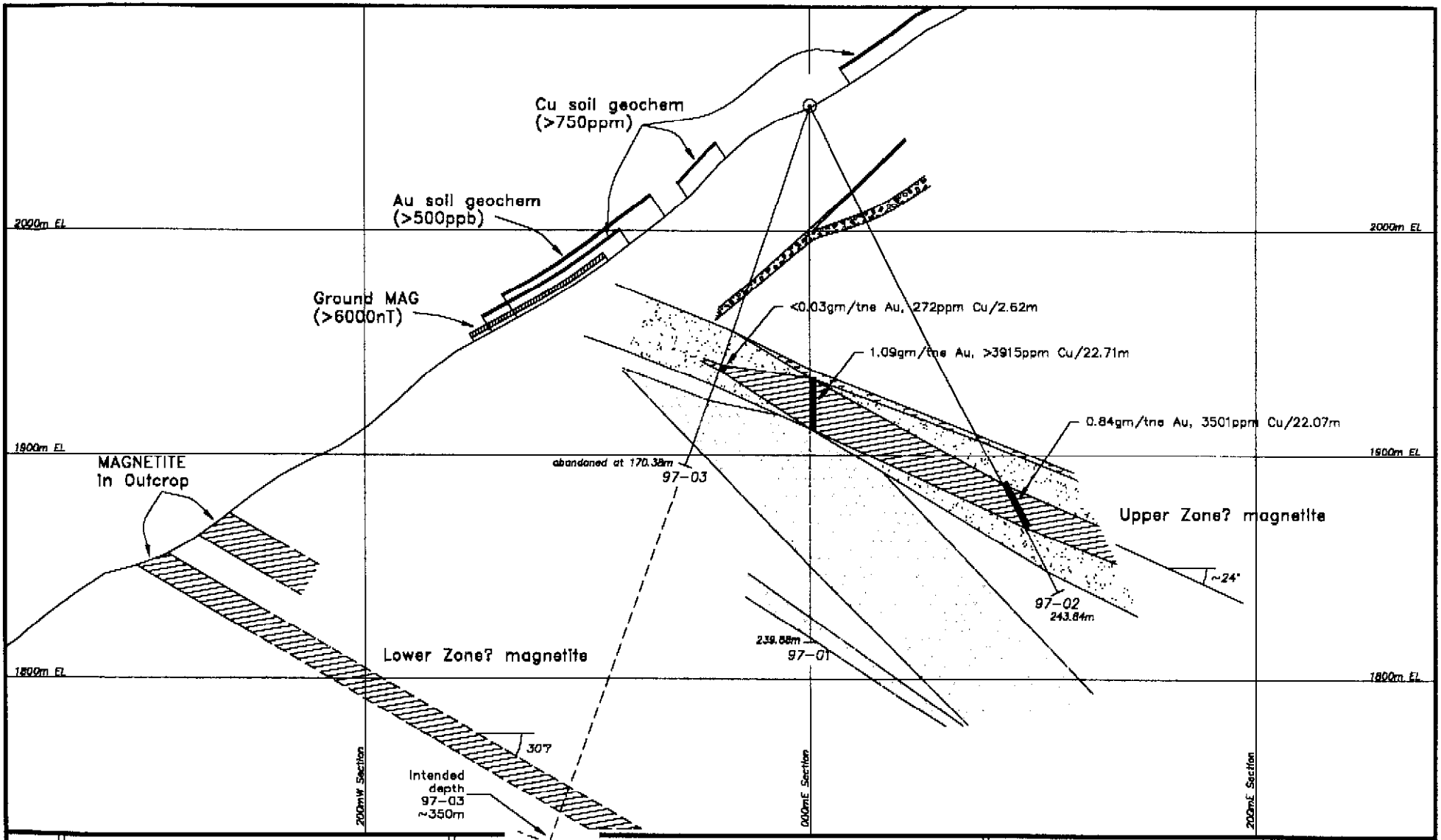
Results of Drilling

The vertical hole of 97-01 opened the Program to provide a degree of familiarity with the bedrock geology and the ground conditions while cutting at least one magnetite layer. The impressive-looking 22.7-meter-long magnetite intersection was preceded by nearly 4 meters of bleached, sheared host rock overtop an interval, nearly as thick, of flesh-toned gritty and sometimes friable garnetiferous alteration (see figure 7). In contrast to the hanging-wall, alteration in the footwall was nearly absent in very different geology. The extrusive sequence of basaltic augite porphyry and tuffs above the magnetite changed to intrusive dioritic-gabbroic material below it. The presence of nearly continuous unaltered gabbro, especially the 9-metre interval at 228.5 meters, prompted the decision to terminate the hole. It was judged that the likelihood of intersecting additional mineralization was remote.

DRILL HOLE	Location[16] (UTM [NAD83])	Az°	Dip°	Length	Intersection Interval	Length	True Width (approx)	Au [gm/tne]	Cu [ppm]
97-01	9,262582N 680,504E 2,056El	000°	-90°	239.88	121.52-144.23	22.71	20.7	1.09	>3915[17]
97-02	same as 97-01	052°	-64.5°	243.84	189.52-211.59	22.07	14.2	0.84	3501
97-03	same as 97-01	232°	-71.5°	170.38	122.44-125.06	2.62	2.6	<0.03	272
97-04	6,262,408N 680,574E 2,035El	000°	-90°	52.73	no intersection				
TOTAL DRILLED				**706.83**					

A decision to direct the next hole towards an intersection deeper into the mountain was the target of 97-02. An interval of skarn alteration centered by a 22-meter length of nearly massive and

[14] Aggressive Diamond Drilling, Kamloops BC, costs exclude GST.
[15] A shortage of drilling water seems to have been another confounding condition during that year.
[16] Location coordinates (northing & easting) were estimated by matching topography of the drill site to that on Orthoshop's (1996) orthophoto which is rectified to UTM coordinates. Elevations are estimated from contours from the same source.
[17] Two assays exceeded detection limit of 10,000ppm.



INTEGREX ENGINEERING

50 0 20 40 60 80 100
METRES 1 : 2,500

NOTES:
Section Looking 322°Az [wrt UTM grid].

SOURCES:
Magnetite outcrops after Howe(1996).
MAG Geophysics from Gill(1994) after Gilmour(1997).
Gold & Copper geochem from Gill(1994a), location v. approx.

GEOLOGY LEGEND

Basaltic-Andesitic Augite Porphyry, Tuff & Diabase dikes
Gabbro, Gabbro micro-porphyry, Diorite & Diabase dikes
Feldspar Porphyry dike

SKARN Alteration
Magnetite (usually massive, sometimes graphitic)
Epidote, Chlorite, Garnet, Magnetite
Bleaching, shearing & Chlorite alteration

Vital Pacific Resources Ltd.

DDHs 97-01, -02 & -03
GEOLOGICAL INTERPRETIVE SECTION

DATE:	OCTOBER 1997	SCALE:	1 : 2,500	Figure No.
DRAWN By:	J.D.WILLIAMS, P.Eng.	JOB No.	SOUP PROJECT	07
DRAWING No:	07-DDH97-123Sect	N.T.S.	094D08E-h	

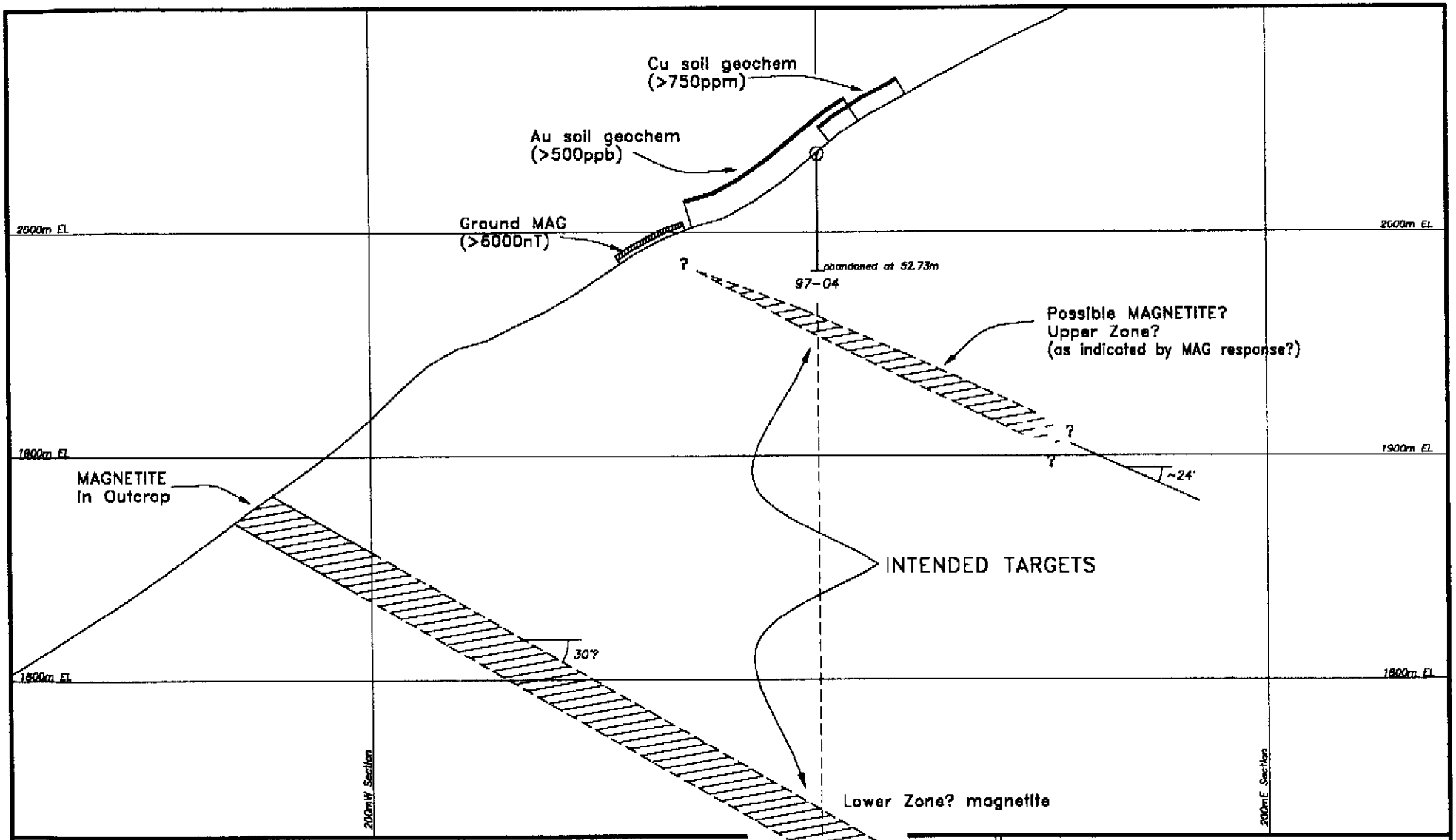
sometimes graphitic magnetite was the most impressive of the Program. Sulfides, principally as pyrite, ranged to 20% and chalcopyrite reached 5% in some intervals. On each side, in both the hanging-wall and footwall, a zone of epidote-chlorite-magnetite-garnet in various proportions, each also 22 meters long, added to the favorable impression. It was with great disappointment that this intersection returned only low grades in both gold and copper.

By this time, it was clear that intersections of 97-01 & -02 were cutting the Upper Zone which does not outcrop this far north, but is apparently still strong enough to explain the magnetometer response of Gill's 1994 survey. The purpose of this hole was to test what was expected to be a weakening Upper Zone and to reach far enough below it to intersect the Lower Zone and any other mineralization that might exist in the intervening distance. It was with great difficulty that the hole progressed through the Upper Zone before the drill bit unscrewed, leading to a decision to abandon the hole. In hindsight it may have been better to create another setup below the existing one and approach the Lower Zone in the same manner as 97-02 was drilled.

In 97-03, a 26-meter length of skarn alteration containing 2.6 meters of nearly massive magnetite was weakly mineralized with sulfides. The assays are predictably low. Towards the toe of the hole, a 21-meter interval of diorite/gabbro, although generally finer grained, is interpreted to be part of the intrusive occupying the footwall of the intersection in 97-01.

Hole 97-04 was sited to take advantage of what was learned in the previous drilling (see figure 8). Without the benefit of assay results except for those from 97-01, it was apparent only that the Upper Zone strengthened with depth. Although the true width of the magnetite in 97-02 was slightly less than that of 97-01, its alteration envelop was notably thicker. It was hoped that the best chance of intersecting favorable mineralization in the Upper Zone while staying within reach of an intersection in the Lower Zone, would be to move closer to the SGZ, where the highest gold assays were obtained, and closer to the gabbro intrusion.

The location for 97-04 was blasted from a crumbly edge of outcrop at an elevation slightly below that of 97-01and about halfway between it and the SGZ. This vertical hole was intended to intersect both the Upper and Lower magnetite far-enough down dip to provide intersections unaffected by oxidation, but would run to the maximum depth the drill was capable of. At 53 meters the core barrel broke off the drill string causing the hole to be abandoned and the Program to be suspended.



INTEGREX ENGINEERING

NOTES:
Section Looking 322°Az [wrt UTM grid].

SOURCES:
Magnetite outcrop after Howe(1996).
MAG Geophysics from Gill(1994) after Gilmour(1987).
Gold & Copper geochem from Gill(1994a), location v. approx.

Vital Pacific Resources Ltd.

DDH 97-04
GEOLOGICAL INTERPRETIVE SECTION

DATE:	OCTOBER 1997	SCALE:	1 : 2,500	Figure No.
DRAWN By:	J.D.WILLIAMS, P.Eng.	JOB No.	SOUP PROJECT	08
DRAWING No:	08-DDH97-04_Sect	N.T.S.	094D08E-h	

DISCUSSION

Of the several goals the 1997 drilling was intended to accomplish, only partial success was achieved. Results from the drilling are listed for each of the Program's purposes:

- *to test the source and economic relevance of the nearly coincident anomalous gold and copper **soil geochemical assays** which surround the drill locations at elevations higher than the magnetite layers.*
  On surface, and in few places in core, quartz-carbonate-chlorite veins a few centimeters wide containing knots of pyrite or chalcopyrite as large as a couple of centimeters may be the source of some of the anomalous geochemistry. Although none of these features in core returned assays of economic significance, what gold or copper they contain may concentrate in talus fines while the rapid rate of erosion carries away all other material.
- *to test the source of the **magnetic highs** that extend northerly along a line that passes just down-slope of the collars of holes 97-01, -02 & -03.*
  The intersections in these holes provide convincing evidence that they comprise an Upper Zone of magnetite that is expressed by ground geophysics, even though in the area of drilling, it does not outcrop. The Upper Zone is exposed near and south of the SGZ where it is overprinted by the magnetometry. From there it can be followed about 400 meters north by its magnetic response only. As it crosses the section drilled by the first three drill holes, the magnetite intersections neatly coincide with the local anomalous magnetics.
- *to cut an undisturbed and complete **intersection of magnetite** to establish its gold and copper grade without the uncertainties of poor recovery and oxidized conditions suffered by previous operators.*
  Recovery and condition of the each of the magnetite intersections and adjacent skarn alteration was nearly ideal. The disappointingly low assays are not influenced by the recovered condition of the core. Those assay results probably reflect the true tenor of grade in the Upper Zone.
- *to test the **stratigraphy**, perhaps as deep as the andesitic volcanics so that the Lower Zone and possibly other magnetite layers could be intersected.*
  Although the deepest hole reached 244 meters—deeper than any other operator either attempted or succeeded in completing in that area—holes 97-03 and -04 were meant to test the stratigraphy at depths far beyond where they were abandoned. The Lower Zone was never reached, which is the greatest failure of this Program. Based on the assay results of the Upper Zone there is little reason to expect that the tenor of the Lower Zone will be significantly better, but that still remains an open question.

A section through the first three drill holes provides a new look at the mineralization of the Property. The strength and distribution of skarn alteration and magnetite may be related to neighboring or adjacent diorite/gabbro intervals. Magnetite mineralization is heaviest in 97-01 where the gabbro occurs in the immediate footwall of the zone. Increasing strength of alteration down-dip may point to the direction of the main gabbro intrusion. In that case, the intersection of 97-02 could represent a pendant or keel of volcanics wedged between the gabbro of 97-01 and a larger mass down-dip.

It is still unclear what specific stratigraphic feature in the volcanic sequence caused the localization of skarn alteration. In many places, the volcanics are at least faintly calcareous, but other intervals are strongly calcareous yet show no particular outward appearance of being so. These latter intervals are often fine grained, recognized as either tuff or diabase but may be nearly as calcareous as any limestone. Previous work rarely mentions carbonate content to the extent that

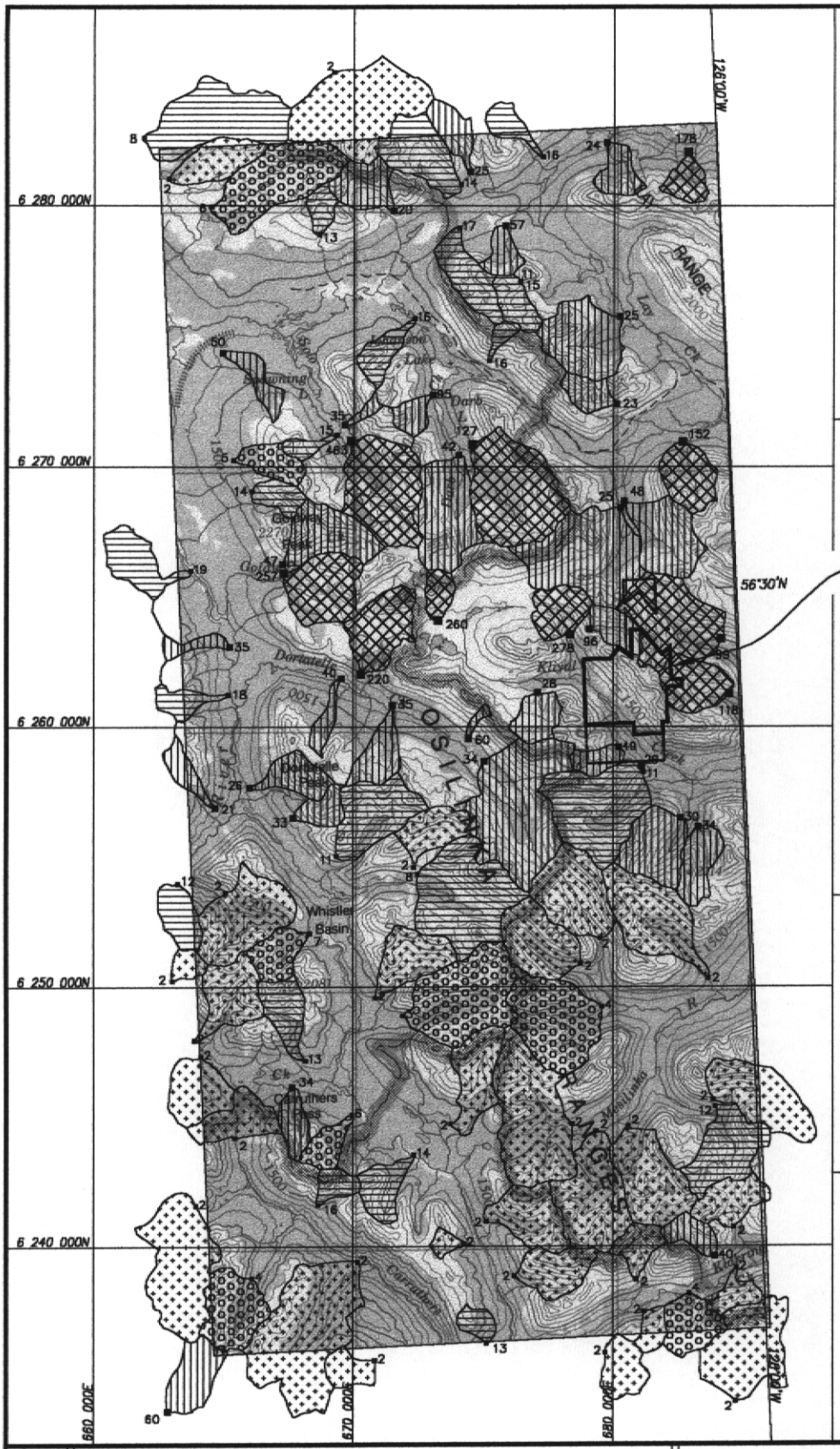
was found in the 1997 core. It is no mystery to explain the general features of skarn alteration and mineralization in an environment where diorite and gabbro intrudes calcareous material.

Assuming intersections in the first three holes are from a single planar and conformable layer, the dip of the stratigraphy, at least over those elevations is closer to 24° northeast. The high peak above the campsite on the west side Kliyul Creek, displays an assemblage of limestone, calcareous sediments, andesite tuffs, and volcaniclastics with a gentle opposing or westerly dip. That prompted Rebagliati to suggest (1987, p5) that Kliyul Creek occupies an anticlinal valley. To the east, in the 1996 core storage area, it appears that the stratigraphy also appears to dip shallowly westerly. Could the apparent synformal warping of sediments to the east lift the volcanics far enough in elevation to expose the units that host the magnetite layers, while the topography falls off the high ground of SOUP Ridge?

The presence of many diabase dikes presented something of a problem in logging. Identification of these features was often in doubt, especially when they are featureless or altered, or where contacts are disrupted or poorly recovered. The drill logs often express a degree of uncertainty in making a distinction between this intrusive material and some of the fine-grained tuffaceous rocks of apparently similar composition.

Last July the Geological Survey Branch released a Regional Geochemical Survey for the NTS 95D sheet which includes the SOUP Property near its southeast corner (BC MEI 1997c)[18]. A portion of the stream sediment assays for gold and copper in the SOUP area is reproduced in figures 9a & 9b. The RGS reveals that of the 1,034 samples in the map sheet, many of the highest are clustered around the Property area. Although the area has had a history of exploration activity, it is particularly noteworthy to see its apparently prospective character so plainly.

[18] Both the 94D (McConnell Creek) sheet and its adjacent sheet to the north, 94E (Toodoggone River), were released simultaneously.



Locations, assay values and their catchment areas in the Kliyul Creek area from the July 1997 Regional Stream Sediment release plotted overtop a scanned image taken from a portion of the McConnell Creek topographic map sheet (at 1:250,000 scale). Registration between sample locations and streams of the scanned topography is imprecise.

Sample locations and corresponding catchment areas are highlighted by percentile. Percentile distribution is based on entire population of 1034 samples in RGS release for map sheet 94D.

GOLD [PPB]

Percentile	Assay Range
98	96 to 463
95	20 to 96
90	8 to 19
70	3 to 7
50	< 2

INTEGREX ENGINEERING

NOTES:
Labelled NAD83 UTM coordinate grid is offset from the NAD27 grid of the scanned topographic base image. In the Kliyul Creek area, the displacement between NAD27 to NAD83 datums is about 226m at 329°Az.
Contour interval 100 meters.

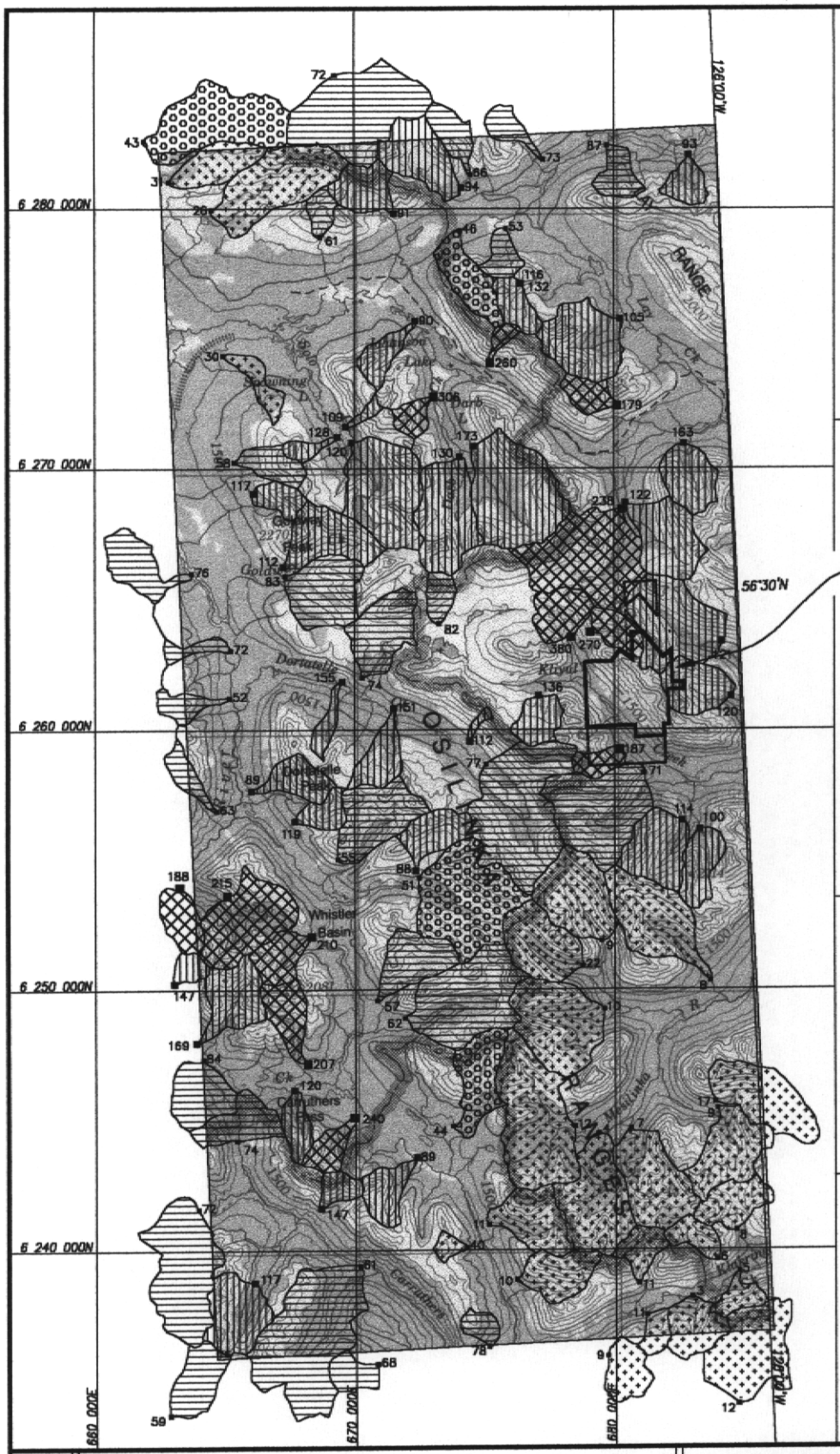
SOURCES:
Base topography scanned from "McConnell Creek 94D", edition 4; Surveys and Mapping Branch, Natural Resources Canada, 1:250,000, 1986.
RGS Survey & catchment areas from "BC RGS 45, NTS Map Sheet 94D – McConnell Creek"; Geological Survey Branch, BC Min. of Employment and Investment, Jul97.

4 Kilometers 0 2 4 6 8 10

Vital Pacific Resources Ltd.

GOLD [PPB]
REGIONAL STREAM SEDIMENT SURVEY

DATE:	OCTOBER 1997	SCALE:	1 : 250,000	Figure No.
DRAWN By:	J.D.WILLIAMS, P.Eng.	JOB No.:	SOUP PROPERTY	09A
DRAWING:	09-RGS_Region	N.T.S.	094D/08, 09	



Locations, assay values and their catchment areas in the Kliyul Creek area from the July 1997 Regional Stream Sediment release plotted overtop a scanned image taken from a portion of the McConnell Creek topographic map sheet (at 1:250,000 scale). Registration between sample locations and streams of the scanned topography is imprecise.

Sample locations and corresponding catchment areas are highlighted by percentile. Percentile distribution is based on entire population of 1034 samples in RGS release for map sheet 94D.

COPPER [PPM]

Percentile	Assay Range
98	174 to 3600
95	87 to 173
90	52 to 86
70	41 to 51
50	< 40

INTEGREX ENGINEERING

NOTES:
Labelled NAD83 UTM coordinate grid is offset from the NAD27 grid of the scanned topographic base image. In the Kliyul Creek area, the displacement between NAD27 to NAD83 datums is about 226m at 329°Az.
Contour interval 100 meters.

SOURCES:
Base topography scanned from "McConnell Creek 94D", edition 4; Surveys and Mapping Branch, Natural Resources Canada, 1:250,000, 1986.
RGS Survey & catchment areas from "BC RGS 45, NTS Map Sheet 94D – McConnell Creek"; Geological Survey Branch, BC Min. of Employment and Investment, Jul97.

4 Kilometers 0 2 4 6 8 10

Vital Pacific Resources Ltd.

COPPER [PPM]
REGIONAL STREAM SEDIMENT SURVEY

DATE:	OCTOBER 1997	SCALE:	1 : 250,000	Figure No.
DRAWN By:	J.D.WILLIAMS, P.Eng.	JOB No.:	SOUP PROPERTY	09B
DRAWING:	09-RGS_Region	N.T.S.	094D/08, 09	

RECOMMENDATIONS

It is unfortunate that the Lower Zone was never intersected, leaving the important question of whether its grade of gold or copper is any different from that of the Upper Zone. One can argue that the Lower Zone appears to be a stronger feature and may contain correspondingly greater economic potential. Although one can hardly recommend a return to the Property simply to re-drill 97-04, some assessment of the value of the Lower Zone, for what is currently known of the mineralization, is the single most important issue that affects the economic potential of the Property as a whole.

Over the course of the Program it became clear that there seems to be more about the geology of the Property that has been appreciated to date. Rather than propose another expensive drill program, a much cheaper and probably more relevant step would be to take the Property back to a grassroots stage. The 1997 drilling has provided new data and answered important questions. But new issues arise, namely:

- The highest-grade skarn mineralization might exist close to the **gabbro intrusive contact.** This contact may be complicated but its extent and complexity, even in outcrop, may not be as well known as it could be. The only way to find the outline of the intrusive where it cuts the magnetite horizons will likely be with drilling, but are there any clues in outcrop that could narrow the search?
- Mapping in the **northeast** of the Property is weak (in rugged terrain). Mineralization on the Croy claims, which are partly surrounded by SOUP 21, suggests that features of interest may exist between there and SOUP Ridge—a distance of about a kilometer. The RGS also supports the possibility of favorable geology in that area.
- It may be worthwhile to better understand how the SOUP Property fits into the **regional setting.** Again the RGS provides evidence of a process that may be implicated in the distribution of mineralization over a much greater area than that enclosed by the Property

The following is a suggested modest 40-day, helicopter-supported program of mapping and prospecting with localized geochemical sampling and geophysical surveying.

Budget Item	Estimated Cost
Geologists(2): $300/day/pers avg	$24,000
Sampler/geophysics operator(2): $300/day/pers	24,000
Helicopter support: 1.5 hrs/day @ $850/hr	51,000
Assaying: 200 samples @ $20/sample	4,000
Mobilization & Move-out	2,000
Camp cook & first aid: 1pers @ $275/day	11,000
Camp accommodation, travel & expenses: $100/pers/day	20,000
Communications & Equipment rental	5,000
Vital Pacific Administration	1,000
Report Preparation	3,000
Contingencies	15,000
TOTAL Phase 1 Program	**$160,000**

Completion of this program would generate the first detailed geological map of the entire Property. A few traverses outside the SOUP claims might contribute to the regional geological context. The ultimate purpose of this work is to acquire the needed background to resume drilling if it is deemed worthwhile to do so.

This work would encompass the newly staked ground of SOUP 20,21,22 & 23. Considerable savings to this or any future work could be gained by reusing the campsite facilities left behind for that purpose.

CONCLUSION

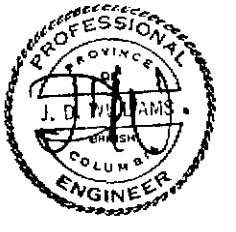
Although the 1997 drill Program returned miserable assay results, it met with a measure of success and generated new and useful information. From it, new ideas can be explored which retains a somewhat upbeat impression on the merits of the Property.

The Program demonstrated that drilling with a high rate of recovery is possible, if expensive. Deep holes may be the only effective way to drill given the bad ground conditions that extend 100 meters or more below surface. A section through the three cuts taken from the Upper Zone provides a clearer picture of the arrangement and composition of the skarn and magnetite mineralization. The condition of the intersections also provides a credible, if disappointing, assessment of the gold and copper grades, at least in the Upper Zone. And intersecting the Upper Zone in an area where it was not known to exist, except by its magnetic response, demonstrates that magnetometry works and may be the preferred exploration tool for buried mineralization.

Along with the Program's successes, its failure is measured by the twice-aborted attempts to reach the Lower magnetite Zone. Hole 97-04 may have been the best place to complete this attempt, as it was planned to reach just past the Lower Zone. On the way down, it would have tested for the existence of the Upper Zone and, being closer to the SGZ, perhaps other horizons of possibly significant grade; and it might have shed more light on the proximity of the gabbro intrusive contact. That one main issue that was to be settled by the drill Program is still unresolved.

On a regional view, the exploration history, the amount of bright gossan and the RGS results indicates that the SOUP Property might still hold significant economic potential. The approach proposed here is to scale back the ambitious scope of activity in an attempt to understand better the geology of the Property with a basic program of mapping and prospecting.

Respectfully Submitted,



J.David Williams, P.Eng.

06 October 1997

jdw/JDW
SOUP_AR1977.doc

STATEMENT of COSTS

Cost breakdown for entire 46-day Program (22Jun97 to 06Aug97) and report preparation over the period 08Aug97 to 05Oct97. GST [@7%] has been added where paid. Note the drilling costs at a far-above-average $222 per meter. This issue is discussed in the 'Summary of Drill Program' section on page 12.

Drilling		
Aggressive Diamond Drilling, Kamloops, BC		
706.83m [NQ+BTW] @ $221.77/m		
[includes mobe & demobe, & waterline; no helicopter charges]		167,730.64
Field Personnel		
Minconsult Ltd., Vernon, BC		
Tim Bissett, *Project manager*		
22Jun97 – 06Aug97 43.23 days @ $375/day	17,347.37	
Glenn Foerster, *Camp & drill pad construction, blaster, helper*		
22Jun97 – 06Aug97 42.5 days @ $325/day	14,779.37	
Kertis Broza, *Core splitter, helper*		
22Jun97 – 06Aug97 36.5 days @ $325/day	12,692.87	
Harry Melinchuk, *First Aid, camp cook*		
22Jun97 – 06Aug97 44.5 days @ $275/day	13,094.12	
Integrex Engineering, Vancouver, BC		
J.David Williams, P.Eng., *Field geologist*		
05Jul97 – 04Aug97 31 days @ $350/day	11,609.50	
		69,523.23
Analytical Costs		
Eco-Tech Laboratories Ltd., Kamloops, BC		
130 Au (1 assay ton, AA finish) of which 82 multi-element ICP total @ $ 23.64/sample		3,288.12
Camp Costs		
Camp materials & freight		
6 tent floors & frames incl. core shack & equipment	27,225.57	
Camp construction [temporary labor]		
1 pers, 8 days @ $375/day		
2 pers, 8 days @ $275/day	7,918.00	
Camp reclamation [temporary labor]		
2 pers, 1 day @ $325/day		
2 pers, 5 days @ $162.50/day	2,434.25	
Accommodation [field personnel, helicopter pilot & engineer]		
22Jun97 – 06Aug97 443 person-days @ $75/person/day	38,039.30	
		75,617.12

Expenses		
Waterline installation [1 pers, 3.5 days temp labor @$325/day]	1,217.12	
Equipment rental [core splitter $280.25, feed bag $205.08]	519.30	
Freight [miscellaneous expediting cost]	95.93	
Field supplies [misc parts, flagging, sample bags etc]	1,098.57	
Communications rental [satellite phone 1.57mos @$625.86/mo]	1,049.11	
Communications usage [sat. phone toll 3,290mins @~$2.50/min]	8,797.85	
Explosives [purchase & freight]	1,523.43	
Report Preparation		
08Aug97 to 05Oct97; [47hrs @ $35/hr + $50 materials]	1,813.65	
Minconsult Management Fee		
[project management @5% total budget $500,000]	26,750.00	
		42,864.96
SubTotal		**359,024.07**
Travel & Moblization		
Minconsult mobilization		
2 trucks; 9 truck-days @ $50/day		
3,841.1km @ $0.30/km		
Fuel, meals & accommodation @ $1,043.47	2,831.01	
Minconsult demobilization		
rental 5-ton truck @ $1,221.27		
truck usage; 5 days @ $50/day		
2,500km @ $0.30/km		
Fuel, meals & accommodation @ $750.13	3,195.45	
Integrex travel cost (arrival to Property)		
drive Vancouver to Mackenzie 960km @ $0.20/km, meals		
& fixed wing charter Mackenzie to Osilinka $461.79	824.08	
Integrex travel cost (return from Property)		
drive Mackenzie to Vancouver 960km @ $0.20/km		
meals & motel	373.62	
Helicopter support		
Northern Mountain Helicopters Inc., Price George, BC		
H500D 170.6 hrs @ $644/hr(avg) + 21,878*l*. fuel @ $0.86/*l*		
A-star 18.4 hrs @ $865/hr(avg) + 2,686*l*. fuel @ $1.02/*l*	157,688.57	
		164,912.73
TOTAL 1997 Drill Program		**523,936.80**

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CERTIFICATION

I, J.David Williams residing at 303 - 1225 Cardero Street in the City of Vancouver, in the Province of British Columbia

DO HEREBY CERTIFY;

1. That I am a consulting engineer with a business address of 303 - 1225 Cardero Street, Vancouver, British Columbia, V6G 2H8.

2. That I am doing business under the name of INTEGREX ENGINEERING and that I am the sole proprietor of the company and that I hold a valid license issued by the City of Vancouver to conduct business at the above address.

3. That I am a graduate of the University of Toronto where I obtained a Bachelor of Applied Science degree in Geological Engineering (exploration option).

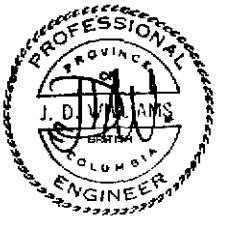
4. That I have actively practiced my profession as a geological engineer since graduating in 1978.

5. That I am a registered member, in good standing, of the Association of Professional Engineers and Geoscientists of the Province of British Columbia.

6. That the information, opinions and recommendations in the attached documents are based on my involvement as the field geologist resident at the campsite for most of the Project's duration [resident from 06Jul97 to 03Aug97]. Familiarity with the Property extends to research conducted earlier in the year related to preparation of the Qualifying Report (Williams, 1997a) and a second work on the Genetic Model (Williams, 1997b). Detailed field examination of the claims was not performed, nor was the ground position confirmed while on-site. Staking of the new claims [SOUP20-23] that are expected to be transferred to Vital Pacific Resources was not observed in the field.

7. That I have not received, directly or indirectly, nor do I expect to receive any interest, direct or indirect, in the property of Vital Pacific Resources Ltd., nor do I directly own any securities of Vital Pacific Resources Ltd. or any affiliate thereof known to me.

8. That I hereby grant to Vital Pacific Resources Ltd. authorization to include this report in any Prospectus, Statement of Material Facts or other filings with regulatory authorities, for the purpose of raising exploration funds.



J.David WILLIAMS, P.Eng.

dated at Vancouver, British Columbia this 06th day of October 1997.

APPENDIX

Drill Logs and Assay Certificates are attached as catalogued below:

DIAMOND DRILL LOG
HEADER SHEET

Property	**SOUP**
Claim	SOUP #4
Location	Southwest-facing slope descending into Kliyul Creek, below DDH 95-03.

Purpose

To intersect at least the upper-most of possibly two magnetite layers. The first intersection is expected at a depth of about 290m.and at a down-dip depth of about the same from its mapped outcrop. It is hoped that ground conditions will be good enough to provide good recovery in magnetite that is relatively fresh from oxidation or other deleterious effects.

NORTHING [NAD83]	**6,262,582**
EASTING	**680,504**
ELEVATION	**2,056**
LENGTH	239.88m [787ft.]
AZIMUTH	000°
DIP	-90.0° (at collar)

Contractor	Aggressive Drilling
Core Size	NQ & BTW
Date Started	*01 July 1997*
Date Completed	08 July 1997
Casing Depth	3.05m
Stick-up Length	0.0m

Results

Magnetite skarn was intersected 121.52 to 144.23m; an interval 22.71m long, or a true width of about *1.7m [assuming stratigraphy dipping @30°]. Assays for complete section, weighted by sample length returned* 1.09 gram/tonne (0.032 oz/T) Au & >3915ppm Cu [2 samples exceeded detection limit of 10,000 ppm]. Highest gold assays were from samples containing greatest chalcopyrite.

In the hanging-wall of the magnetite, 4m of bleaching overtop a 3.9m garnetiferous zone, makes the total zone of alteration 30.57m long [113.66-144.23m].

A thick sequence of medium grained gabbroic rocks occurred at the footwall of the intersection, which prompted the decision to terminate the hole. It is uncertain whether the last 2.3m is dike material or marks a permanent change to more andesitic tuffs.

Comments

Core size reduced to BTW from NQ @145.08m.
Core is stored at campsite on Kliyul Creek.
223.68m of core recovered; recovery rate 93%.

19 character samples taken at 25.91, 52.33, 55.44, 104.39, 112.72, 113.78, 117.17, 120.37, 123.75, 130.03, 134.69, 139.48, 144.05, 168.68, 182.15, 214.43, 216.44, 235.24 & 239.39m.

Dip Tests

Depth	Reading	Corrected	Remark
140.2	-89.0°	-89.0°	
239.8	-88.0°	-87.5°	

Geologist: J David Williams

INTEGREX ENGINEERING

Logged by:
J.D. Williams, P.Eng.

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
0.0	3.05	3.05	0.0	**Casing**								
3.05	113.66	110.61	103.36	**BASALTIC AUGITE PORPHYRY FLOWS & TUFF & DIABASE DIKES** Med-dark green, weakly-moderately magnetic, fairly hard (H 4.5-5) but quartz-poor basaltic material. Widely diverse & rapidly varying textures ranging from aphanitic to med-fine grained feldspar μporphyry to massive & sometimes coarse grained feldspar and/or augite porphyry often with a lapilli fraction. Contacts between textures usually distinct oriented 50-90°/ca. Finer grained (tuffaceous) intervals often display banding or streaking. Textural contacts are v. occasionally marked by an apparent chill zone as a flow could demonstrate. Coarser grained intervals show phenos & lapilli in a variably but moderately altered med green chloritic/saussuritic fine grained groundmass, generally nearly homogeneous without banding or streaking displayed by finer-grained intervals. Diabase dikes tend to be hard (H ~5), v. fine grained to aphanitic, v. dark green, weakly-moderately magnetic & often contain small disseminated ferromag (pyroxene?) crystals. Fracturing is often highlighted by epidote and/or calcite fillings. Py occurs in accessory amounts as irregular anhedral, sparsely disseminated flecks.		Tr						
3.05	9.66	6.61	~5.09	Augite Porphyry; sometimes weakly calcareous; variably developed porphyritic texture. Pyroxene phenos, where most visible comprise ~40% by vol, in a dark green chloritic groundmass that contains lighter pea green saussurite/epidote domains in narrow diffuse intervals or along hairline fractures. Fracturing highlighted by both epidote & calcite at random orientations – occasional thicker fractures & veinlets <1mm wide, appear to be most recent.								
9.66	10.06	0.40	0.40	Augite Porphyry; similar to subinterval 3.05+. Light green with faint pink cast in places, hard (H ~5.5) bleached zone, weakly calcareous; rubbly recovery.						93201	<0.03	
10.06	10.82	0.76	~0.70	Augite Porphyry; similar to subinterval 3.05+.								
10.82	11.28	0.46	0.24	Augite Porphyry; 2cm wide calcite vein @45/ca with Qtz streak & sparse associated chlorite-calcite veinlets.					vein 45°	93202	<0.03	
11.28	11.46	0.18	0.18	Augite Porphyry; similar to subinterval 3.05+.								
11.46	11.67	0.21	0.21	Augite Porphyry; med-light green, hard with small phenos of sericite/saussurite or calcite; possible diabase dike? Rubbly recovery.						93203	<0.03	
11.67	18.71	7.04	~6.55	Augite Porphyry; similar to subinterval 3.05+.								
18.71	19.51	0.80	~0.73	Basalt; gradational contact from porphyritic texture of interval 11.67+ to v. dark green aphanitic material over ~15cm. Usually hard, non-magnetic-moderately magnetic & contains 10% (by vol) white fine grained calcite slashes, short stringers or persistent veinlets; most 20-30°/ca. Occasional pea-green, sometimes limonitic epidote veinlets or selvages.					veinlets 20-30°			
19.51	19.90	0.39	0.24	Fault; rubbly recovery & 8cm sandy gouge.								
19.90	20.73	0.83	~0.76	Basalt; similar to subinterval 18.71+.								
20.73	21.03	0.30	0.24	Fault; mostly sandy with rubbly fragments.								

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From	To	Len	Rec		Mte %	Py %	Po %	Cpy %	Orient'n /ca	Sample ID	Au [gm/tne]	Cu [ppm]
21.03	21.95	0.92	~0.85	Basalt; similar to subinterval 3.05+.								
21.95	22.86	0.91	0.73	Basalt; similar to subinterval 3.05+, with epidote & limonite veins & seams, ragged chlorite & epidote veinlets about parallel to core axis, all somewhat pitted/vuggy.						93204	<0.03	
22.86	25.60	2.74	~2.44	Basalt; similar to subinterval 3.05+.								
25.60	30.63	5.03	4.60	Augite Porphyry; mostly fine-med grained & aphanitic, basaltic, μporphyritic with feldspar crystals & short diffuse intervals of pyroxene porphyry. Widely separated epidote and/or chlorite veinlets <1cm wide, sometimes with accessory quartz. Fractures & veinlets at random orientations.								
30.63	30.94	0.31	0.30	Vein; ~15% banded quartz-epidote-chlorite-calcite vein structure 15cm long (core length)						93205	0.12	
30.94	32.10	1.16	1.16	Augite Porphyry; similar to subinterval 25.60+.								
32.10	32.28	0.18	0.12	Diabase Dike; med grained with small scattered feldspar crystals; contacts 35° & 15°/ca.					contact 35, 15°			
32.28	32.92	0.64	0.64	Augite Porphyry; similar to subinterval 25.60+.								
32.92	33.47	0.55	0.24	Fault; sand & clay paste.								
33.47	38.25	4.78	2.62	Diabase Dike; aphanitic with white & grey mm-wide Qtz-cte stringers <30°/ca, changing to med grained, partly epidote altered (in groundmass) near 36.9m, then to mostly rubbly recovered med & fine grained diabase(?).					strgrs <30°			
38.25	43.92	5.67	5.67	Augite Porphyry; similar to subinterval 25.60+; massive-blocky, decreasing fracturing to sparse frequency at end of subinterval.								
43.92	44.84	0.92	0.76	Diabase Dike; type material; occasional epidote fracture at high angles to core axis. Contacts 30° & 35°/ca.					contact 30, 35°			
44.84	45.45	0.61	0.61	Augite Porphyry; similar to subinterval 25.60+.								
45.45	46.06	0.61	0.61	Diabase Dike; similar to subinterval 43.92+. Moderately magnetic, hard, v. fine grained-aphanitic with hairline epidote fractures 50-80°/ca & older set nearly parallel/ca, sometimes rusty & offset by former regime by cms. Near-contact irregular @70° & far-contact @25/ca.					contact 70, 25° fractur e 50-80° &para' l			
46.06	46.54	0.48	0.49	Augite Porphyry; bleached to pea green (epidote) color, rapidly decreasing in intensity at end of subinterval. Single 5mm wide grey & white quartz veinlet 60°/ca.					veinlet 60°	93206	<0.03	
46.54	47.70	1.16	1.16	Augite Porphyry; faint & decreasing epidote alteration changing to pyroxene porphyry of high CI (~60) >47.2m & gradually & somewhat hesitatingly losing porphyritic texture >47.5m.								
47.70	48.01	0.31	0.30	Basalt; Near-contact v. gradational & somewhat arbitrary showing patches of augite porphyry in a hard (H~5), med-dark green, usually moderately magnetic material. Abundant thin, irregular white fine grained calcite stringers & veinlets at random orientations. Irregular carbonate veining nearly parallel/ca, limonitic in part.					veins parallel			
48.01	49.38	1.37	1.37	Basalt; similar to subinterval 47.70+. Very irregular calcite veins & stringers with chlorite & v. minor quartz as bands & streaks, & apparent brecciation oriented nearly parallel to core axis					bx'n parallel	93207	0.07	

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				over about a quarter of subinterval. Very rusty patch 25cm long near 48.46m, consisting of friable chlorite(?) alteration. Where calcite veining greatest, host rock non-magnetic.								
49.38	52.00	2.62	2.62	Basalt; similar to subinterval 47.70+.								
52.00	54.74	2.74	2.68	Diabase Dike; hard, dense, moderately-weakly magnetic, v. fine grained-aphanitic with sparse, small pyroxene phenos. Similar to subintervals 43.92+ & 45.45+. Occasional thin calcite veinlets at random orientations. Near-contact marked by 15cm shear zone healed by braided calcite veinlets & stringers 25°/ca. Far-contact @60°/ca.					contact 25, 60°			
54.74	57.15	2.41	2.41	Feldspar Porphyry; v. hard, fine grained, med green, frequently yellow-green with distinctive, mostly sericite altered, pale yellow-green, often ghostly feldspar phenos up to 3mm across in a greenish salt & pepper groundmass. Feldspar phenos ~5% by vol; hornblende as black fine-med grained laths ~25% by vol. Med grey-green over a few cm at near-contact, lightening to yellow green with depth.								
57.15	58.06	0.91	0.91	Feldspar Porphyry; similar to subinterval 54.74+. Fractures nearly parallel/ca filled with calcite & dark green chlorite.								
58.06	59.59	1.53	1.52	Feldspar Porphyry; similar to subinterval 54.74+. 2cm Qtz vein 85°/ca.					vein 85°			
59.59	60.93	1.34	1.34	Feldspar Porphyry; similar to subinterval 54.74+. Immediate change to increasing CI (~25), darkening with depth to med grey color. Accessory fine, disseminated, euhedral pyrite grains. Sparse, diffuse, smokey Qtz phenos evident near end of interval.								
60.93	62.21	1.28	1.22	Basalt/Augite Porphyry; fine grained-aphanitic, gradually grading to fine-med grained with abundant small pyroxene phenos.								
62.21	64.10	1.89	1.89	Basalt; weakly-moderately magnetic, hard, aphanitic & fine grained. Single calcite/ankerite-chlte-Qtz structure paralleling core axis over most of subinterval. Occasional patch of malachite along seams of structure, along with rusty selvages. In two places, near 63.25m & 63.92m, v. fine grained massive magnetite concentrated along one wall of fracture in host rock & dissipating into host over a cm.					vein parallel	93208	0.05	
64.10	65.44	1.34	0.98	Basalt/Augite Porphyry; med & fine grained, faintly porphyritic with occasional white calcite-filled hairline fractures.								
65.44	66.14	0.70	0.61	Vein & Fault(?); single 8mm wide Qtz-cte vein 25°/ca at start of subinterval with limonite pits, followed by mostly rubbly recovered, sometimes rusty coated fine grained basaltic material that shows evidence of other calcite stringers or veinlets.					vein 25°	93209	<0.03	
66.14	67.97	1.83	1.55	Basalt/Augite Porphyry; fine grained, massive texture gradually & hesitatingly becoming coarser grained & faintly porhyritic.								
67.97	69.59	1.62	2.07?	Basalt Tuff; dark & light colored green groundmass with prominent small buff colored feldspar crystals & lesser small pyroxene phenos. Faint banding on cm scale @60°/ca. Occasional epidote/saussurite veinlet & local shearing @30°, 45° & 60°/ca.					band'g 60 shear'g 30, 45, & 60°			
69.59	71.32	1.73	1.62	Basalt Flows(Tuff?); mostly fine grained. Two places where rock locally grades to med grained								

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				feldspar μporphyry with depth over 3-5cm, which terminates in a rapid change to a dark aphanitic (chilled?) material over 5mm. 'Chilling' dissipates with depth.								
71.32	71.93	0.61	0.64	Augite Porphyry; diffuse contacts over ~1cm to med grained feldspar & pyroxene porphyry, becoming coarser grained with depth. Rare pyrite as remnants of what may have been large euhedra 2mm across.		Tr						
71.93	74.46	2.53	2.23	Basalt Tuff; mostly v. fine grained, with distinct but faint darker grey banding 60°/ca thruout. Rubbly core @72.85m.					band'g 60°			
74.46	76.05	1.59	1.55	Basalt Lapilli Tuff; med grained feldspar μporphyry with lapilli sized leucocratic fragments (<1cm across) visible in places.								
76.05	81.38	5.33	5.33	Basalt Tuff; mostly fine grained, banded, tuffaceous(?) material with local coarser grained intervals <20cm long. Banding uniform @~60°/ca, visible on a scale of 1mm as color & grain size variations. Occasional calcite and/or epidote fractured or veinlets at various orientations, usually at low angles/ca. Some fractures offset tuff band by several mm. Near 79.4m, augite feldspar porphyry contains sericitized/saussuritized subrounded lapilli-sized fragments. In contrast to apparent 'chilling' of subinterval 69.59+, at 78.46m, a similar feature with chilling facing upwards, instead of downwards in 69.59+, is clearly evident.					band'g 60°			
81.38	85.95	4.57	4.57	Augite Porphyry; mostly med & coarse grained feldspar & augite porphyry with narrow fine grained tuffaceous(?) intervals 20cm wide. Contacts between grain-size domains sometimes irregular & sharp, but most are diffuse over a few mm. Pyrite exists as an accessory thruout most of subinterval. Single occurrence of med-coarse grained purple colored calcite within a seam ~5mm wide 50°/ca near 82.54m.		Tr			calcite 50°			
85.95	86.44	0.49	0.49	Vein; 15mm Qtz-cte-chlte seam @15°/ca with epidote/saussurite structures splaying into chloritic wall-rock to a depth of a cm. Vein fills a fault with ~14cm vertical displacement.					vein 15°	93210	<0.03	
86.44	89.15	2.71	2.71	Basaltic Tuff; fine grained tuffaceous material with occasional hesitant tendencies to feldspar μporphyry. Near 88.1m, a v. fine grained band terminates against a hairline fracture oriented nearly parallel/ca, spaying from stronger Qtz-cte-epid veinlet (possible fault?).					seam parallel			
89.15	91.59	2.44	2.44	Augite Porphyry; med grained; past center of interval, lapilli fragments comprise ~10% by vol & are visible as faintly green, subrounded, fine grained, or μporphyritic material.								
91.59	93.12	1.53	1.52	Basalt Flow(?); fine-med grained, dark green-grey, massive.								
93.12	93.76	0.64	0.64	Basalt Tuff/Flow; fine-med grained with occasional pyrite-filled epidote seam nearly parallel/ca, cut & offset by similar fracture 55°/ca near 93.27m, & terminated by Qtz-chlte-cte veinlet 1cm wide @50°/ca.		M			seams parallel & 55°	93211	<0.03	
93.76	95.34	1.58	1.58	Feldspar & Augite Porphyry; med grained, sometimes crowded with feldspar & pyroxene phenos.								
95.34	95.95	0.61	0.61	Basalt Tuff/Flow; 6cm wide, v. hard, pea-green, faintly calcareous epidote/saussurite zone ~40°/ca containing seams v. fine grained pyrite near end of subinterval. Elsewhere, hairline saussurite fractures occur at random orientations, sometimes with abundant fine grained pyrite in sometimes irregular structures but mostly parallel to predominant feature. Host rock fine grained.		M				93212	<0.03	

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95.95	97.32	1.37	1.37	Basalt Tuff/Flow; med-fine grained massive μporphyry.								
97.32	99.12	1.80	1.71	Basalt Tuff; rapid change at near-contact to v. fine grained, hard, v. dark grey-black, moderately calcareous material, containing fine grained, euhedral-subhedral, disseminated pyrite, locally up to 15%, but averaging 5%. Near 97.84m, a 12cm Qtz-cte-chlte vein @70°/ca terminates in brown clay-rubble-gouge. >98.15m, pyrite & calcite content of host gradually decreases in green-grey, fine grained, homogeneous material that contains a diffuse Qtz-cte zone, parallel/ca, with up to 20% pyrite, which is terminated @98.63m by a 2cm Qtz-carb vein 50°/ca. Near 99.06m, a 5cm Qtz-cte-chlte vein 60°/ca contains minor, scattered, med grained pyrite.		M			vein 70° & parallel	93213	0.03	
99.12	102.81	3.69	3.69	Augite Porphyry; med-coarse grained, generally massive with minor variations in texture.								
102.81	107.84	5.03	5.03	Basalt Flow & Tuff; mostly v. hard, v. fine grained, med green. Faintly banded in places @60°/ca on a scale of several mm, but mostly massive with intervals of porphyritic phase. Pyrite occurs in amounts greater than average, filling the rare fracture or fracture zone as locally significant disseminations up to 10%, or occupying a particular band of tuff, or as discrete chlorite-rimmed slashes.		M			band'g 60°			
107.84	113.66	5.82	5.82	Augite Porphyry & Lapilli Tuff; mostly med grained pyroxene porphyry & lapilli tuff, generally uniform texture, massive, blocky with fine grained (tuffaceous) intervals disappearing >109.3m. In porphyry, minor constituent of lithic fragments, sometimes prominent, reaching several cm across. Patch of buff-green carbonate alteration (bleaching) near 110.5m & near 111.43m. From 112.84-113.32m, med-dark grey, fine grained interval with relatively dispersed & faint ferromag crystals in a weakly calcareous groundmass containing slightly greater than average fine grained disseminated pyrite.		M						
113.66	117.62	3.96	3.96	**CONTACT ZONE (Bleaching, Shearing, Stockwork)** Diverse interval of augite porphyry which tends to be bleached to a light-pale green color by carbonate alteration & by fine grained basaltic material usually weakly calcareous but fractured, sometimes intensely to a stockwork healed by carbonate flooding. Pyrite rarely seen in greater than accessory amounts. Near-contact gradational & marked by color change. Far-contact, knife-edge & probably a faulted boundary.		M						
113.66	115.00	1.34	1.34	Bleached Augite Porphyry; pyroxene phenos chlorite altered, prominently contrasting with buff colored sericitized feldspar phenos (~30% by vol) & pale-light green sericite/chlorite altered groundmass.						93214	<0.03	53
115.00	116.80	1.80	1.80	Basaltic Tuff(?); dark green, v. fine grained material changing to dark grey-green in a mostly sheared/fractured interval. Shearing/fracturing highlighted by thin white calcite, sometimes faintly pink, & rarely by quartz veinlets; all oriented 60°/ca. Beyond 166.22m, structure more chaotic (stockwork) with irregular calcite stringers oriented nearly parallel/ca extending to a calcite-chlorite shear zone 2cm wide @40°/ca. Near-contact abrupt against bleached porphyry oriented at low angle/ca, but offset several times by <2cm each time.					shear'g 60° stkwrk parallel shear/ vein 40°	93215	<0.03	153

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116.80	117.62	0.82	0.82	*Augite Porphyry; med green, chlorite alteration grading to slightly pea-green, saussuritic augite porphyry shattered thruout subinterval & flooded by white calcite. Calcite sometimes coarse grained & contains minor feldspar(?). Shattering most intense at start of subinterval. Fractures oriented at random angles.*						93216	<0.03	32
117.62	121.52	3.90	3.66	**SKARN ALTERATION (& DIABASE DIKE)** Gritty, earthy, sometimes friable skarn consisting of pinkish garnet with domains, patches & streaks of epidote, lesser chlorite & irregular white quartz patches (gnt 45%, epid 30%, chlte 10%, Qtz 10%, mtc 5%). Strongly magnetic & usually at least weakly calcareous. *Pyrite* probably ranges to minor amounts but is represented by abundant limonite freckles thruout parts of interval. Magnetite evident as flocculated aggregates or small massive domains arranged in irregular patches or groups, sometimes aligned with diffuse but often prominent banding @60°/ca.	5	M			band'g 60°			
117.62	119.02	1.40	1.40	*Garnet-epidote skarn similar to type-description.*	5	M				93217	0.34	1633
119.02	119.63	0.61	0.55	Diabase Dike (Feldspar Porphyry); fairly hard (H ~5), moderately calcareous, fine grained, medium green with freckles of white sericitized feldspar variably distributed from coarse grains (~10% by vol) to μporphyritic to central portion of subinterval where feldspar phenos almost absent.						93218	<0.03	482
119.63	121.52	1.89	1.71	*Skarn Alteration; type-material except for 20cm wide interval near 121.3m, consisting of magnetite with small, completely altered epidote/saussuritized angular (equant) phenos(?) ~40% by vol. Weakly calcareous.*	8	M				93219	0.52	1784
121.52	144.23	22.71	22.52	**MAGNETITE ZONE & SKARN (& DIABASE DIKES)** Predominantly fine-med grained, usually massive over wide intervals, patchy in other places. Epidote & chlorite alteration largest gangue mineral component, occurring in streaks, irregular bands, patches or domains, often pitted. Pyrite abundant (avg. ~8%) as subhedral-anhedral & interstitial disseminations in magnetite, as minor irregular streaks or splashes, and with med & fine grained epidote as v. irregular, small, massive domains. Occasional fleck or small patch chalcopyrite. Magnetite usually displays serrated contacts with gangue. Pitting prominent where epidote most densely distributed, often highlighted by orange & brown oxidation of predominantly limonite with druzy manganese selvages & rare hematite or even less common azurite. Many fracture planes oxidized. Calcite variably distributed: much of near-portion of interval non-calcareous with calcite increasing with depth as stringers, lenses or veinlets. Organized banding rare but oriented @60°/ca. Most of compositional changes irregular. Local evidence of brittle movement in streaks & fractures with occasional patch of brecciation.	55	8			band'g 60°			
121.52	122.96	1.44	1.37	Predominantly magnetite with locally abundant pyrite & numerous irregular chlorite & minor epidote streaks at low, moderate & high angles to core axis.	65	5		Tr		93220	0.18	2047
122.96	124.02	1.06	1.19	Nearly massive magnetite (the greatest proportion of this length in this intersection). Abundant prominent irregular streaks & aggregates of fine & med grained pyrite & dark non-calcareous	80	8		M		93221	0.23	3612

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				chlorite domains.								
124.02	125.49	1.47	1.43	Magnetite & abundant pyrite with numerous irregular patches of hard, dark-med green, non-calcareous, chloritic, silicified material & lesser & only occasional epidote.	45	15				93222	0.37	4182
125.49	126.25	0.76	0.76	*Diabase Dike; med-light green, blocky, hard, brittle, weakly calcareous with abundant coarse (up to 5mm across) ferromag (pyroxene & lesser hornblende) phenos (~20% by vol). Abundant limonitic fractures ~40°/ca & other orientations. Near-contact 50°/ca, far-contact ~5°/ca.*					contact 50, 5° fract's 40°	93223	0.21	785
126.25	126.71	0.46	0.46	Far-contact of dike with irregularities that include, at intervals, predominant dike material or predominant magnetite zones thruout subinterval. Blotches massive pyrite in magnetite.	20	2				93224	0.79	2071
126.71	128.17	1.46	1.43	Predominant magnetite domains with numerous ragged, serrated & sometimes pitted, moderately calcareous epidote domains grading to mostly non-calcareous, dark green chlorite with epidote blotches.	55	6				93225	1.02	3959
128.17	129.72	1.55	1.49	Similar to previous subinterval with slightly fewer epidote-chlorite domains. At near-contact, Qtz-cte, ctc, & cte-Qtz veins & veinlets over 40cm length occur at inconsistent orientations.	60	10				93226	0.66	3894
129.72	130.27	0.55	0.55	Hard but gritty oxidized zone following a 5-10cm friable, limonitic, rubbly recovered section near start of subinterval. Pods & domains magnetite with streaks of chlorite & carbonate with quartz. Occasional malachite stain.	60	8		M		93227	2.81	>10000
130.27	130.94	0.67	0.67	Subinterval dominated by 25cm-long cte-chlte-Qtz structure at least 3cm wide, nearly parallel/ca. 10cm partly limonitic magnetite at start of subinterval & 32cm massive magnetite to end of subinterval.	60	2				93228	2.53	7575
130.94	132.77	1.83	1.83	1-3cm wide cte-chlte-Qtz vein structure with pyrite oriented nearly parallel/ca extends thru most of subinterval, except for 36cm length of nearly massive magnetite with pyrite aggregates & pale green cte-chlte slashes & wisps.	65	5				93229	0.72	3764
132.77	133.96	1.19	1.13	Diabase Dike(?); mostly soft strongly chloritic zone with sheared, oxidized, friable in places, 25cm-long shear(?) zone ~10°/ca at start of subinterval. Remaining subinterval contains irregular calcite domains & patch of less altered calcareous ferromag porphyry, similar to diabase of subinterval 125.49'.	10	M			shear'g 10°	93230	0.44	1808
133.96	134.90	0.94	0.91	Weakening shear zone & its effects oriented <30°/ca in chlte-cte. Magnetite streaks & patches increasing with depth along with associated pyrite.	35	2		1	shear'g 30°	93231	4.71	>10000
134.90	135.94	1.04	1.10	Intense chlorite-calcite alteration with patchy magnetite rapidly grading to nearly massive magnetite containing serrated domains of pitted epidote with chlorite & calcite.	60	8		M		93232	2.11	6288
135.94	137.28	1.34	1.28	Predominantly chlorite with calcite & minor quartz & feldspar(?) slashes of a weak shear zone ~25°/ca with magnetite & patchy, pitted epidote over sections less disrupted by shearing.	45	5		Tr	shear'g 25°	93233	1.96	5639
137.28	139.02	1.74	1.74	Bright yellow-green, pitted epidote domains slightly more predominant than irregular diffuse magnetite patches & domains. Overall mottled or patchy appearance to subinterval.	45	2				93234	0.73	2156
139.02	140.48	1.46	1.46	Nearly massive magnetite with minor patches & diffuse faint chlte-Qtz with calcite patches & wisps. Frequent prominent white cte-Qtz-feld(?) fracture filling/veinlets <15°/ca.	70	10		M	veinlet 15°	93235	2.02	5645
140.48	141.61	1.13	1.13	Diabase Dike(?); mostly weakly calcareous, fairly hard (H~5), chlorite altered material with epidote domains & calcite streaks & veinlets <15°/ca, & dispersed, diffuse magnetite patches.	20 m				veinlet 15°	93236	0.87	2242

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INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
				Possible early dike altered & predating fracturing events.								
141.61	143.16	1.55	1.55	Nearly massive magnetite. Chlorite frags(?) floating in magnetite within first 0.5m of subinterval.	70	8		M		93237	0.56	2312
143.16	144.23	1.07	1.04	Waning alteration with depth; pervasive epidote/saussurite alteration of host rock & minor streaks & patches of magnetite. Near-contact abrupt, but irregular at high angle to core axis. Far-contact marked by Qtz-ctc-feld-chlte-epid vein/shear zone 6-8cm wide 30-45°/ca.	2	Tr			contact hi° & 30-45°	93238	0.21	1305
144.23	205.86	61.63	59.61	**GABBRO, DIORITE & DIABASE DIKES** Mafic intrusive material demonstrating a wide range of textures. Generally weakly calcareous & faintly magnetic consisting of dark colored pyroxene with lesser hornblende in buff to greenish colored, usually subordinate feldspathic groundmass. Textures can range from crowded & interlocking ferromags (up to 80%) sometimes giving the lighter colored feldspar a felted appearance, to a fine grained med & dark green homogeneous material, sometimes with floating ferromag phenos. Intermediate compositions where ferromag phenos less crowded are common. Fine grained intervals often tend to be disrupted by Qtz-cte or ctc-Qtz veinlets, stringers & chlorite alteration. Pervasive weak epidote evident in some coarser intervals & feldspars nearly always sericitic. Variations in texture nearly always gradational but may be rapid (except for dikes). No evidence of tuffaceous textures such as banding, gradations in grain size or lapilli/lithic fragments. Pyrite exists as rare fine grained euhedral grain.		Tr						
144.23	149.23	5.00	4.54	Gabbro; gradually decreasing sericite alteration of groundmass at start of interval & increasing Cl(to 60) @145.1m in a crowded to open distribution of ferromag fraction (50% px, ~10% hbde), crystals sometimes reaching 8mm across, but 90% <3mm in size. Groundmass chloritic & sericitic. 32cm-long dark-med green section near 146.6m with 15cm-long irregular Qtz-cte structure along far-contact 5°/ca. Near-contact 15°/ca.					contact 15, 5°			
149.23	150.27	1.04	0.85	Epidote skarn with magnetite; moderately calcareous, pea-green, fine grained epidote with irregular, highly serrated, fine grained magnetite filaments & streaks at random orientations. Epidote alteration strong to 149.96m where it rapidly weakens to end of subinterval. Near-contact sharp with gabbro of above subinterval (144.23+) appearing quenched over a few mm & bleached for several cm. Thin tremolite veinlet 15°/ca near 149.50m.	5				veinlet 15°	93239	0.19	
150.27	150.91	0.64	0.64	Diabase Dike; near-contact chilled @20°/ca. Far-contact not as distinct & irregular @45°/ca. Faint chill margin ~15cm inside near-contact.					contact 20, 45°			
150.91	154.20	3.29	3.17	Gabbro; mostly fine grained material with <20% ferromag phenos at near-contact. Xenoliths of lighter colored slightly more mafic material appear >151.5m. Xenoliths distinct but with rounded resorbed edges, comprising <10% by vol, & 3 to >5cm across. At 152.4m, a densely packed ferromag porphyry persists to end of subinterval with increasing bleaching of groundmass to a greenish-buff color. Near 154.0m, an irregular 1cm wide hollow vein contains translucent buff colored, H ~4.8, cockscomb material with pyramidal terminations (zeolite?).								
154.20	154.69	0.49	0.49	Fault ; Subinterval dominated by a 5cm wide prominently limonitic, weakly-moderately					fault	93240	1.24	

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
				calcareous, banded-laminated shear zone 15-20°/ca with fairly consistent margins with moderately-weakly bleached host rock.					15-20°			
154.69	155.97	1.28	1.28	Gabbro; generally med-coarse grained with variably chlorite & sericite altered groundmass.								
155.97	157.83	1.86	1.77	Diabase Dike; fine grained, med green chloritic, mod-weakly sheared diabase with 30% irregular Qtz-cte or cte-Qtz veins, veinlets, stringers at random orientations in a pervasive & continuous zone of disruption thruout most of subinterval. Most orientations at shallow angles/ca (<20°/ca). Slickensides appear to cut perpendicular to core axis – oriented horizontal. Minor pyrite as scattered fine grained euhedra.		M				93241	0.03	
157.83	166.79	8.96	8.96	Gabbro; remarkably uniform med-coarse grained, moderately-weakly magnetic with crowded ferromag phenos (60% px, minor hbde) in a dark chloritic, lighter sericitic(?) or brighter epidote altered groundmass – color changes v. gradational. At 166.1m, rapid increase in CI (to ~80) where ferromags become indistinct in places along with frequent, thin, sometimes indistinct calcite veinlets with minor quartz comprising <10% by vol. Faults; broken recovery near 159.65m over ~10cm & near 165.20m for about 20cm.								
166.79	167.79	1.00	0.73	Fault; rubbly recovery, clay & limonite, in places friable. Calcite-Qtz-(feld or zeolite) vein & gouge zone 40°/ca.					fault 40°	93242	0.56	
167.79	169.38	1.59	1.58	Gabbro; moderately magnetic, fine grained, dark green with fine-med grained densely distributed interlocking ferromags; fine grained sections. Numerous calcite veinlets & stringers, most 30-45°/ca.								
169.38	169.71	0.33	0.34	Vein; 20-25cm-long vein of coarse grained, sugary Qtz-calcite-ankerite, sometimes with pitted & irregular domains dark green, fine grained chlorite oriented at moderate angles/ca. Rare fine grained anhedral pyrite.		Tr			vein mod°	93243	0.17	
169.71	175.41	5.70	5.39	Diorite & Gabbro; widely diverse textures. Most of subinterval variably moderately-weakly magnetic, fine grained, dioritic with small ferromag crystals (~15% px phenos) floating in dark green groundmass. But upper gabbroic sections consist of non-magnetic, med-fine grained crowded pyroxene porphyry with diffuse contacts over a few mm. >~171.75m, domains of distinctly different composition as large silicic subangular or smaller epidote altered shapes are prominent but sparsely distributed nearly to end of subinterval. Other fragments/xenoliths may also exist but are indistinct or partially resorbed, but might be the cause of patchy or mottled color variations in places. Weak shearing or strong fracturing 172.5-173.2m oriented 20-30°/ca & another later regime nearly parallel/ca. Two thin ragged pyrite stringers containing calcite & chlorite 15°/ca near 172.06m.		Tr			shear'g 20-30°, parallel strgrs 15°			
175.41	179.13	3.72	3.72	Diorite; generally med-fine grained, hard, light grey-green (silicified?) with greater CI (~50) than previous subinterval (169.71+). Ghostly fragments/xenoliths as cm-sized epidote altered blotches visible towards far-end of subinterval. Med grained sections of variable composition & CI where ferromag & feldspar components trade for dominance, but are generally more magnetic with higher CI.								
179.13	180.90	1.77	1.68	Shear/Fault Zone; strong shearing & fracturing at ~20°/ca with weaker (?) second regime					shear'g	93244	0.35	

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
				<10°/ca. Abundant diffuse, inconsistent, patchy calcite stringers & braided structures in a continuously flooded zone in fine grained chloritic host ~50cm long terminated by an earthy, intensely limonitic fault 2cm wide (true) @~30°/ca. Remainder of subinterval decreasingly limonitic & heavily fractured at random orientations. Abundant malachite stain towards end of subinterval.					20, 10° fault 30°			
180.90	182.94	2.04	1.71	Diabase Dike; moderately-strongly magnetic, fine grained to aphanitic, hard, dark green with abundant narrow calcite tension gashes & veinlets ~30°/ca, offset by hairline fractures <5°/ca. Contacts marked by cte-Qtz-chlte veins <4cm wide; near-contact ~5°/ca, far-contact not preserved. Faults; rubbly recovery @181.57m. Dark limonitic clay & rubble usually strongly magnetic with 4cm wide Qtz-chlte vein perpendicular/ca @181.14m.					contact 5° veinlet 30°			
182.94	184.77	1.83	1.65	Gabbro; fairly uniform, usually strongly magnetic, med-fine grained with ~75% interlocking ferromags; groundmass buff-light greenish.								
184.77	185.07	0.30	0.30	Vein; 16cm of cte-Qtz-chlte with two separate large pyrite crystals ~1cm across & v. minor disseminated fine grained pyrite elsewhere.		5				93245	0.04	
185.07	189.99	4.82	5.15	Gabbro; strongly magnetic, med-fine grained, interlocking ferromags with weak sericite alteration of groundmass to pale yellow-green near 185.6m. Irregular Diabase Dike material appears in two places over a 35cm length crosscutting the core at different orientations.								
189.99	190.80	0.91	0.61	Diabase Dike; fine-med grained, homogeneous, med-dark green, ~10% Qtz-cte-chlte veins; 1cm wide vein at near-contact, & two towards far-contact ~2cm wide, 10-15°/ca.					vein 10-15°			
190.80	191.51	0.71	0.70	Gabbro; fine-med grained, mod-strongly magnetic. Malachite stain on earthy fracture near 193.15m.								
191.51	192.15	0.64	0.64	Diabase Dike; non-magnetic to weakly magnetic, fine grained, dark green with occasional calcite fracture fillings especially towards far-contact. Diffuse near-contact over a few mm 45°/ca. Far-contact parallels core axis briefly.					contact 45 & parallel			
192.15	194.83	2.68	2.74	Gabbro; fine-med grained, variably magnetic ranging to strong intensity. Diffuse patch of epidote alteration near 193.9m.								
194.83	195.80	0.97	0.98	Diabase Dike; dike extends to 197.27m. Non-magnetic to weakly magnetic, fine grained with faint pyroxene phenos (10-30% by vol) ~2mm across. Frequent hairline fracture fillings at all angles/ca.								
195.80	196.44	0.64	0.64	Diabase Dike; abrupt change to v. strongly magnetic diabase with ragged, serrated, fine grained chalcopyrite as aggregates & flecks over first 20cm of subinterval. Increasing shearing intensity to end of subinterval, terminating in 18cm-long Qtz-cte-chlte shear/vein with 10% v. fine grained pyrite & 5cm-long rubble zone 50°/ca.		M		M	vein 50°	93246	0.88	
196.44	197.27	0.83	0.82	Diabase Dike; moderately-strongly calcareous, sheared, fine grained, diabase with faint mm-sized pale green & whitish domains aligned along shear direction. Texture reminiscent of sheared crystal tuff. Frequent-abundant calcite fracture-fillings & veinlets especially near end of subinterval 65°/ca. Far-contact 55°/ca.					fractur e 65° contact 55°			

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
197.27	205.86	8.59	8.53	Gabbro; fairly uniform med grained material, CI 60-70, with slight, usually gradational variation in groundmass in places, including weak sericite/saussurite alteration. Near- & far-contacts @5° & 10°/ca respectively. Diabase Dike; sheared dike with 40% cte-Qtz-chlte veinlets & stringers near 201.32m.								
205.86	228.51	22.65	19.20	**ANDESITIC-BASALTIC-PYROCLASTIC(?), DIORITIC PORPHYRY & DIABASE DIKES** Distinctive, blotchy, heterolithic pyroclastic(?) predominates with intervals of consistently textured porphyrytic unit and infrequent fine grained massive dikes(?). Heterolithic material consists of fragment-supported texture in a fine grained, med-dark green chloritic matrix/groundmass (frags 70% by vol). Fragments are rounded to angular & range from <1cm to 10cm or larger. Most fragments leucocratic (granodiorite) with ~15% of fragmental fraction ranging to mafic (towards basaltic composition). Granodiorite fraction often shows salt & pepper texture but smaller & coarser grained fragments tend to be moderately-intensely saussuritized. Altered fragments usually strongly magnetic in a non-magnetic matrix/groundmass, but less altered fragments make up >50% of rock and demonstrate highly variable magnetism. Patchy & variable saussurite, less altered leucocratic fragments & less visible mafic fragments in a dark green matrix/groundmass, give this material its blotchy appearance. Fragmental boundaries are distinct but sometimes diffuse over a mm or more, especially for altered fragments. 30% of interval occupied by diorite porphyry; non-magnetic pyroxene, hornblende, feldspar porphyry in a fine grained groundmass (px 20%, hbde 5%, feld 15% by vol). Ferromag phenos prominent, black & range to 1cm across (90% <4mm). Feldspar phenos small (<2mm across), rounded & slightly sericitic (greenish). Contacts with fragmental material always diffuse over a cm. Almost no internal variation in texture or composition is evident. Fine grained dike(?) material consists of hard, generally massive, weakly-strongly magnetic diabase. Some intervals appear to contain domains or xenoliths that resemble gabbro, augite porphyry or mafic porphyry.		Tr						
205.86	209.21	3.35	3.29	Mottled fragmental; diffuse near-contact ~45°/ca to dark green fine grained material, grading to med grained for 0.6m before gradually displaying mottled & fragmental texture. Sparse-minor disseminated fine grained pyrite in places.		Tr			contact 45°			
209.21	210.86	1.65	1.65	Diabase Dike; sharp near-contact 65°/ca of fine grained diabase demonstrating variably distinct mafic phenos (averaging 40% by vol), sometimes to 3mm across. Subinterval contains lighter colored domains (xenoliths?). Distinct lower-contact ~75°/ca.					contact 65, 75°			
210.86	214.79	3.93	3.90	Mottled fragmental; type-texture clearly evident with large & small fragments (mostly of granodioritic composition) & occasional mafic fragments in a feldspar μporphyritic groundmass.								
214.79	218.88	4.09	4.08	Diorite Porphyry; almost invariant in texture & composition. Single weak calcite-chlorite filled shear & alteration zone 12cm wide near 215.9m, 50°/ca.					shear 50°			

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL				DESCRIPTION							ASSAYS		
From	To	Len	Rec		Mte %	Py %	Po %	Cpy %	Orient'n /ca	Sample ID	Au [gm/tne]	Cu [ppm]
218.88	219.61	0.73	0.73	Diabase Dike; dike extends to 223.85m. Indistinct upper-contact @ high angle/ca. >219.06m, continuous zone of alteration & shearing in a Qtz-cte-chlte vein structure oriented at mostly shallow angle/ca (<20°) with a single strong feature @65°/ca. Sparse, isolated, small, euhedral grains appear in places.		Tr			contact hi° vein shallo w & 65°	93247	0.08	
219.61	223.36	3.75	0.40	Diabase Dike; central portion of dike. Contains patches of yellow-green & green sericite/saussurite alteration, occasional moderate-high angle calcite fracture & moderate & low angle epidote filled fractures. Single domain of altered diorite porphyry; other domains approaching fine grained gabbro(?) as xenoliths(?).					fract's hi° & low°			
223.36	223.85	0.49	0.49	Diabase Dike; far-contact of dike marked by a single thin epidote-chlorite-calcite seam widening to 1cm @20°/ca containing ~15% fine grained pyrrhotite(?). Another separate similar v. thin structure with same proportion of sulfides also exists.		M	M		vein 20°	93248	0.03	
223.85	224.49	0.64	0.64	Diorite Porphyry; diffuse low angle near-contact over 6-8cm, fairly distinct but irregular. Far-contact nearly parallel/ca.					contact low° & parallel			
224.49	228.51	4.02	4.02	Mottled fragmental; type-description applies except for a 30cm long diorite porphyry domain (fragment/xenolith), followed by 55cm diabase dike(?) centered by ~10cm long cte-Qtz-chlte healed shear zone ~40°/ca.					vein 20°			
228.51	237.65	9.14	9.14	**GABBRO** Weakly & strongly magnetic, faintly calcareous, med-coarse grained, dark grey-greenish, composed of ~80% ferromags in green chloritic, yellow-green saussurite or buff colored, weakly altered mostly feldspathic(?) groundmass; interstitial to interlocking ferromag crystals give rock a felted texture. Rare disseminated pyrite except along epidote-calcite fractures & veinlets distributed occasionally within interval where fine-med grained pyrite can exceed 50%. Other surfaces where rock may break when struck contain abundant pyrite along selvages but are invisible otherwise.		Tr						
232.84	233.45	0.61	0.61	Diffuse 15cm long saussurite zone, centered by thin seam 30°/ca & another epidote-calcite seam 70°/ca near far end of subinterval. 5mm wide veinlet 20°/ca contains abundant fine-med grained pyrite.		2			veins 20°,30° & 70°	93249	0.17	
236.31	236.83	0.52	0.52	Single 15mm wide saussurite/epidote veinlet 25°/ca contains ~70% fine-med grained pyrite in weakly altered gabbro.					veinlet 25°	93250	0.05	
237.65	239.88	2.23	2.23	**DIABASE DIKE/ANDESITIC-BASALTIC TUFF** Distinct, sharp contact 5-10°/ca; fine & med grained, med green-grey diabase/diorite becoming porphyritic with depth. At end of hole, texture not much different than a fine grained variety of gabbro in previous interval (228.51+). Occasional diffuse saussurite patches 10-20cm long.								
239.88	239.88			**END of HOLE**								

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL				DESCRIPTION							ASSAYS		
From	To	Len	Rec		Mte %	Py %	Po %	Cpy %	Orient'n /ca		Sample ID	Au [gm/tne]	Cu [ppm]
		239.88	223.68										

Geologist: David McWilliams

DIAMOND DRILL LOG
RQD LOG SHEET

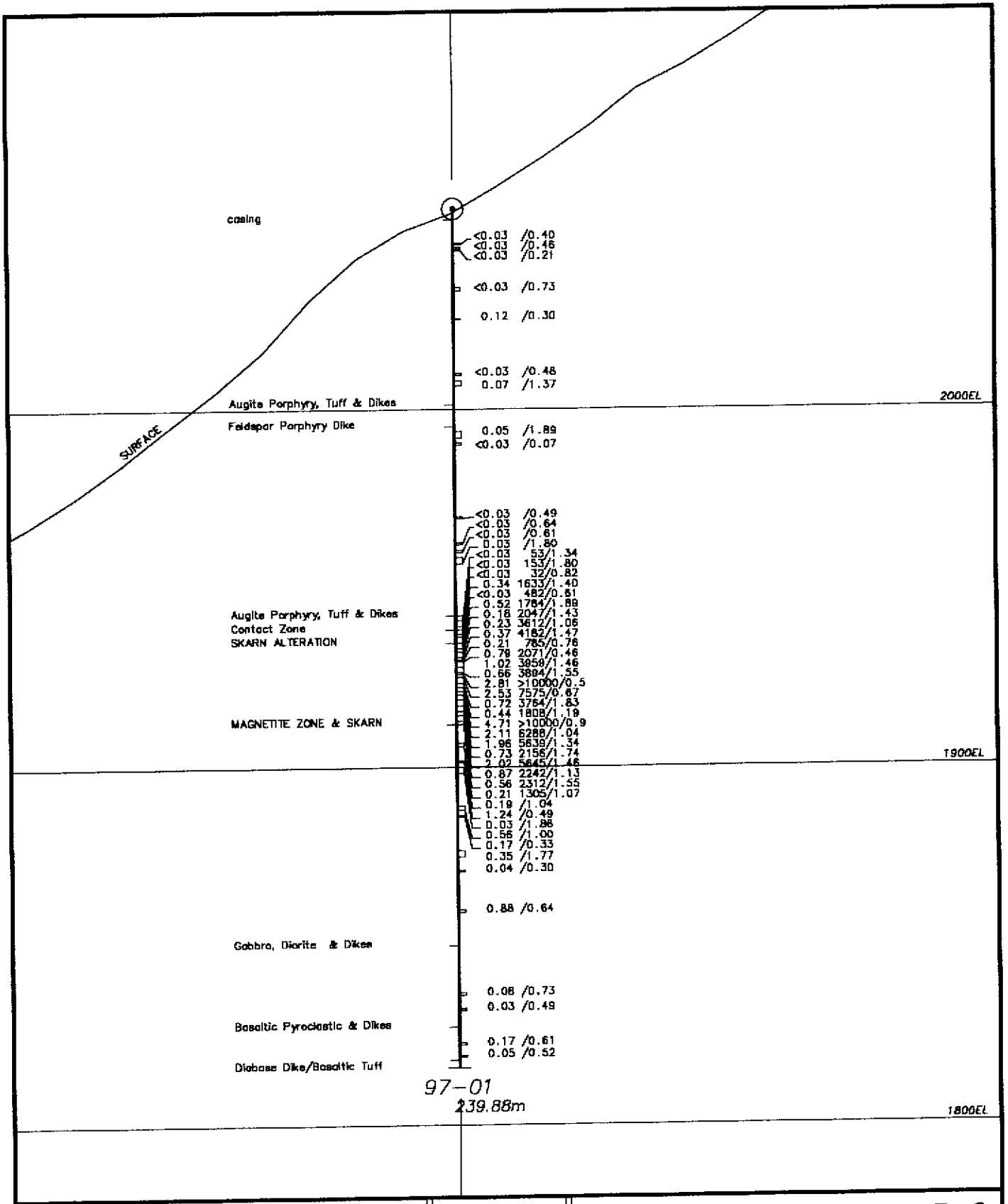
INTERVAL [m]		RQD		Remark	INTERVAL [m]		RQD		Remark
From	To	[m]	[%]		From	To	[m]	[%]	
3.05	4.27	**0.24**	**19.7**	NQ core to 145.1	39.62	39.93	**0.24**	**78.7**	
4.27	5.49	**0.72**	**59.1**		39.93	41.45	**0.65**	**42.7**	
5.49	6.10	**0.13**	**21.3**		41.45	42.37	**0.56**	**61.2**	
6.10	6.71	**0.10**	**16.4**		42.37	43.89	**0.90**	**59.1**	
6.71	7.62	**0.00**	**0.0**		43.89	44.81	**0.13**	**14.2**	
7.62	9.75	**0.00**	**0.0**		44.81	46.02	**1.00**	**82.0**	
9.75	10.06	**0.00**	**0.0**		46.02	47.24	**0.12**	**9.8**	
10.06	10.67	**0.00**	**0.0**		47.24	48.77	**0.11**	**7.2**	
10.67	11.28	**0.10**	**16.4**		48.77	49.38	**0.35**	**57.4**	
11.28	11.58	**0.00**	**0.0**		49.38	49.83	**0.00**	**0.0**	
11.58	12.19	**0.17**	**27.9**		49.83	51.21	**0.33**	**24.1**	
12.19	12.50	**0.00**	**0.0**		51.21	51.82	**0.24**	**39.4**	
12.50	14.02	**0.15**	**9.8**		51.82	52.43	**0.00**	**0.0**	
14.02	15.24	**0.48**	**39.4**		52.43	54.25	**0.35**	**19.1**	
15.24	15.85	**0.00**	**0.0**		54.25	55.47	**0.40**	**32.8**	
15.85	17.37	**0.37**	**24.3**		55.47	57.00	**0.56**	**36.7**	
17.37	17.68	**0.00**	**0.0**		57.00	57.61	**0.00**	**0.0**	
17.68	19.20	**0.46**	**30.2**		57.61	58.52	**0.42**	**45.9**	
19.20	19.81	**0.00**	**0.0**		58.52	60.05	**0.55**	**36.1**	
19.81	20.42	**0.46**	**75.5**		60.05	61.26	**0.73**	**59.9**	
20.42	21.64	**0.00**	**0.0**		61.26	62.79	**0.52**	**34.1**	
21.64	22.25	**0.23**	**37.7**		62.79	64.31	**0.73**	**47.9**	
22.25	23.47	**0.60**	**49.2**		64.31	65.53	**0.37**	**30.3**	
23.47	23.77	**0.00**	**0.0**		65.53	66.14	**0.00**	**0.0**	
23.77	24.99	**0.55**	**45.1**		66.14	67.36	**0.48**	**39.4**	
24.99	25.91	**0.00**	**0.0**		67.36	68.88	**1.35**	**88.6**	
25.91	28.04	**0.95**	**44.5**		68.88	70.10	**0.81**	**66.4**	cave
28.04	29.26	**0.55**	**45.1**		70.10	71.63	**1.30**	**85.3**	
29.26	30.78	**0.95**	**62.3**		71.63	73.46	**0.93**	**50.9**	
30.78	31.09	**0.00**	**0.0**		73.46	74.98	**1.00**	**65.6**	
31.09	32.61	**0.82**	**53.8**		74.98	76.50	**1.10**	**72.2**	
32.61	33.83	**0.24**	**19.7**		76.50	77.42	**0.58**	**63.4**	
33.83	34.44	**0.00**	**0.0**		77.42	78.94	**1.20**	**78.7**	
34.44	35.36	**0.00**	**0.0**		78.94	79.86	**0.76**	**83.1**	
35.36	36.27	**0.00**	**0.0**		79.86	81.38	**1.01**	**66.3**	
36.27	36.58	**0.00**	**0.0**		81.38	82.91	**1.02**	**66.9**	
36.58	37.19	**0.00**	**0.0**		82.91	84.43	**0.85**	**55.8**	
37.19	37.80	**0.00**	**0.0**		84.43	85.95	**1.10**	**72.2**	
37.80	38.10	**0.00**	**0.0**		85.95	87.48	**1.39**	**91.2**	
38.10	38.40	**0.29**	**95.1**		87.48	89.00	**1.48**	**97.1**	
38.40	39.62	**0.65**	**53.3**		89.00	90.53	**0.97**	**63.6**	

DIAMOND DRILL LOG
RQD LOG SHEET

INTERVAL [m] From	To	RQD [m]	[%]	Remark
85.04	92.05	1.20	17.1	
92.05	93.57	1.33	87.3	
93.57	95.10	1.00	65.6	
95.10	96.62	1.35	88.6	
96.62	98.15	0.92	60.4	
98.15	99.67	1.15	75.5	
99.67	100.89	0.79	64.8	
100.89	102.41	1.40	91.9	
102.41	103.63	0.92	75.5	
103.63	105.16	1.48	97.1	
105.16	106.68	0.96	63.0	
106.68	107.29	0.26	42.7	
107.29	108.81	0.86	56.4	
108.81	110.34	1.14	74.8	
110.34	111.25	0.30	32.8	
111.25	111.86	0.43	70.5	
111.86	113.39	1.15	75.5	
113.39	114.91	1.30	85.3	
114.91	116.43	1.32	86.6	
116.43	117.96	1.55	101.7	
117.96	119.48	1.34	87.9	
119.48	121.01	0.45	29.5	
121.01	122.53	1.36	89.2	
122.53	124.05	1.64	107.6	
124.05	125.58	1.35	88.6	
125.58	127.10	0.84	55.1	
127.10	128.63	1.01	66.3	
128.63	130.15	1.09	71.5	
130.15	131.67	1.36	89.2	
131.67	133.20	1.00	65.6	
133.20	134.72	0.80	52.5	
134.72	136.25	1.25	82.0	
136.25	137.77	1.21	79.4	
137.77	139.29	1.43	93.8	
139.29	140.82	1.56	102.4	
140.82	142.34	1.52	99.7	
142.34	143.87	1.21	79.4	
143.87	145.08	1.22	100.1	
145.08	148.13	1.06	34.8	reduced to BTW
148.13	148.44	0.22	72.2	
148.44	149.96	0.86	56.4	
149.96	153.01	1.21	39.7	
153.01	154.53	1.51	99.1	
154.53	157.58	2.80	91.9	
157.58	159.41	0.48	26.2	
159.41	162.46	2.31	75.8	
162.46	165.51	1.67	54.8	
165.51	167.64	1.18	55.3	
167.64	170.69	2.05	67.3	
170.69	172.82	1.70	79.7	
172.82	175.87	2.18	71.5	
175.87	178.61	2.38	86.8	
178.61	181.36	1.61	58.7	
181.36	183.18	0.74	40.5	
183.18	185.01	1.52	83.1	
185.01	188.06	2.26	74.1	
188.06	191.11	2.55	83.7	
191.11	194.16	2.50	82.0	
194.16	197.21	2.36	77.4	
197.21	200.25	2.38	78.1	
200.25	203.30	2.84	93.2	
203.30	205.44	1.84	86.2	
205.44	208.48	2.41	79.1	
208.48	211.53	2.15	70.5	
211.53	212.45	0.74	80.9	
212.45	215.49	2.99	98.1	
215.49	218.54	3.02	99.1	
218.54	221.59	2.93	96.1	
221.59	224.64	2.92	95.8	
224.64	227.69	2.97	97.4	
227.69	230.73	2.73	89.6	
230.73	233.78	2.87	94.2	
233.78	236.83	1.65	54.1	
236.83	239.88	1.93	63.3	EOH
HOLE AVERAGE			**62%**	

RQD measures lengths of core 10cm long or greater.
Intervals defined by driller's footage blocks in core box.

Geologist: J David Williams



INTEGREX ENGINEERING

NOTES:
Looking 322°Az [wrt UTM Grid]
Assay Format: Au[gm/tne] Cu[ppm]/Interval[m]
Cu may not have been assayed

10 METRES 0 10 20 30 40 50
Scale 1:1,500

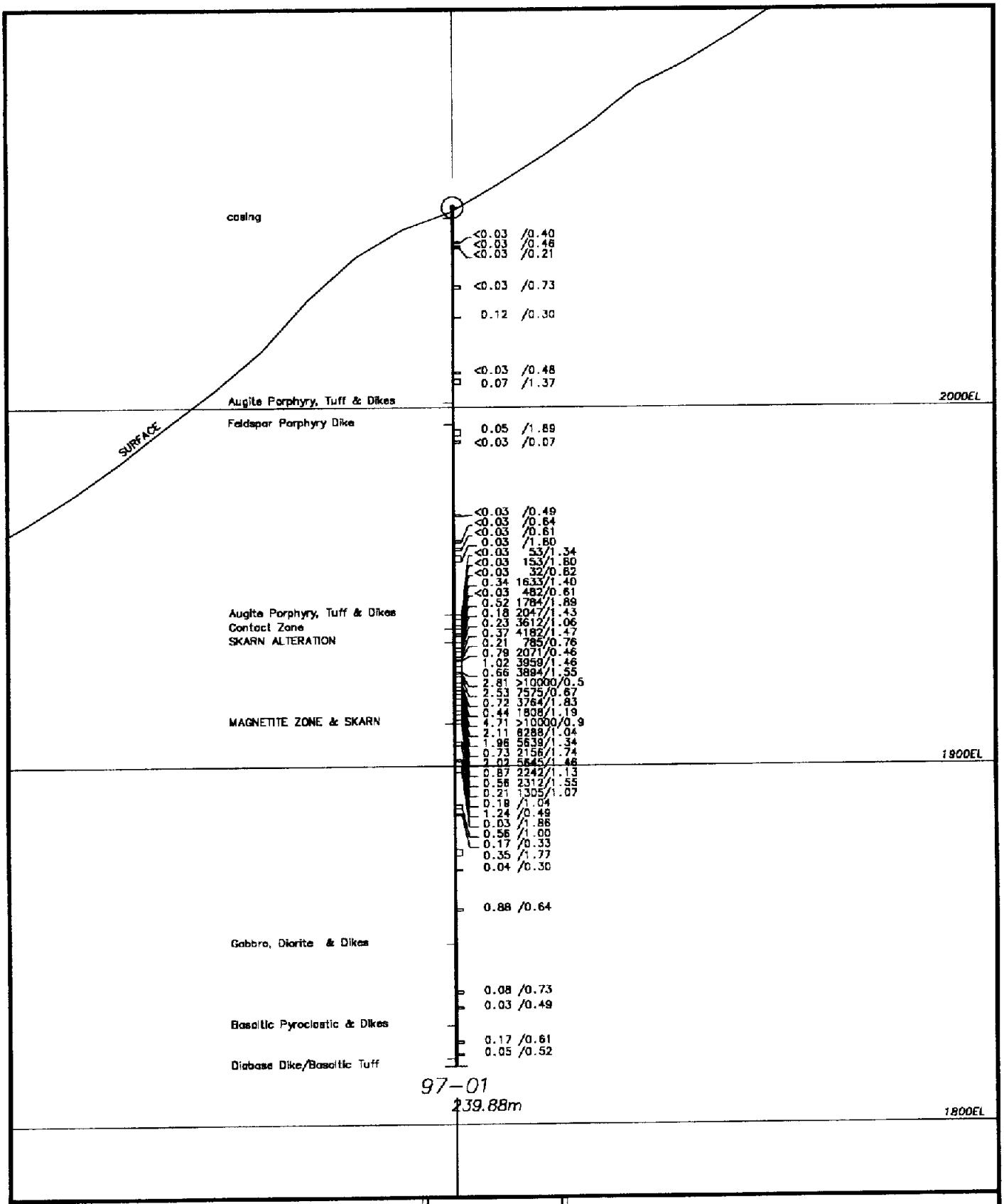
DATE	REVISION	INITIAL
15Sep97	Original Release	JDW

	COMPOSITION
1	Surface Profile
2	DH String
3	DH Geology
4	DH Assay
5	
6	
7	

Vital Pacific Resources Ltd.

SOUP PROJECT 1997
DDH 97-01

DATE: SEPTEMBER 1997	SCALE: 1 : 1,500	Figure No.
DRAWN By: J.D.WILLIAMS, P.Eng.	JOB No.: SOUP PROJECT	01
DRAWING No.: DDH97-01.dwg	N.T.S. 094D/08E	



INTEGREX ENGINEERING

NOTES:
Looking 322°Az [wrt UTM Grid]
Assay Format: Au[gm/tne] Cu[ppm]/interval[m]
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10 METRES 0 10 20 30 40 50
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	COMPOSITION
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SOUP PROJECT 1997
DDH 97-01

DATE: SEPTEMBER 1997	SCALE: 1 : 1,500	Figure No.
DRAWN By: J.D.WILLIAMS, P.Eng.	JOB No.: SOUP PROJECT	01
DRAWING No.: DDH97-01.dwg	N.T.S. 094D/08E	

DIAMOND DRILL LOG
HEADER SHEET

Property	**SOUP**
Claim	SOUP #4
Location	Southwest-facing slope descending into Kliyul Creek, same as that of DDH 97-01.

Purpose

To obtain a second intersection of magnetite & skarn alteration further down-dip from that cut in DDH 97-01. The first intersection is expected near 183m [600 feet]. No attempt to test the stratigraphy beyond the intersection is planned.

NORTHING [NAD83]	**6,262,582**
EASTING	**680,504**
ELEVATION	**2,056**
LENGTH	243.84m [800.0 ft.]
AZIMUTH	052°
DIP	-64.5° (at collar)

Contractor	Aggressive Drilling
Core Size	NQ & BTW
Date Started	10 July 1997
Date Completed	17 July 1997
Casing Depth	3.05m
Stick-up Length	0.0m

Results

A 22.1m thick zone of nearly massive magnetite was intersected 189.52-211.59m. It returned an average assay of 0.84 gram/tonne (0.02 oz/T) Au & 3501ppm Cu. Compared with the intersection of 97-01, this intersection contains greater sulfide fraction (~12% vs. 8% in 97-01) in magnetite that is graphitic in places - graphite was not noted in 97-01. A footwall zone of discontinuous skarn, weakening with depth extended for 22m [to 233.60m] and hanging-wall alteration started with a 3.3m chlorite zone @164.32m, before a 22m length of garnetiferous skarn. The total alteration amounts to 69.28m [164.32-233.60m].

Assuming stratigraphy dipping at 30° and the hole descending at –62°, a true thickness of ~11.7m is estimated. But, for a hole oriented perpendicular to strike, an angle of stratigraphy to core axis of 30-35° is to be expected. Instead, banding in tuff and in skarn ranged from 40° to 60°.

Comments

Core size reduced to BTW from NQ @99.06m.
Core is stored at camp-site on Kliyul Creek.
223.34m of core recovered, recovery rate 92%.

20 character samples taken at 29.66, 42.82, 46.24, 87.54, 165.26, 170.69, 174.01, 179.07, 187.06, 189.92, 194.43, 198.58, 204.52, 206.96, 209.55, 214.58, 223.85, 230.22, 241.04 & 243.02m.

Dip Tests

Depth	Reading	Corrected	Remark
175.6	-68.5°	-61.5°	
243.8	-70.5°	-63.8°	

Geologist: David Williams

INTEGREX ENGINEERING

Logged by:
J.D. Williams, P.Eng.

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
0.0	3.05	3.05	0.0	**Casing**								
3.05	164.32	161.27	148.34	**BASALTIC AUGITE PORPHYRY FLOWS & TUFF & DIABASE DIKES** Diverse sequence of fine & med-grained material dominated by pyroxene (augite?) porphyry with intervals of tuffaceous rocks. About half of interval an augite porphyry where large euhedral black pyroxene crystals range to 5mm in size in a usually weakly magnetic dark green fine-grained feldspar µporphyry (90% feld phenos <1mm across) [pyroxene xtals 10%, feldspar xtals ~25%]. Lapilli/lithic fragments usually occur in accessory amounts but may be abundant or dominant in places. Most of remaining interval consists of fine & med grained dark green, sometimes greyish tuffaceous material, often with tiny light colored (feldspar?) grains. More coarsely grained phases of tuff display prominent light colored faintly greenish feldspars with abundant black pyroxene crystals, faintly but distinctly visible against a dark colored groundmass & larger more prominent black pyroxene & hornblende phenos up to 2mm across (feld 20%, px 40%, hbde minor). Most of interval non-magnetic to weakly magnetic & non-calcareous & weakly chlorite altered. Variations in textures between the fine-grained tuff & coarser porphyry occur thuout the interval with contacts that are typically diffuse but rapid but can be gradational over long sections. Much of core to ~42.7m broken of rubbly. Very minor sulfide development; sparse subhedral pyrite grains may be visible on a fresh surface.		Tr						
3.05	9.66	6.61	6.61	Feldspar & Pyroxene crystal tuff; medium grained, gradually grading to fine grained, weakly calcareous material by ~8.2m. Nearest meter contains repeated intervals of v.dark green-grey, fairly hard, moderately magnetic material displaying usually faint, altered euhedral feldspar as lighter colored grains/xtals. Minor local variations in texture thruout rest of subinterval. Patches of moderate magnetism but mostly non-magnetic to weakly magnetic. Fine grained sections contains white fracture fillings or veinlets <2mm wide distributed on a scale ~8cm. Slight displacements along fractures indicate at least 3 fracture regimes. Most fractures oriented >40°/ca but with non-uniform strikes.					fract's >40°			
9.66	11.28	1.62	0.70	FAULT; 50cm med brown & green, earthy, clayey fracture & shear zone at start of interval. Fracturing & brecciation on both sides of a 15cm long shear oriented nearly parallel to core axis. Abundant, white, sometimes pitted calcite veinlets. Remainder of subinterval moderately magnetic, moderately-weakly calcareous, fairly hard (H~5.5), fine grained, green-grey & penetrated by numerous calcite veinlets or short slashes.					Fault low°			
11.28	11.43	0.15	0.15	Vein; rubbly recovered Qtz-cte-ankerite?-chlte vein with minor pyrite as fine & med grained euhedra & occasional bleb of chalcopyrite.		M		Tr		93251	0.54	
11.43	20.67	9.24	6.80	Tuff; med-dark green, fine grained, fairly soft (H~4.8), moderately calcareous. Usually displays small fine grained calcareous/calcite eyes up to 3mm across (up to 40% by vol), pseudomorphic after feldspar phenos? & rimming chlorite altered phenos (after pyroxene?). Strong shearing & strong magnetism 15.76-16.52m @~50°/ca. Abundant cte-Qtz stringers, veinlets & fracture fillings thruout subinterval at various orientations. Single cte-Qtz &					shear 50° vein 20°			

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
				breccia zone associated with shear zone near 16.0m ~6cm wide(true) oriented ~20°ca.								
20.67	30.91	10.24	6.40	Augite Porphyry; black freckles of coarse-grained pyroxene phenos (~15% by vol) in a dark green-grey basaltic groundmass at top of subinterval grading hesitatingly to more feldspathic (dioritic) groundmass. Subinterval variably magnetic ranging to strong over local sections. Feldspars light-colored with green-yellow cast (sericitic?). Shear zone 27.8-28.6m ~40/ca centered by ~12cm earthy, crumbly, limonitic FAULT? with diminishing parallel limonitic calcareous veinlets with distance into each wall.					Fault/ shear 40°			
30.91	33.71	2.80	2.47	Tuff; nearly homogeneous, fine grained, med-dark green, variably magnetic – locally moderately magnetic. Single 10cm long patch augite porphyry with gradational contacts 55-60°/ca near 31.9m. Lower-contact very sharp & highly irregular marked by an unusually fine ash? layer. Subinterval laced with fractures & saussurite/epidote fracture fillings on a frequency of 1-20cm – oriented in all directions.					contact 55-60°			
33.71	33.99	0.28	0.28	Augite Porphyry; type-rock, similar to subintervals 20.67+ & 34.32+.								
33.99	34.32	0.33	0.33	Vein; somewhat ragged 1cm wide Qtz-cte vein 15-20°/ca with irregular pea-sized chalcopyrite & abundant malachite.			M		vein 15-20°	93252	0.15	
34.32	35.08	0.76	0.82	Augite Porphyry; type-rock.								
35.08	37.22	2.14	2.07	Tuff; fine grained with slightly varying grain size displaying very gradational contacts 1 or 2cm wide & some irregular contacts (appearing to be a detrital feature). A single planar contact measured @60°/ca. A local band of augite porphyry exists near 35.63m but without surviving contacts. Peculiar shapeless black, magnetic blotches occur in places with distinct, sometimes ghosted edges.					band'g 60°			
37.22	41.91	4.69	4.69	Lapilli & Lithic Tuff; medium grained, variably magnetic mafic (basaltic) rock with pale yellow flecks (of sericitized feldspar?) comprising up to 15% by vol. Abundant & sometimes predominant irregular ghosted, indistinct shapes of fine grained lapilli or lithic fragments, most of pea size or slightly larger. Frags outlined by color difference against v.dark green groundmass & are sometimes faintly elongate or flattened ~55/ca. >~41.2m, frags decrease to a dark green feldspar crystal tuff?								
41.91	42.37	0.46	0.46	Vein; partly rubbly recovery of Qtz-cte-chlte vein against contact of feldspar porphyry. Chlorite as dark green knots or irregular domains. Structure oriented ~20°/ca.					vein 20°	93253	0.07	
42.37	43.13	0.76	0.76	Feldspar Porphyry Dike; distinct euhedral unaltered white feldspar crystals up to 5mm across floating in a hard, homogeneous, moderate-weakly magnetic, fine-med grained, salt & pepper groundmass. Lower contact distinct @10°/ca.					dike 10°			
43.13	46.36	3.23	3.35	Porphyritic Lapilli & Lithic Tuff; similar to subinterval 37.22+. Moderately magnetic over frequent intervals,. Lithic frags sometimes large, light colored (whitish, greenish) & prominent (quartz diorite composition). ~10% pyroxene phenos in most places – not evident everywhere.								
46.36	47.55	1.19	0.76	Diabase dike; dark green, freckled by light green calcareous irregular shaped pseudomorphs (after feldspar?) comprising (<10% by vol). Contacts distinct; near-contact appears to show chill margins ~1cm wide; far-contact not recovered adequately. Both contacts ~20°/ca.					dike 20°			

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
47.55	53.34	5.79	3.84	Augite Porphyry (Lapilli & Lithic Tuff); type-rock & similar to subinterval 42.37+. Pyroxene phenos nearly always evident, ranging to 8mm across & comprising ~15% by vol. Variable proportion small, buff-faint green freckles, <1mm across, <40% by vol. Lithic frags minor component. Magnetism absent to weak. Thin pea-green saussurite/epidote veinlets & fracture fillings; most >60°/ca. 50.0-52.0m culminates in a 30cm long hard, bleached & silicified zone with minor coarse-grained euhedral & subhedral pyrite. Alteration zone displays diffuse contacts over ~4cm, but appears to be oriented @moderate angles to core axis – possible large lithic frag? FAULT: mostly med green fine clay & lesser rock frags 50.38-51.11m.		Tr						
53.34	54.25	0.91	0.64	Feldspar Porphyry Dike/FAULT?; broken core; neither contact preserved. Very hard homogeneous, weakly magnetic, weakly calcareous, med-fine grained, mafic but with salt & pepper texture (ferromags 80%). Large, euhedral feldspar phenos up to 5mm across with sericite alteration rims. Other core fragments of med-grained augite porphyry & fine-grained tuffaceous material.								
54.25	54.86	0.61	0.61	Augite Porphyry/FAULT?; ground core fragments, moderately altered, hard, silicified, light green to pale green. Locally abundant (~15%) fine & med grained disseminated euhedral pyrite.		M				93254	<0.03	
54.86	57.82	2.96	2.62	Feldspar Porphyry dike; similar to subinterval 53.34+ but with lower CI (~60) & variably distributed feldspar phenos ranging from absent to 10%; sometimes existing as Quartz eyes rather than feldspar. Far-contact slightly disrupted by weak, parallel shearing @~30°/ca.					shear'g 30°			
57.82	62.09	4.27	4.27	Basaltic Tuff; fine grained, med-dark green, locally strongly magnetic but otherwise weakly magnetic. Sometimes gradually developing into a feldspar μporphyry in local areas with extremely faint grain size banding on mm scale, uniformly oriented @40°/ca. Fault?; patch of clay coated core frags near 60.47m. Occasional thin calcite & epidote-filled fractures & places where fractures distributed in an open stockwork at several & random angles to core axis. Epidote alteration in a single irregular structure containing calcite & Qtz at v.low angles/ca near 59.47m.					band'g 40°			
62.09	73.24	11.15	10.67	Augite Porphyry; med grained, faintly calcareous, similar to subinterval 47.55+. Lithic fragments sometimes faintly visible & often partly resorbed. Magnetism generally v. weak except for patches of moderate-strong intensity. Occasional thin vein, veinlet or fracture filling at moderate & low angle to core axis. Subinterval gradually & hesitatingly becomes slightly finer grained, non-calcareous, generally more magnetic with greater CI (~70) & includes intervals of fine grained tuff >71.0m with contacts gradational over several mm.					vein & veinlet low°			
73.24	74.98	1.74	1.58	Diabase dike?/Tuff?; ~30cm length of fairly hard (H>5.0), moderately magnetic, aphanitic phase (tuff?) near center of subinterval ~74.2m, gradually changing to non-magnetic more coarsely grained material in each direction. This phase looks similar to some diabase dikes described in this hole & in DDH 97-01.								
74.98	76.60	1.62	1.43	Augite Porphyry; med grained material similar to subinterval 47.55+. Rubbly recovery to 75.77m. Lighter color of groundmass due to weak pervasive saussurite? Non-magnetic.								
76.60	77.36	0.76	0.76	Pyroxene Porphyry dike?; dark green, hard, med-fine grained, faintly calcareous, mafic, with		Tr			contact			

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
				sharp & distinct contacts @50° & 45°/ca (near- & far-contacts respectively). Distinct but faint coarse grained pyroxene phenos (~20% by vol) visible thruout most of subinterval. Fault?; single 4mm wide limonite & saussurite clay gouge @40°/ca near far-contact. Near-contact disrupted slightly by Qtz-limonite veinlets & stringers. Far-contact marked by chlorite-filled calcite vein containing thin seam med-fine grained pyrite.					50, 45° fault? 40°			
77.36	82.75	5.39	5.27	Augite Porphyry; med grained with <10% pyroxene phenos to ~79.6m where lithic fraction appears in accessory amounts, while proportion of pyroxene phenos increase (to ~30% by vol) with depth. Lithic frags as sparse pea-sized rounded, diffuse or serrated or ovoidal shapes. Near 82.36m, rare med & coarse euhedral pyrite grains visible. >82.45m lithic fraction rapidly increases to 35% by vol as faint, diffuse or distinct frags up to 15mm across. Lithic frags composed of med grained chloritic or sericitic material, or fine grained less altered rock.								
82.75	89.18	6.43	6.43	Tuff; fine grained, locally & usually gradationally changing to coarse grained variety, but of homogeneous composition. Faint but sometimes distinct banding (bedding) visible in places 45-60°/ca.					band'g 45-60°			
89.18	91.01	1.83	1.80	Tuff-Basaltic Flow; nearly homogeneous, med grained, large coarse ferromag xtals nearly absent. Rare ghostly sericitic? feldspar? xtals especially towards end of subinterval. Hairline fractures filled with calcite-saussurite/epidote & sometimes with v.fine grained pyrite, at low & high angles to core axis.					fract's hi° & low°			
91.01	94.15	3.14	2.65	Tuff; 2-3cm wide gradational near-contact to v. fine grained tuffaceous material, med-v. dark green with slightly coarser intervals demonstrating v. faint banding on a scale of 2-5mm oriented ~50°/ca. Gradual tendency to increasing grain size with depth, especially >93.0m to end of subinterval to a med-light green, med grained, thickly banded tuff. Near 91.93m, a rusty fracture/weak shear zone @50°/ca & ~18cm long begins with a dark orange planar & pitted break, followed by decreasing fracture intensity with depth, & marks a color change in host rocks from dark to med green. Rubbly core over ~20cm near 92.1m may mark the location of much of lost core.					band'g 50° shear'g 50°			
94.15	94.46	0.31	0.31	Diabase dike; distinctive knife-edge contacts marked by ~1cm wide chill margins of dark green to nearly black color. Feldspar phenos marked by sericite freckles visible in places.								
94.46	95.49	1.03	1.03	Tuff; med grained, med green with variable & patchy-blotchy light pea-green saussurite centers controlled, in part by fractures from which alteration diffuses into host. Fractures oriented at random angles.								
95.49	96.59	1.10	1.10	Vein & Shear Zone; epidote/saussurite alteration along fractures & rubbly recovery changes to a hard, bleached, epidote & chlorite altered zone with minor cte-Qtz veining & flooding. End of subinterval marked by bands of Qtz-cte veins in silicified epidote-chlorite 15-20°/ca; occasional patches org-red pigment (hematite?).					vein & shear 15-20°	93255	<0.03	
96.59	99.58	2.99	2.99	Crystal Tuff; med grained with pyroxene & feldspar xtals occurring in about equal proportions. Two short intervals where fine grained tuff exists with a rapid (1-2mm wide) near-contact & rapid but gradational far-contact. Banding in fine grained tuff 50-60°/ca.					band'g 50-60°			
99.58	101.80	2.22	1.58	Shear Zone; saussurite alteration in fracture/shear zone. Abrupt near-contact @20°/ca to a					shear	93256	0.03	

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL				DESCRIPTION							ASSAYS		
From	To	Len	Rec		Mte %	Py %	Po %	Cpy %	Orient'n /ca	Sample ID	Au [gm/tne]	Cu [ppm]
				yellow-green & med green, partly limonitic structure oriented nearly parallel to core axis. Brecciation strongest for 35cm near 101.0m & gradually but hesitatingly weakens with depth. Occasional patch of diffuse orange color. Slickensides appear in places with orientations perpendicular to core axis.					20° slickens perp°			
101.80	105.46	3.66	3.66	Tuff; med grained, weakly-moderately magnetic with lapilli visible near center of subinterval. Alteration of subinterval 99.58+ decreases over ~30cm but resumes >103.6m as saussurite/epidote along & into hairline fractures (most 20-45°/ca).								
105.46	106.01	0.55	0.55	Dike/Tuff?; v.hard, usually moderately magnetic, v. fine grained, silicic, dark grey with seams, patches, lenses & veinlets of irregular cte-Qtz & epidote or chlorite, sometimes occurring together & often pitted. Rare med & fine grained corroded/discolored pyrite euhedra.		Tr				93257	<0.03	
106.01	107.59	1.58	1.55	Tuff; mostly fine grained, moderately magnetic material with domains med grained tuff showing distinct but faint contacts. Fine grained material sometimes appears to show chill margins next to med grained tuff, making it a possible dike instead of an ash tuff. Far-contact v.irreg-(intercalated?) & indistinct. Moderate-strong brittle fracturing & small displacements of fractures by other fracture regimes.								
107.59	109.64	2.05	2.07	Augite Porphyry; med grained with augite phenos ~15% by vol & minor lapilli/lithic component. Occasional hairline epidote-filled fractures.								
109.64	110.64	1.00	1.00	Vein; feathery, irregular epid-cte-Qtz structure ~1cm thick waving through core axis in med grained tuff.					vein parallel	93258	<0.03	
110.64	126.67	16.03	15.91	Tuff; med grained, variably magnetic, unaltered with small ferromag & feldspar xtals in various proportions in a dark green groundmass; sparse, v.faint lighter colored lapilli. Local variations in texture & composition tend to be slight & local. Single location of fine grained tuff with a sharp, distinct contact at 111.34m oriented 50°/ca & demonstrates delicate barely perceptible conformable banding before grading to med grained tuff over 10s of cm to 112.4m.					band'g 50°			
126.67	129.02	2.35	2.16	Tuff; fine grained, faintly calcareous, med & dark green. Near-contact abrupt @50°/ca with delicate, faintly visible banding @45°/ca near 126.95m. Occasional hairline fracture fillings & veinlets of cte-Qtz.					contact 50° band'g 45°			
129.02	130.15	1.13	1.13	Vein & Tuff; 2cm wide garnet-magnetite-pyrite vein ~50°/ca at 129.08m in tuffaceous material similar to subinterval 126.67+. End of interval marked by 62cm long Qtz-cte-chlte structure 30°/ca containing occasional limonite patches & selvedges.					vein 50° & 30°	93259	0.54	
130.15	131.67	1.52	1.52	Tuff; fractured & brecciated material, mostly moderately magnetic, fine grained, weakly-moderately calcareous, med green. Abundant irregular fractures thruout most of subinterval, intensifying towards center of subinterval to a mosaic breccia with local v. intense, soft, brown-green colored (pyrophyllite?) cataclasite zones. Much of deformation oriented about parallel to surviving banding in tuff @~50°/ca, sometimes shallower.					shear'g, band'g 50°	93260	0.05	
131.67	142.71	11.04	11.04	Augite Porphyry (Agglomeratic); similar to subinterval 110.64+ with coarse black pyroxene phenos up tp 1cm across (90% <4mm) among small xtals of whitish-buff colored feldspar in a								

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
				dark green moderately-weakly calcareous groundmass. Also variably distributed, sometimes v.large (<10cm across) rounded frags or clasts of similar material but often of salt & pepper texture & dioritic in composition. Other frag/clast compositions & textures range from med green tuff to fine grained basaltic to various phases of augite porphyry. Most frags distinct, sometimes moderately sericite/saussurite altered & range in distribution from nearly absent to predominant with highest proportion towards end of subinterval. Occasionally & v. locally magnetic Pyrite visible as rare v. fine grained fleck.								
142.71	144.35	1.64	1.64	Agglomeratic Augite Porphyry; similar to subinterval 131.67+ but contains much more pyrite. Pyrite localized by fracture fillings as fine grained selvages or as the v. occasional discrete, irregular blebs or within rare epidote alteration cored by massive-raggedly disseminated fine grained centers.		2				93261	<0.03	
144.35	145.21	0.86	0.86	Augite Porphyry (Agglomeratic); similar in every respect to subinterval 131.67+.								
145.21	147.80	2.59	2.53	Tuff; fine grained, with slightly coarser grained fraction, & v. gradually increasing in grain size with depth to a fairly homogeneous med-fine grained material. Faint but sometimes distinct banding hilited by slight variation in grain size & evident thruout near-half of subinterval; orientations ~60°/ca; banding on mm-cm scale.					band'g 60°			
147.80	150.02	2.22	2.19	Basaltic Tuff/Flow; med grained, weakly porphyritic, faintly calcareous with variable lithic/lapilli fraction (<20% by vol), most visible near center of subinterval; fine grained bands predominate to 148.0m oriented 50-60°/ca.					band'g 60°			
150.02	152.25	2.23	2.23	Diabase Dike?; dike extends to 152.70m. Generally fine grained, pervasively but weakly epidote altered, weakly calcareous with chlorite knots & patches. Strongly fractured, showing slight adjustment fractures at low angles to core axis (<10°/ca) & usually rusty brown colored cte-Qtz stringers, lenses & tension gashes. ~50cm brownish rusty colored rubble near 151.0m. Near end of subinterval, a 45cm domain, nearly leucocratic, unaltered diorite xenolith? appears. Near-contact disrupted & uncertain but fine grained & dark colored (chill margin?).								
152.25	152.70	0.45	0.45	Diabase Dike? moderately altered, med green & yellow-greenish colored with fractures influencing alteration pattern. Far-contact disrupted by cte-Qtz lenses & ~2cm brownish gouge & rock fragments.						93262	0.04	
152.70	159.26	6.56	6.56	Agglomeratic Augite Porphyry; similar to subinterval 468.2+. Faintly-weakly calcareous, dark green colored ferromag phenos (20-50% by vol) in green, often weakly-moderately sussuritized & pea-green colored groundmass. Abundant angular, usually fine grained, mafic lithic fragments (0-20% by vol). Single 38cm long, bleached, silicified, v. hard domain augite porphyry near 158.40m with sharp contacts 50°/ca – possible dike or fragment?								
159.26	159.90	0.64	0.76	Tuff; fine grained, chloritic, strongly sheared 30-60°/ca, invaded by Qtz & calcite veins; mosaic breccia texture near center of subinterval. Minor fine grained disseminated pyrite.		M			shear'g 30-60°	93263	0.18	
159.90	162.34	2.44	2.32	Basaltic Volcanic; med grained, bleached to light yellow-green at abrupt contact at start of subinterval, fading with depth to agglomeratic augite porphyry similar to subinterval 152.70+. Weak-moderate shearing in places marked by Qtz-cte veins & structures ~20°/ca. Single patch malachite stain on fracture surface.					shear'g 20°			

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL				DESCRIPTION						ASSAYS		
From	To	Len	Rec		Mte %	Py %	Po %	Cpy %	Orient'n /ca	Sample ID	Au [gm/tne]	Cu [ppm]
162.34	163.53	1.19	1.19	Tuff/Diabase; fine grained, faintly porphyritic with altered ferromag & feldspar phenos <3mm across. Near-contact abrupt @20°/ca; far-contact not preserved.					contact 20°			
163.53	164.32	0.79	0.79	Augite Porphyry; med grained with weak-moderate saussurite/epidote altered, greenish-yellow colored groundmass.								
164.32	167.58	3.26	3.26	**CHLORITE CONTACT ZONE** fairly soft (H 4-5), fine grained, med & dark green, weakly-moderately chloritic tuffaceous(?) material, penetrated by numerous cte-Qtz stringers, veinlets, streaks & slashes (~10% by vol) thruout most of interval. Chloritic host moderately calcareous & usually strongly sheared at orientations usually <20°/ca but locally as high as 45°/ca. In some places relict porphyritic texture of feldspar? is visible, but calcite-sericite altered.	5				shear'g 0-45°			
164.32	166.12	1.80	1.80	Chloritic material; 15cm long zone of strong shearing & brown-green clay/gouge near 165.05m, about parallel to core axis. Rubbly zone of brown-green gouge for 16cm near 165.87m containing Qtz-cte-chlte lens.						93264	<0.03	269
166.12	167.58	1.46	1.46	Magnetite zone; rubbly recovered, ~65cm long near center of subinterval. Red-brown fracture surfaces & lesser clay thruout much of magnetite zone. Slight yellow-green saussurite color near end of subinterval.	25					93265	0.17	273
167.58	189.52	21.94	21.84	**SKARN ALTERATION** About 50% of interval, a dark flesh colored, sugary, fine-med grained predominantly garnetiferous material with streaks, patches or serrated blebs of fine grained magnetite & accessory epidote & chlorite alteration. 20% of interval marked by weaker garnet alteration where garnet is subordinate or entirely absent in favor of epidote-chlorite-magnetite. Remainder of interval generally weakly epidote/saussuritic host rock which is usually medium green to yellowish green augite porphyry with comparatively sparse ferromag phenos with those in most other intervals, & displays prominent smaller cream colored feldspar phenos (ferromag xtals ~10% feld xtals ~15% by vol). Garnetiferous intervals may be v. hard or when limonitic, nearly friable; magnetite streaks highlighting banding ~50°/ca. Similar magnetite banding in less garnetiferous zones has similar orientation. Occasional malachite stain along fracture surfaces.	10	M			band'g 50°			
167.58	168.65	1.07	1.07	Augite Porphyry; pyroxene phenos <3mm across varying in distribution 20-50% in a pervasively weak-moderately epidote altered, faintly calcareous, green-yellow colored groundmass. Occasional thin partly limonitic pyritic fracture fillings & series of Qtz-cte-py-mte veinlets 40°/ca in a swarm 10cm wide near 168.2m.	Tr	M			veinlet 40°	93266	0.05	492
168.65	169.96	1.31	1.28	Hard, yellow-green, moderately epidote altered, fine grained material with minor irregular blotchy discontinuous bands fine grained magnetite & associated strong epidote alteration. Occasional hairline fine grained pyritic fracture fillings. 10cm domain of weak garnet development near 169.6m.	2	Tr				93267	0.16	647
169.96	171.02	1.06	1.06	Similar to subinterval 168.65+ with slightly greater magnetite development as fine grained flocculated or serrated blebs, generally increasing in distribution density with depth. Pyrite	5	M				93268	0.30	1604

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL				DESCRIPTION						ASSAYS		
From	To	Len	Rec		Mte %	Py %	Po %	Cpy %	Orient'n /ca	Sample ID	Au [gm/tne]	Cu [ppm]
				occurs with magnetite as v. fine grained flecks.								
171.02	171.82	0.80	0.76	Moderate garnet development with banded, disseminated, fine grained magnetite fading to strong epidote-chlorite alteration with magnetite in mm-sized ragged streaks & bands 50°/ca. Occasional Qtz stringer patch or veinlet.	8	M			band'g 50°	93269	0.54	2189
171.82	173.16	1.34	1.34	Strong fine grained garnet development with ragged bands of serrated blebs of magnetite @50°/ca; faintly calcareous with v. minor accessory epidote.	15				band'g 50°	93270	1.13	3713
173.16	174.50	1.34	1.31	Similar to subinterval 171.82+ (above).	15	M			band'g 50°	93271	0.93	2925
174.50	174.96	0.46	0.40	35cm length of weak garnet & calcite with irregular delicate, warped streaks of v. fine grained magnetite terminated by strong shear 50°/ca, followed by nearly massive fine grained garnet with serrated magnetite domains, blebs & slashes.	15	M				93272	0.56	2996
174.96	175.84	0.88	0.88	Sheared & chlorite altered fine grained, faintly pyroxene porphyritic tuff(?). Shearing strongest towards end of subinterval where chlorite alteration occurs with nearly massive bands v. fine grained magnetite.						93273	0.68	2130
175.84	177.73	1.89	1.89	Weakly epidote altered feldspar & pyroxene µporphyrytic basaltic volcanic. Alteration decreases across shear zone near 177.3m @20°/ca. Rock below shear moderately magnetic.					shear'g 20°	93274	0.07	383
177.73	178.64	0.91	0.91	Strong shear zone at start of subinterval with Qtz-cte-chlte followed by strong chlorite altered & strongly magnetic material with irregular fine grained disseminated & flocculated blebs, patches & streaks magnetite. Alteration & mineralization decreases >178.43m.	10	M				93275	0.61	4627
178.64	179.71	1.07	1.07	Disorganized weak shear zone with irregular bands, filaments & domains weakly altered volcanic porphyry, epidote & chlorite, garnet & magnetite with disseminated fine grained pyrite & minor pyrrhotite with magnetite & epidote.	15	2	2			93276	0.46	3946
179.71	180.75	1.04	1.22	Weakly–moderately epidote/saussurite altered host rock similar to subinterval 175.84+, containing more strongly altered bands/veinlets epidote-magnetite & occasional cte-Qtz.	5	M				93277	0.03	697
180.75	182.27	1.52	1.52	Generally increasing garnet development with depth, displacing strong epidote-chlorite alteration. Magnetite prominent in ragged bands a few mm wide or as irregular serrated domains in garnet.	15	2				93278	0.43	2496
182.27	183.92	1.65	1.65	Nearly friable leached/limonitic fine grained garnet with large irregular magnetite clusters or domains several cm across. 20cm rubbly-crumbled zone near 183.3m.	15					93279	0.24	2558
183.92	185.23	1.31	1.31	Sugary, leached fine grained garnet thruout subinterval except for wavy deformation/shear zone ~48cm long near 184.7m.	15					93280	0.51	3010
185.23	186.29	1.06	1.06	Mostly dark green feldspar & pyroxene µporphyritic material with v. minor lithic fraction floating in an unaltered groundmass. Only minor localized epidote alteration. Qtz-cte shear zone at each end of subinterval @20-30°/ca respectively.					shear'g 20, 30°	93281	<0.03	574
186.29	187.33	1.04	1.04	Sharp contacts <10°/ca containing brownish fine grained, sugary, friable garnet with clots of magnetite thruout subinterval.	15					93282	0.45	1513
187.33	189.52	2.19	2.07	Similar to subinterval 175.84+. Weakly saussuritized & patchy epidote altered, usually moderately magnetic. Occasional cte-Qtz stringer or irregular domain oriented parallel to moderate-strong fracture set ~20°/ca expressed thruout most of subinterval.	M	Tr			fractur e 20°	93283	0.04	392

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
189.52	211.59	22.07	20.31	**MAGNETITE SKARN** Nearly massive, fine grained magnetite thruout much of interval with irregular, serrated & often pitted domains of epidote & chlorite as predominant accessory material with silicified patches containing serrated fine grained quartz with chlorite. Graphite evident along certain shear planes as shiny or resinous selvages & thruout interval associated with massive magnetite as a fine grained accessory giving it a sooty look and feel. Heaviest magnetite concentration >198.88m. Pyrite distributed in at least minor amounts thruout interval. It occurs as v. fine grained euhedra within epidote & in sugary or pitted magnetite (with graphite?), as irregular amorphous blebs interstitial to magnetite, or more rarely as med grained euhedra in nearly massive but v. irregular blebs. Chalcopyrite is sparsely distributed as small flecks or tiny amorphous splashes interstitial to magnetite.	65	12		Tr				
189.52	190.01	0.49	0.52	Hard, magnetite zone with epidote & Quartz, occurring as predominant freckles & small patches . Pyrite as v. fine grained disseminated grains in epidote & magnetite.	35	5		Tr		93284	0.82	3571
190.01	190.74	0.73	0.70	15cm Qtz-cte vein 35-50°/ca at near-boundary of subinterval, followed by usually strongly magnetic, variably epidote altered feldspar μporphyry dike(?). Far-contact not preserved. Weak shearing ~20°/ca.	5	Tr			vein 35-50° shear'g 20°	93285	0.02	177
190.74	192.02	1.28	1.34	Very hard, silicic & chloritic, with diffuse magnetite domains & patches of pitted epidote. Increasing magnetite with depth. Locally abundant flocculated pyrite (up to 15%).	30	5				93286	0.60	3038
192.02	193.49	1.47	1.47	Hard, silicic material, predominant magnetite with abundant epidote (15% by vol). 40cm strongly epidote altered rock with magnetite at end of subinterval.	60	5		TR		93287	0.62	3528
193.49	194.89	1.40	1.40	Hard, silicic, chloritic, dark-med green but mottled by epidote & abundant magnetite streaks, smears, patches & domains.	60	5		Tr		93288	0.62	3969
194.89	196.69	1.80	1.83	Hard, silicic, med-dark grey & green, weakly calcareous, chloritic, disrupted & sheared @40°/ca especially towards end of subinterval. Abundant thin calcite slashes, veinlets, stringers. Patch of relatively unaltered, med green, basaltic μporphyry as start of subinterval. Pyrite as fine & med grained irregular patches, flocculated aggregates & fine grained fracture fillings.	65	8		Tr	shear'g 40°	93289	0.40	1402
196.69	197.94	1.25	1.22	Irregular structureless epidote-chlorite-magnetite occurring in random domains & proportions, faintly calcareous, fine grained; epidote can occur as pitted patches. Minor calcite fracture fillings or hairline veinlets. Pyrite as occasional blebs or flocculated aggregate.	40	2				93290	0.20	1237
197.94	198.88	0.94	1.10	Fine grained chloritic diabase dikes(?) 3cm long near 198.1m & 18cm long near 198.33m in strong pitted epidote alteration which increases to intense with depth & becomes rubbly near 198.67m. Increasing magnetite becoming dominant at end of subinterval where abundant flocculated fine grained pyrite exists.	45	2				93291	0.36	1667
198.88	199.89	1.01	1.01	Magnetite predominates with crudely banded ovoidal epidote ~50°/ca with disseminated fine grained aggregates of pyrite & graphite.	65	10			band'g 50°	93292	1.04	3751
199.89	201.35	1.46	1.31	Part of subinterval similar to above (198.88+), but less mineralized. Variable, light green, fine grained material predominates with patches & streaks of epidote & chlorite & small irregular	40	5				93293	1.27	4159

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL				DESCRIPTION							ASSAYS		
From	To	Len	Rec		Mte %	Py %	Po %	Cpy %	Orient'n /ca	Sample ID	Au [gm/tne]	Cu [ppm]
				blebs magnetite.								
201.35	202.60	1.25	1.31	Predominant magnetite in silicified chloritic alteration grades to magnetite in moderately-weakly calcareous, strong epidote alteration. Abundant fine & med grained pyrite espcecially in epidote alteration.	65	15		Tr		93294	1.34	4004
202.60	203.85	1.25	1.25	Magnetite predominant over comparatively minor serrated blebs & small patches of epidote & chlorite; usually silicic & epidote often pitted. Very fine grained euhedral pyrite in epidote, fine & med grained pyrite in aggregates with amorphous interstitial chalcopyrite in magnetite.	70	15		2		93295	2.17	7737
203.85	204.89	1.04	1.04	Nearly massive, graphitic(?) magnetite with only accessory amounts silicified material, chlorite & epidote. Most of subinterval strongly mineralized with fine & med grained pyrite, usually with significant chalcopyrite, sometimes exceeding pyrite.	70	10		5		93296	1.34	6052
204.89	205.74	0.85	0.85	Hard, silicic, chloritic & epidote altered with predominant fine grained magnetite as large masses & smaller blebs & streaks interrupted by gangue. Abundant fine & med grained pyrite with amorphous chalcopyrite.	65	12		2		93297	1.74	4056
205.74	207.08	1.34	0.85	Predominant fine grained magnetite with islands of hard, silicic, light green flecks of chlorite & patches epidote alteration, usually serrated & occurring in accessory amounts. Abundant amorphous interstitial pyrite with notable chalcopyrite. Rubbly recovery at start of subinterval; driller reported several seconds of spontaneous movement of drill – lifting of drill string & machine along with shaking & vibration. Nearly 0.6m (2feet) of core lost. Escaping methane thought to be possible cause.	70	15		5		93298	1.20	4048
207.08	208.27	1.19	0.79	Predominant Qtz-epid-chlte altered host at start of subinterval, with abundant fine grained magnetite patches increasing with depth to predominant amounts & abundant fine & med grained amorphous pyrite. Rubbly recovery over ~10cm near 207.7m.	60	12		M		93299	1.04	2613
208.27	209.55	1.28	1.10	Hard, fine grained, nearly massive magnetite with amorphous pyrite & accessory chalcopyrite & accessory serrated lenses of light colored chloritic green gangue (pyroxene?).	70	20		2		93300	0.56	5942
209.55	211.59	2.04	1.22	Mostly hard, silicic, white (quartz/chalcedony) gangue with abundant irregular chlorite patches & blotches & lesser magnetite, comparatively abundant pyrite with accessory chalcopyrite for first 40 cm. Rapidly increasing & pervasive epidote alteration & minor pyrite & blotchy & patchy magnetite to end of subinterval. Drillers block @211.53m reads 'mislatch'.	35	5		Tr		93301	0.30	2307
211.59	233.60	22.01	19.35	**FOOTWALL ZONE (Skarn Alteration [Epidote-Magnetite] in Basaltic-Andesitic Volcanics [Porphyry & Tuff]) & DIABASE DIKES(?)** Zone of mostly altered green & yellow-green lithic augite porphyry, lithic tuff or pyroclastic/volcanoclastic & generally unaltered-weakly silicified & bleached, fairly hard, grey fine grained diabase dike(?). Contacts between volcanics & dikes usually distinct & sometimes prominent & always abrupt when recovered & usually oriented at low to moderate angles to core axis. Lithic tuff/pyroclastic/volcanoclastic resembles many intervals of interval 3.05+, composed of densely packed feldspar & ferromag (pyroxene?) phenos in a chloritic groundmass. Feldspar altered to yellowish green sericite/saussurite & groundmass usually dark green but occasionally a brighter yellow saussurite color. Rounded lithic fragments may be evident, ranging from a few	5	Tr						

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
				millimeters to much larger than core diameter. Fragments often composed of more leucocratic material (dioritic) than groundmass. Alteration may be of high enough intensity to erase fragmental texture, but texture may be preserved as patchy, sometimes mottled alteration – predominantly epidote/saussurite, chlorite & magnetite in places. Pyrite may occur in accessory amounts or in heavy amounts (to 50% locally) about in proportion to alteration intensity especially that of epidote & magnetite. Diabase dike(?) material locally weakly-moderately silicified & bleached, often weakly calcareous, usually containing ~30% ferromag phenos (variable proportions hornblende & pyroxene) <2mm across, sometimes chloritic. Pyrite in diabase may exist as irregular fine grained blebs or as tiny grains in altered ferromag. Thin chill margins sometimes evident but contacts sometimes irregular & sheared, healed by calcite & quartz.								
211.59	211.99	0.40	0.40	Tuff(?); Green-grey, fine grained, weakly calcareous, weakly magnetic. Somewhat indistinct & cloudy ferromag phenos, & small whitish feldspar(?) phenos evident towards distinct but irregular far-contact ~40°/ca. Near-contact rubbly.		Tr			contact 40°			
211.99	213.09	1.10	1.07	Skarn alteration; moderately calcareous material, pervasive moderate epidote alteration with places of strong chlte alteration & patches v. fine grained magnetite. Pyrite evident thruout subinterval as variably distributed med grained euhedral & subhedral grains associated with epidote but most especially with magnetite. 20cm Qtz-cte vein nearly parallel to core axis near 212.23m.	20	5		2		93302	0.58	
213.09	213.66	0.57	0.57	Augite Porphyry; weakly epidote altered, faintly calcareous, increasingly magnetic (to moderate intensity) with depth.								
213.66	214.37	0.71	0.71	Skarn alteration; moderate-strong epidote alteration with abundant fine grained magnetite as dense disseminated patches. Locally abundant med grained pyrite & pervasive but sparse disseminated fine & med grained pyrite. Moderately-weakly calcareous.	20	5				93303	0.32	
214.37	215.98	1.61	1.52	Skarn alteration; moderately-strongly calcareous, strong-intense epidote alteration, fine grained but gritty, sometimes pitted. Patches of weakly & moderately developed garnet thruout most of subinterval; irregular accessory magnetite in most places. Minor pyrite.	5	M				93304	0.17	
215.98	218.39	2.41	2.41	Diabase Dike; nearly homogeneous texture of 20% ferromag phenos in a fine grained groundmass, generally med grey-green but lighter where bleached & silicified. Contacts distinct; near-contact ~75°/ca, far-contact ~30°/ca. Weak shearing with chlte-epid & two 4- & 8cm-long Qtz-cte vein structures with <10% med grained pyrite near start of subinterval 35-50°/ca.	5	M			contact 75, 30° veins 35-50°			
218.39	218.91	0.52	0.52	Skarn alteration; moderate-strong epidote alteration, especially >218.54m, with fine grained magnetite as disseminated grains, streaks & irregular domains. Disseminated fine & medium grains of pyrite as individuals or in small flocculated aggregates. Most of subinterval >218.5m rubbly.	10	2				93305	0.02	
218.91	221.28	2.37	0.34	Diabase dike/FAULT(?); nearly completely rubbly recovery with dark brown clay & grit. Med green, fine grained, moderately-weakly magnetic with small ferromag phenos.								
221.28	221.77	0.49	0.49	Skarn alteration; strong chaotic chlorite alteration with epidote & associated magnetite zone	5	M			shear	93306	0.07	

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				terminated with a 1cm vein/lens containing pink-red ankerite/magnesite(?) & transparent bladed radiating zeolite(?) ~40°/ca near 221.53m. Beyond vein/lens, alteration intensity weak-moderate. Subinterval ends with a 3cm-long crumbly weak shear with chlorite, magnetite & minor epidote ~30°/ca.					30°			
221.77	223.57	1.80	1.37	Augite Porphyry; decreasingly magnetic with depth (ranging from moderate-absent), strong-moderate chlorite alteration with prominent, sometimes leucocratic (dioritic), bleached fragments up to 10cm across thruout much of subinterval. Thin Qtz-cte structure with associated strong chlorite & epidote & minor pyrite oriented nearly parallel to core axis.	2	M			vein parallel			
223.57	224.12	0.55	0.55	Skarn alteration; strong-intense epid-chlte-mte-py alteration with Qtz-cte-chlte vein 2cm wide ~55/ca. Chaotic alteration pattern in friable disrupted/sheared zone, at moderate-shallow angle to core axis, in deeper half of subinterval.	*10*	*8*			*vein 55° shear'g shallo w*	93307	0.34	
224.12	224.64	0.52	0.52	Diabase Dike; v. fine grained, med & dark green, blotchy color distribution in places. Filaments of epidote alteration & hairline calcite fractures. Contacts at 40° & 30°/ca (near- & far-contacts respectively). Single xenolith(?) of weakly bleached augite porphyry(?) near center of subinterval.					*contact 40, 30°*			
224.64	225.13	0.49	0.49	Skarn alteration; magnetic, moderately-weakly epidote altered host with irregular, broken cte-Qtz in an 8cm-long, earthy, friable structure ~40°/ca extending thruout center of interval. Alteration decreases towards end of subinterval.					vein 40°	93308	0.52	
225.13	225.98	0.85	0.85	Feldspar Crystal Tuff; generally faintly calcareous, med-light green, weakly altered & becoming decreasingly magnetic with depth. 22cm moderate epidote & magnetite alteration near 222.73m.	M							
225.98	226.59	0.61	0.61	Diabase Dike; dike extends to 227.87m. Usually v. hard, med-light green-grey, sometimes darker especially at near-contact, & fine grained with dark colored ferromag phenos evident thruout most of subinterval (~5% by vol).		Tr						
226.59	226.71	0.12	0.06	Skarn alteration; rubbly recovered magnetite & pyrite with epidote alteration. Neither contact nor textural details survive.	10	10				93309	1.33	
226.71	227.87	1.16	1.16	Diabase Dike; continuation of subinterval 225.98'. Color continuing to gradually lighten with depth.								
227.87	229.54	1.67	1.65	Skarn alteration; moderate-strong chlorite & epidote alteration especially thruout center of subinterval. Strongly magnetic & notably rust-colored especially in 35cm-long strongly limonitic, mostly magnetic patch with abundant flecks of fine-med grained disseminated euhedral pyrite.	30	5?				93310	0.24	
229.54	233.60	*4.06*	4.06	*Basaltic Flow; mostly med green & darker green containing 40-50% feldspar as a μporphyry &* minor, usually small ferromag phenos (<5%) in a chloritic, often saussuritic groundmass. Near-contact marked by rapid decrease from strongly magnetic in previous subinterval to non-magnetic & by appearance of distinct rounded, often oblate, densely packed, usually leucocratic fragments, over first 50cm of subinterval. Clasts range to 5cm across, but rapidly		M						

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INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
				become rarer & almost disappear for remainder of subinterval. 40cm rubbly recovery. Pyrite locally v. abundant but usually occurs as sparsely disseminated fine-med grained euhedra.								
233.60	242.93	9.33	9.33	**DIABASE DIKE/ANDESITE FLOW** Fine grained, med green-grey material similar to many dikes of interval 211.59+. Usually homogeneous with abundant calcite fractures, local crackle zones or discontinuous wispy/feathery streaks. Occasional xenolith(?) of μporphyritic material similar to that in previous interval (211.59+). Calcite fractures at random orientations, many at high and angles to core axis (>60°). Feathery calcite associated with weak shearing, moderate chlorite alteration & better organized cte-Qtz veining ~40°/ca over ~32cm long, in zone starting near 241.6m & extending to end of interval. Near-contact sharp @25°/ca.	M	Tr			contact 25° shear'g 40°			
235.85	235.98	0.12	0.12	Skarn alteration; magnetite zone, rubbly recovered with abundant pyrite & epidote altered host. No other details survive. *Actual width of zone may not be well represented by recovered material.*	60	15				93311	1.18	
242.93	243.84	0.91	0.91	**AUGITE PORPHYRY** Fine grained, med green, generally homogeneous, andesitic-basaltic composition, moderately-weakly chloritic, variably but weakly yellow-green, epidote altered & freckled with euhedral pyroxene phenos (~10% by vol) up to a few mm in size. Pyrite often absent but locally exceeds 5% as euhedral-subhedral v. fine grained & med grained flecks. Near-contact abrupt (not adequately recovered) where baking of augite porphyry evident in a dark green-grey zone ~15cm wide, fading with depth.		M						
243.84	243.84			**END of HOLE**								
		243.84	223.34									

Geologist: David McWilliams

DIAMOND DRILL LOG
RQD LOG SHEET

INTERVAL [m] From	To	RQD [m]	[%]	Remark
3.05	3.66	0.10	16.4	NQ core to 99.1
3.66	4.27	0.00	0.0	
4.27	5.18	0.00	0.0	
5.18	6.40	0.10	8.2	
6.40	7.92	0.36	23.6	
7.92	9.45	0.16	10.5	
9.45	10.36	0.12	13.1	
10.36	11.28	0.00	0.0	
11.28	12.80	0.23	15.1	
12.80	14.33	0.30	19.7	
14.33	15.85	0.00	0.0	
15.85	17.37	0.44	28.9	
17.37	18.90	0.00	0.0	
18.90	21.95	0.58	19.0	
21.95	23.47	0.00	0.0	
23.47	24.69	0.00	0.0	
24.69	25.60	0.12	13.1	
25.60	26.21	0.00	0.0	
26.21	27.74	0.00	0.0	
27.74	29.26	0.46	30.2	
29.26	30.78	0.44	28.9	
30.78	32.31	0.36	23.6	
32.31	33.22	0.35	38.3	
33.22	34.14	0.51	55.8	
34.14	35.66	0.66	43.3	
35.66	37.19	0.25	16.4	
37.19	38.40	0.37	30.3	
38.40	39.93	0.83	54.5	
39.93	41.45	0.96	63.0	
41.45	42.98	0.16	10.5	
42.98	44.50	0.13	8.5	
44.50	46.02	0.52	34.1	
46.02	47.55	0.44	28.9	
47.55	49.07	0.00	0.0	
49.07	51.05	0.61	30.8	
51.05	51.21	0.00	0.0	
51.21	53.34	1.81	84.8	
53.34	56.08	0.18	6.6	
56.08	57.00	0.11	12.0	
57.00	58.22	1.09	89.4	
58.22	59.74	1.02	66.9	

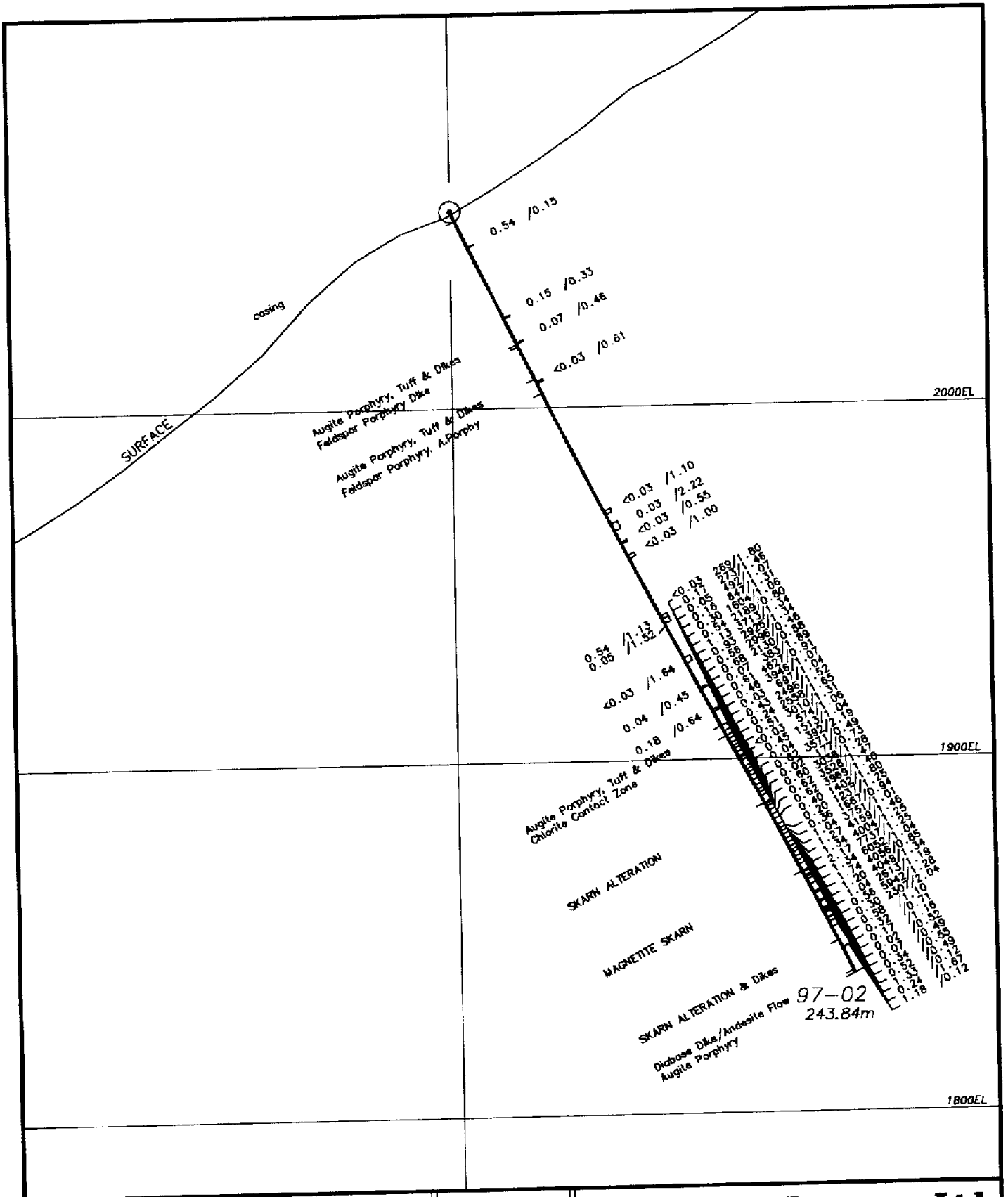
INTERVAL [m] From	To	RQD [m]	[%]	Remark
59.74	60.66	0.43	47.0	
60.66	61.26	0.54	88.6	
61.26	62.79	0.90	59.1	
62.79	64.31	1.26	82.7	
64.31	65.84	0.99	65.0	
65.84	66.75	0.34	37.2	
66.75	68.43	1.02	60.8	
68.43	69.19	0.00	0.0	
69.19	69.49	0.00	0.0	
69.49	70.71	0.21	17.2	
70.71	71.63	0.40	43.7	
71.63	71.93	0.00	0.0	
71.93	73.46	1.33	87.3	
73.46	74.68	0.37	30.3	
74.68	74.98	0.00	0.0	
74.98	75.59	0.00	0.0	
75.59	76.50	0.68	74.4	
76.50	78.03	0.88	57.7	
78.03	79.55	1.30	85.3	
79.55	81.08	1.18	77.4	
81.08	82.60	0.98	64.3	
82.60	84.12	0.80	52.5	
84.12	85.65	0.84	55.1	
85.65	87.17	1.30	85.3	
87.17	88.70	1.15	75.5	
88.70	90.22	1.21	79.4	
90.22	91.74	1.26	82.7	
91.74	92.35	0.48	78.7	
92.35	93.73	0.80	58.3	
93.73	94.79	0.54	50.6	
94.79	96.32	0.39	25.6	
96.32	97.54	0.90	73.8	
97.54	99.06	0.46	30.2	
99.06	102.72	1.10	30.1	reduce to BTW
102.72	105.77	1.18	38.7	
105.77	108.81	2.77	90.9	
108.81	111.86	2.35	77.1	
111.86	113.08	0.68	55.8	
113.08	114.91	1.50	82.0	
114.91	116.13	0.53	43.5	
116.13	117.96	0.95	51.9	

DIAMOND DRILL LOG
RQD LOG SHEET

INTERVAL [m] From	To	RQD [m]	[%]	Remark
117.96	121.01	1.20	39.4	
121.01	122.83	1.33	72.7	
122.83	125.88	1.00	32.8	
125.88	127.10	1.35	110.7	
127.10	130.15	0.92	30.2	
130.15	133.20	1.15	37.7	
133.20	136.25	0.79	25.9	
136.25	139.29	1.40	45.9	
139.29	142.34	0.92	30.2	
142.34	145.39	1.48	48.6	
145.39	147.98	0.96	37.1	
147.98	150.42	0.26	10.7	
150.42	151.03	0.86	141.1	
151.03	152.70	1.14	68.0	
152.70	154.53	0.30	16.4	
154.53	157.58	0.43	14.1	
157.58	159.41	1.15	62.9	
159.41	162.46	1.30	42.7	
162.46	163.83	1.32	96.2	
163.83	165.51	1.55	92.5	
165.51	167.03	1.34	87.9	
165.51	167.03	0.45	29.5	
167.03	169.77	1.36	49.6	
169.77	172.82	1.64	53.8	
172.82	175.56	1.35	49.2	
175.56	178.31	0.84	30.6	
178.31	181.36	1.01	33.1	
181.36	184.40	1.09	35.8	
184.40	187.60	1.36	42.5	
187.60	188.98	1.00	72.9	
188.98	191.11	0.80	37.5	
191.11	192.02	1.25	136.7	
192.02	194.16	1.21	56.7	
194.16	198.42	1.43	33.5	
198.42	199.19	1.56	204.7	
199.19	202.23	1.52	49.9	
202.23	202.69	1.21	264.7	
202.69	205.74	1.22	40.0	
205.74	207.57	1.06	58.0	
207.57	209.40	0.22	12.0	
209.40	211.53	0.86	40.3	
211.53	214.27	2.08	75.8	
214.27	215.95	0.58	34.6	
215.95	218.54	2.20	84.9	
218.54	221.28	0.00	0.0	
221.28	224.33	1.57	51.5	
224.33	225.86	0.38	24.9	
225.86	227.08	0.38	31.2	
227.08	227.69	0.21	34.4	
227.69	230.73	1.38	45.3	
230.73	231.65	0.12	13.1	
231.65	233.78	1.18	55.3	
233.78	235.31	0.18	11.8	
235.31	235.92	0.17	27.9	
235.92	238.54	1.37	52.3	
238.54	240.49	0.55	28.2	
240.49	242.93	0.71	29.1	
242.93	243.84	0.38	41.6	EOH
HOLE AVERAGE			**43.3%**	

RQD measures lengths of core 10cm long or greater.
Intervals defined by driller's footage blocks in core box.

Geologist: David Williams



INTEGREX ENGINEERING

NOTES:
Looking 322°Az [wrt UTM Grid]
Assay Format: Au[gm/tne] Cu[ppm]/Interval[m]
Cu may not have been assayed

10 METRES 0 10 20 30 40 50
Scale 1:1,500

DATE	REVISION	INITIAL
15Sep97	Original Release	JDW

	COMPOSITION
1	Surface Profile
2	DH String
3	DH Geology
4	DH Assay
5	
6	
7	

Vital Pacific Resources Ltd.

SOUP PROJECT 1997
DDH 97-02

DATE: SEPTEMBER 1997	SCALE: 1 : 1,500	Figure No.
DRAWN By: J.D.WILLIAMS, P.Eng.	JOB No.: SOUP PROJECT	01
DRAWING No.: DDH97-01.dwg	N.T.S.	094D/08E

DIAMOND DRILL LOG
HEADER SHEET

Property	**SOUP**
Claim	SOUP #4
Location	Southwest-facing slope descending into Kliyul Creek, same as that of DDH 97-01 & -02.

Purpose

To determine stratigraphy to the limits of the drilling equipment, expected to be ~350m [1200 feet], and to intersect the same magnetite layer and associated skarn alteration as that intersected in DDH 97-01 & -02. It may be possible to reach a second lower magnetite layer. The first intersection is expected at 105m and the second ~290m.

NORTHING [NAD83]	**6,262,582**
EASTING	**680,504**
ELEVATION	**2,056**
LENGTH	170.38m [559 ft.]
AZIMUTH	232°
DIP	-71.5° (at collar)

Contractor	Aggressive Drilling
Core Size	NQ & BTW
Date Started	17 July 1997
Date Completed	27 July 1997
Casing Depth	3.05m
Stick-up Length	0.0m

Results

A magnetite band was intersected 122.44-125.06m (2.62m length ~2.3m true width). It assayed <0.03 *gram/tonne Au and 272ppb Cu.*

The first indication of mineralization was in garnet-chlorite-epidote skarn alteration that appeared as early as 106.50m with increasing magnetite with depth. Strong but diminishing skarn persisted into the footwall of the magnetite for 7.2m to 132.31m. Total skarn alteration was 25.8m long and corresponds to intersections cut in DDHs 97-01 & -02. The entire alteration zone assayed 0.05gm/tne Au, 140ppm Cu.

Hole was abandoned when the bit unscrewed at bottom and could not be retrieved.

Comments

Core size reduced to BTW from NQ @60.35m.

Hard & slow drilling all through the hole was caused by fractured ground conditions, which caused the hole to cave whenever the drill string was withdrawn.

Core is stored at campsite on Kliyul Creek.

143.2m of core recovered; recovery rate 84%.

17 character samples taken at 34.78, 53.49, 72.18, 87.57, 106.44, 109.58, 113.63, 116.95, 119.05, 121.95, 123.38, 128.63, 131.43, 138.74, 145.02, 154.75 & 166.63m.

Dip Tests

Depth	Reading	Corrected	Remark
163.1	-74.8°	-70.0°	

Geologist: David McWilliams

INTEGREX ENGINEERING

Logged by
J.D. Williams, P.Eng.

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
0.0	3.05	3.05	0.0	**Casing**								
3.05	106.50	103.45	84.70	**BASALTIC AUGITE PORPHYRY FLOWS & TUFF & DIABASE DIKES** Material similar to that in upper intervals of DDH 97-01 & -02. Fairly hard (H~5.2), locally magnetic, mafic (basaltic composition) composed of unusually prominent & distinct small feldspar xtals (90% <2mm across) & equally prominent & usually much larger, but in lesser amounts, dark green to black idiomorphic pyroxene phenos (90% <4mm across). Feldspar can occur in varying amounts ranging from ~25% to 45%, while pyroxene varies by several % around 10%. Groundmass is typically fine-grained, med-dark green, always chloritic except where it is saussuritic to some degree. Lapilli or lithic fragments are sometimes only vaguely evident but in other places are sometimes displayed as discrete lighter or darker colored than groundmass (usually lighter) rounded but angular, usually homolithic in composition, sometimes dioritic. Dikes usually fine-grained, often with dark ferromag or light feldspar xtals sparsely distributed in a dark green or grey groundmass of similar bulk composition to country rock. Identification of dikes as intrusive material is often in doubt, especially if their contacts are unchilled, unrecovered or otherwise ambiguous. Most of top portion of hole to ~15m rubbly or lost, as are intervals 36.0-48.3, 56.6-63.5, 93.8-105.1m.									
3.05	5.12	2.07	1.98	Basaltic Flow; generally fine-med-grained, non porphyritic, homogeneous & massive.								
5.12	5.39	0.27	0.15	Diabase Dike?; contacts unrecovered, dark green-grey, fine-grained except for small indistinct disseminated ferromags (<10% by vol).								
5.39	15.30	9.91	6.55	Augite Porphyry flow; usually with prominent pyroxene phenos in a fine-grained groundmass & fine-med-grained feldspar phenos. Sparse & often indistinct lapilli as ghosted shapes of more mafic or felsic composition that groundmass. Limonite stain or v.tiny freckles partly outline other possible lithic frags near 12.86m.								
15.30	20.63	5.33	4.97	Diabase dike; fine-grained, weakly calcareous, med-dark green, generally homogeneous & massive except for prominent marbling pattern by numerous ctc-Qtz veinlets & feathery streaks that highlights pervasive shearing at various orientations (usually @25-60°/ca).					shear'g 25-60°			
20.63	29.05	8.42	8.42	Augite Porphyry; spotted texture of type-description – black pyroxene in med-fine-grained feldspar μporphyry. Occasional patch/vein of epidote with Qtz-ctc usually centered around localized shearing or fracturing 20-45°/ca.					shear'g 20-45°			
29.05	30.36	1.31	1.04	Diabase dike; med-dark green, fine-grained, massive, mod-weakly calcareous, occasional hairline fracture fillings at high angles to core axis decreasing to nearly parallel to ca with depth. Near-contact gradational over several cm. Near-contact gradational over several cm. Far-contact marked by Qtz-ctc & clay seam 6mm wide @35°/ca.					far-contact 35°			
30.36	31.76	1.40	1.37	Augite Porphyry; similar in every respect to subinterval 20.63+.								
31.76	32.71	0.95	0.95	Diabase dike; fine-grained, med green. Distinct contacts @ 40° & 45°/ca with dark grey chill margins ~2cm wide. Mod-strongly magnetic thruout but esp. at near-contact. Grey color					contact 40, 45°			

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
				caused by v. fine-grained magnetite?								
32.71	44.35	11.64	9.14	Augite Porphyry (& several probably thin Diabase dikes); mostly rubbly core except for a few runs of meter-length or greater of porphyry. Diabase dike material is evident in a few places & may have been intersected in other poorly recovered core (estimated dikes @ 5% of subinterval). Porphyry similar to that in subinterval 20.63+. In at least one case, diabase demonstrated v. irreg. contacts with porphyry (near 39.5m). Patches & streaks centered on fractures in porphyry occur in places >39.9m. Both dike and porphyry can be magnetic.								
44.35	44.99	0.64	0.64	Diabase dike; fine-grained, homogeneous, med-dark greenish grey with rusty fracture planes showing on strongly broken core.								
44.99	47.12	2.13	1.58	Augite Porphyry; similar to subinterval 20.63+ but with a high CI (~75) & moderately magnetic except where bleached along a single chlorite vein/diabase dike that nearly parallels core axis 46.2-46.8m. Near end of subinterval, rock nearly black, faintly calcareous, mod-weakly magnetic with pyroxene phenos barely visible.								
47.12	47.95	0.83	0.83	Diabase dike; contact locations uncertain (unrecovered). Mostly v.fine-grained, med-dark green-grey with faint & small feldspar xtals in many places. Open (vuggy) fractures & other fractures filled with chlorite, epidote & calcite.								
47.95	51.57	3.62	3.57	Augite porphyry; similar to type-description but with fewer & less distinct pyroxene phenos (10-15% by vol) in fine-med-grained groundmass without feldspar µpheno texture. Broken core with abundant rusty fractures; variably magnetic (absent-strong intensity). >51.0m, weak shear zone @45-60°/ca hilited by occasional irregular, Qtz-cte vein, veinlet or stringers terminated by a partly healed breccia/gouge zone 8cm wide near end of subinterval.					shear'g 45-60°			
51.57	61.17	9.60	7.92	*Diorite Porphyry; distinctive, homogeneous, massive-blocky, med-light grey featuring equant* pyroxene xtals & lath shaped hornblende xtals ~0.5cm in size (5% px, 10% hbde by vol) with smaller white-pale green feldspar xtals visible in most places (to 5% by vol). All floating in a fine-grained, faintly calcareous, non-magnetic but locally moderately magnetic groundmass. Most similar to subinterval 214.79+ of DDH 97-01. Interval 56.5-57.4m where texture rapidly grades into & then out of a coarse augite porphyry with abundant µphenos white feldspar.								
61.17	63.40	2.23	0.76	Tuff?; fine-med grained. dark green, massive, often fairly hard (H~5.0) with faint small pyroxene phenos (<5% by vol). Contacts not preserved. Malachite stain on a single rusty fracture surface.								
63.40	69.92	6.52	6.07	Diorite Porphyry; similar to subinterval 51.57+ with accessory lapilli fraction in places. Lapilli consists of distinct angular-subrounded, v. mafic fine-grained fragments <2cm across. Rubbly recovery (fault?) >68.9m with weak epidote alteration & Qtz-cte & breccia vein ~40°/ca near 69.2m.					vein 40°			
69.92	83.55	13.63	13.41	Basaltic-Andesitic tuff; mostly fine-grained, fairly homogeneous material with slight, usually gradational changes in grain size, sometimes expressed as crude, faint & diffuse banding on a scale of several mm or more, 60-65°/ca. *Subinterval dark green-grey, usually massive, fairly* hard, non-magnetic with local patches ranging to moderately magnetic.		Tr			band'g 60-65°			

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
				Texture & composition varies over certain intervals. Near 70.4m, a 26cm length of diorite porphyry appears with irregular contacts at high angles/ca. A fine-med grained, slightly harder, more silicic & coarser grained phase exists ~77.7-~80.3m. Sparse thin calcite veinlets at mod-high angles/ca >80.16m. Sparse very finely divided pyrite flecks visible in places thruout subinterval. Rubbly & rusty (fault) zone 72.8-73.8m with Qtz rubble near end of zone.								
83.55	89.46	5.91	5.91	Feldspar Porphyry; usually fine-grained, sometimes slightly coarser, hard (11-5.5), med-light grey, vaguely salt & pepper textured, weakly calcareous. Distinctive euhedral feldspar phenos to 4mm across floating in groundmass (10% phenos). Homogeneous fine-grained to v. fine-grained med grey at near-contact & extending into subinterval. Near-contact rubbly recovered but displays healed brecciation (faulting?) over at least a cm. Porphyritic texture evident >85.2m. Rare fleck of limonite stain bleeding into rock from pyrite grain or larger spontaneous diffuse patch of limonite. Single location of hematite? centers adjacent to calcite-chlorite veinlet or as isolated bleb near 85.74m. Much of core fractured & loose, sometimes with dark brown or red brown surfaces.		Tr						
89.46	94.43	4.97	4.08	Diorite Porphyry; similar to subinterval 51.57+ with minor rounded, sometimes faint or diffuse mafic or more felsic lapilli or lithic frags to 15mm across. Hornblende fraction as phenos generally less evident. 12cm long banded/streaky Qtz-cte-chlte vein ~35°/ca terminated by thin gouge zone near 89.58m.					vein 35°			
94.43	106.50	12.07	5.36	Augite Porphyry, Lithic Tuff, Tuff & Diorite Porphyry; highly variable subinterval. Most (90%) material displaying variable proportion of pyroxene phenos to 8cm across ranging to 50% by vol in fine-grained dark green groundmass. Sometimes a μporphyry texture of light colored buff-greenish feldspar developed over <10% of subinterval. Possible agglomerate texture *>105.5m evident by rapid & irregular changes in composition* outlined by sharp rounded boundaries representing large lithic clasts/frags several cm across. Sparse rusty fracturing; occasional Qtz-cte tension gashes. An irregular patch of weak-moderate chlorite-epidote alteration centered by weak calcite-epidote-Qtz shearing, all at mod-low angles/ca, *most evident >105.8m.*					shear'g mod-low°			
106.50	110.28	3.78	3.78	**SKARN ALTERATION (Garnet, Chlorite, Epidote, Magnetite)** Fairly abrupt transition to a med-dark green, moderately magnetic, weakly calcareous, fine-grained material *gradually showing stronger skarn alteration with depth.* Diffuse patches of v.fine-grained magnetite appear within first meter of interval & earliest garnet shows nearly immediately thereafter. Protolith is completely altered to irregular streaks & patches moderately calcareous dark-med green chlorite, yellow-green epidote & light orange-brown fine-grained garnet. *With depth, epidote displaces chlorite,* and small & irregular magnetite domains or diffuse bands or tiny aggregates of magnetite appear. Sparsely distributed, sometimes diffuse calcite stringers occur with stronger epidote alteration. Chloritic zones/domains tend to be soft;	2	Tr						

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL From	To	Len	Rec	DESCRIPTION	Mle %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
				garnetiferous areas are harder (H>6). Most of interval to 108.7m broken with sometimes rusty fracture surfaces.								
106.5	107.90	1.40	1.40	Chlorite zone; strong chlorite alteration with gradually increasing garnet to 60% by vol at end of subinterval; epidote increasing to 20% & magnetite to 5% with depth.	2	Tr						
107.90	108.39	0.49	0.49	Fault zone; strong fault zone evident as v. limonitic & rust colored rubbly clay & gouge.	?	?						
108.39	110.28	1.89	1.89	Garnetiferous zone with epidote & magnetite.	5	Tr				93312	0.03	280
110.28	122.44	12.16	11.98	**SKARN ALTERATION (Magnetite, Garnet, Epidote, Chlorite)** A moderately calcareous, uniformly diverse, random arrangement of fine & medium grained magnetite(30%), epidote(25%), garnet(20%), sericite/chlorite(15%) & calcite(10%) with trace sulfides (pyrite) in an irregular (on a scale of ~1cm), patchy & blotchy interval showing wide variations from average composition. Several hairline calcite- & epidote-filled fractures oriented at mod-low angles to core axis with inconsistent strikes & a few cm-wide shear zones hilited by calcite veins ~20°/ca. Rubbly & rusty interval 15cm long starting at 118.11m develops into weak-moderate shearing & brecciation 5-20°/ca to ~119.33m & contains fine-grained disseminated pyrite in places & a few flecks of chalcopyrite. Garnet, red-brown in color, usually occurs in fine-grained patches but occasionally is visible as diffuse pea-sized freckles sometimes crudely rimmed by yellow-green saussurite-epidote. Py is rare, as v.fine-grains or aggregates in calcite fracture fillings, often tarnished or limonitic. Many fracture surfaces rusty.	30	M		Tr	shear'g & veins 20°			
110.28	112.07	1.79	1.74	40cm dark green-grey, strongly chloritic, moderately sheared zone with grey calcite stringers ~60°/ca at start of subinterval. Calcareous pea-sized diffuse freckles sometimes with garnet in magnetite towards end of subinterval.	55	M			shear'g 60°	93313	0.07	394
112.07	112.93	0.86	0.82	Epidote & chlorite alteration as densely distributed feathery veinlets with magnetite & subordinate garnet host.	35	Tr				93314	<0.03	62
112.93	114.06	1.13	1.13	Diffuse magnetite domains & serrated/diffuse garnet & epidote domains – epidote on periphery of garnet.	45	Tr		Tr		93315	<0.03	87
114.06	115.21	1.15	1.15	Predominantly magnetite with epidote blotches often cored by diffuse fine-grained garnet.	65	M				93316	<0.03	91
115.21	116.59	1.38	1.38	Magnetite & epidote with chlorite and garnet.	55	Tr				93317	0.23	153
116.59	117.99	1.40	1.40	Moderately garnetiferous as domains surrounded by epidote; interstitial magnetite.	35					93318	0.09	44
117.99	119.33	1.34	1.28	Dark-medium grey silicic & chloritic shear/breccia zone 5-20°/ca	20	M		Tr	shear'g 5-20°	93319	0.12	68
119.33	120.37	1.04	1.04	Dark-medium grey silicic material grading to strong epidote alteration with lesser garnet.	20	Tr				93320	0.03	89
120.37	121.31	0.94	0.94	Magnetite in predominant epidote alteration; epidote or magnetite domains freckled & highly serrated at their interfaces.	35	Tr				93321	<0.03	63
121.31	122.44	1.13	1.13	Magnetite & epidote in about equal proportions,; each disseminated into the other to various degrees.	45	Tr				93322	<0.03	83
122.44	125.06	2.62	2.50	**MAGNETITE SKARN**	80	Tr	Tr	Tr	fractur e 45-			

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
				Gradational contacts over 10-30cm where epidote decreases to amounts <10% in nearly massive fine-med-grained magnetite interrupted by frequent small irregular serrated blotches of epidote & variably distributed white calcite veins or irregular vein structures 5-15cm long & hairline filled fractures generally oriented 45-60°/ca. Sulfides exist as pyrite as med-fine-grained disseminated euhedra, often tarnished or limonitic at grain surfaces, or as pyrrhotite? as amorphous brown-colored (too brownish for untarnished po & may be py) irregular serrated blebs, or as small, rare flecks of chalcopyrite. Sulfides reach 15% near center of interval but fall to minor amounts or less near ends of interval.					60°			
122.44	123.69	1.25	1.25	Contains the most massive magnetite with 15% sulfides over 15cm near 123.35m.	80	M	M	Tr		93323	<0.03	500
123.69	125.06	1.37	1.25	Massive magnetite broken by filaments, stringers & veinlets of calcite & chlorite-epidote	80					93324	0.03	84
125.06	132.31	7.25	7.16	***SKARN ALTERATION (Magnetite, Epidote, Garnet, Chlorite)*** Fairly abrupt decline in magnetite at near-contact from ~60% to ~25% into a fine-grained blotchy mod-weakly calcareous epidote & magnetite alteration similar to interval 110.28+, which gradually & hesitatingly decreases in intensity with depth. Lower contact is very gradational over 10s of cm & is located beyond the last of the more evident magnetite occurrences in weakly-moderately chloritic host rock. Blotchy epidote-magnetite character persists to 129.4m, beyond which, epidote alteration decreases from strong to moderate to nearly absent & magnetite decreases to near accessory levels but can predominate locally. Garnet development is evident to ~129.4m & occurs only v. locally beyond that point. Texture of protolith is more & more visible with depth & appears to be a mod-strongly calcareous (as responsive to 10% HCl as any limestone), fine-grained feldspar μporphyry of chloritic or gabbroic composition. Where sericitized, yellow-green sometimes felted, flocculated or isolated shapeless dustings or serrated feldspar freckles occur in a fine-grained dark green groundmass each trading for predominance thruout the interval. Sulfides all but absent.									
125.06	126.31	1.25	1.25	Strong epidote alteration with blotches (to ~4cm across) & freckles magnetite thruout. Rare v. fine-grained pyrite fleck. 12cm-long bull-Qtz vein 30°/ca near 125.43m.	35	Tr				93325	<0.03	87
126.31	127.74	1.43	1.34	Moderate epidote alteration with diffuse patches light brown fine-grained garnet upto 4cm across & diffuse domains & smaller serrated blebs & dustings fine-grained magnetite. Very fine-grained disseminated pyrite.	15	Tr				93326	0.06	50
127.74	128.23	0.49	0.49	Hard, medium grey, mod-strongly calcareous, weakly silicified zone, without epidote & with blotchy & scattered magnetite. Fine-grained magnetite ~10% of subinterval, hairline calcite veinlets or wider calcite veins to 4cm long ~50°/ca. Locally abundant (to ~15% by vol) fine & med grained pyrite associated with veins & v. fine-grained pyrite disseminated w/i host.	30	2				93327	0.13	130
128.23	129.39	1.16	1.16	Blotchy, strong epidote alteration with a few fine-grained garnet centers at start of subinterval, changing to predominantly fine-grained magnetite with irregular epidote patches & freckles ending in strong epidote-garnet-chlorite alteration.	40	Tr				93328	0.14	66
129.39	131.00	1.61	1.61	Moderately to weakly epidote altered, non-calcareous but usually moderately magnetic. A type of salt & pepper texture is demonstrated in a diorite where feldspar is colored a med. yellow-	10					93329	<0.03	99

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
				green & fine-grained mafic groundmass is dark green. 30cm fractured-rubbly rusty core near 130.4m								
131.00	132.31	1.31	1.31	Moderate chlorite & epidote alteration at start of subinterval & moderate chlorite alteration at end of subinterval. Fine-grained magnetite abundant at start, grades to predominant amounts near center of subinterval but decreases rapidly to end. Irregular calcite streaks & structure of epidote & garnet stringers oriented at shallow angles to core axis ~55cm long occupying much of far-half of subinterval. ~2% small euhedral pyrite grains disseminated over 20cm near 131.34m. Single fleck of chalcopyrite in calcite stringer/veinlet.	30	M		Tr	strgrs shallo w	93330	<0.03	47
132.31	139.29	6.98	6.98	**TUFF/DIABASE** Fine-grained, compositionally & texturally homogeneous except for variable weak-moderate chlorite alteration. Color ranges from med grey to green-grey; hardness >4.7 in most places. Material usually moderately magnetic, non-magnetic in places. Localities non-calcareous to faintly calcareous; numerous calcite veinlets, discontinuous slashes & fracture fillings oriented at various angles to core axis. Near-contact defined arbitrarily by near absence of magnetite & on an extensive, nearly continuous structure extending to 134.1m consisting of calcite with Qtz hilited by dark green chlorite streaks or patches, typically oriented 25-40°/ca along with localized disruption & fracturing. In some places a talcose(?), v.soft brownish rust colored substance exists (unknown identification). Magnetite sometimes exists within or peripheral to the occasional calcite vein as small fine-grained patches or blebs. Far-contact rubbly but marked by a shear zone ~0.8m long 35-60°/ca, with minor calcite veinlets & stringers. Elsewhere calcite & Qtz-etc veins appear as a minor component; especially a 15cm long vein near 134.93m.	5-10	Tr			shear 35-60°			
139.29	160.17	20.88	19.32	**DIOIRTE/GABBRO μPORPHYRY** Massive-blocky, homogeneous, moderate-weakly magnetic, dark green material identified by small (<mm sized) but distinct lath-shaped light yellow-green colored feldspar? in a dark grey-greenish, fine-grained groundmass (feldspar ~20% by vol). Densely distributed light colored feldspar laths in a darker groundmass gives rock a felted appearance. Occasional euhedral pyroxene grains seen in places but are usually v. faint. Occasional thin calcite & calcite-chlorite veinlets; most oriented 30-50°/ca. Rare small, often tarnished, euhedral pyrite grain & sparse fine & medium grained magnetite disseminated in patches thruout interval.	2	Tr			veinlet s 30-50°			
139.29	149.96	10.67	10.67	Type-material; occasional diffuse band of epidote alteration <15cm long in places.								
149.96	151.55	1.58	1.25	μporphyritic texture less prominent where feldspar content much lower than type-description (<10%?).								
151.55	152.31	0.76	0.76	Healed breccia zone; distinctive fragmental zone of highly angular often strongly oblate (but randomly oriented) frags, usually muddy brownish colored & fewer gabbroic frags that range in size from a few mm to a single large gabbro frag at least 18 cm across (90% <15mm across). Frags are matrix-supported in a yellow brown groundmass. Muddy-brown colored					contact 20°			

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
				frags are intensely altered with various proportions of dark flecks of magnetite? pseudomorphed after pyroxene? Gabbroic frags fine-medium grained, relatively unaltered. Near-contact unpreserved; far-contact abrupt @20°/ca.								
152.31	156.64	4.33	4.11	Mostly v. faintly or sparsely μporphyritic (feldspar xtals <5% by vol), usually displaying faint but distinct dark-med green-grey phenos/metacrysts of chloritic pyroxene within a dark green-grey fine-med-grained groundmass. Phenos non-calcareous & range from 3mm to 1cm across & sometimes weakly epidote altered. Hairline epidote fractures & veinlets, most ~20°/ca. Single pitted calcite (pink carbonate)-magnetite-epidote-Qtz veinlet 1cm wide @153.56m ~40/ca.					fractur e 20°			
156.64	158.68	2.04	1.98	Variable texture; mostly gabbroic, med-fine grained. Feldspar (~35% by vol) visible as small flocculated grains or serrated freckles densely distributed in a dark green-grey mafic groundmass. >157.83m, feldspar much less visible in most places.								
158.68	160.17	1.49	0.55	FAULT: fractured, loose, rubbly core with blue-black & dark brown-red coatings on fracture surfaces.								
160.17	170.38	10.21	6.77	**Calcareous TUFF/DIABASE** Similar to interval 132.31+ in many respects. Usually moderately-strongly magnetic, moderately-strongly calcareous, v. fine grained, med-dark green-grey, homogeneous but marbled by numerous hairline white calcite veinlets & fracture fillings, feathery & discontinuous white calcite with Qtz stringers or patches & occasional coarse & fine grained Qtz-chlorite stringer/vein. White calcite features usually oriented nearly parallel to core axis (<10°/ca). About half of interval rubbly recovered. FAULT 160.0-160.3m represented as clean flakes & sheared fragments.					calcite veins & strgrs <10°			
170.38	170.38			***END of HOLE***								
		170.38	143.20									

Geologist: J David Williams

DIAMOND DRILL LOG

RQD LOG SHEET

INTERVAL [m] From	To	RQD [m]	[%]	Remark	INTERVAL [m] From	To	RQD [m]	[%]	Remark
3.05	3.66	0.19	31.2	NQ core to 60.3	43.28	43.89	0.00	0.0	
3.66	5.18	0.12	7.9		43.89	44.81	0.00	0.0	
5.18	5.79	0.00	0.0		44.81	45.42	0.00	0.0	
5.79	7.92	0.00	0.0		45.42	46.02	0.00	0.0	
7.92	9.75	0.25	13.7		46.02	46.94	0.35	38.3	
9.75	10.36	0.22	36.1		46.94	48.16	0.15	12.3	
10.36	11.28	0.00	0.0		48.16	48.31	0.00	0.0	
11.28	11.73	0.00	0.0		48.31	49.38	0.21	19.7	
11.73	12.50	0.12	15.7		49.38	50.90	0.67	44.0	
12.50	13.11	0.00	0.0		50.90	52.43	0.80	52.5	
13.11	14.33	0.92	75.5		52.43	53.95	0.66	43.3	
14.33	15.54	0.33	27.1		53.95	54.41	0.00	0.0	
15.54	16.15	0.12	19.7		54.41	55.02	0.28	45.9	
16.15	17.98	1.02	55.8		55.02	55.47	0.12	26.2	
17.98	18.90	0.72	78.7		55.47	56.69	0.78	64.0	
18.90	20.42	1.30	85.3		56.69	57.15	0.32	70.0	
20.42	21.03	0.14	23.0		57.15	58.22	0.12	11.2	
21.03	21.95	0.45	49.2		58.22	58.52	0.22	72.2	
21.95	23.16	0.52	42.7		58.52	60.05	0.29	19.0	
23.16	23.77	0.43	70.5		60.05	60.35	0.00	0.0	
23.77	24.38	0.30	49.2		60.35	61.26	0.00	0.0	reduce to BTW
24.38	24.99	0.52	85.3		61.26	63.40	0.00	0.0	
24.99	26.21	0.83	68.1		63.40	64.01	0.28	45.9	
26.21	27.28	0.11	10.3		64.01	65.84	1.56	85.3	
27.28	27.58	0.43	141.1		65.84	67.36	1.33	87.3	
27.58	28.65	0.48	45.0		67.36	68.88	1.25	82.0	
28.65	29.87	0.33	27.1		68.88	69.49	0.00	0.0	
29.87	30.48	0.30	49.2		69.49	69.80	0.00	0.0	
30.48	31.39	0.61	66.7		69.80	71.32	1.08	70.9	
31.39	32.92	1.27	83.3		71.32	72.69	1.02	74.4	
32.92	33.22	0.00	0.0		72.69	74.07	0.24	17.5	
33.22	34.75	0.58	38.1		74.07	74.98	0.00	0.0	
34.75	36.27	0.86	56.4		74.98	75.29	0.00	0.0	
36.27	37.19	0.22	24.1		75.29	76.05	0.49	64.3	
37.19	37.49	0.00	0.0		76.05	76.81	0.00	0.0	
37.49	38.71	0.12	9.8		76.81	77.57	0.00	0.0	
38.71	39.32	0.00	0.0		77.57	78.33	0.22	28.9	
39.32	40.23	0.63	68.9		78.33	78.64	0.00	0.0	
40.23	41.00	0.00	0.0		78.64	80.77	1.24	58.1	
41.00	42.21	0.00	0.0		80.77	81.38	0.00	0.0	
42.21	43.28	0.00	0.0		81.38	82.45	0.52	48.7	

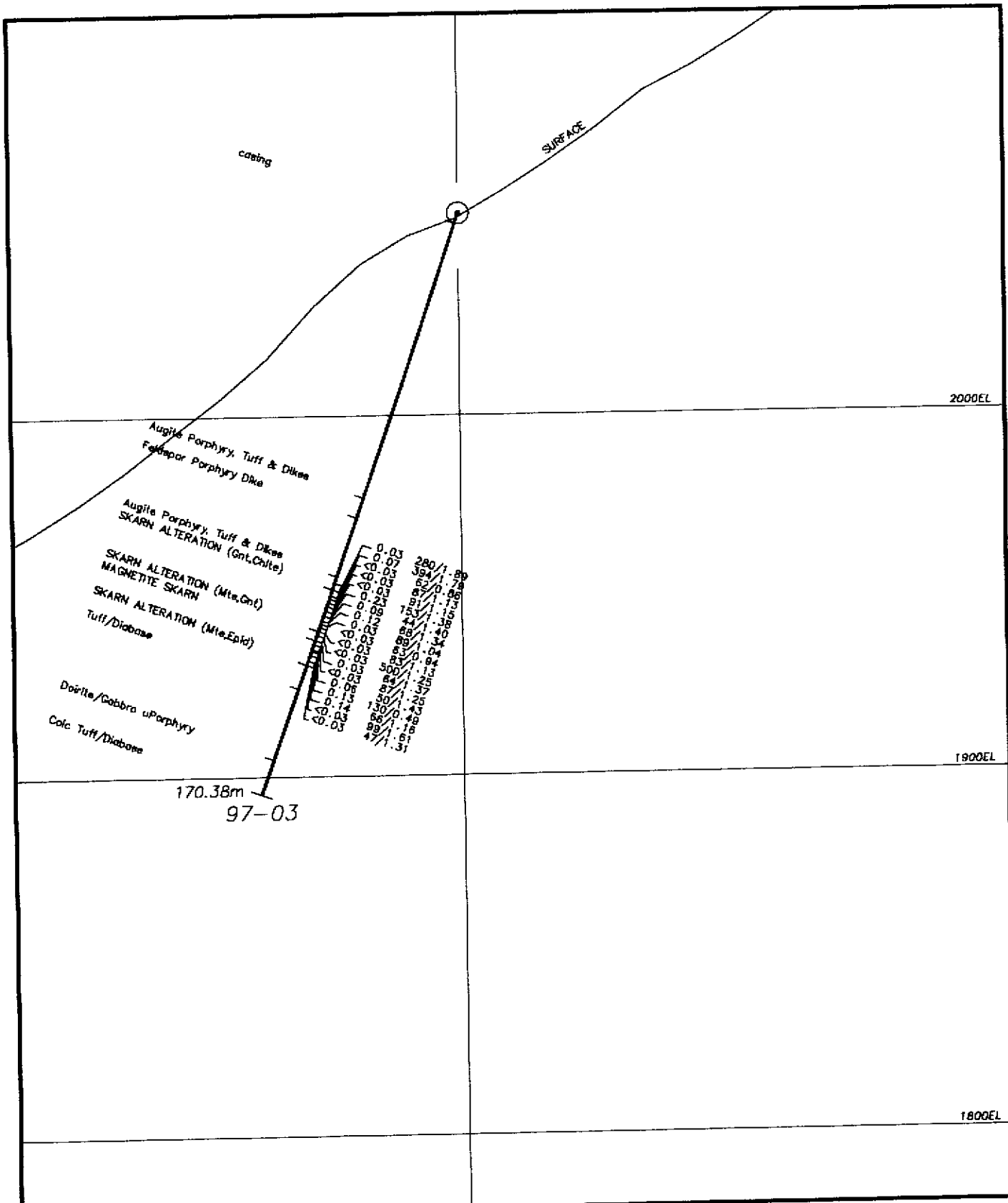
DIAMOND DRILL LOG

RQD LOG SHEET

INTERVAL [m] From	To	RQD [m]	[%]	Remark
82.45	84.12	0.13	7.8	
84.12	86.72	0.47	18.1	
86.72	87.02	0.00	0.0	
87.02	87.48	0.00	0.0	
87.48	89.00	0.30	19.7	
89.00	89.92	0.00	0.0	
89.92	90.83	0.43	47.0	
90.83	92.35	0.43	28.2	
92.35	93.88	0.39	25.6	
93.88	94.34	0.00	0.0	
94.34	96.47	0.14	6.6	
96.47	99.97	0.00	0.0	
99.97	102.11	0.14	6.6	
102.11	103.02	0.00	0.0	
103.02	103.63	0.00	0.0	
103.63	104.24	0.00	0.0	
104.24	105.16	0.11	12.0	
105.16	106.07	0.85	93.0	
106.07	108.20	0.65	30.5	
108.20	111.25	0.70	23.0	
111.25	113.08	1.68	91.9	
111.25	113.08	2.01	109.9	
113.08	115.21	1.63	76.4	
115.21	118.26	2.63	86.3	
118.26	121.31	2.88	94.5	
121.31	124.36	2.83	92.8	
124.36	127.41	2.03	66.6	
127.41	129.84	1.21	49.6	
129.84	133.05	1.66	51.9	
133.05	136.09	0.40	13.1	
136.09	136.55	0.41	89.7	
136.55	138.07	0.57	37.4	
138.07	139.60	0.70	45.9	
139.60	142.34	0.00	0.0	
142.34	142.80	0.00	0.0	
142.80	145.69	1.84	63.5	
145.69	148.74	1.12	36.7	
148.74	150.27	1.22	80.1	
150.27	151.18	0.40	43.7	
151.18	153.62	1.60	65.6	
153.62	154.23	0.34	55.8	
154.23	156.97	1.37	49.9	
156.97	157.73	0.74	97.1	
157.73	160.32	0.75	28.9	
160.32	161.39	0.67	62.8	
161.39	163.07	0.24	14.3	
163.07	165.81	0.41	14.9	
165.81	166.12	0.00	0.0	
166.12	167.64	0.72	47.2	
167.64	168.86	0.00	0.0	
168.86	170.38	0.23	15.1	EOH
HOLE AVERAGE			**38.5%**	

RQD measures lengths of core 10cm long or greater.
Intervals defined by driller's footage blocks in core box.

Geologist: J David McWilliams



INTEGREX ENGINEERING

NOTES:
Looking 322°Az [wrt UTM Grid]
Assay Format: Au[gm/tne] Cu[ppm]/Interval[m]
Cu may not have been assayed

10 METRES 0 10 20 30 40 50
Scale 1:1,500

DATE	REVISION	INITIAL
15Sep97	Original Release	JDW

	COMPOSITION
1	Surface Profile
2	DH String
3	DH Geology
4	DH Assay
5	
6	
7	

Vital Pacific Resources Ltd.

SOUP PROJECT 1997
DDH 97-03

DATE: SEPTEMBER 1997	SCALE: 1 : 1,500	Figure No.
DRAWN By: J.D.WILLIAMS, P.Eng.	JOB No.: SOUP PROJECT	01
DRAWING No.: DDH97-01.dwg	N.T.S. 094D/08E	

DIAMOND DRILL LOG
HEADER SHEET

Property	**SOUP**
Claim	SOUP #4
Location	Southwest-facing slope descending into Kliyul Creek, northwest of Saddle Gully Zone

Purpose

Magnetite intersections in DDHs 97-01,-02 &-03 indicated an improving trend down-dip. It was hoped that by moving southeast, closer to the Saddle Gully Zone where high assays were obtained, and towards the gabbroic intrusive, stronger alteration & mineralization would be found. This vertical hole was planned for an intersection at ~165m and down-dip by about 190m from its outcrop – not quite the distance of the impressive looking intersection of 97-02. *A second lower magnetite layer might be reached near the toe ~325m.*

NORTHING [NAD83]	**6,262,408**
EASTING	**680,574**
ELEVATION	**2,035**
LENGTH	52.73m [173 ft.]
AZIMUTH	000°
DIP	-90°

Contractor	Aggressive Drilling
Core Size	NQ
Date Started	29 July 1997
Date Completed	31 July 1997
Casing Depth	3.05m
Stick-up Length	0.0m

Results

Hole was abandoned when core barrel was broken off the drill string and could not be retrieved. No mineralization of was intersected.

Comments

Ground conditions were slowly appearing whe hole was abandoned.

Core is stored at campsite on Kliyul Creek.

43.04m of core recovered; recovery rate 82%.

Character samples taken at 17.92, 20.70, 28.56, 33.22, 41.76, 44.07, 48.95 & 52.36m.

Dip Tests

Depth	Reading	Corrected	Remark
no readings			

Geologist: J David Williams

INTEGREX ENGINEERING

Logged by:
J.D. Williams, P.Eng.

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
0.0	3.05	3.05	0.0	**Casing**								
3.05	33.10	30.05	23.93	**FELDSPAR CRYSTAL TUFF, AUGITE PORPHYRY & DIABASE DIKE(S)** Generally dark green fine-med grained sequence of mafic material with a range of textures. A freckled xtal tuff or micro porphyry is predominant & is distinguished by light colored greenish buff white feldspar phenos <1.5mm in size & upto 15% by vol, in a med-dark green groundmass. Where feldspar xtals are absent, rock may appear homogeneous, massive & fine-grained. Equant black pyroxene xtals 2-3mm across can be seen in places thruout interval but usually as scattered and sometimes faintly visible isolated grains ranging to 5% by vol. In finer grained intervals, rare faint banding, highlighted by variations in feldspar xtals on a scale of a few mms is evident @ 35-40°/ca. Textural contacts sometimes gradational over 1cm or so, but between phases of greatest contrast in grain size, contacts are often sharp or diffuse over only a few mms & irregular. Most of interval is non-calcareous, with local faintly calcareous patches & much of interval non-magnetic, although certain lengths show stronger magnetism yet display no outwards sign that would distinguish that behavior. Sparse but sometimes prominent lithic fragments 2-8cm across, usually of unalt'd med-grained gabbro or feldspar µporphyry, not very different in comp'n from host material. Frags both rounded & angular & range from oblate to spherical. Most of core to ~12.65m, rubbly or strongly fractured.					band'g 40°			
11.58	11.86	0.28	0.28	Moderate-strong epidote alteration with chlorite in slightly rusty shear/breccia zone.								
24.81	26.46	1.65	1.01	FAULT(?); most of core well-washed & ground to fine gravel.								
28.28	29.72	1.44	1.04	Diabase Dike; near-contact marked by 6cm long clay, gouge & rubbly core, & far contact rubbly. Subinterval v.fine-grained, massive, homogeneous, moderately magnetic, with sometimes abundant hairline epidote fractures ~15°/ca & a single Qtz-cte-chlte vein 5mm wide 50°/ca near 28.68m. Limonitic/rusty shear zone ~1cm wide ~40°/ca near far-contact.					vein 50° shear 40°			
30.69	31.27	0.58	0.58	FAULT(?); rubbly & fractured core in fine-grained tuffaceous material.								
33.10	48.77	15.67	15.00	**ANDESITIC-BASALTIC TUFF & AUGITE PORPHYRY** Similar in composition to interval 3.05+ except for a slight decrease in feldspar content: feldspar grains not usually a evident as in interval 3.05+. Interval generally dark green, variably calcareous (non-calcareous-weakly calc.) variably magnetic (non-mag–moderately mag) fine-med-grained. Texture ranges from a dark, almost black, homogeneous, massive fine-med-grained tuff to a med grained phase. Med-grained phase shows dark colored equant pyroxene? phenos a few mm in size (to 10% by vol.) in a med-dark green groundmass, with prominent light colored (pale greenish-white) small feldspar grains (<10% by vol. but locally reaching as high as 20%). Feldspar µphenos & pyroxene phenos can be distributed independently (i.e. feldspar occurs without pyroxene & vice versa). Contacts between textures can be gradational (over several cms) or abrupt, and textural					band'g 30-40°			

DIAMOND DRILL LOG – DESCRIPTION SHEET

INTERVAL From	To	Len	Rec	DESCRIPTION	Mte %	Py %	Po %	Cpy %	Orient'n /ca	ASSAYS Sample ID	Au [gm/tne]	Cu [ppm]
				domains can be widely or closely spaced. Narrowly spaced textural variations or bands are locally visible, oriented 30-40°/ca. Occasional randomly oriented hairline-wide calcite, epidote or epid-ctc seams or veinlets are distributed thruout interval.								
38.50	38.68	0.18	0.18	Tuff; feldspathic med-grained tuff horizon with finer grained tuff at each contact @ 35°/ca. Diffuse contacts several mms wide. Clear example of how hairline epidote seams in finer grained tuff widen to several mms wide in coarser-grained tuff & alteration diffuses into it preferentially. A 4mm wide Qtz-ctc veinlet is also contained within coarse-grained tuff.								
42.64	43.98	1.34	1.04	FAULT?; mostly broken core with red-brown colored fracture planes faintly bleached at start of subinterval where a brecciation texture is healed by orange colored silica. Subinterval is terminated by 5cm rusty purple colored (hematitic?) & limonitic clay & rubbly gouge ~55%/ca.					Fault 55°			
46.02	46.70	0.68	0.43	FAULT?; rubble & clay gouge.								
44.65	44.84	0.19	0.19	Vein; ~3cm wide pitted & vuggy Qtz-ctc structure with large pyrite & chalcopyrite euhedra (to 8cm across) & bright malachite stain.		5		5				
48.77	49.07	0.30	0.30	**PORPHYRY DIKE?** Moderately hard (H~5.0), med grey-green, bluish grey & dark green broken core showing an episode of shearing or stretching in some places (~60°/ca). Most of interval displays unusual angular blotches ~5mm across, each containing a limonitic? orange-brown center that occupies most of the area of the feature & a light green usually concentric rim of a mm or two wide. Blotches float in a fine-grained groundmass & account fo ~20% of total volume.					shear'g 60°			
49.07	52.73	3.66	3.81	**BASALTIC LITHIC TUFF** Dark green, fine-med-grained, weakly calcareous, moderately & strongly magnetic material displaying lithic fragments. Lithic frags range from leuco to mafic (ultramafic?) with the leuco variety most prominent but very sparse. The more mafic frags predominate but are often hard to distinguish against a groundmass of similar color & composition. Most lithic frags show a feldspar μporphyryitc texture. Frags range to several cms across, usually rounded or subrounded & shpherical in shape. Other localities, relatively free of fragmental fraction show hornblende? xtals upto 5mm across and smaller equant pyroxenc xtals & feldspar grains (hbde 5%, px 5% feld 5%, grdmass 80%, frags ~5%).								
52.73	52.73			**END of HOLE**								
		52.73	43.04									

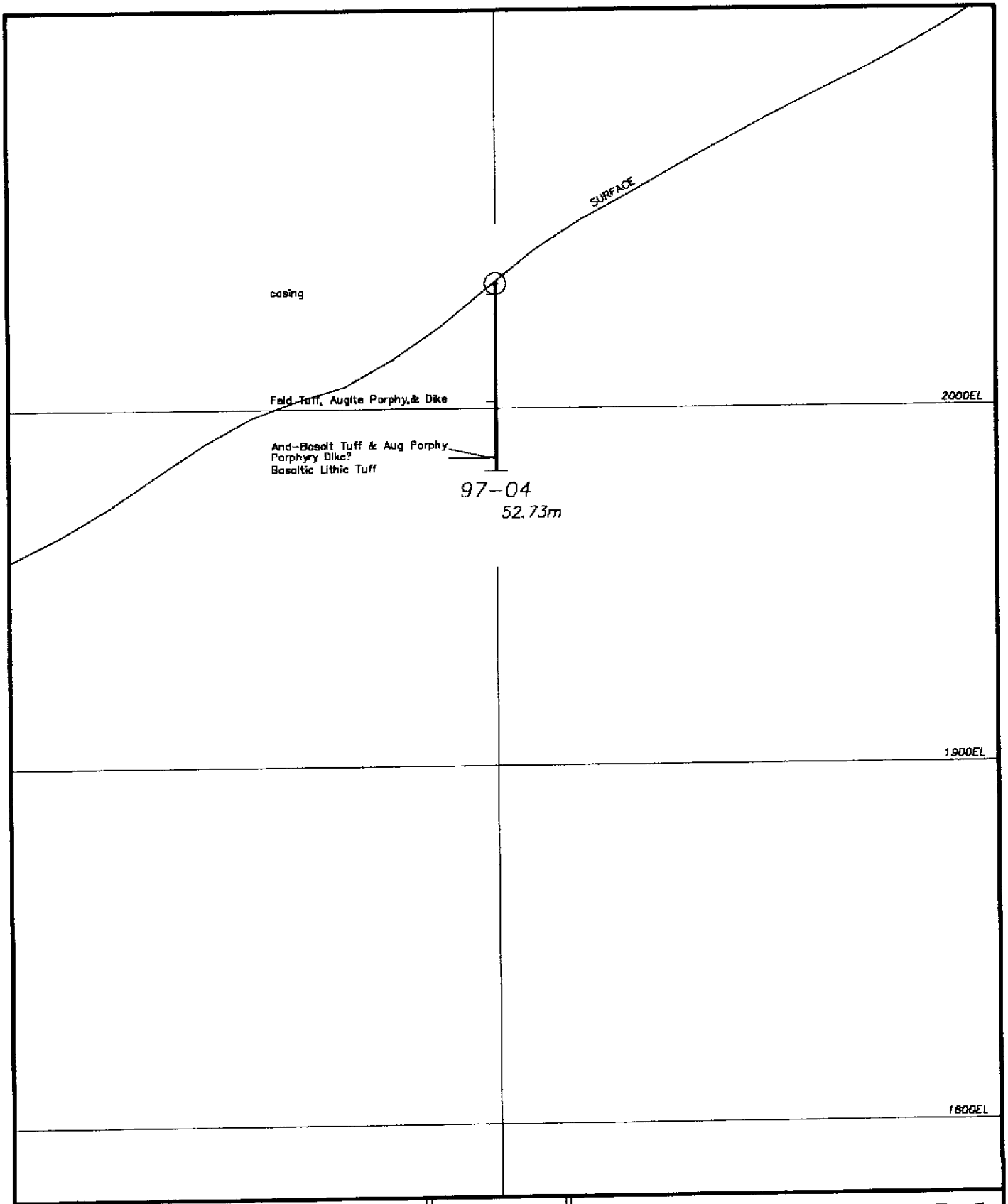
Geologist: J David McWilliams

DIAMOND DRILL LOG
RQD LOG SHEET

INTERVAL [m] From	To	RQD [m]	[%]	Remark
3.05	5.79	0.25	9.1	NQ core to EOH
5.79	6.40	0.00	0.0	
6.40	8.53	0.00	0.0	
8.53	9.45	0.00	0.0	
9.45	10.06	0.00	0.0	
10.06	11.43	0.00	0.0	
11.43	11.89	0.00	0.0	
11.89	13.11	0.00	0.0	
13.11	13.72	0.12	19.7	
13.72	14.94	0.12	9.8	
14.94	15.24	0.24	78.7	
15.24	16.76	0.72	47.2	
16.76	17.07	0.27	88.6	
17.07	18.14	0.35	32.8	
18.14	18.59	0.00	0.0	
18.59	18.90	0.00	0.0	
18.90	19.81	0.00	0.0	
19.81	21.03	1.08	88.6	
21.03	21.64	0.28	45.9	
21.64	22.25	0.37	60.7	
22.25	23.77	0.68	44.6	
23.77	24.69	0.38	41.6	
24.69	25.30	0.00	0.0	
25.30	25.91	0.12	19.7	
25.91	26.82	0.33	36.1	
26.82	27.74	0.29	31.7	
27.74	28.35	0.22	36.1	
28.35	29.26	0.11	12.0	
29.26	29.72	0.00	0.0	
29.72	30.78	0.32	30.0	
30.78	32.31	0.31	20.3	
32.31	33.53	1.12	91.9	
33.53	35.36	0.51	27.9	
35.36	35.66	0.12	39.4	
35.66	36.58	0.38	41.6	
36.58	37.80	0.12	9.8	
37.80	38.40	0.24	39.4	
38.40	39.93	1.02	66.9	
39.93	41.15	0.71	58.2	
41.15	42.37	0.17	13.9	
42.37	42.67	0.10	32.8	
42.67	43.89	0.00	0.0	
43.89	45.42	0.63	41.3	
45.42	46.02	0.35	57.4	
46.02	46.33	0.00	0.0	
46.33	47.85	0.11	7.2	
47.85	48.46	0.00	0.0	
48.46	49.07	0.00	0.0	
49.07	49.38	0.14	45.9	
49.38	50.90	0.12	7.9	
50.90	51.51	0.00	0.0	
51.51	52.12	0.16	26.2	
52.12	52.73	0.60	98.4	EOH
HOLE AVERAGE			**25.0%**	

RQD measures lengths of core 10cm long or greater.
Intervals defined by driller's footage blocks in core box.

Geologist: David McWhair



NOTES:
Looking 322°Az [wrt UTM Grid]
Assay Format: Au[gm/tne] Cu[ppm]/Interval[m]
Cu may not have been assayed

10 METRES 0 10 20 30 40 50
Scale 1:1,500

DATE	REVISION	INITIAL
15Sep97	Original Release	JDW

	COMPOSITION
1	Surface Profile
2	DH String
3	DH Geology
4	DH Assay
5	
6	
7	

INTEGREX ENGINEERING

Vital Pacific Resources Ltd.

SOUP PROJECT 1997
DDH 97-04

DATE: SEPTEMBER 1997	SCALE: 1 : 1,500	Figure No.
DRAWN By: J.D.WILLIAMS, P.Eng.	JOB No.: SOUP PROJECT	01
DRAWING No.: DDH97-01.dwg	N.T.S. 094D/08E	

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Fax (250) 573-4557

CERTIFICATE OF ASSAY AK 97-687

VITAL PACIFIC RESOURCES LTD.
600-890 WEST PENDER STREET
VANCOUVER, BC
V6C 1J9

18-Jul-97

ATTENTION: BARRY BURKETT

No. of samples received:38
Sample type:CORE
PROJECT #: SOUP PROPERTY
SHIPMENT #:NONE GIVEN
Samples submitted by: J. DAVID WILLIAMS

ET #.	Tag #	Au (g/t)	Au (oz/t)
1	93201	<.03	<.001
2	93202	<.03	<.001
3	93203	<.03	<.001
4	93204	<.03	<.001
5	93205	0.12	0.003
6	93206	<.03	<.001
7	93207	0.07	0.002
8	93208	0.05	0.001
9	93209	<.03	<.001
10	93210	<.03	<.001
11	93211	<.03	<.001
12	93212	<.03	<.001
13	93213	0.03	0.001
14	93214	<.03	<.001
15	93215	<.03	<.001
16	93216	<.03	<.001
17	93217	0.34	0.01
18	93218	<.03	<.001
19	93219	0.52	0.02
20	93220	0.18	0.01
21	93221	0.23	0.01

ECO-TECH LABORATORIES LTD.
per Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

VITAL PACIFIC RESOURCES LTD. AK 97-687 18-Jul-97

ET #.	Tag #	Au (g/t)	Au (oz/t)
22	93222	0.37	0.01
23	93223	0.21	0.01
24	93224	0.79	0.02
25	93225	1.02	0.03
26	93226	0.66	0.02
27	93227	2.81	0.08
28	93228	2.53	0.07
29	93229	0.72	0.02
30	93230	0.44	0.01
31	93231	4.71	0.14
32	93232	2.11	0.06
33	93233	1.96	0.06
34	93234	0.73	0.02
35	93235	2.02	0.06
36	93236	0.87	0.03
37	93237	0.56	0.02
38	93238	0.21	0.01
QC/DATA:			
Resplit:			
1	93201	<.03	<.001
36	93236	0.91	0.03
Repeat:			
1	93201	<.03	<.001
10	93210	<.03	<.001
19	93219	0.53	0.02
36	93236	0.90	0.03
Standard:			
STD-M		1.48	0.04
STD-M		1.48	0.04

ECO-TECH LABORATORIES LTD.
per Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

XLS/97

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Fax (250) 573-4557

18-Jul-97

ECO-TECH LABORATORIES LTD.
10041 East Trans Canada Highway
KAMLOOPS, B.C.
V2C 6T4

Phone: 604-573-5700
Fax : 604-573-4557

VITAL PACIFIC RESOURCES LTD. AK 97-687
600-890 WEST PENDER STREET
VANCOUVER, BC
V6C 1J9

ATTENTION: BARRY BURKETT

No. of samples received:38
Sample type:CORE
PROJECT #: SOUP PROPERTY
SHIPMENT #:NONE GIVEN
Samples submitted by: J. DAVID WILLIAMS

Values in ppm unless otherwise reported

Et #.	Tag #	Ag	As	Co	Cu	Fe %	Mn	Mo	Ni	Pb	Sb	Zn
14	93214	<0.2	<5	12	53	1.15	438	<1	14	6	35	13
15	93215	<0.2	5	35	153	4.26	1100	<1	42	4	50	35
16	93216	<0.2	10	14	32	1.07	672	<1	46	2	30	9
17	93217	0.2	<5	68	1633	9.50	1763	7	45	<2	<5	3
18	93218	<0.2	<5	22	482	1.36	522	<1	12	<2	10	<1
19	93219	0.6	<5	52	1784	>10	1982	8	23	<2	<5	12
20	93220	1.0	<5	193	2047	>10	686	22	34	<2	<5	71
21	93221	1.4	<5	224	3612	>10	802	28	27	<2	<5	87
22	93222	1.6	<5	321	4182	>10	566	24	43	<2	<5	66
23	93223	<0.2	<5	66	785	7.07	404	2	15	<2	<5	6
24	93224	0.6	<5	163	2071	>10	600	20	34	<2	<5	25
25	93225	1.4	<5	182	3959	>10	632	67	27	<2	<5	58
26	93226	1.4	<5	206	3894	>10	733	57	29	<2	<5	69
27	93227	4.4	<5	171	>10000	>10	700	200	14	<2	<5	64
28	93228	3.0	<5	221	7575	>10	1241	105	12	<2	<5	76
29	93229	2.4	<5	185	3764	>10	1182	102	14	<2	<5	58
30	93230	1.4	15	144	1808	>10	1798	170	40	8	15	68
31	93231	7.0	<5	140	>10000	>10	1503	42	24	2	10	62
32	93232	2.8	<5	118	6288	>10	918	45	12	<2	<5	65
33	93233	3.0	<5	96	5639	>10	960	69	10	<2	<5	49
34	93234	0.8	<5	79	2156	>10	634	22	10	<2	<5	41
35	93235	3.4	<5	143	5645	>10	987	102	14	<2	<5	59
36	93236	1.0	<5	72	2242	>10	1126	15	10	<2	10	50
37	93237	1.4	<5	118	2312	>10	907	43	18	<2	<5	42
38	93238	0.6	<5	54	1305	8.24	867	8	18	6	25	47

VITAL PACIFIC RESOURCES LTD. AK 97-687

Et #.	Tag #	Ag	As	Co	Cu	Fe %	Mn	Mo	Ni	Pb	Sb	Zn
QC DATA:												
Resplit:												
36	93236	1.0	<5	69	2125	>10	1081	13	9	<2	15	49
Repeat:												
14	93214	<0.2	10	14	54	1.20	475	<1	16	6	45	11
23	93223	<0.2	<5	66	816	7.47	422	2	16	<2	<5	7
32	93232	3.0	<5	117	6317	>10	917	44	11	<2	<5	65
Standard:												
GEO'97		1.6	70	20	84	4.34	696	<1	24	26	5	77

df/625
XLS/97
fax: 604-608-1707
cc: minconsult & fax: 600-700-3551

ECO-TECH LABORATORIES LTD.
per Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

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Fax (250) 573-4557

CERTIFICATE OF ASSAY AK 753

VITAL PACIFIC RESOURCES LTD.
600-890 WEST PENDER STREET
VANCOUVER, B.C
V6C 1J9

29-Jul-97

ATTENTION: BARRY BURKETT

No. of samples received: 63
Sample type: CORE
PROJECT #: SOUP PROPERTY
SHIPMENT #:NOT GIVEN
Samples submitted by: J. DAVID WILLIAMS

ET #.	Tag #	Au (g/t)	Au (oz/t)
1	93239	0.19	0.006
2	93240	1.24	0.036
3	93241	0.03	0.001
4	93242	0.56	0.016
5	93243	0.17	0.005
6	93244	0.35	0.010
7	93245	0.04	0.001
8	93246	0.88	0.026
9	93247	0.08	0.002
10	93248	0.03	0.001
11	93249	0.17	0.005
12	93250	0.05	0.001
13	93251	0.54	0.016
14	93252	0.15	0.004
15	93253	0.07	0.002
16	93254	<.03	<.001
17	93255	<.03	<.001
18	93256	0.03	0.001
19	93257	<.03	<.001
20	93258	<.03	<.001
21	93259	0.54	0.016
22	93260	0.05	0.001

ECO-TECH LABORATORIES LTD.
per Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

ET #.	Tag #	Au (g/t)	Au (oz/t)
23	93261	<.03	<.001
24	93262	0.04	0.001
25	93263	0.18	0.005
26	93264	<.03	<.001
27	93265	0.17	0.005
28	93266	0.05	0.001
29	93267	0.16	0.005
30	93268	0.30	0.009
31	93269	0.54	0.016
32	93270	1.13	0.033
33	93271	0.93	0.027
34	93272	0.56	0.016
35	93273	0.68	0.020
36	93274	0.07	0.002
37	93275	0.61	0.018
38	93276	0.46	0.013
39	93277	0.03	0.001
40	93278	0.43	0.013
41	93279	0.24	0.007
42	93280	0.51	0.015
43	93281	<.03	<.001
44	93282	0.45	0.013
45	93283	0.04	0.001
46	93284	0.82	0.024
47	93285	0.02	0.001
48	93286	0.60	0.017
49	93287	0.62	0.018
50	93288	0.62	0.018
51	93289	0.40	0.012
52	93290	0.20	0.006
53	93291	0.36	0.010
54	93292	1.04	0.030
55	93293	1.27	0.037
56	93294	1.34	0.039
57	93295	2.17	0.063

ECO-TECH LABORATORIES LTD.
per Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

VITAL PACIFIC RESOURCES LTD. AK 97 - 753

29-Jul-97

ET #.	Tag #	Au (g/t)	Au (oz/t)
58	93296	1.34	0.039
59	93297	1.74	0.051
60	93298	1.20	0.035
61	93299	1.04	0.030
62	93300	0.56	0.016
63	93301	0.30	0.009

QC DATA:

Resplits:

R/S 1	93239	0.22	0.006
R/S 36	93274	0.04	0.001

Repeats:

1	93239	0.19	0.006
10	93248	0.03	0.001
19	93257	<.03	<.001
36	93274	0.04	0.001
45	93283	0.09	0.003

Standard:

STD-M	1.49	0.043
STD-M	1.57	0.046

per

ECO-TECH LABORATORIES LTD.
Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

XLS/97

30-Jul-97

ECO-TECH LABORATORIES LTD.
10041 East Trans Canada Highway
KAMLOOPS, B.C.
V2C 6T4

Phone: 604-573-5700
Fax : 604-573-4557

ICP CERTIFICATE OF ANALYSIS AK 97- 753

VITAL PACIFIC RESOURCES LTD.
600-890 WEST PENDER STREET
VANCOUVER, B.C
V6C 1J9

ATTENTION: BARRY BURKETT

No. of samples received: 38
Sample type: CORE
Project #: Soup Property
Shipment #: not given
Samples submitted by: J. DAVID WILLIAMS

Values in ppm unless otherwise reported

Et #.	Tag #	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
26	93264	<0.2	4.28	<5	40	<5	7.53	<1	51	847	269	7.08	<10	5.41	1271	<1	0.01	115	740	92	<5	<20	37	0.12	<10	179	<10	<1	71
27	93265	<0.2	4.33	<5	80	<5	9.29	<1	59	808	273	>10	<10	5.33	1690	6	0.01	111	890	<2	<5	<20	52	0.13	<10	305	<10	<1	65
28	93266	<0.2	0.63	<5	20	<5	2.66	<1	53	52	492	2.15	<10	0.44	314	<1	0.01	18	560	4	5	<20	22	0.12	<10	37	<10	<1	11
29	93267	<0.2	0.90	<5	25	<5	5.87	<1	36	73	647	5.34	<10	0.17	793	<1	<0.01	15	440	<2	<5	<20	32	0.20	<10	82	<10	2	9
30	93268	<0.2	1.48	<5	30	<5	4.80	5	50	107	1604	6.04	<10	0.88	915	<1	0.01	18	720	6	<5	<20	40	0.23	<10	102	<10	<1	40
31	93269	<0.2	0.81	<5	50	<5	9.80	3	45	140	2189	>10	<10	0.07	1348	8	<0.01	40	6860	<2	<5	<20	33	0.08	<10	289	<10	<1	17
32	93270	<0.2	1.35	<5	50	<5	>10	<1	58	164	3713	>10	<10	0.08	2409	6	<0.01	31	3070	<2	<5	<20	17	0.14	<10	512	<10	<1	18
33	93271	0.6	0.81	<5	35	<5	9.55	<1	35	105	2925	9.13	<10	0.08	1675	7	<0.01	24	3230	<2	<5	<20	11	0.07	<10	300	<10	<1	16
34	93272	0.8	0.95	<5	55	<5	>10	1	80	98	2996	>10	<10	0.24	2408	7	0.01	35	2460	<2	<5	<20	39	0.10	<10	339	<10	<1	19
35	93273	0.4	1.36	<5	30	<5	5.22	<1	122	170	2130	8.40	<10	1.00	983	3	0.02	51	1420	4	<5	<20	30	0.17	<10	136	10	<1	27
36	93274	<0.2	1.29	<5	25	<5	3.25	<1	26	64	383	3.47	<10	0.81	355	<1	0.03	11	1400	10	5	<20	46	0.18	<10	76	<10	8	18
37	93275	1.4	0.92	<5	60	<5	2.76	1	183	87	4627	>10	<10	0.55	369	9	0.03	57	2090	<2	<5	<20	40	0.15	<10	145	<10	<1	26
38	93276	1.0	0.68	<5	70	<5	2.66	<1	195	82	3946	>10	<10	0.24	435	10	0.02	67	1370	<2	<5	<20	39	0.12	<10	168	<10	<1	17
39	93277	<0.2	1.48	<5	20	<5	2.37	<1	52	78	697	4.08	<10	1.08	445	<1	0.02	31	1530	8	<5	<20	43	0.17	<10	61	<10	<1	41
40	93278	0.6	0.66	<5	70	<5	3.81	2	109	89	2496	>10	<10	0.15	758	12	0.03	39	1250	<2	<5	<20	24	0.09	<10	83	<10	<1	19
41	93279	0.6	1.35	<5	60	<5	9.58	1	76	58	2558	>10	<10	0.12	2337	8	0.01	38	1040	<2	<5	<20	14	0.08	<10	73	<10	<1	14
42	93280	0.8	1.14	<5	65	<5	8.73	2	117	70	3010	>10	<10	0.28	1960	10	0.02	64	1380	<2	<5	<20	25	0.11	<10	83	<10	<1	21
43	93281	<0.2	1.72	<5	35	<5	6.79	<1	47	102	574	7.47	<10	1.70	1061	<1	0.04	16	1390	8	5	<20	32	0.19	<10	109	<10	<1	57
44	93282	0.4	1.49	<5	55	<5	>10	<1	62	105	1513	>10	<10	0.20	2386	6	0.02	15	1520	4	<5	<20	31	0.11	<10	96	<10	<1	14
45	93283	<0.2	0.98	<5	20	<5	3.85	<1	28	60	392	2.79	<10	0.60	428	<1	0.03	8	1500	8	10	<20	40	0.16	<10	59	<10	6	16
46	93284	0.8	0.57	<5	140	<5	1.87	2	139	37	3571	>10	<10	0.35	849	28	0.02	19	500	<2	<5	<20	18	0.06	<10	92	20	<1	59
47	93285	<0.2	1.20	<5	20	<5	9.35	<1	23	123	177	4.38	<10	1.20	1064	<1	0.02	14	1290	6	5	<20	33	0.12	<10	46	<10	<1	44
48	93286	0.8	0.74	<5	125	<5	1.82	3	207	42	3038	>10	<10	0.48	583	21	0.02	8	710	<2	<5	<20	19	0.07	<10	66	<10	<1	51
49	93287	1.2	0.74	<5	105	<5	4.26	2	209	61	3526	>10	<10	0.49	952	17	0.02	10	800	<2	<5	<20	28	0.08	<10	65	<10	<1	45

VITAL PACIFIC RESOURCES LTD. ICP CERTIFICATE OF ANALYSIS AK 97- 753 ECO-TECH LABORATORIES LTD.

Et #.	Tag #	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
50	93288	0.6	0.68	<5	95	<5	2.30	2	202	73	3969	>10	<10	0.45	661	18	0.02	21	850	<2	<5	<20	18	0.09	<10	74	10	<1	53
51	93289	1.2	1.21	<5	90	<5	7.42	1	84	76	1402	>10	<10	1.32	1171	14	0.02	12	1020	2	<5	<20	37	0.11	<10	90	<10	<1	56
52	93290	0.4	0.69	<5	55	<5	2.74	1	103	100	1237	>10	<10	0.11	376	8	0.02	8	1370	<2	<5	<20	44	0.12	<10	46	<10	<1	19
53	93291	0.4	0.49	<5	80	<5	2.76	2	128	72	1667	>10	<10	0.13	427	12	0.02	12	800	<2	<5	<20	26	0.10	<10	47	<10	<1	29
54	93292	0.6	0.38	<5	135	<5	1.64	2	368	33	3751	>10	<10	0.09	520	42	0.01	15	170	<2	<5	<20	19	0.04	<10	58	<10	<1	54
55	93293	0.8	0.74	<5	110	<5	1.71	2	131	83	4159	>10	<10	0.37	535	19	0.02	18	840	<2	<5	<20	41	0.09	<10	82	<10	<1	59
56	93294	0.6	0.37	<5	130	<5	1.51	3	154	52	4004	>10	<10	0.10	539	24	0.02	29	540	<2	<5	<20	28	0.09	<10	92	<10	<1	56
57	93295	1.6	0.33	<5	145	<5	1.04	3	217	47	7737	>10	<10	0.04	522	92	0.02	73	460	<2	<5	<20	15	0.07	<10	108	<10	<1	71
58	93296	1.0	0.31	<5	155	<5	0.72	4	185	26	6052	>10	<10	0.09	625	129	0.01	65	80	<2	<5	<20	10	0.04	<10	138	<10	<1	79
59	93297	0.6	0.42	<5	145	<5	0.74	4	116	29	4056	>10	<10	0.21	717	43	0.02	24	280	<2	<5	<20	12	0.06	<10	117	<10	<1	98
60	93298	0.4	0.35	<5	165	<5	0.64	2	161	20	4048	>10	<10	0.16	817	27	0.01	21	<10	<2	<5	<20	8	0.06	<10	124	<10	<1	143
61	93299	0.4	0.39	<5	135	<5	0.87	1	151	42	2613	>10	<10	0.13	841	19	0.02	16	590	<2	<5	<20	16	0.09	<10	113	<10	<1	92
62	93300	0.8	0.88	<5	150	<5	0.21	3	330	16	5942	>10	<10	0.33	834	28	0.01	43	<10	<2	<5	<20	4	0.03	<10	86	<10	<1	138
63	93301	<0.2	0.52	<5	70	<5	1.63	1	222	81	2307	>10	<10	0.16	295	11	0.02	30	1290	<2	<5	<20	20	0.11	<10	83	<10	<1	34
QC DATA:																													
Resplit:																													
R/S 36	93274	<.02	1.42	<5	30	<5	3.41	<1	27	69	378	3.69	<10	0.83	365	<1	0.03	10	1370	8	<5	<20	50	0.20	<10	83	<10	10	19
Repeat:																													
26	93264	<0.2	4.68	<5	40	<5	8.19	<1	57	714	276	7.12	<10	5.97	1389	<1	0.01	120	780	86	5	<20	39	0.14	<10	198	<10	<1	75
48	93288	0.6	0.75	<5	130	<5	1.76	3	200	41	3095	>10	<10	0.51	568	22	0.02	7	580	<2	<5	<20	22	0.07	<10	66	<10	<1	48
62	93300	1.0	0.91	<5	150	<5	0.21	2	360	17	6366	>10	<10	0.32	853	26	0.01	51	<10	<2	<5	<20	4	0.03	<10	84	<10	<1	141
Standard:																													
GEO'97		1.6	1.87	70	175	<5	2.00	<1	22	70	89	4.10	<10	0.98	730	<1	0.02	22	810	24	15	<20	56	0.14	<10	85	<10	10	72
GEO'97		1.6	1.96	75	185	<5	2.03	<1	23	69	84	4.08	<10	1.04	744	<1	0.02	24	810	22	5	<20	56	0.14	<10	88	<10	10	74

df/750f
XLS/97

ECO-TECH LABORATORIES LTD.
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B.C. Certified Assayer

Eco-Tech
LABORATORIES LTD.

ASSAYING
GEOCHEMISTRY
ANALYTICAL CHEMISTRY
ENVIRONMENTAL TESTING

10041 E. Trans Canada Hwy., R.R. #2, Kamloops, B.C. V2C 6T4 Phone (250) 573-5700
Fax (250) 573-4557

CERTIFICATE OF ASSAY AK 767

VITAL PACIFIC RESOURCES
600-890 WEST PENDER STREET
VANCOUVER, B.C.
V6C 1J9

29-Jul-97

ATTENTION: BARRY BURKETT

No. of samples received:10
Sample type: CORE
PROJECT #: SOUP PROPERTY
SHIPMENT #:NOT GIVEN
Samples submitted by: J. DAVID WILLIAMS

ET #.	Tag #	Au (g/t)	Au (oz/t)
1	93302	0.58	0.017
2	93303	0.32	0.009
3	93304	0.17	0.005
4	93305	0.02	0.001
5	93306	0.07	0.002
6	93307	0.34	0.010
7	93308	0.52	0.015
8	93309	1.33	0.039
9	93310	0.24	0.007
10	93311	1.18	0.034

QC DATA:

Resplits:			
R/S 1	93302	0.73	0.021
Repeats:			
1	93302	0.68	0.020
Standard:			
STD-M		1.30	0.038

ECO-TECH LABORATORIES LTD.
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B.C. Certified Assayer

XLS/97

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ENVIRONMENTAL TESTING

10041 E. Trans Canada Hwy., R.R. #2, Kamloops, B.C. V2C 6T4 Phone (250) 573-5700
Fax (250) 573-4557

CERTIFICATE OF ASSAY AK 97-784

VITAL PACIFIC RESOURCES AK 97-784
600 - 890 WEST PENDER STREET
VANCOUVER, BC
V6C 1J9

5-Aug-97

ATTENTION: BARRY BURKETT

No. of samples received: 19
Sample type: Core
PROJECT #: Soup Property
SHIPMENT #:not given
Samples submitted by: J. David Williams

ET #.	Tag #	Au (g/t)	Au (oz/t)
1	93312	0.03	0.001
2	93313	0.07	0.002
3	93314	<.03	<.001
4	93315	<.03	<.001
5	93316	<.03	<.001
6	93317	0.23	0.007
7	93318	0.09	0.003
8	93319	0.12	0.003
9	93320	0.03	0.001
10	93321	<.03	<.001
11	93322	<.03	<.001
12	93323	<.03	<.001
13	93324	0.03	0.001
14	93325	<.03	<.001
15	93326	0.06	0.002
16	93327	0.13	0.004
17	93328	0.14	0.004
18	93329	<.03	<.001
19	93330	<.03	<.001

per
ECO-TECH LABORATORIES LTD.
Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

VITAL PACIFIC RESOURCES AK 97-784 5-Aug-97

ET #.	Tag #	Au (g/t)	Au (oz/t)
QC/DATA:			
Resplit:			
R/S 1	93312	0.03	0.001
Repeat:			
1	93312	0.03	0.001
10	93321	<.03	<.001
Standard:			
STD-M		1.34	0.039

per **ECO-TECH LABORATORIES LTD.**
Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

XLS/97

Eco-Tech LABORATORIES LTD.

ASSAYING
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ENVIRONMENTAL TESTING

10041 E. Trans Canada Hwy., R.R. #2, Kamloops, B.C. V2C 6T4 Phone (250) 573-5700
Fax (250) 573-4557

14-Aug-97

ECO-TECH LABORATORIES LTD.
10041 East Trans Canada Highway
KAMLOOPS, B.C.
V2C 6T4

Phone: 604-573-5700
Fax : 604-573-4557

Values in ppm unless otherwise reported

VITAL PACIFIC RESOURCES AK 97-784
600 - 890 WEST PENDER STREET
VANCOUVER, BC
V6C 1J9

ATTENTION: BARRY BURKETT

No. of samples received: 19
Sample type: Core
PROJECT #: Soup Property
SHIPMENT #:not given
Samples submitted by: J. David Williams

Et #.	Tag #	Ag	As	Bi	Cd	Cu	Hg(ppb)	Mo	Pb	Sb	Se	Zn
1	93312	0.4	2	<.1	0.8	280	25	9	<2	0.6	0.2	10
2	93313	0.4	<1	<.1	0.1	394	15	18	<2	0.7	0.2	53
3	93314	0.2	1	<.1	0.2	62	15	12	4	0.6	<.2	36
4	93315	0.2	1	<.1	0.2	87	15	15	6	0.8	<.2	29
5	93316	0.4	1	<.1	0.1	91	15	16	6	0.6	0.2	42
6	93317	0.2	1	<.1	0.3	153	<5	10	4	0.6	<.2	18
7	93318	<0.2	2	<.1	0.1	44	<5	5	2	0.6	<.2	12
8	93319	0.2	1	<.1	0.3	68	5	8	12	0.5	<.2	51
9	93320	<0.2	2	<.1	0.2	89	<5	10	8	0.7	<.2	43
10	93321	<0.2	1	<.1	0.2	63	<5	14	6	0.8	<.2	48
11	93322	<0.2	1	<.1	0.3	83	50	16	6	0.9	0.2	50
12	93323	0.4	1	<.1	0.1	500	30	26	10	0.8	0.8	43
13	93324	0.2	<1	<.1	0.1	64	15	22	4	0.9	0.2	46
14	93325	<0.2	1	<.1	0.2	87	15	11	6	0.6	0.3	41
15	93326	<0.2	2	<.1	0.3	50	15	8	6	0.6	<.2	18
16	93327	0.4	1	<.1	0.2	130	10	12	10	0.7	0.5	41
17	93328	<0.2	1	<.1	0.2	66	5	11	8	0.8	<.2	27
18	93329	<0.2	2	<.1	0.3	99	<5	4	8	0.7	<.2	46
19	93330	<0.2	2	<.1	0.4	47	<5	7	4	0.5	<.2	52

VITAL PACIFIC RESOURCES AK 97-784

Et #.	Tag #	Ag	As	Bi	Cd	Cu	Hg(ppb)	Mo	Pb	Sb	Se	Zn
QC DATA:												
Resplit:												
1	93312	0.4	2	<.1	0.6	290	40	9	6	0.4	0.2	13
Repeat:												
1	93312	0.4	2	<.1	-	296	5	9	4	0.5	<.2	13
10	93321	<0.2	-	-	-	63	-	14	8	-	-	49
19	93330	<0.2	-	-	0.4	48	-	8	6	-	-	53
Standard:												
GEO'97		1.6	65	<.1	0.6	81	-	<1	26	5.0	-	69
STSD 1		-	13	<.1	-	-	118	-	-	2.1	<.2	-
STSD 3		-	19	<.1	-	-	98	-	-	3.1	<.2	-
STSD 4		-	11	<.1	-	-	-	-	-	-	<.2	-

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B.C. Certified Assayer

df/784
XLS/97

SOUP PROJECT 1997

679 000 E | 680 000 E | 681 000 E | 682 000 E | 683 000 E

6 264 000 N | 6 262 000 N | 6 260 000 N

56°29'00" | 56°28'00" | 56°27'00"

126°05'00" | 126°04'00" | 126°03'00" | 126°02'00"

EXTENDED PROPERTY BOUNDARY

SOUP 21 LCP

1996 Core Storage at Croy Camp

SOUP 22
SOUP 23

PROPERTY BOUNDARY

DDH 97-01, -02 & -03

DDH 97-04

SOUP 1 | SOUP 2 | SOUP 3 | SOUP 4 | SOUP 5 | SOUP 6 | SOUP 7 | SOUP 8 | SOUP 9 | SOUP 10 | SOUP 11 FR | SOUP FR

Saddle Gully Zone

Diorite/Gabbro Intrusive

+2324.65m Elev

NORTH Zone Magnetite

SOUP 19 | SOUP 17
SOUP 18 | SOUP 16

SOUP 12/14 LCP
SOUP 13

ROCKSLIDE CIRQUE

Water Line

1292.64m Elev

CAMP AREA & 1997 Core Storage

SOUTH Zone Magnetite

Klipsul Creek

SOUP 15 LCP
SOUP 20

PROPERTY BOUNDARY

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

25,185

EXTENDED PROPERTY BOUNDARY

DATE	REVISION	INITIAL
060ct97	Duplicates content of Figure 04	JDW

INTEGREX ENGINEERING

NOTES:
Zone 09 UTM Coordinates [NAD83].
Contour Interval 10m.

SOURCES:
Hypsography & topographic detail by The ORTHOSHOP(1996).
Claim Boundaries partly from Gilmour(1996) & BC EMI Mineral Titles References.
Geology highlights modified after Howe(1996) & Gilmour(1997)

	COMPOSITION				
1	Hypsography	5	1997 DDH locations	10	Magnetite Zones
2	Spot Elevations	6		11	Geol. Contact
3	Treeline	7	Topo Features	12	Geol. Fault
4	Lakes & Creeks	8	Property Boundary	13	
		9	Claim Lines	14	

200 0 100 200 300 400 500
METRES Scale 1:10,000

Vital Pacific Resources Ltd.

SOUP PROPERTY
1997 PROJECT & GEOLOGY HILITES

DATE DRAWN: OCTOBER 1997	SCALE: 1 : 10,000	Figure No.
DRAWN By: J.D. WILLIAMS, P.Eng.	JOB No: SOUP PROJECT	04A
DRAWING No.: 04a_Property_Claims_black	N.T.S: 094C/05W, 094D/08E, /09E	

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

25,185

SOUP 1997

679 500 E
680 000 E
680 500 E
681 000 E
5 263 000 N
6 263 000 N
6 262 500 N
6 262 000 N
6 261 500 N

SOUP 22
SOUP 23
2163.31
2163.44
2226.08
SOUP 2
SOUP 4
SOUP 1
SOUP 3
SOUP FR
SOUP 11 FR
SOUP 6
SOUP 5
SOUP 12/14
SOUP 13
SOUP 7
SOUP 8
LCP
PROPERTY BOUNDARY

96DS-6
97-01
95-3
97-02
97-03
97-04
Lower MAGNETITE Zone?
95-1,2
96DS-3
95-4,96DS-7B
89-1,2
96DS-2
89-3,4
NORTH ZONE
96DS-1,8,9
89-7
89-5,6
Gabbro
Saddle Gully Zone
Upper MAGNETITE Zone?
Water Line
Kliyul
Creek
1392.64m Elev.
CAMP AREA &
1997 Core Storage

DATE	REVISION	INITIAL
050ct97	Duplicates content of figure 06 at 1:5,000	JDW

INTERGEX ENGINEERING

NOTES:
Zone 09 UTM Coordinates [NAD83].
Contour Interval 50m.

SOURCES:
Hypsography & topographic detail by The ORTHOSHOP(1996).
Claim Boundaries from Gilmour(1996) & BC EMI Mineral Titles References.
Geology & DDH locations modified after Howe(1996) & Gilmour(1997)
Geophysics from Gil(1994) by Gilmour(1997)
Soil Geochemistry from Gil(1994a), location very approximate

LEGEND
MAGNETITE
MAG (>6000nt)
GOLD (soil >5000ppb)
COPPER (soil >750ppm)

COMPOSITION					
1	Hypsography	5	1997 DDH collars	10	1994 MAG
2	Spot Elevations	6	Old DDH collars	11	1993 Soil Au
3	Topo Features	7		12	1993 Soil Cu
4	Creeks	8	Property Boundary	13	Magnetite
		9	Claim Lines	14	Geol. Contact

50 0 50 100 150 200 250
METRES
Scale 1:5,000

Vital Pacific Resources Ltd.

SOUP PROJECT 1997
AREA OF ACTIVTY

DATE DRAWN:	OCTOBER, 1997	SCALE: 1 : 5,000	Figure No. 06A
DRAWN By:	J.D. WILLIAMS, P.Eng.	JOB No. SOUP PROJECT	
DRAWING No.:	06a_Project_Area_block	N.T.S. 094D/08E	