ENVIRONMENTAL BASELINE

TECHNICAL ASSESSMENT REPORT

on the

CATFACE COPPER PROPERTY

ALBERNI MINING DIVISION

N.T.S.: 92F/04, 92F/05, 92 E/1, and 92E/8

Latitude 49° 16' 20" North; Longitude. 125° 59' 00"

U.T.M. (N.A.D. 27) 283475 E.; 5459741 N.; Zone 9

DATE STARTED: MAY 18, 2004

DATE COMPLETED: MAY 18, 2004

OWNER/OPERATOR: CATFACE COPPER MINES LTD.

AUTHOR: Paul D. Gray, B.Sc. / Knight Piesold Consulting

SUBMITTED: VANCOUVER, BC **DATE: May 24, 2005**

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1.0 SUMARY

The Catface Copper Property is a large copper-molybdenite porphyry style deposit located on the West Coast of Vancouver Island, British Columbia. The project is owned by Catface Copper Mines Ltd. a wholly owned subsidiary of Doublestar Resources Ltd. This reports details and documents the results and interpretations from a Doublestar Resources Ltd., May 2004 Environmental Baseline Study and Monitoring Program conducted by Knight Piesold Consulting.

All field work was helicopter supported and included both Knight Piesold and Doublestar Resources Ltd. personnel. A report prepared by Knight Piesold upon completion of the water sample collection and analyses forms basis of this technical report and is included in its entirely as Appendix A of this report.

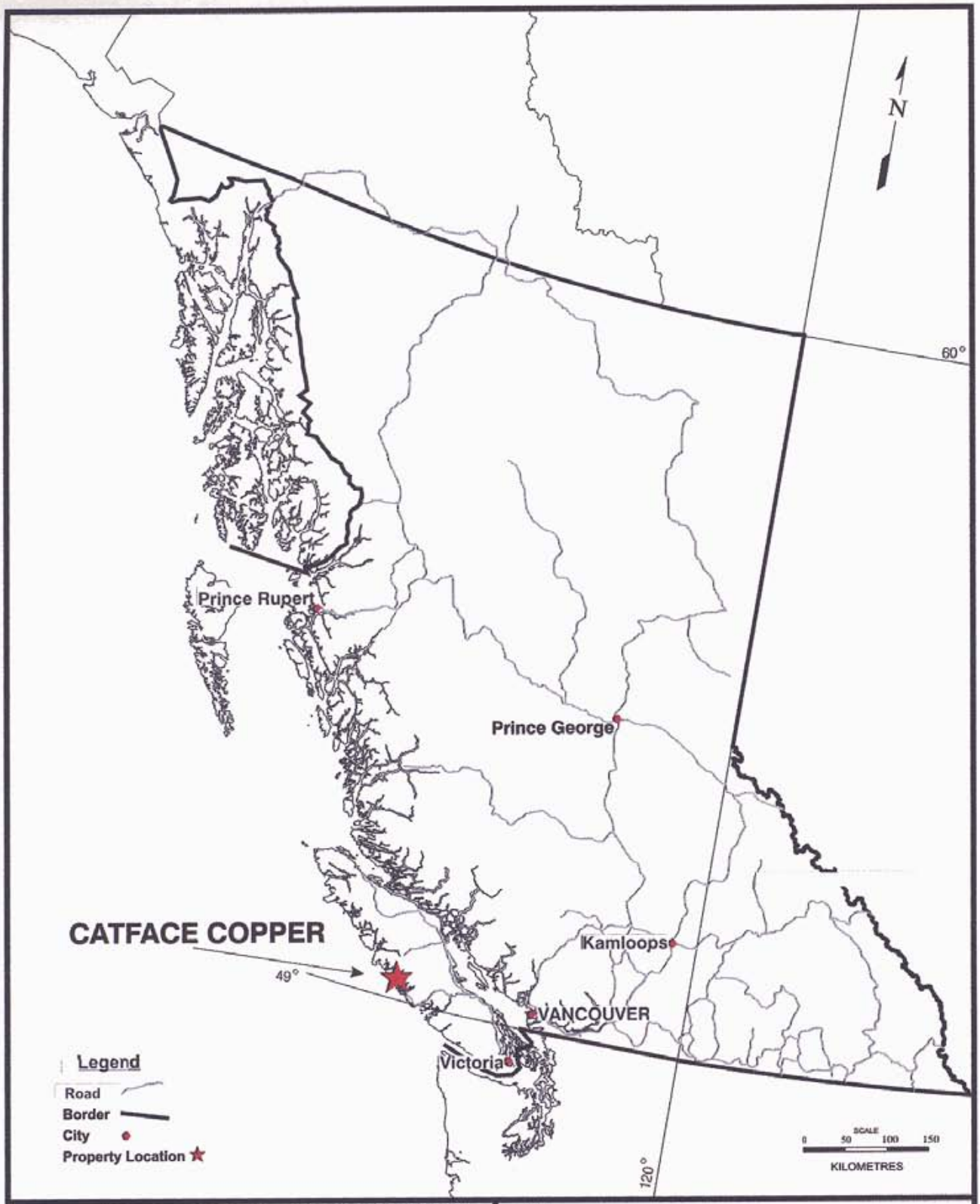
Results from the 2004 Environmental Baseline Program coupled with a compilation of historic water sampling indicate the Catface project mineral claims area have watersheds with "pristine, cold mountain streams characteristic of west central Vancouver Island" (Knight Piesold, 2004). Considering the amount of exploration activity on the property (including the drifting of a 857 metre adit through the centre of the main deposit) it was determined that appreciable acid mine drainage has not developed and is unlikely to be a major problem in the future.

2.0 INTRODUCTION

2.1 LOCATION AND ACCESS

The Catface Copper property is located in Southwestern British Columbia, at tidewater, on the western edge of the Catface Peninsula, west coast Vancouver Island, approximately 13 kilometres northwest of Tofino, British Columbia (Figures 1 and 2). The property is located on the corner of four N.T.S. map sheets 92F/04, 92F/05, 92 E/1, and 92E/8, with the property centre at approximately 49° 16' 20" North latitude, and 125° 59' 00" West longitude (U.T.M. Zone 09 coordinates 283475 E., 5459741 N.; N.A.D. 27 datum).

Access to the Catface Peninsula is available by boat, fixed-wing aircraft or helicopter. A ferry or boat is required to move vehicles and equipment across Bedwell Sound from Tofino. The barge and boat docking facilities are in good order on the Catface Peninsula side on Hecate Bay, as there continues to be logging and shake/shingle activity on the Catface Penninsula and Cypree River area. A short gravel airstrip near the Hecate Bay dock facilities would afford wheeled plane access with limited upgrading, while floatplanes can land in the relatively protected Hecate Bay itself. A 10 kilometre logging road extends from Hecate Bay to the property, however much of these roads have been deactivated and require upgrading before vehicular access is possible.



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Catface Project Assessment Report 2004

TITLE
Catface Copper Project - Property Location

		FILENAME:	PROJECT NUMBER	DRAWING NUMBER	
		CFBCLOC.CDR		1	

DOUBLESTAR RESOURCES LTD. **Catface Project Assessment Report 2004**			TITLE Catface Copper Project - Property Location		
		FILENAME: CFBCLOC2.CDR	PROJECT NUMBER	DRAWING NUMBER 2	

2.2 CLIMATE, TOPOGRAPHY AND VEGETATION

The Catface Peninsula is a heavily treed peninsula 4 to 8 km wide. Recently significant areas of forest land have been harvested within the property boundaries and nearby areas. The Catface Range contains two subdued mountain tops, the South Peak with an elevation of 880 metres and the North Peak with an elevation of 960 metres. Property elevations ranges from sea level (0 metres) to 960 metres above sea level at the South Peak.

The climate of the region is classified as West Coast Marine, with mild but wet winter seasons and cool drier summers. Mean annual precipitation is 3,235 mm and 53.6 cm of snow, and extreme temperatures range annually from –15.0°C to 32.8°C, with a mean of 9.0°C (Knight Piesold, 2004).

2.3 OWNERSHIP AND CLAIM STATUS

The Catface Copper Property is owned 100% by Catface Copper Mines Limited, a public company wholly owned by Doublestar Resources Ltd.

The property consists of one (1) mining lease of approximately 252 hectares (formerly 16, 2-post mineral claims) and 130 contiguous 2-post mineral claims, which in total occupy and area of approximately 3,300 hectares (See Table 1 and Figures 3 and 4).

Table 1: Catface Property Mineral Claim and Lease Tenure Status

Tenure Number	Claim Name	Owner	Map Number	Good To Date	Tag Number
345339	CATFACE LEASE	104480 100%	092F	2005/SEP/25	
201466	CATFACE #102	104480 100%	092F	2007/APR/05	208578
201469	CATFACE #105	104480 100%	092E	2007/APR/05	208581
201470	CATFACE #106	104480 100%	092E	2007/APR/05	208582
201471	CATFACE #107	104480 100%	092E	2007/APR/05	208583
201472	CATFACE #108	104480 100%	092E	2007/APR/05	208584
201473	CATFACE #109	104480 100%	092E	2007/APR/05	208585
201474	CATFACE #110	104480 100%	092E	2007/APR/05	208586
201475	CATFACE #111	104480 100%	092E	2007/APR/05	208587
201476	CATFACE #112	104480 100%	092E	2007/APR/05	208588
201477	CATFACE #113	104480 100%	092E	2007/APR/05	208589
201478	CATFACE #114	104480 100%	092E	2007/APR/05	208590
201395	CATFACE #41	104480 100%	092F	2007/DEC/14	208517
201396	CATFACE #42	104480 100%	092F	2007/DEC/14	208518
201397	CATFACE #43	104480 100%	092F	2007/DEC/14	208519
201398	CATFACE #44	104480 100%	092F	2007/DEC/14	208520

201399	CATFACE #45	104480 100%	092F	2007/DEC/14	208521
201400	CATFACE #46	104480 100%	092F	2007/DEC/14	208522
201401	CATFACE #47	104480 100%	092F	2007/DEC/14	208523
201402	CATFACE #48	104480 100%	092F	2007/DEC/14	208524
201416	CATFACE #50	104480 100%	092F	2007/FEB/20	208528
201417	CATFACE #52	104480 100%	092F	2007/FEB/20	208530
201418	CATFACE #53	104480 100%	092F	2007/FEB/20	208531
201419	CATFACE #54	104480 100%	092F	2007/FEB/20	208532
201424	CATFACE #61	104480 100%	092F	2007/FEB/20	208539
201425	CATFACE #62	104480 100%	092F	2007/FEB/20	208540
201426	CATFACE #63	104480 100%	092F	2007/FEB/20	208541
201427	CATFACE #64	104480 100%	092F	2007/FEB/20	208542
201428	CATFACE #65	104480 100%	092F	2007/FEB/20	208543
201429	CATFACE #66	104480 100%	092F	2007/FEB/20	208544
201434	CATFACE #71	104480 100%	092F	2007/FEB/20	208549
201435	CATFACE #72	104480 100%	092F	2007/FEB/20	208550
201437	CATFACE #74	104480 100%	092F	2007/FEB/20	208552
201438	CATFACE #75	104480 100%	092F	2007/FEB/20	208553
201439	CATFACE #76	104480 100%	092F	2007/FEB/20	208554
201440	CATFACE #77	104480 100%	092F	2007/FEB/20	208555
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201618	CATFACE #34	104480 100%	092F	2007/MAR/31	118027M
201619	CATFACE #35	104480 100%	092F	2007/MAR/31	118017M
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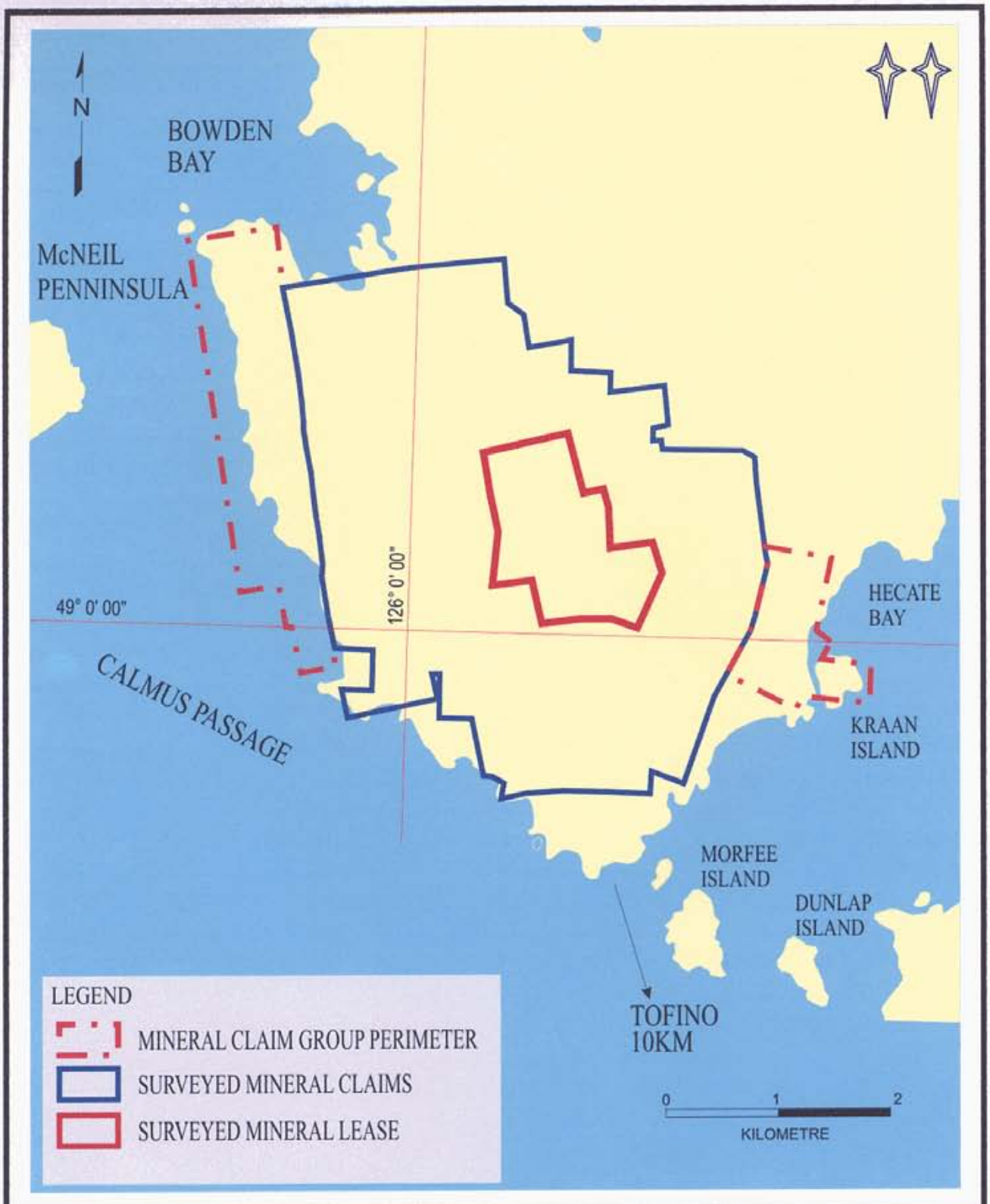
*** (These expiry dates are based on the acceptance of this report for assessment work credits)**



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TITLE
Catface Copper Project - Mineral Claims

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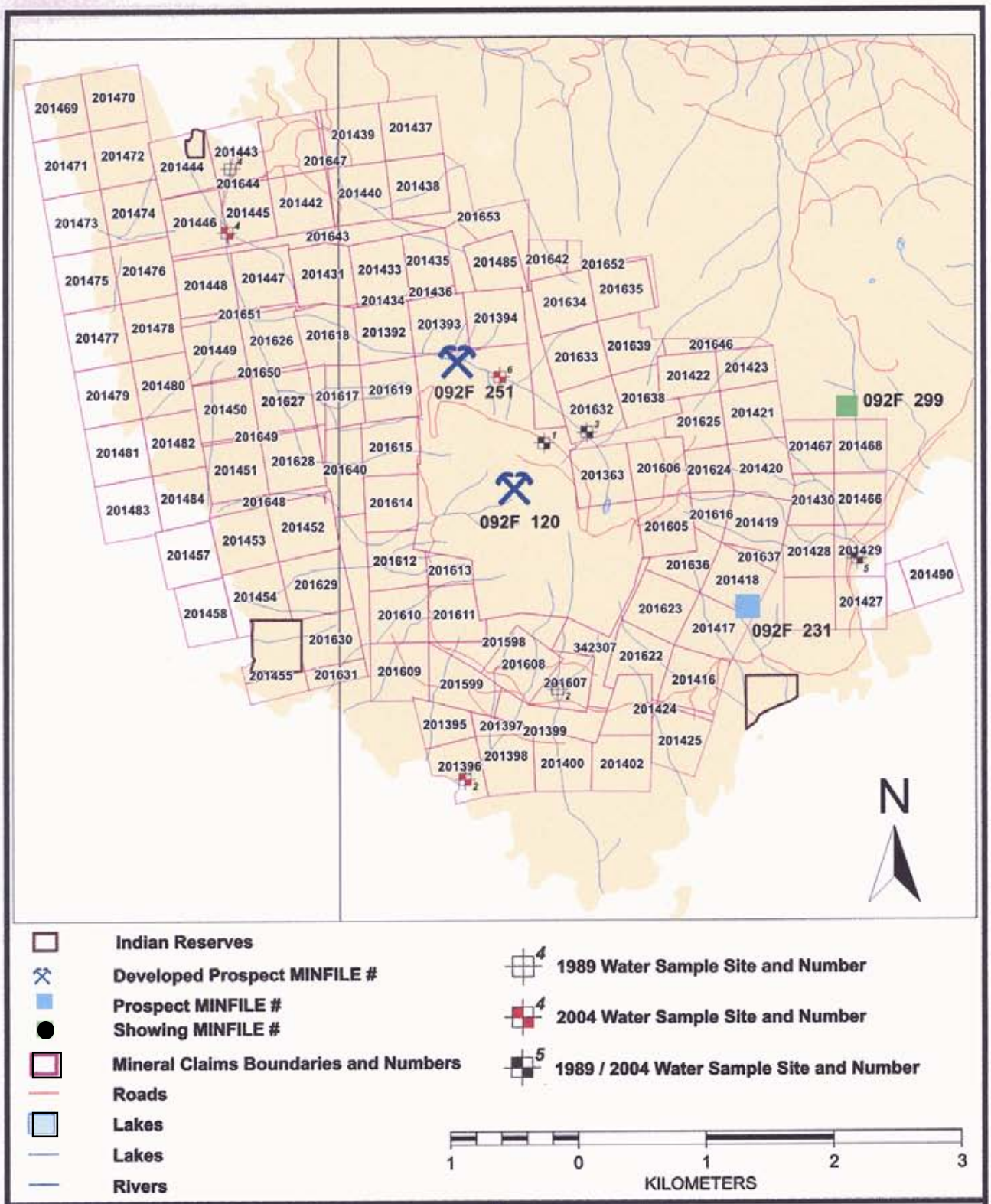

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TITLE
Catface Copper - Mineral Claims Locations

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CFMT2.CDR		4

2.4 EXPLORATION HISTORY

The earliest mention of any work on the Catface Peninsula was from the 1898 Annual Report of the Minister of Mines of British Columbia which reported the collaring of a six (6) metre adit into a highly fractured and altered shear zone.

The Catface Copper Deposit was discovered in 1960 by Falconbridge (John Jackson and J. McDougall) and subsequently staked later that year. The property underwent mineral exploration spoardically between 1960 and 1990 (see Table 2 below which summarizes the known exploration and related work to date on the project. Extensive exploration between 1960 and 1974 identified a large low-grade copper resource. Exploration activities were effectively suspended in 1974 pending a return to more favorable political and economic conditions. In 1989 and 1990 with improved base metal prices, Falconbridge briefly re-initiated exploration. At the end of 1990 (and unchanged through present) cumulative drilling on the Catface Property totaled 20,774 metres in 131 holes (surface and underground). In 1999, Doublestar Resources Ltd. purcahsed Catface Copper Mines and the Catface Copper Property from Falconbridge. Expenditures on the property to 2004 totaled over C$3.9M actual dollars.

Four known B.C. MINFILE occurences are located within (or very close to) the Catface Copper property boundaries (See Figure 4). These occurences are; 1) **092F 120**: CATFACE, CLIFF *developed prospect*; 2) **092F 231:** HECATE BAY, CATFACE: *prospect*; 3) **092F 251**: IRISHMAN CREEK, CATFACE, IRISHMAN'S CREEK: *developed prospect*; and 4) **092F 299**: CYPRUS: *showing*.

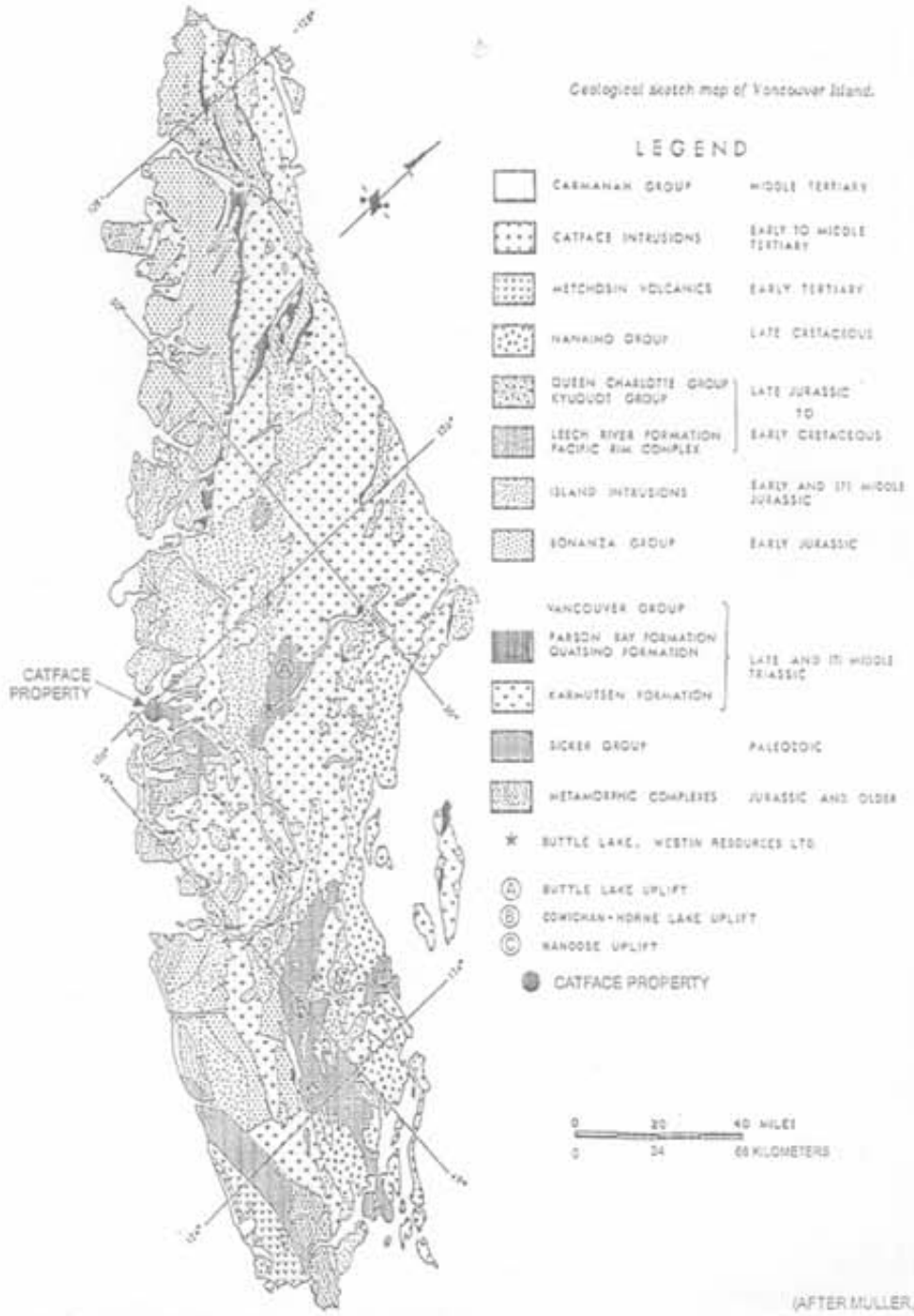
Table 2: Summary of Previous Work on the Catface Property

Year	Exploration Activities
1960	Falconbridge - Copper staining discovered, claims staked.
1961	Catface Copper Mines - Additional claims staked, 7 EX drill holes (206 metres)
1962	16 EX drill holes (3,527 metres) and geological mapping in Cliff Zone, 5 packsack drill holes (32 metres), ground magnetics and S.P. surveys in Irishman Creek Zone.
1963/64	Three NX drill holes drilled to obtain a bulk sample from Cliff Zone. Geological mapping, S.P. survey, soil sampling on Hecate Zone. 45 packsack drill holes (1,068 metres) scattered over the property.
1967	Geological mapping on Irishman Creek Zone. Geochemical surveys, S.P. surveys in Hecate Bay Zone.
1968	19 BQ drill holes (6,897 metres), initial mineral inventory by Saukko, metallurgical tests.
1969	Preliminary feasibility study, further metallurgical tests, core relogged.
1970	Adit driven 857 metres, 10,000 tonne bulk sample stockpiled, structural mapping of adit, extensive metallurgical tests including a 5 tonne pilot plant test, I.P. and resistivity surveys, legal claim survey, aerial photogrammetry, ore reserve calculation by BC Research.
1971	29 underground AQ drill holes (7,210 metres) from 7 underground stations.
1972	Computerized mineral inventory and pit design by E. Wade.
1973	Reserve calculations and feasibility study by Sumitomo Metal Mining Co. Ltd., flotation tests on bulk sample composites.
1974	Sumitomo completed feasibility study.
1980	Flotation test on 2,700 tonne bulk sample from adit stockpile at Falconbridge's Tasu Mill.
1989/90	Adit resampled for copper, gold and silver; geological mapping, I.P. survey, VLF-EM ground surveys; airborne magnetometer survey; 4 NQ drill holes (1,588 metres) tested chargeability anomalies; Bioleach tests on new composite samples from the adit; Drill hole database digitized; Statistical reserves and pit designs by SRK.

3.0 GEOLOGY AND MINERALIZATION

3.1 GENERAL REGIONAL GEOLOGY

The Catface copper-molybdenite porphyry deposit is hosted within volcanic rocks of the Upper Permian Sicker or Vancouver Group (dominantly Karmutsen volcanics). These litholgies are in fault contact with diorites of the Westcoast Complex (Figures 5 and 6). Both rock types were intruded by Jurassic age quartz monzonite sills and dykes. The entire assemblage was subsequently intruded by several phases of the Tertiary Tofino Intrusive Suite (Catface Intrusions), which consists of porphyritic quartz diorite/granodiorite stocks (McDougall, 1976; Muller, 1981; and Nilsson, 2001).



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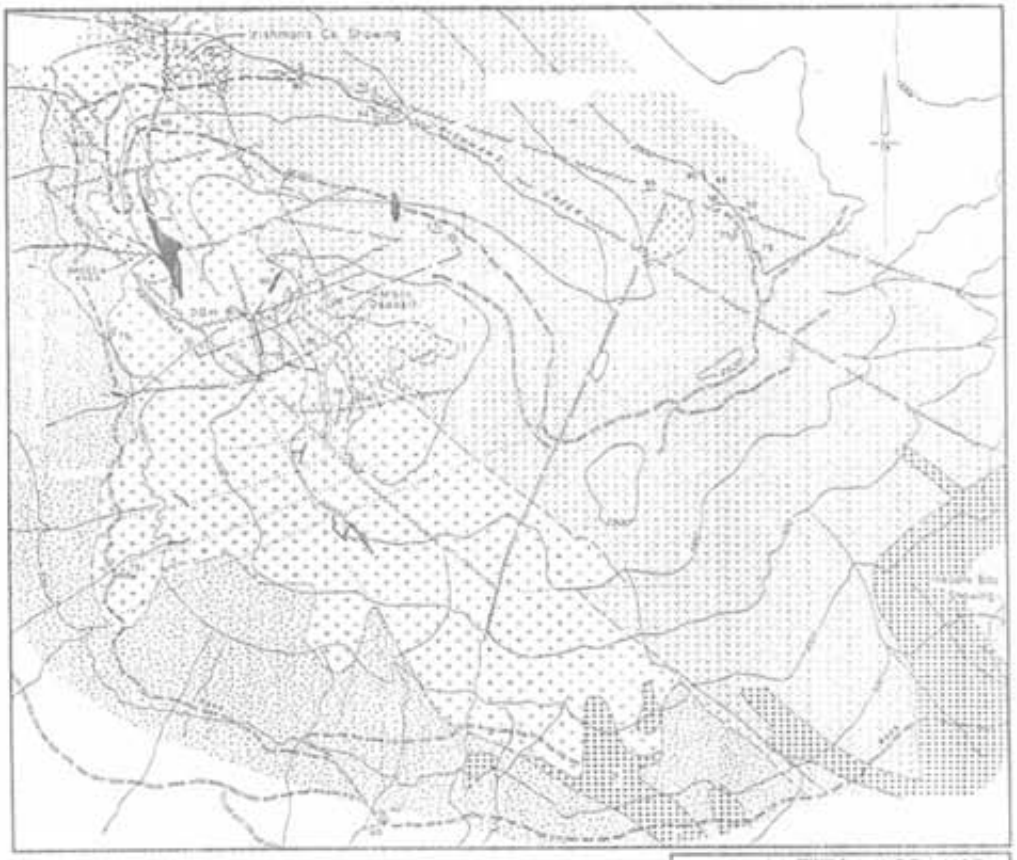

LEGEND

- Porphyritic dacite, Andesite porphyry, etc.
- Porphyritic quartz diorite: Cliff porphyritic quartz diorite, Grey porphyritic quartz diorite
- Hecate Bay quartz diorite
- Catface quartz monzonite
- Westcoast diorites
- Sicker Group and/or Karmutsen volcanics
- Breccia

SYMBOLS

- Bedding
- Fault or shear zone
- Dyke
- Foliation
- Airphotograph lineaments
- Drill hole
- Adit

Note - Map is a generalization based on company plans with modifications by K. Northcote B.C.D.M.

- Contour elevations in feet a.s.l.

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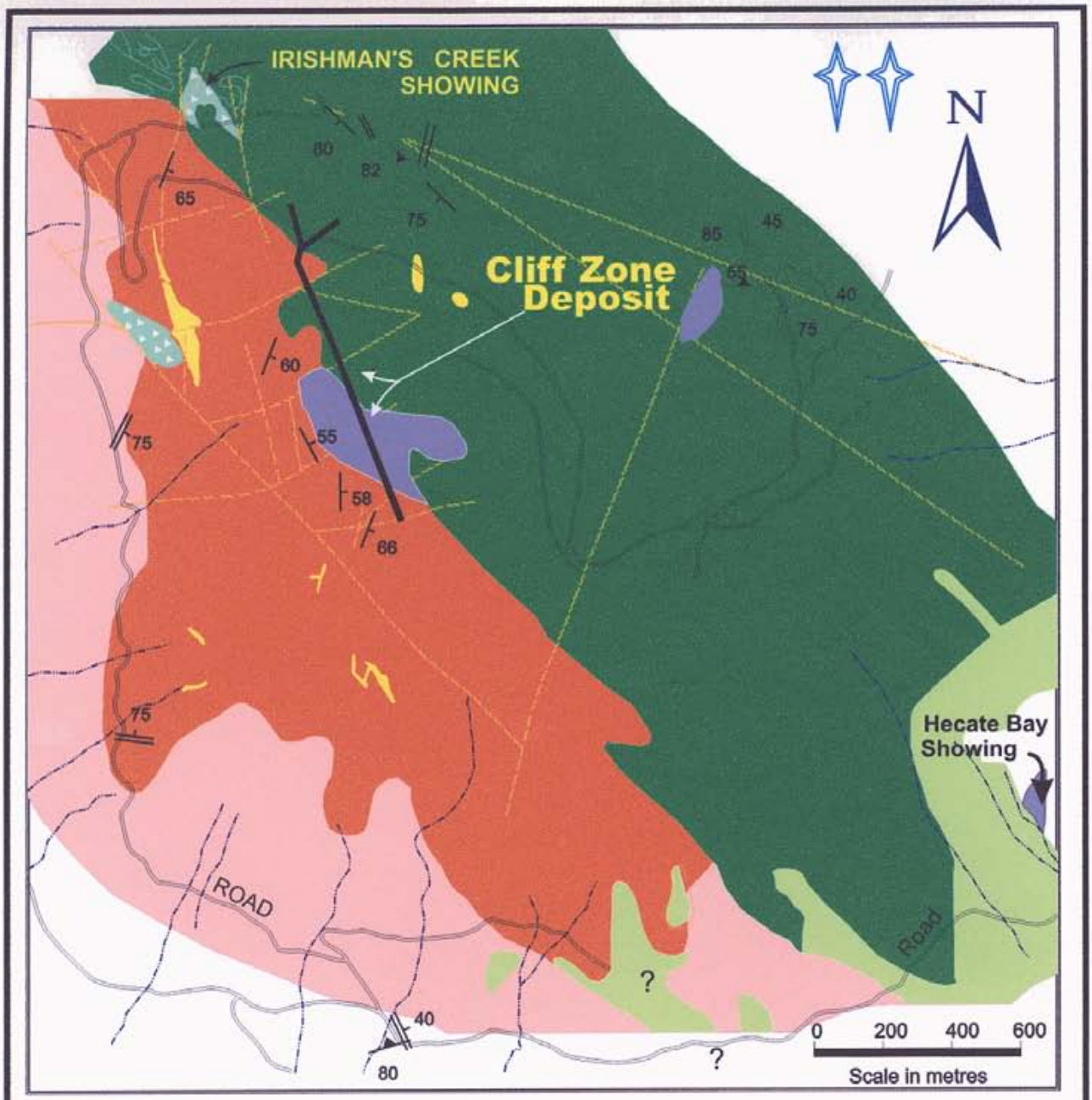
		FILENAME: CFPG.CDR	PROJECT NUMBER	DRAWING NUMBER: 6



LEGEND

SYMBOLS

- Bedding
- Fault or shear zone
- Dyke
- Foliation
- Adit

- Porphyritic dacite Andesite porphyry, etc.
- Porphyritic quartz diorite: Gray porphyritic quartz diorite
- Porphyritic dacite Hecate Bay quartz diorite
- Catface quartz monzonite
- Westcoast diorites
- Karmutsen volcanics
- Breccia

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Catface Project Assessment Report 2004

TITLE
Catface Copper Project - Detailed Geology

FILENAME:	PROJECT NUMBER	DRAWING NUMBER
CFPG2.CDR		7

3.2 LOCAL PROPERTY GEOLOGY

The bulk of the Catface Copper Property is comprised of the Tertiary Tofino Intrusive Suite, and the mineralization discovered to date is hosted almost exclusively within these intrusives. However, the Sicker and Vancouver Formation volcanics and Westcaost Complex rocks are well represented on the project, especially to the north and east (McDougall, 1995).

The Sicker Formation and Karmutsen Formation consist of basalts and andesites flows, tuff breccia and agglomerates (Figures 6 and 7). These rocks have been weakly hornfelsed near contacts with intrusive rocks. The Westcoast Diorite intrudes the volcanic sequence and contains partly assimilated subanguular volcanic fragments. Small exposures of more mafic phases of this complex have been identified elsewhere on the property (Harper, 1972). A quartz-monzonite intrusion, containing xenoliths of volcanic rocks was emplaced along the volcanic-diorite contact. The Hecate Bay Quartz Diorite is a relatively unaltered unit that intrudes all three previous rock types (Figures 6 and 7). Bulbous, dyke-like porphyritic quartz diorite to granodiorite rocks, which outcrop in the cliff area (see Cliff Zone on Figure 7) are believed to be cupolas of the Hecate Bay Quartz Diorite. Their trend is northerly and their emplacement appears to have been strongly controlled by pre-existing structures on contacts, particularly those within the quartz monzonite. These rocks contain both the Cliff Zone and Hecate Bay Zone mineralization (Nillson, 2001).

Pre-mineralization porphyry dykes comprise up to 5% of the rocks in the area, trend northerly to northwesterly and occur within the quartz monzonite.

Intrusive and tectonic breccias are common, but their origin and distribution are not well understood. Most of the breccias occur within the quartz monzonite intrusion, including an apparently barren breccia located 400 metres west of the Cliff Zone adit and a mineralized breccia, which hosts significant copper mineralization at the Irishman

Creek Zone (See Figure 7).

Alteration is weakly to moderately developed at Catface and has not been mapped in detail, but a broad annular zonation has been recognized. A central zone in which alteration is visually evident contains a core (several hundred metres in diameter, corresponding to the cliffs) which is characterized by a chlorite, sericite, kaolinite alteration assemblage with quartz veinlets and silicification (Enns, 1989). This alteration decreases gradually in intensity outward from the core to a point about 2 kilometres away. Beyond this point alteration is insignificant. Secondary biotite occurs within the intrusive rocks and in zones bordering sulphide veinlets, but its occurrence and distribution have not been studied in detail. Preliminary work regarding the distribution of hydrothermal alteration was completed by Enns in 1989. Epidote and iron oxide form an elongate halo around the more siliceous central core and are found in anomalous concentrations for several hundred metres away from the core. The paucity of potassic-feldspar in the Catface area is notable.

In many ways the deposit appears to be atypical of porphyry copper deposits in British Columbia due to the absence of a pyritic halo a lack of a phyllic alteration envelope; also quartz stockwork is poorly developed and there is no peripheral base metal zonation present outside the copper zone.

4.0 ECONOMIC GEOLOGY

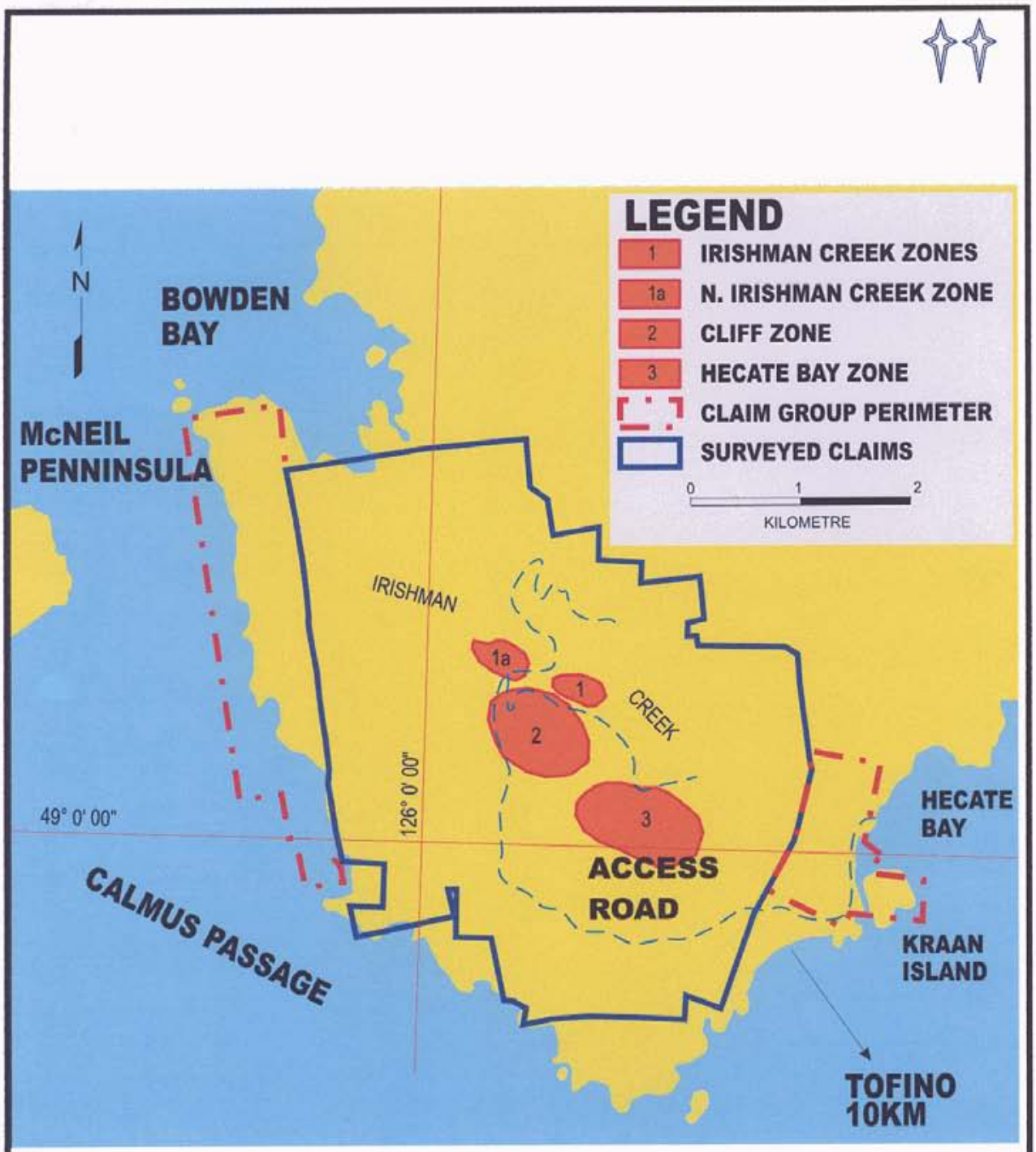
4.1 Mineralization

There are three mineralized zones identified on the Catface Property (See Figure 8) including the main deposit, known as the Cliff Zone, the Irishman Creek Zone to the north and Hecate Bay Zone to the southeast. Historic resources (pre N.I. 43-101) in the Cliff Zone total 138 million tones grading 0.46% Cu and 0.014% MoS_2 using a 0.30% Cu cutoff (Wade, 1972 and Nilsson, 2001).

4.2 Cliff Zone

Mineralization in the Cliff Zone is believed to be associated with a cupola of a high-level copper bearing porphyritic granodiorite intrusion, emplaced near the contact of copper-bearing quartz monzonite and volcanic rocks (Nilsson, 2001). Copper mineralization occurs in the granodiorite, quartz monzonite, volcanic rocks as well as late andesite porphyry dykes. The copper mineralization occurs over an area of approximately 900 metres by 600 metres and to a depth of approximately 350 metres. Harper (1972) noted that the western limit to the better grade of mineralization appears to be the Footwall Fault which occurs at the base of the cliffs. Sizeable zones with greater than 0.3% copper occur in the upper part of the deposit. A low-grade central core of uncertain size and shape is found associated within less fractured and less altered quartz diorite (McDougall, 1995 and Nilsson, 2001).

Mineralization consists of disseminated and fracture-controlled chalcopyrite and bornite with minor molybdenite, in all rock types. Cliff Zone adit examination has suggest that the most intense mineralization occurs within areas of greatest fracture density. Significant concentrations of copper, particularly copper carbonates occur in the highly fractured zones bordering the Footwall Fault, in parallel faults, and in three 060°

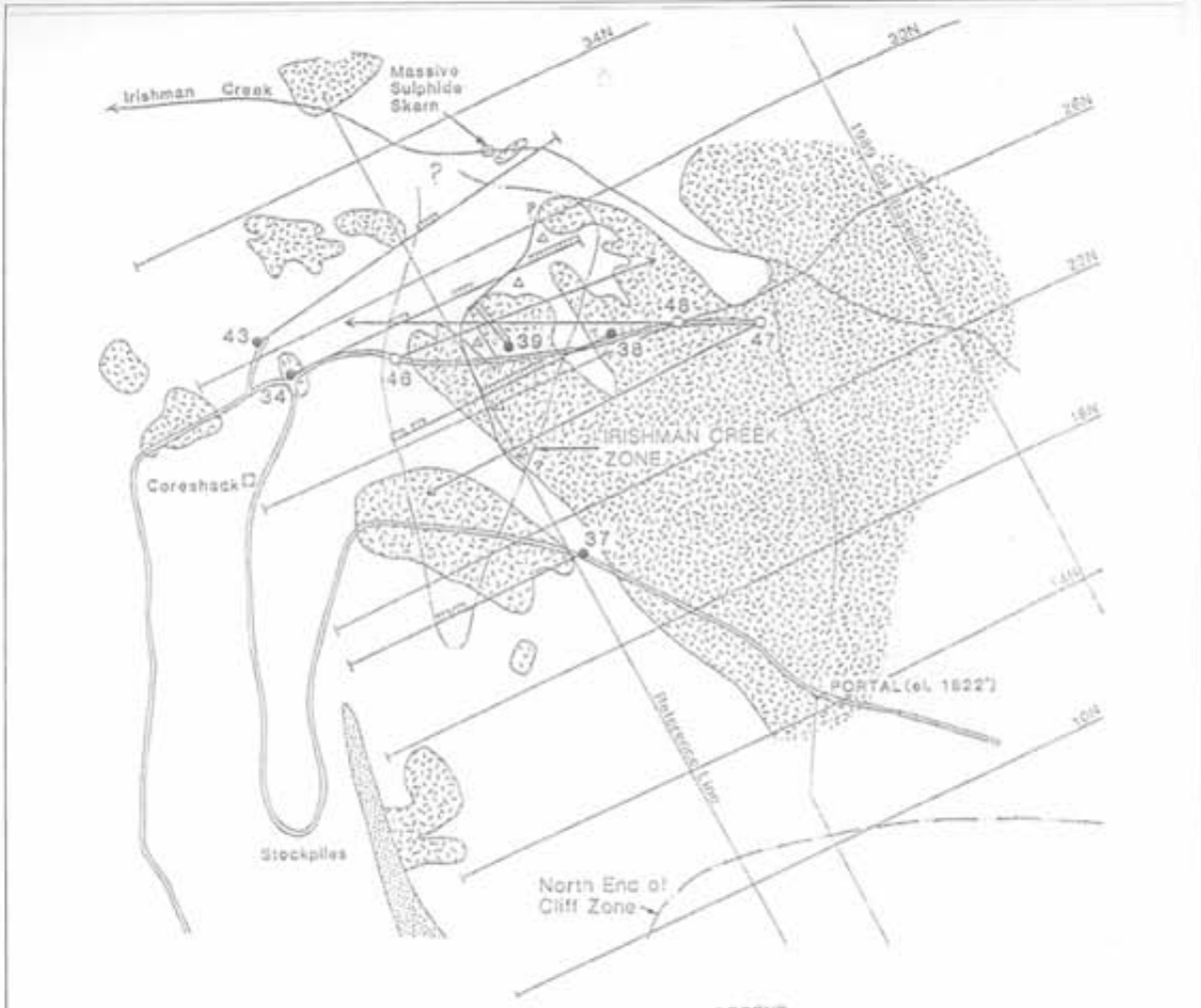


DOUBLESTAR RESOURCES LTD. Catface Project Assessment Report 2004	TITLE: Catface Copper Project - Mineralized Zones			
		FILENAME: CFMZ.CDR	PROJECT NUMBER	DRAWING NUMBER: 8

trending faults which cut the Cliff Zone (Nillson, 2001). Higher grade copper mineralization (up to 0.6% copper) generally reflects higher bornite content which is typically found in the breccias, quartz monzonite or volcanic rocks near the top of the cupola (Nilsson, 2001). Bornite and chalcocite occur rarely in the quartz diorite. Chalcopyrite occurs as veinlets, fracture coatings associated with quartz veining, and disseminations associated with replacement of mafic minerals. Minor chalcocite is believed to be secondary after chalcopyrite and bornite, and commonly forms a rim on primary sulphides (Harper, 1972). Molybdenite occurs throughout the deposit, associated with the copper minerals, as finely disseminated flakes, coatings and rosettes in quartz-filled fractures. Some of the best concentrations of molybdenite occur west of the Footwall Fault, but the overall distribution in the Cliff Zone is variable. Pyrite, although less abundant than chalcopyrite, occurs as disseminated grains in all rock types and is particularly evident in most dykes. The amount of pyrite increases from trace in the Cliff Zone to 5% to 10% in the Irishman Creek Zone pyrrhotite is most abundant in the volcanic rocks, particularly north of the Cliff Zone, and also occurs in minor amounts associated with dykes. Like pyrite, pyrrohite is absent from the central part of the main deposit (Enns, 1989).

4.3 Irishman Creek Zone

At Irishman Creek, limited exploration to date has outlined a mineralized zone which carries values of >0.2% Cu to 0.63% Cu mineralization over large widths. The zone is within an area approximately 350 metres by 1000 metres, approximately one kilometre north of the Cliff Zone portal. The style of mineralization is similar to the Cliff Zone, with disseminated chalcopyrite, pyrite and some pyrrhotite in volcanic rocks and in brecciated quartz monzonite, near the quartz diorite (McDougall, 1976). Fracturing is reported to be less developed than at the Cliff Zone and a breccia zone, which occurs along the eastern margin of the quartz monzonite, appears to be the most favorable host with grades up to 0.63% Cu over 155 metres. Also present are sulphide-rich masses containing magnetite, chalcopyrite, pyrite and pyrrhotite. These masses occur over a



HOLE	SECTION	FROM	TO	WIDTH	GRADE	REMARKS
34	26+00	410	480	70	0.39% Cu	BASALT CONTACT
		680	730	50	0.34% Cu	BASALT CONTACT
		910	1298	380	0.36% Cu	BRECCIA ENDED IN MN/ZN
37	20+00	530	570	40	0.32% Cu	BASALT CONTACT
		580	620	40	0.58% Cu	BASALT CONTACT
38	26+00	290	530	290	0.48% Cu	BASALT CONTACT
		820	880	60	0.29% Cu	DIORITE CONTACT
		910	948	38	0.31% Cu	ENDED IN MN/ZN
39	OBLIQUE	10	520	510	0.62% Cu	BRECCIA ENDED IN MN/ZN
43	30+00	580	630	40	0.42% Cu	BASALT CONTACT

LEGEND

- Quartz Diorite
- Quartz Monzonite
- Basalt
- Limit of Breccia Pipe
- Drill Hole w/Intersection
- Grid Line

Scale

0 400 800 feet

0 300 600 meters

MODIFIED FROM ENNS, 1989

DOUBLESTAR RESOURCES LTD.

Catface Project Assessment Report 2004

TITLE

Catface Copper Project - Irishman Creek Zone

FILENAME:	PROJECT NUMBER	DRAWING NUMBER
CFIC.CDR		9

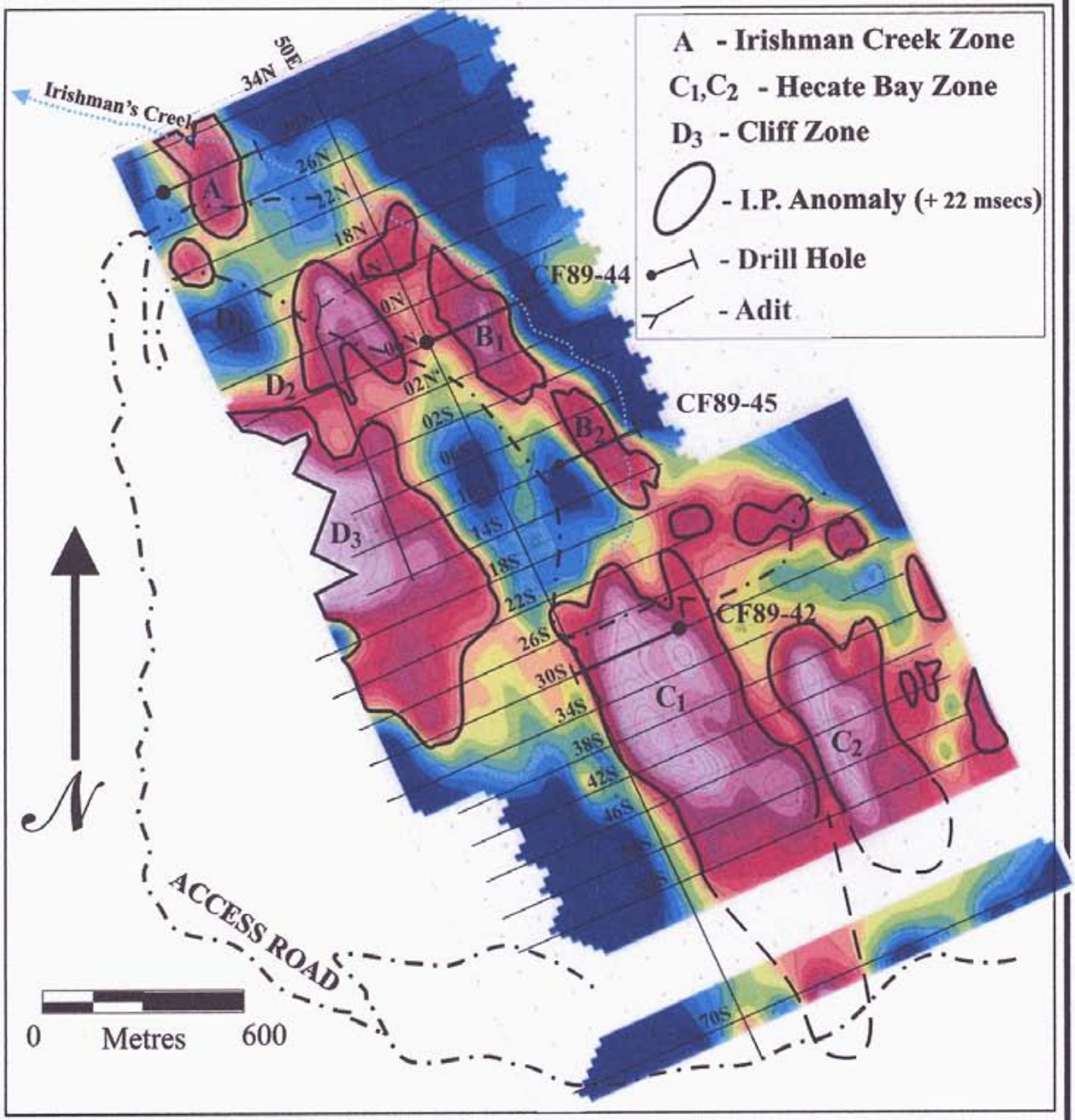
width of one metre in or near an east trending, fault hosted, pyroxenite dyke along Irishman Creek (Figure 9). Sulphides may represent up to 10% by volume of some of the brecciated zones, but the average grade is similar to the Cliff Zone because of the relatively higher abundance of pyrite and pyrrhotite (Enns, 1989 and Nilsson, 2001).

4.4 Hecate Bay Zone

The Hecate Bay Zone is defined by a large I.P. chargeability anomaly associated with the Hecate Bay Quartz Diorite (Figure 10). The Hecate Bay Zone lies approximately 2.5 kilometres southeast of the Cliff Zone portal (Figure 8). Mineralization occurs as disseminated chalcopyrite-pyrite replacement of mafic minerals in the more porphyritic central core of the intrusive. Fracturing of the quartz diorite is much less intense than at the other two zones and there is little fracture filling mineralization (Nilsson, 2001). The occurrence is approximately 300 metres wide, but copper bearing shears at the periphery extend several hundred metres further. Grades average 0.25% Cu within the main Hecate Bay Zone but are locally up to 1% Cu within the shear zones (McDougall, 1976). Several related occurrences are reported along the shores of Hecate Bay, up to one kilometre to the east.

4.5 Resources and Reserves

A large, low-grade copper-molybdenum, drill-indicated historic resource has been delineated within the Cliff Zone and was estimated using computerized methods to be 138.342 million tones grading 0.46% Cu and 0.014% MoS_2 using a 0.30% Cu cutoff (Wade, 1972) with Au, Ag, and possible Re credits (Nilsson, 2001). A project review and estimation by Sumitomo is 1973 resulted in a mineral inventory of 153.0 million tones grading 0.37% Cu (0.30% Cu cutoff; Table 4-3). Sumitomo removed oxide copper values from the estimate and therefore their estimate more closely approximates a recoverable copper grade of the resource (Nilsson, 2001). This resource estimate is historical and was not completed under National Instrument 43-101 guidelines; however,



DOUBLESTAR RESOURCES LTD. Catface Project Assessment Report 2004	TITLE Catface Copper - IP Anomalies and 1989 DDHs			
		FILENAME: CFIP.CDR	PROJECT NUMBER	DRAWING NUMBER 10

the estimates were made using accepted and proven engineering practices and are believed to be reliable and relevant. Doublestar has filed a NI 43-101 technical report (Nilsson, 2001) that may be reviewed on SEDAR.]

5.0 2004 WORK PROGRAM

5.1 SUMMARY

Doublestar Resources Ltd. contracted Knight Piesold Consulting to conduct an environmental baseline study on the Catface Copper project designed to follow up on the 1989 vintage environmental work already undertaken by Falconbridge. The water sampling program was designed to determine the acid generating potential of the groundwater at the Catface Copper project (specifically from the 867 metre long adit which transects the main body of mineralization on the property) and to update the 1989 work. The sampling and analytical work determined the sample sites were indicative of "healthy mountain streams capable of supporting a diverse quantity and range of sensitive and facultative organisms." (Knight Piesold, 2004)

A complete copy of the Knight Piesold report is attached herewith as Appendix A, all work performed, results and conclusions thereof are included with the report. Appendix A forms the basis of this technical report.

5.2 CONCLUSIONS

The Environmental Baseline study program conducted in 2004 on the Catface Copper project determined that the Irishman Creek and Catface Claims area watershed consists of pristine, cold mountain streams; and that acid mine drainage has not developed on the property over the past 30 years (e.g. during the time when most exploration work had occurred, specifically the drifting of the adit). The study was based on the collection and analyses of six samples from 6 distinct locations (see Figure 4) concluded that the Catface adit, and therefore likely the Catface Copper Deposit does not have acid rock drainage issues, and are not likely to be an issue in the future.

Dated: May 24, 2005

Paul D. Gray, B.Sc.

6.0 LIST OF REFERENCES

Cowan, J.C., (1996): Evaluation, Catface Copper Mines Limited, April 1996; prepared for Falconbridge Ltd., dated April 1996, 26 pages plus figures.

Enns, S., (1989a): Extension of 1989 Catface Program; Falconbridge Limited, Internal Memorandum, dated July 21, 1989, 7 pages.

Enns, S., (1989b): Catface, Cu-Mo Porphyry Deposit, 1989 Project Report; Falconbridge Limited, Internal Report, dated December 1989, 36 pages plus appendices.

Enns, S., (1990): 1990 Catface Drilling Proposal; Falconbridge Ltd., Internal Memorandum. dated April 2, 1990, 6 pages.

Harper, G., (1972): Catface Copper Mines Ltd, NTS 92-F-4W and 92-F-5W, Summary and Progress Report on Geological Studies to Date; Falconbridge Limited, Internal report, dated March 1972, 23 pages plus appendices.

Hendrickson, G.A., (1999): Geophyisical Review, Catface Property for Doublestar Resources Ltd. by Delta geoscience Ltd., dated November 21, 1999, 6 pages.

Knight Piesold, (2004): Doublestar Resources Ltd. Catface Project, 2004 Baseline Environmental Program.

McDougall, J.J. (1976): Catface; *In* Porphyry Deposits of the Canadian Cordillera, Part B - Porphyry Copper and Copper-Molybdenum Deposits of the Calc-Alkalic Suite – Special Volume 15, Paper 29, pp. 299-310.

McDougall, J.J. (1981): Summary report on Catface Copper. Falconbridge Nickle Mines Limted. Internal Report.

McDougall, J.J. (1995): Catface Copper Molybdenum Porphyry, West Central Vancouver Island, British Columbia: An Update. *In* Porphyry Deposits of the Northwestern Cordillera of North America, *Edited* by T.G. Schroeter. The Canadian Institute of Mining and Metallurgy, Special Volume 46, pp. 322 – 326.

Muller, R.R., (1981): Westmin Resources' Massive Sulphide Deposits, Vancouver Island. *In*; Field Guides to Geology and Mineral Deposits in the Southern Canadian Cordillera.

Nilsson, J.W., (2001): Catface Project, Project Summary. Prepared for Doublestar Resources Ltd. and filed with SEDAR for 43-101

Steffan Robertson and Kirsten Inc., (1990a): Catface Project; prepared for Falconbridge Limited, dated April 30, 1990, 5 pages.

Steffan Robertson and Kirsten Inc., (1990b): Catface Project, In-situ Polygon Resource Estimation; prepared for Falconbridge Ltd., dated July 30, 1990, 4 pages.

Steffan Robertson and Kirsten Inc., (1990c): Catface Project, Open Pit Optimizations; prepared for Falconbridge Ltd., dated October 22, 1990, 8 pages.

Steffan Robertson and Kirsten Inc., (1990d): Catface Project, Open Pit Optimizations; prepared for Falconbridge Ltd., dated October 22, 1990, 2 pages.

Steffan Robertson and Kirsten Inc., (2003): Description of the Catface Property Vancouver Island, British Columbia. Doublestar Resources Ltd. Internal Document.

Sumitomo Metal Mining Company, (1973): Summary Report on Ore Reserve Re-Calculation of Catface Mine. Internal Company Report.

Wade, E.J., (1971): Rhenium; Falconbridge Nickel Mines Limited, Memorandum, dated July 20, 1971, 2 pages.

Wade, E.J., (1972): Catface Copper Mines Limited, Ore Reserve Calculations and Pit Design; internal report prepared for Falconbridge Limited, dated March, 1972, 8 pages.

7.0 STATEMENT OF QUALIFICATIONS

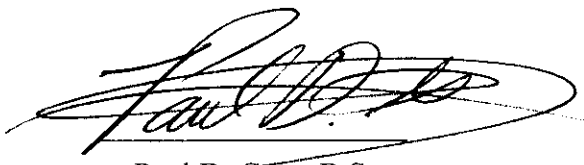
I, Paul D. Gray, of #1 – 1081 West 8th Avenue, VancouverV6H 1C3, in the Province of Briotish Columbia, DO HEREBY CERTIFY THAT:

1. I am Vice President of Exploration for my employer, Doublestar Resources Ltd., with offices at 350 – 885 Dunsmuir Street, Vancouver, B.C.

2. I am a graduate of Dalhousie University, Halifax, in the Province of Nova Scotia, with a Bachelor of Science degree in Earth Sciences.

3. That I have practised my profession in the mineral exploration industry continuously since 1997.

DATED at Vancouver, British Columbia this 24th day of May, 2005



Paul D. Gray, B.Sc

May 24, 2005 Vancouver, B.C.

8.0 STATEMENT OF EXPENDITURES

Expenses applied are only those for direct property access and total costs paid to Knight Piesold Consulting. Doublestar's overhead, personnel salaries, report preparation and travel/accommodation expenses are not applied.

Helicopter

(A-Star 350B)
2.4 hours @ / $1,255.00 hr. **$3,012.00**
(See Attached Invoice)

Knight Piesold Consultanting:

Water Sampling, Analysis, and Report Generation **$9,605.22**
(See Appendix A and Attached Knight Piesold Invoices)

TOTAL COSTS $ 12,617.22

(N.B. GST not included in reported figures)

Paul D. Gray, B.Sc.

May 24, 2005 Vancouver, B.C.

West Coast Helicopters Maintenance & Contracting Ltd.

P.O. Box 1030, Port McNeill Municipal Airport,
Port McNeill, BC V0N 2R0
Phone (250) 956-2244 Fax (250) 956-2070 Toll Free in BC 1-800-966-9229

CHARTER TICKET AND INVOICE

W 31406

GST NO. 86108 1453 RT

CUSTOMER NAME AND ADDRESS

DOUBLE STAR RESOURCES LTD

#305 - 1549 MARINE DRIVE

WEST VANCOUVER, B.C V7V 1H9

DATE MAY 18 04

PURCHASE ORDER No.	CASH	CHEQUE	CHARGE	N/REV

A/C TYPE	C-	BASE OF OPS	FLT. TIME
AS350B	F-NTA	NANAIMO	

ROUTING

NANAIMO → CYPRO BAY → CATFACE → BAUDEN BAY → CATFACE & IRISHMAN CRK. & ROTUEN TO NANAIMO. 2.4

APPROVED	CS
COMPANY	CATFACE
DESCRIPTION	ENVIRON RENTAL HELICOPTER 2.4

Thankyou!

PAX

You may choose - helicopter + co

FLIGHT TIME _____ MINIMUM HOURS _____ CASUAL _____ CONTRACT _____

RATE	2.4 HOURS @ $ 1075.00		2580 00
FUEL CHARGE	2.4 HOURS @ $ 180.00		432 00
ADDITIONAL CHARGES			
		SUB TOTAL	3012 00
		GST	210 84
		AMT. DUE	3222 84

DOS PAID

Terms: Due on receipt. A service charge of 2% per month / 24% per annum will be charged on all over due accounts.
PLEASE PAY BY INVOICE. NO STATEMENT WILL BE ISSUED.
This ticket is expressly subject to the above terms and conditions printed on the reverse side of this ticket and which are hereby accepted.
ANY APPLICABLE PROVINCIAL OR FEDERAL TAX IS DUE AND PAYABLE BY THE CUSTOMER.

CUSTOMER _____ X _____
PRINT NAME SIGNATURE

PILOT Jim Vallance _____

THANK YOU!

WHITE/CUSTOMER INVOICE CANARY/ CUSTOMER / RETURN WITH CHEQUE PINK / ACCOUNTING BUFF / BASE COPY

Knight Piésold
CONSULTING

Knight Piésold Ltd.
Suite 1400
750 West Pender Street
Vancouver, British Columbia
Canada V6C 2T8

Telephone: (604) 685-0543
Facsimile: (604) 685-0147
E-mail: vancouver@knightpiesold.com

RECEIVED MAY 14 2004

PROJECT NO: **K102-0170-01.19**

DATE: **April 30, 2004**

INVOICE: **10601**

Doublestar Resources Ltd.
305 - 1549 Marine Drive
West Vancouver, BC V7V 1H9

APPROVED
COMPANY Catface
DESCRIPTION Environmental

Attn: Alan Savage
Copy:

Re: Catface Property

For professional services provided for the period April 1, 2004 to April 30, 2004

A. TIME CHARGES

POSTED

02 Baseline Environmental Work

0100 Project Management

S. Wellman	1.00	Hrs @ $	97.00	97.00	
E. Graham	0.75	Hrs @ $	53.00	39.75	
	1.75			136.75	

0200 Field Work

S. Wellman	2.00	Hrs @ $	97.00	194.00	
	2.00			194.00	330.75

Detailed Time Sheets and back-up for Reimbursable Expenses available on request.
Payment due on receipt. Interest will be charged at 1.5% per month on overdue accounts not paid within 30 days of invoice date.

Association of Consulting Engineers of Canada
Association des ingénieurs-conseils du Canada

ISO 9001:2000

		330.75
Brought Forward		
B. REIMBURSABLE EXPENSES		
Xerox & Laser Printing	27.75	
	27.75	
+15%	4.16	31.91
		362.66
GST (Registration# R102864493)		25.39
TOTAL AMOUNT (Canadian $)		**$388.05**

Detailed Time Sheets and back-up for Reimbursable Expenses available on request.
Payment due on receipt. Interest will be charged at 1.5% per month on overdue accounts not paid within 30 days of invoice date.

Knight Piésold
CONSULTING

DOUBLESTAR RESOURCES LTD.
CATFACE PROPERTY
ENVIRONMENTAL SERVICES

SUMMARY OF WORK COMPLETED IN APRIL 2004

TASK 0100 – PROJECT MANAGEMENT

- General Project Management to comply with ISO 9001 registration

TASK 0200 – FIELD WORK

- Reviewed background reports and baseline information

PROJECT NO: 102-0170-01

CLIENT: Doublestar Resources Ltd.

DESCRIPTION: Catface Property
Baseline Environmental Work

MONTH	ENG TIME	COMP TIME	DISB	TOTAL	GST	INVOICE TOTAL
BAL FWD						-
Apr-04	330.75	-	31.91	362.66	25.39	388.05
TOTAL	330.75		31.91	362.66	25.39	388.05

ORIGINAL BUDGET

TOTAL BUDGET

PROJECT NO. 102-0170-01

CLIENT: Doublestar Resources Ltd.

DESCRIPTION: Catface Property
Baseline Environmental Work

TASK NO.	DESCRIPTION	THIS MONTH Apr-04	TOTAL TO DATE	BUDGET	REMAINING BUDGET
0100	Project Management	136.75	136.75		
0200	Field Work	194.00	194.00		
			-		
			-		
			-		
	DISBURSEMENTS	31.91	31.91		
		362.66	362.66		

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KNIGHT PIESOLD LTD. - XEROX AND LASER PRINTING

DATE	PROJECT	COPIES	COST	TOTAL
27/Apr	102-0170-01	111	0.25	27.75
	102-0170-01 Total			27.75

Knight Piésold
CONSULTING

Knight Piésold Ltd.

Suite 1400
750 West Pender Street
Vancouver, British Columbia
Canada V6C 2T8

Telephone: (604) 685-0543
Facsimile: (604) 685-0147
E-mail: vancouver@knightpiesold.com

PROJECT NO: **K102-0170-01.19**

DATE: **May 31, 2004**

INVOICE: **10735**

Doublestar Resources Ltd.
305 - 1549 Marine Drive
West Vancouver, BC V7V 1H9

RECEIVED JUN 2 1 2004

APPROVED	
COMPANY	Catface
DESCRIPTION	Environment baseline study

Attn: Alan Savage
Copy:

Re: Catface Property

For professional services provided for the period May 1, 2004 to May 31, 2004

POSTED

A. TIME CHARGES

02 Baseline Environmental Work

0100 Project Management

S. Wellman	1.50	Hrs @ $	97.00	145.50
H. Chan	0.25	Hrs @ $	79.00	19.75
R. Desrosiers	0.50	Hrs @ $	53.00	26.50
	2.25			191.75

0200 Field Work

S. Wellman	18.50	Hrs @ $	97.00	1,794.50
	18.50			1,794.50

Detailed Time Sheets and back-up for Reimbursable Expenses available on request.
Payment due on receipt. Interest will be charged at 1.5% per month on overdue accounts not paid within 30 days of invoice date.

0300 Data Analysis & Report Preparation

S. Wellman	2.00	Hrs @ $	97.00	194.00	
	2.00			194.00	2,180.25

Detailed Time Sheets and back-up for Reimbursable Expenses available on request.
Payment due on receipt. Interest will be charged at 1.5% per month on overdue accounts not paid within 30 days of invoice date.

Brought Forward		2,180.25
B. REIMBURSABLE EXPENSES		
Charles J. Low	280.00	
Colour Xerox Printing	1.50	
Long Distance Telephone	1.19	
	282.69	
+15%	42.40	325.10
		2,505.35
GST (Registration# R102864493)		175.37
TOTAL AMOUNT (Canadian $)		**$2,680.72**

Detailed Time Sheets and back-up for Reimbursable Expenses available on request.
Payment due on receipt. Interest will be charged at 1.5% per month on overdue accounts not paid within 30 days of invoice date.

Knight Piésold
CONSULTING

DOUBLESTAR RESOURCES LTD.
CATFACE PROPERTY
ENVIRONMENTAL SERVICES

SUMMARY OF WORK COMPLETED IN MAY 2004

TASK 0100 – PROJECT MANAGEMENT

- General Project Management to comply with ISO 9001 registration

TASK 0200 – FIELD WORK

- Conducted field work, including benthic and water quality sampling
- Submitted samples to laboratories for analysis
- Received and reviewed data
- Started data compilation and analysis

PROJECT NO: 102-0170-01

CLIENT: Doublestar Resources Ltd.

DESCRIPTION: Catface Property
Baseline Environmental Work

MONTH	ENG TIME	COMP TIME	DISB	TOTAL	GST	INVOICE TOTAL
BAL FWD						-
Apr-04	330.75	-	31.91	362.66	25.39	388.05
May-04	2,180.25	-	325.10	2,505.35	175.37	2,680.72
TOTAL	2,511.00		357.01	2,868.01	200.76	3,068.77

ORIGINAL BUDGET

TOTAL BUDGET

M:\1\02\00170\01\A\Quality System\Project Management\[Task & Project Invoice Summary.xls]Invoice Summary

PROJECT NO. **102-0170-01**

CLIENT: **Doublestar Resources Ltd.**

DESCRIPTION: **Catface Property**
Baseline Environmental Work

TASK NO.	DESCRIPTION	THIS MONTH May-04	TOTAL TO DATE	BUDGET	REMAINING BUDGET
0100	Project Management	191.75	328.50		
0200	Field Work	1,794.50	1,988.50		
0300	Data Analysis & Report Preperation	194.00	194.00		
			-		
			-		
	DISBURSEMENTS	325.10	357.01		
		2,505.35	2,868.01		

M:\1\02\00170\01\A\Quality System\Project Management\[Task & Project Invoice Summary.xls]Invoice Summary

CHARLES J. LOW, PhD, RPBio

INVERTEBRATE BIOLOGIST
4580 Wilkinson Road
Victoria, B.C. V8Z 5B7
Phone 250-479-6712
FAX 250-744-4108
E.M-chaslow@horizon.bc.ca

June 2, '04

0604

Knight Piesold Ltd
Ste 1400 – 750 W Pender St
Vancouver, B.C.

Attn Accounting

Dear Sirs:

Invoice re sorting, identification and enumeration of 2 samples of benthic organisms, your identification, Catface.

2 samples @ $140.00 ea = $280.00
GST (126 953 181 RT) = $19.60

Total = $299.60

If there are any questions, please feel free to call or email me.

Yours truly

Chas Low

102-0170-01
19.60
K22901
K60295 280 00

KNIGHT PIESOLD LTD. - COLOUR XEROX PRINTING

DATE	PROJECT	COPIES	COST	TOTAL
19/May	102-0170-01	1	1.50	1.50
	102-0170-01 Total			1.50

KNIGHT PIESOLD LTD

+ Genesis Plus +

Period Starting: 2004/02/01
Period Ending: 2004/05/31

ACCOUNT CODE DETAIL REPORT

Date	Time	Ext.	Number dialed	City name	Loc	Account Code	Duration	Cost
5/10/2004	13:47	225	12504796712	VICTORIA	BC	102-0170-01	4:10	1.20
						102-0170-01 Total		1.20

Knight Piésold
CONSULTING

Knight Piésold Ltd.

Suite 1400
750 West Pender Street
Vancouver, British Columbia
Canada V6C 2T8

Telephone: (604) 685-0543
Facsimile: (604) 685-0147
E-mail: vancouver@knightpiesold.com

PROJECT NO: **K102-0170-01.19**

DATE: **June 30, 2004**

INVOICE: **10839**

Doublestar Resources Ltd.
305 - 1549 Marine Drive
West Vancouver, BC V7V 1H9

RECEIVED JUL 2 9 2004

PROVED	CCS
OMPANY	Catface
ESCRIPTION	Environmental

Attn: Alan Savage
Copy:

Re: Catface Property

For professional services provided for the period June 1, 2004 to June 30, 2004

A. TIME CHARGES

POSTED

02 Baseline Environmental Work

0100 Project Management

S. Parsons	0.25	Hrs @ $	69.00	17.25
R. Desrosiers	0.75	Hrs @ $	53.00	39.75
	1.00			57.00

0300 Data Analysis & Report Preparation

S. Wellman	4.50	Hrs @ $	97.00	436.50
J. Mackie	26.50	Hrs @ $	89.00	2,358.50

Detailed Time Sheets and back-up for Reimbursable Expenses available on request.
Payment due on receipt. Interest will be charged at 1.5% per month on overdue accounts not paid within 30 days of invoice date.

W. Lahoda	3.75	Hrs @ $	74.00	277.50	
R. Zhou	3.00	Hrs @ $	74.00	222.00	
Software Time	2.50	Hrs @ $	25.00	62.50	
	40.25			3,357.00	3,414.00

Detailed Time Sheets and back-up for Reimbursable Expenses available on request.
Payment due on receipt. Interest will be charged at 1.5% per month on overdue accounts not paid within 30 days of invoice date.

		3,414.00
Brought Forward		
B. REIMBURSABLE EXPENSES		
Dynamic Aqua-Supply Ltd.	30.65	
Xerox & Laser Printing	2.65	
	33.30	
+15%	5.00	38.30
		3,452.30
GST (Registration# R102864493)		241.66
TOTAL AMOUNT (Canadian $)		**$3,693.96**

Detailed Time Sheets and back-up for Reimbursable Expenses available on request.
Payment due on receipt. Interest will be charged at 1.5% per month on overdue accounts not paid within 30 days of invoice date.

Knight Piésold
CONSULTING

DOUBLESTAR RESOURCES LTD.
CATFACE PROPERTY
ENVIRONMENTAL SERVICES

SUMMARY OF WORK COMPLETED IN JUNE 2004

TASK 0100 – PROJECT MANAGEMENT

- General Project Management to comply with ISO 9001 registration

TASK 0200 – FIELD WORK

- Data compilation and analysis
- Preparation of draft report

PROJECT NO: 102-0170-01

CLIENT: Doublestar Resources Ltd.

DESCRIPTION: Catface Property
Baseline Environmental Work

MONTH	ENG TIME	COMP TIME	DISB	TOTAL	GST	INVOICE TOTAL
BAL FWD						-
Apr-04	330.75	-	31.91	362.66	25.39	388.05
May-04	2,180.25	-	325.10	2,505.35	175.37	2,680.72
	3,351.50	62.50	38.30	3,452.30	241.66	3,693.96
TOTAL	5,862.50		395.31	6,320.31	442.42	6,762.73

ORIGINAL BUDGET

TOTAL BUDGET

M:\1\02\00170\01\A\Quality System\Project Management\[Task & Project Invoice Summary.xls]Invoice Summary

PROJECT NO. 102-0170-01

CLIENT: Doublestar Resources Ltd.

DESCRIPTION: Catface Property
Baseline Environmental Work

TASK NO.	DESCRIPTION	THIS MONTH Jun-04	TOTAL TO DATE	BUDGET	REMAINING BUDGET
0100	Project Management	57.00	385.50		
0200	Field Work		1,988.50		
0300	Data Analysis & Report Preperation	3,357.00	3,551.00		
			-		
			-		
	DISBURSEMENTS	38.30	395.31		
		3,452.30	6,320.31		

M:\1\02\00170\01\A\Quality System\Project Management\[Task & Project Invoice Summary.xls]Invoice Summary

Dynamic Aqua-Supply Ltd.
#112 - 8299 129th Street
Surrey, BC V3W 0A6
Tel: (604) 543-7504 Fax: (604) 543-7604
e-mail: sales@dynamicaqua.com

Invoice

00017634

GST Registration #: 138729876RT

Bill To:
Knight Piesold
1400 - 750 W. Pender
Vancouver, BC V6C 2T8

Ship To:
Knight Piesold
1400 - 750 W. Pender
Vancouver, BC V6C 2T8

P01747

Customer No.: KNIGH1 Tax No.*:
Tel: (604) 685-0543 Fax: (604) 685 0147

Attn: Sarah (Environmental)
Tel: (604) 685-0543

P.O. Number	Salesperson	Ship Via	Terms	Due Date	Date	PG.
102170/1	Dean	Atlas	Net 30	6/10/04	5/11/04	1

Quantity	Product Code	Product Description	Unit Price	Unit	Disc.	Extended Price	Tax
2	C10391	Formalin, Lab Grade, 1 Litre	$11.00	Each		$22.00	B

19371
102-0170-01
KD5901 2.03
KL0295 30.65

1023782

CODE	RATE	TAX	SALE AMOUNT
B.G	7%	$2.03	$29.00
B.P	7.5%	$1.65	$22.00
G.P	0%	$0.00	$7.00

SALE AMOUNT	$22.00	
FREIGHT	$7.00	G
GST	$2.03	
PST	$1.65	
TOTAL AMOUNT	$32.68	
PAID	$0.00	

BALANCE DUE $32.68

*Exemption from taxes is extended without predjudice to our rights to charge you at any subsequent date should the tax authotities determine that the goods covered by this invoice are taxable.

Claims must be made within 7 days of receipt of goods. All claims for damage must be made with the carrier. Goods not returnable without return authorization number. 1.5% per month charged on overdue

KNIGHT PIESOLD LTD. - XEROX AND LASER PRINTING

DATE	PROJECT	COPIES	COST	TOTAL
16/Jun	102-0170-01	1	0.25	0.25
18/Jun	102-0170-01	1	0.25	0.25
11/Jun	102-0170-01	7	0.25	1.75
11/Jun	102-0170-01	1	0.40	0.40
	102-0170-01 Total			2.65

Knight Piésold
CONSULTING

Knight Piésold Ltd.

Suite 1400
750 West Pender Street
Vancouver, British Columbia
Canada V6C 2T8

Telephone: (604) 685-0543
Facsimile: (604) 685-0147
E-mail: vancouver@knightpiesold.com

RECEIVED AUG 2 0 2004

PROJECT NO: **K102-0170-01.19**

DATE: **July 31, 2004**

INVOICE: **10870**

Doublestar Resources Ltd.
305 - 1549 Marine Drive
West Vancouver, BC V7V 1H9

APPROVED	COCS
COMPANY	~~DS~~ Catface C.M.L.
DESCRIPTION	Environment

Attn: Alan Savage
Copy:

Re: Catface Property

For professional services provided for the period June 1, 2004 to July 31, 2004

A. TIME CHARGES

02 Baseline Environmental Work

0100 Project Management

S. Parsons	0.25	Hrs @ $	69.00	17.25
R. Desrosiers	0.50	Hrs @ $	53.00	26.50
	0.75			43.75

0300 Data Analysis & Report Preparation

S. Wellman	9.00	Hrs @ $	97.00	873.00
J. Mackie	3.50	Hrs @ $	89.00	311.50

Detailed Time Sheets and back-up for Reimbursable Expenses available on request.
Payment due on receipt. Interest will be charged at 1.5% per month on overdue accounts not paid within 30 days of invoice date.

W. Lahoda	1.00	Hrs @ $	74.00	74.00	
Y. Pang	3.75	Hrs @ $	53.00	198.75	
Software Time	0.75	Hrs @ $	25.00	18.75	
	18.00			1,476.00	1,519.75

Detailed Time Sheets and back-up for Reimbursable Expenses available on request.
Payment due on receipt. Interest will be charged at 1.5% per month on overdue accounts not paid within 30 days of invoice date.

		1,519.75
Brought Forward		
B. REIMBURSABLE EXPENSES		
Colour Xerox Printing	22.80	
Greyhound Courier Express	14.82	
Novex (Dwarf Courier)	9.23	
Xerox & Laser Printing	17.25	
	64.10	
+15%	9.62	73.72
		1,593.47
GST (Registration# R102864493)		111.54
TOTAL AMOUNT (Canadian $)		**$1,705.01**

Detailed Time Sheets and back-up for Reimbursable Expenses available on request.
Payment due on receipt. Interest will be charged at 1.5% per month on overdue accounts not paid within 30 days of invoice date.

Knight Piésold
CONSULTING

DOUBLESTAR RESOURCES LTD.
CATFACE PROPERTY
ENVIRONMENTAL SERVICES

SUMMARY OF WORK COMPLETED IN JULY 2004

TASK 0100 – PROJECT MANAGEMENT

- General Project Management

TASK 0200 – DATA ANALYSIS AND REPORT PREPARATION

- Preparation of final report

PROJECT NO: 102-0170-01

CLIENT: Doublestar Resources Ltd.

DESCRIPTION: Catface Property
Baseline Environmental Work

MONTH	ENG TIME	COMP TIME	DISB	TOTAL	GST	INVOICE TOTAL
BAL FWD						-
Apr-04	330.75	-	31.91	362.66	25.39	388.05
May-04	2,180.25	-	325.10	2,505.35	175.37	2,680.72
Jun-04	3,351.50	62.50	38.30	3,452.30	241.66	3,693.96
Jul-04	1,501.00	18.75	73.72	1,593.47	111.54	1,705.01
TOTAL	7,363.50		469.03	7,913.78	553.96	8,467.74

ORIGINAL BUDGET

TOTAL BUDGET

M:\1\02\00170\01\A\Quality System\Project Management\[Task & Project Invoice Summary.xls]Invoice Summary

PROJECT NO. 102-0170-01

CLIENT: Doublestar Resources Ltd.

DESCRIPTION: Catface Property
Baseline Environmental Work

TASK NO.	DESCRIPTION	THIS MONTH Jul-04	TOTAL TO DATE	BUDGET	REMAINING BUDGET
0100	Project Management	43.75	429.25		
0200	Field Work		1,988.50		
0300	Data Analysis & Report Preperation	1,476.00	5,027.00		
			-		
			-		
	DISBURSEMENTS	73.72	469.03		
		1,593.47	7,913.78		

M:\1\02\00170\01\A\Quality System\Project Management\[Task & Project Invoice Summary.xls]Task Summary

KNIGHT PIESOLD LTD. - COLOUR XEROX PRINTING

DATE	PROJECT	COPIES	COST	TOTAL
29/Jun	102-0170-01	2	2.85	5.70
29/Jun	102-0170-01	4	2.85	11.40
15/Jul	102-0170-01	2	2.85	5.70
	102-0170-01 Total			22.80

48283

GREYHOUND
COURIER EXPRESS

PAGE 1

INVOICE DATE	INVOICE NUMBER	ACCOUNT NUMBER
2004/06/30	2195644	0256105

KNIGHT PIESOLD LTD
750 W PENDER ST #1400
VANCOUVER , BC
V6C 2T8

AMOUNT PAID	AMOUNT DUE
	15.85

PLEASE REMIT PAYMENT TO:
GREYHOUND COURIER EXPRESS
BAG 2577
CALGARY AB T2P 4N4

PLEASE RETURN THIS PORTION WITH YOUR REMITTANCE

FOR ACCOUNT INQUIRIES CALL: 1-800-661-4824
FOR FAX INQUIRIES CALL : 1-403-260-4663

GREYHOUND CANADA TRANSPORTATION CORP - INVOICE

DUE TO THE FUEL PRICE CHANGES IN RECENT MONTHS GREYHOUND WILL BE INCREASING THE FUEL SURCHARGE TO 3.75% EFFECTIVE JULY 1ST 2004.

INVOICE DATE	INVOICE NUMBER	ACCOUNT NUMBER
2004/06/30	2195644	0256105

CODE	SHIPPER / CONSIGNEE	ORIGIN / DESTINATION	DATE	BUSBILL / REFERENCE	PIECES-WEIGHT / DECLARED VALUE	CHARGES	PST/ GST	TOTAL
21P	KNIGHT PIESOLD	VANCOUVER BC	20040617	*11377384395	1- 30 P	EXP		
	CHARLES LOW	VICTORIA BC				14.35	1.00	15.35
FSC	FUEL SURCHG	102-170/1	20040630	99001401057	-			
				3.25 %		.47	.03	.50

JUL

19610

102-0170-01

1.03

K22901

K60285

19.82

* - FSC	TOTAL NEW CHARGES	1.03	15.85

NOVEX
#2-3331 VIKING WAY, RICHMOND, BC, CANADA V6V 1X7

TEL 604.278.1935
FAX 604.278.7235
billing@novex.ca
www.novexclean.ca

INVOICE

Anne Haskins
KNIGHT PIESOLD LTD
1400-750 W PENDER ST
VANCOUVER BC V6C-2T7

INVOICE DATE	ACCOUNT NO.
06/30/2004	K85
INVOICE NO.	**CURRENT CHARGES**
K85063004	$354.96

GST 873692560

TERMS: NET 30 Days - 2% Charged on all overdue accounts.

TRANSACTION DATE	INVOICE NO.	DESCRIPTION	AMOUNT	GST	TOTAL
	Current:				
6/30/2004	K85063004	26 Jobs	331.72	23.24	354.96

ENTERED 19596

101-0001-05 103-0105-01
K22901 23.24 K60295 20.05
K60295 19.08
102-0147-2 103-0056-02
K60295 5.01 K60295 61.98
102-0170-01
K60295 RECEIVED
103-0046-01 JUL 08 2004
K60295 90.16
103-0102-01
K60295 7.39 108-0068-04
103-0104-01 K60295 11.87
K60295 42.55 K60275 44.35
103-0014-7
K60295 20.05

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AGE	Current	Over 30	Over 45	Over 60	Over 90	TOTAL AMOUNT DUE
AMOUNT	354.96	0.00	0.00	0.00	0.00	$354.96

NOVEX
#2 - 3331 Viking Way
Richmond, BC, Canada V6V 1X7

REMITTANCE STUB

◄ Please detach and return with payment

INVOICE DATE	ACCOUNT NO.
06/30/2004	K85
INVOICE NO.	**CURRENT CHARGES**
K85063004	$354.96

GST 873692560

PLEASE CHECK INDIVIDUAL INVOICES PAID

INVOICE NO.	AMOUNT DUE	✔
K85063004	354.96	

AMOUNT PAID	TOTAL AMOUNT DUE
	$354.96

KNIGHT PIESOLD LTD. - XEROX AND LASER PRINTING

DATE	PROJECT	COPIES	COST	TOTAL
27/Jul	102-0170-01	8	0.25	2.00
4/Jul	102-0170-01	42	0.25	10.50
15/Jul	102-0170-01	19	0.25	4.75
	102-0170-01 Total			17.25

Knight Piésold
CONSULTING

Knight Piésold Ltd.
Suite 1400
750 West Pender Street
Vancouver, British Columbia
Canada V6C 2T8

Telephone: (604) 685-0543
Facsimile: (604) 685-0147
E-mail: vancouver@knightpiesold.com

PROJECT NO: **K102-0170-01.19**

DATE: **August 31, 2004**

INVOICE: **11012**

Doublestar Resources Ltd.
305 - 1549 Marine Drive
West Vancouver, BC V7V 1H9

Attn: Alan Savage
Copy:

Re: Catface Property

APPROVED	
COMPANY	Catface Co.
DESCRIPTION	Environmental Consulting

RECEIVED SEP 1 7 2004

For professional services provided for the period August 1, 2004 to August 31, 2004

A. TIME CHARGES

02 Baseline Environmental Work

0100 Project Management

S. Parsons	0.25	Hrs @ $	69.00	17.25
R. Desrosiers	0.25	Hrs @ $	53.00	13.25
	0.50			30.50

0300 Data Analysis & Report Preparation

S. Wellman	5.00	Hrs @ $	97.00	485.00
W. Lahoda	0.25	Hrs @ $	74.00	18.50

Detailed Time Sheets and back-up for Reimbursable Expenses available on request.
Payment due on receipt. Interest will be charged at 1.5% per month on overdue accounts not paid within 30 days of invoice date.

W. Jivraj	1.00	Hrs @ $	53.00	53.00	
E. Graham	2.50	Hrs @ $	53.00	132.50	
	8.75			689.00	719.50

Detailed Time Sheets and back-up for Reimbursable Expenses available on request.
Payment due on receipt. Interest will be charged at 1.5% per month on overdue accounts not paid within 30 days of invoice date.

		719.50
Brought Forward		
B. REIMBURSABLE EXPENSES		
Colour Xerox Printing	280.50	
Novex (Dwarf Courier)	14.76	
Report Charge	269.50	
Xerox & Laser Printing	172.75	
	737.51	
+15%	110.63	848.15
		1,567.65
GST (Registration# R102864493)		109.74
TOTAL AMOUNT (Canadian $)		**$1,677.39**

Detailed Time Sheets and back-up for Reimbursable Expenses available on request.
Payment due on receipt. Interest will be charged at 1.5% per month on overdue accounts not paid within 30 days of invoice date.

Knight Piésold
CONSULTING

DOUBLESTAR RESOURCES LTD.
CATFACE PROPERTY
ENVIRONMENTAL SERVICES

SUMMARY OF WORK COMPLETED IN AUGUST 2004

TASK 0100 – PROJECT MANAGEMENT

- General Project Management

TASK 0200 – DATA ANALYSIS AND REPORT PREPARATION

- Preparation and printing of final report

PROJECT NO: 102-0170-01

CLIENT: Doublestar Resources Ltd.

DESCRIPTION: Catface Property
Baseline Environmental Work

MONTH	ENG TIME	COMP TIME	DISB	TOTAL	GST	INVOICE TOTAL
BAL FWD						-
Apr-04	330.75	-	31.91	362.66	25.39	388.05
May-04	2,180.25	-	325.10	2,505.35	175.37	2,680.72
Jun-04	3,351.50	62.50	38.30	3,452.30	241.66	3,693.96
Jul-04	1,501.00	18.75	73.72	1,593.47	111.54	1,705.01
Aug-04	719.50	-	848.15	1,567.65	109.74	1,677.39
TOTAL	8,083.00		1,317.18	9,481.43	663.70	10,145.13

ORIGINAL BUDGET

TOTAL BUDGET

PROJECT NO. 102-0170-01

CLIENT: Doublestar Resources Ltd.

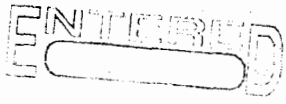
DESCRIPTION: Catface Property
Baseline Environmental Work

TASK NO.	DESCRIPTION	THIS MONTH Aug-04	TOTAL TO DATE	BUDGET	REMAINING BUDGET
0100	Project Management	30.50	459.75		
0200	Field Work		1,988.50		
0300	Data Analysis & Report Preperation	689.00	5,716.00		
			-		
			-		
	DISBURSEMENTS	848.15	1,317.18		
		1,567.65	9,481.43		

M:\1\02\00170\01\A\Quality System\Project Management\[Task & Project Invoice Summary.xls]Task Summary

KNIGHT PIESOLD LTD. - COLOUR XEROX PRINTING

DATE	PROJECT	COPIES	COST	TOTAL
11/Aug	102-0170-01	187	1.50	280.50
	102-0170-01 Total			280.50



NOVEX COURIERS

NOVA EXPRESS MILLENNIUM INC.
#2-3331 VIKING WAY, RICHMOND, BC, CANADA V6V 1X7

TEL 604.278.1935
TOLL FREE 1.877.566.6839
FAX 604.278.7235
billing@novex.ca
www.novexclean.ca

INVOICE

TO:
Anne Haskins
KNIGHT PIESOLD LTD
1400-750 W PENDER ST
VANCOUVER BC V6C-2T7

INVOICE DATE	ACCOUNT NO.
08/31/2004	K85
INVOICE NO.	**CURRENT CHARGES**
K85083104	$360.32

Po 1857

TERMS: NET 30 Days - 2% Charged on all overdue accounts.

GST.895872927

TRANSACTION DATE	INVOICE NO.	DESCRIPTION	AMOUNT	GST	TOTAL
	Current:				
8/31/2004	K85083104	25 Jobs	336.76	23.56	360.32

ENTERED 19971

103-00446-01
K22901
K60295
101-0004-07
K60295
101-0176-07
K60295
101-0002-06
K60295
101-0003-07
K60295
102-0170-01
K60295

23.56
11.34
60.53
11.34
22.17
5.50
14.77

103-00446-01
K60295 125.28
103-0056-04
K60295 5.50
702-0006-01
K60295 18.20
702-0007-01
K60295 18.20
K60275 43.98

RECEIVED
SEP 03 2004

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AGE	Current	Over 30	Over 45	Over 60	Over 90	TOTAL AMOUNT DUE
AMOUNT	360.32	0.00	0.00	0.00	0.00	$360.32

NOVEX
#2 - 3331 Viking Way
Richmond, BC, Canada V6V 1X7

REMITTANCE STUB

◀ Please detach and return with payment

INVOICE DATE	ACCOUNT NO.
08/31/2004	K85
INVOICE NO.	**CURRENT CHARGES**
K85083104	$360.32

GST 895872927
PLEASE CHECK INDIVIDUAL INVOICES PAID

INVOICE NO.	AMOUNT DUE
K85083104	360.32

AMOUNT PAID	TOTAL AMOUNT DUE
	$360.32

REPORT CHARGE

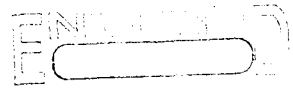
PROJECT NAME:	Catface Project	**PROJECT NO:**	VA102-170/1
NAME OF REPORT:	2004 Baseline Environmental Program (Ref. No. VA102-170/1-1, Rev 0)		
DATE OF REPORT:	August 10/04		

Green Covers (8 1/2 x 11)	No.	11	@	$15.00	/set	$165.00
Green Covers (11 x 17)	No.		@	$25.00	/set	$0.00
Acetate Sheets	No.	11	@	$1.00		$11.00
Dividers	No.	66	@	$1.00		$66.00
Cerlox Spines	No.	11	@	$2.00		$22.00
Cerlox Binding Screws	No.		@	$1.00	/set	$0.00
White Covers	No.	11	@	$0.50		$5.50
Green Covers	No.		@	$2.00		$0.00
Binders - 1"	No.		@	$4.50		$0.00
Binders - 1 1/2"	No.		@	$6.00		$0.00
Binders - 2"	No.		@	$8.00		$0.00
Binders - 3"	No.		@	$10.00		$0.00
			TOTAL COST			$269.50

H:\[RPTCHARG.XLS]A
11-Aug-104 14:40

KNIGHT PIESOLD LTD. - XEROX AND LASER PRINTING

DATE	PROJECT	COPIES	COST	TOTAL
31/Aug	102-0170-01	454	0.25	113.50
31/Aug	102-0170-01	140	0.40	56.00
11/Aug	102-0170-01	2	0.25	0.50
11/Aug	102-0170-01	1	0.25	0.25
18/Aug	102-0170-01	10	0.25	2.50
	102-0170-01 Total			172.75



Knight Piésold
CONSULTING

Knight Piésold Ltd.

Suite 1400
750 West Pender Street
Vancouver, British Columbia
Canada V6C 2T8

Telephone: (604) 685-0543
Facsimile: (604) 685-0147
E-mail: vancouver@knightpiesold.com

RECEIVED OCT 1 9 2004

PROJECT NO: **K102-0170-01.19**

DATE: **September 30, 2004**

INVOICE: **11068**

Doublestar Resources Ltd.
305 - 1549 Marine Drive
West Vancouver, BC V7V 1H9

APPROVED	
COMPANY	CATFACE
DESCRIPTION	ENVIRONMENT

Attn: Alan Savage
Copy:

Re: Catface Property

For professional services provided for the period September 1, 2004 to September 30, 2004

A. TIME CHARGES

02 Baseline Environmental Work

0100 Project Management

S. Wellman	1.00	Hrs @ $	97.00	97.00	
R. Desrosiers	0.50	Hrs @ $	53.00	26.50	
	1.50			123.50	123.50

Detailed Time Sheets and back-up for Reimbursable Expenses available on request.
Payment due on receipt. Interest will be charged at 1.5% per month on overdue accounts not paid within 30 days of invoice date.

		123.50
Brought Forward		
B. REIMBURSABLE EXPENSES		
Xerox & Laser Printing	0.25	
	0.25	
+15%	0.04	0.29
		123.79
GST (Registration# R102864493)		8.67
TOTAL AMOUNT (Canadian $)		**$132.46**

Detailed Time Sheets and back-up for Reimbursable Expenses available on request.
Payment due on receipt. Interest will be charged at 1.5% per month on overdue accounts not paid within 30 days of invoice date.

Knight Piésold
CONSULTING

DOUBLESTAR RESOURCES LTD.
CATFACE PROPERTY
ENVIRONMENTAL SERVICES

SUMMARY OF WORK COMPLETED IN SEPTEMBER 2004

TASK 0100 – PROJECT MANAGEMENT

- General Project Management
- Final invoicing and administration

PROJECT NO: 102-0170-01

CLIENT: Doublestar Resources Ltd.

DESCRIPTION: Catface Property
Baseline Environmental Work

MONTH	ENG TIME	COMP TIME	DISB	TOTAL	GST	INVOICE TOTAL
BAL FWD						-
Apr-04	330.75	-	31.91	362.66	25.39	388.05
May-04	2,180.25	-	325.10	2,505.35	175.37	2,680.72
Jun-04	3,351.50	62.50	38.30	3,452.30	241.66	3,693.96
Jul-04	1,501.00	18.75	73.72	1,593.47	111.54	1,705.01
Aug-04	719.50	-	848.15	1,567.65	109.74	1,677.39
Sep-04	123.50	-	0.29	123.79	8.67	132.46
TOTAL	8,206.50		1,317.47	9,605.22	672.37	10,277.59

ORIGINAL BUDGET

TOTAL BUDGET

PROJECT NO. **102-0170-01**

CLIENT: **Doublestar Resources Ltd.**

DESCRIPTION: **Catface Property**
Baseline Environmental Work

TASK NO.	DESCRIPTION	THIS MONTH Sep-04	TOTAL TO DATE	BUDGET	REMAINING BUDGET
0100	Project Management	123.50	583.25		
0200	Field Work		1,988.50		
0300	Data Analysis & Report Preperation		5,716.00		
			-		
			-		
	DISBURSEMENTS	0.29	1,317.47		
		123.79	9,605.22		

M:\1\02\00170\01\A\Quality System\Project Management\[Task & Project Invoice Summary.xls]Task Summary

KNIGHT PIESOLD LTD. - XEROX AND LASER PRINTING

DATE	PROJECT	COPIES	COST	TOTAL
3/Sep	102-0170-01	1	0.25	0.25
	102-0170-01 Total			0.25

APPENDIX A:

CATFACE PROJECT
2004 BASELINE ENVIRONMENTAL PROGRAM
(KNIGHT PIESOLD CONSULTING)

DOUBLESTAR RESOURCES LTD.
CATFACE PROJECT

2004 BASELINE ENVIRONMENTAL PROGRAM
(REF. NO. VA102-170/1-1)

Rev. No.	Revision	Date	Approved
A	Issued for Review	July 15, 2004	KJB
0	Issued in Final	August 10, 2004	KJB

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DOUBLESTAR RESOURCES LTD.
CATFACE PROJECT

2004 BASELINE ENVIRONMENTAL PROGRAM
(REF. NO. VA102-170/1-1)

EXECUTIVE SUMMARY

Water quality data from the 2004 sampling program indicates that Irishman Creek and the Catface claims area watersheds consist of pristine, cold mountain streams characteristic of west central Vancouver Island. Water samples were slightly elevated in dissolved copper and selenium, which is to be expected given the mineral rich nature of the property.

On the basis of water chemistry, principally the neutral pH, residual alkalinity, low sulphate content, adequate time allowed for acid generation to be indicated, and the comparative results from the May 1989 analysis, it can be concluded that acid mine drainage has not developed at the project over the past 30 years since the exploration adit was drilled, and is not likely to be a concern in the future.

The presence of a dense and taxonomically diverse benthic population at the exploration adit (Station 1) demonstrates that the habitat created by groundwater seepage through the exploration adit and drill holes is capable of supporting a healthy benthic community. The very high population density of 1238 organisms/m^2, combined with the 19 % sensitive and 81 % facultative fauna gives a strong indication as to the overall health and vitality of this water source. The greater percentage of facultative organisms is most likely due to the extreme environment (rocky with little to no riparian vegetation), somewhat elevated metals concentrations, and the lack of upstream additions to the benthic population, as this site is located at the adit headwater source. Despite the environmental challenges presented at the exploration adit, indices show that the benthic community has a relatively stable trophic structure (equitability index of 0.64), with an average abundance of acceptable habitat niches conducive to the development of a complex biological system (richness index of 3.18), which would be able to absorb limited water quality changes.

The benthic macroinvertebrate population sampled further downstream in Irishman Creek (Station 6) had a population density of 154 organisms/m^2, comprised of 65.6% sensitive and 34.4% facultative fauna, indicating a very healthy, pristine aquatic system. The high equitability index (0.84) demonstrates that the benthic community has a strong trophic structure capable of withstanding stress, with an average abundance of acceptable habitat niches conducive to the development of a complex biological system (richness index of 3.73). The benthic community at Station 6 is slightly more diverse with marginally more habitable niches than the community found at the exploration adit, as would be expected due to the influences of numerous upstream sources, bringing in nutrients and additional benthic organisms.

DOUBLESTAR RESOURCES LTD.
CATFACE PROJECT

2004 BASELINE ENVIRONMENTALPROGRAM
(REF. NO. VA102-170/1-1)

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DOUBLESTAR RESOURCES LTD.
CATFACE PROJECT

2004 BASELINE ENVIRONMENTAL PROGRAM
(REF. NO. VA102-170/01-1)

SECTION 1.0 - INTRODUCTION

1.1 INTRODUCTION

The Catface property is located on Catface Mountain (Photo 1), which is approximately 13 km northwest of Tofino, B.C. on the southwest point of the Bedingfield Peninsula (125°59'W by 49°15'N). Although the area contains several logging roads, the only access to the property is by boat or helicopter/fixed wing aircraft from Tofino. There is no direct connection to the B.C. Highway system (Figure 1.1).

The claims area covers a topographical high known as the Catface Range between sea level and 962 m (2932 ft). The Catface Peninsula is bordered on the west by Bawden Bay and Millar Channel, on the south by Calmus Passage and the west by Hecate Bay and Bedwell Sound (NTS Map Sheets 92 E/1, 92 E/8, 92 F/4 and 92 F/5).

Areas of mineral importance consist of the Cliff Zone, East and West Irishman Zones, and the Hecate Bay Zone. The Cliff Zone was the main target of interest for an extended exploration program completed in the summer of 1989. The property was the subject of earlier exploration work (1966 to 1972) and an 857 m adit is located at about the 564 m (1850 ft) elevation on the north-facing slope. The adit was driven for exploration purposes. Underground diamond drilling from the adit totalled 2,213 m, and a bulk sample of mineralization was mined for metallurgical testing.

The claims area is transacted by two main streams, which originate near the top of the property and discharge directly to the ocean. The largest, Irishman Creek (Bawden Creek), arises in a small saddle and flows northwesterly, discharging into Bawden Bay. A second unnamed stream flows westerly and discharges into Millar Channel. There are several other small streams on the property, which have very small drainage areas.

In addition to mineral exploration, fish farming is one of the main activities centred in Clayoquot Sound and the Catface Peninsula. Most recent information indicates that logging in the Catface Peninsula is currently inactive, and that several, if not all, of the roads have been deactivated. Currently the Ma-Mook Development Corporation, a First Nations partnership with Weyerhaeuser, holds the timber rights in the area.

The nearest population centre to the Catface Claims area is the joint community of Marktosis-Ahousat, a native settlement on the MacNeil Peninsula near the southeastern point of Flores Island. The community is separated from the Catface Property by Millar Channel, approximately

3 km from Bawden Bay. There are also seven unpopulated Indian Reserves along the coastline in close proximity to the claims area varying in size from 5 to 90 ha (SRK Consulting, 2003).

The nearest national or provincial parks are the Pacific Rim National Park located south of Tofino, Strathcona Provincial Park located at the head of Herbert Inlet and Gibson Marine Provincial Park located at the southern end of McNeil Peninsula on Flores Island.

1.2 SUMMARY OF PREVIOUS STUDIES AND SCOPE OF 2004 SAMPLING PROGRAM

Environmental baseline data collection for the Catface property was initiated in May of 1989, immediately upon the reopening of the exploration adit. Prior to the start of the 1989 exploration program, samples of mine water and waste rock were obtained to determine if, during the period between suspended exploration and the 1989 exploration program, there were any indications of acid generation or potential for such in the long-term. In May of 2004, Knight Piésold Ltd. was contracted to conduct additional water sampling and to expand the scope of the study to evaluate aquatic biophysical health by way of benthic macroinvertebrate sampling.

The 1989 sampling program found there to be no evidence to suggest that the underground development is a source of acid mine drainage (determined by analysis of water sampled at the adit). Three samples of exposed underground development waste rock were also examined and found to have a net negative acid generating capability (Hallam R.L., 1989).

The purpose of the 2004 sampling program was to determine if the groundwater seepage from the exploration adit had developed any signs of acid generation since the previous sampling, and to increase the baseline water quality data available for the property. Benthic sampling was performed to determine if the groundwater seepage from the exploration adit is capable of supporting a healthy benthic community, and as baseline information to be used in the future for comparison purposes.

1.3 CLIMATE

The climate in this region is classed as West Coast Marine, and is characterized by mild wet winters and cool, fairly dry summers with onshore Pacific disturbances and coastline topography being the primary influencing factors. Tofino is the closest meteorological recording station to the Catface Property.

Annual daily temperatures at Tofino average 9.1°C with mean maximums occurring in August (14.8 °C) and mean minimums occurring in January (4.5 °C). The extreme minimum and maximum temperatures ever recorded at Tofino are -15.0 °C and 32.8 °C respectively (Environment Canada, 2004).

1.4 HYDROLOGY

The claims area covers a topographical high known as the Catface Range between sea level and 962 m. The property is bordered on the west by Bawden Bay and Millar Channel, on the South

by Calmus Passage and the west by Hecate Bay and Bedwell Sound. The drainage system of the Catface claims area is relatively simple, and includes several creeks that flow east, west and south, directly into the sea (Figure 1.1).

The claims area is transected by two main streams, which originate near the centre of the property and discharge northwesterly and southeasterly, directly into the ocean. The largest, Irishman Creek (Bawden Creek), which drains an area of 6.1 km^2, arises in a small saddle and tarn created by a glacial cirque, and flows northwesterly, discharging into Bawden Bay. A northwest facing horseshoe system of peaks and connection ridges ranging from 912 m to 1053 m encircles the saddle area. A second unnamed stream arises on the southwestern flanks of the saddle area and flows westerly and discharges into Millar Channel. There are several other small streams on the property, which appear to have very small drainage areas and generally drain to the south into Calmus Passage.

Hydrology data for Irishman Creek has been modelled using a simulated hydrograph, based on information gathered from hydrology stations in nearby watersheds. The creek is subject to flash flows due to the extreme topographical gradients and rainfall intensity known to occur in this region. Mean annual flows are expected to be between 0.48 and 0.73 m^3/s, with high flows between 0.94 and 1.29 m^3/s occurring in December. Average low flows are expected to range between 0.09 and 0.21 m^3/s and would occur in July or August. Peak flows in Irishman Creek (based on the Carnation Creek Watershed) are estimated to be as high as 13 m^3/s with instantaneous peaks of short duration being 4 times greater (Hallam R.L., 1989).

SECTION 2.0 - BASELINE WATER QUALITY MONITORING PROGRAM

2.1 WATER QUALITY MONITORING STATIONS

Water quality samples were taken on May 11, 1989 with subsequent sampling done on May 18, 2004. A detailed description of the sampling stations is included in Table 2.1 (also see Photos 2 through 22). The locations of stations 1, 3 and 5 were consistent with those sampled in May 1989 (Figure 1.1). Station 4 was relocated further upstream from the previous sampling location, while Station 2 was moved further downstream due to closure of the access road. Station 6 was added for the purpose of Benthic Macroinvertebrate sampling only.

2.2 COLLECTION AND ANALYSIS

Four sample bottles were filled at each of Stations 1 through 5 for four categories of water quality analysis: general parameters, cyanide, total and dissolved metals. For QA/QC purposes, duplicates were taken at Station 5, and transportation blanks were brought along on the sampling expedition. The samples were field preserved, filtered as required and shipped to Analytical Services Laboratories Ltd. in Vancouver within 48 hours of collection for analysis. The methods of preservation were:

- General parameters — kept cold
- Cyanide — preserved with H_2SO_4 to pH 12 or higher
- Dissolved metals — filtered (0.45µ cellulose nitrate) and preserved with HNO_3 to pH 2 or less
- Total metals — preserved with HNO_3 to pH 2 or less

2.3 RESULTS OF ANALYSIS

The results of all of the water quality analysis from the five sampling sites are presented in Appendix A. In this report, water quality criteria and results are measured in milligrams per litre (mg/l).

Water quality data indicates that Irishman Creek and the Catface claims area watershed consist of pristine, cold mountain streams characteristic of west central Vancouver Island.

2.3.1 Exploration Adit Water Quality Analysis

Station 1 was situated immediately at the exploration adit in order to best determine the water quality of the seepage from the underground development. Complete results of the analysis are presented in Appendix A.

Physical Parameters

Physical tests revealed the water to have a slightly basic pH (7.67) with an alkalinity of 26.9 mg/l $CaCO_3$ (total calcium at 9.64 mg/l), and very low sulphates (7.2 mg/l). The adit water was clear (<0.10 NTU), low in suspended solids (<3.0 mg/l), soft (29.8 mg/l

$CaCO_3$), and moderately low in conductivity (81.6 µS/cm) and dissolved solids (46.6 mg/l); all indicative of a high quality groundwater source with no evidence of acid mine drainage.

Nutrients

Nutrient content was also found to be low. Total phosphate (0.0068 mg/l), nitrite (<0.0010 mg/l), nitrate (0.0222 mg/l) and ammonia (<0.0050 mg/l) are very low and well below levels which would result in artificial enrichment of downstream waters. Cyanide was below detection limit in the adit water.

Metals

Total copper (0.104 mg/l) was found to be higher at the adit than at the other stations, and higher than the water quality criteria for the protection of fresh water aquatic life set by BC WLAP (0.0048 mg/l). This is due to the copper rich rock found naturally in the area, and is likely consistent with other headwater systems on the property. Selenium (0.00228 mg/l) was found to be slightly higher than the 0.002 mg/l criteria. Arsenic (0.00053 mg/l), magnesium (1.39 mg/l), molybdenum (0.102 mg/l), silicon (8.12 mg/l), strontium (0.0324 mg/l), uranium (0.000164 mg/l) and zinc (0.0053 mg/l), which are commonly found in surface water were all found in concentrations well within guidelines for the protection of fresh water aquatic life. Total metals analysis of the adit water found the following metals to be below the detection limit: aluminum, antimony, barium, beryllium, bismuth, boron, cadmium, chromium, cobalt, iron, lead, manganese, mercury, nickel, silver, titanium and vanadium.

On the basis of water chemistry, principally the neutral pH, residual alkalinity, low sulphate content, time allowed for acid generation and the comparative results from the May 1989 analysis, it can be concluded that acid mine drainage has not developed over the past 30 years since the exploration adit was drilled, and is not likely to be a concern in the future.

2.3.2 Remaining Water Quality Station Analysis

Results of all of the water quality analysis for the five sampling Stations are presented in Appendix A.

Physical Parameters

Physical tests revealed the project area water to be neutral in pH (7.31 to 7.47), low in conductivity (41.7 to 58.8 µS/cm), clear (suspended solids <3.0 mg/l; 0.18 to 0.45 NTU), low in dissolved solids (22.1 to 32.7 mg/l) and soft (hardness 12.3 to 17.6 mg/l $CaCO_3$). A comparison of the physical parameters from Station 3 (above adit influence) to those of Station 4 (Irishman Creek, influenced by adit water) reveals little to no change with respect to pH (7.43 above to 7.31 below), conductivity (43.5 above to 41.7 µS/cm below),

dissolved solids (23.9 above to 22.1 mg/l below) and hardness (14 above to 12.3 mg/l below).

Nutrients

All Stations exhibited nutrients (ammonia, nitrite, phosphates) concentrations at or below the limit of detection. Nitrogen in the form of Nitrate ranged from 0.0511 to 0.069 mg/l, well below levels that would result in artificial enrichment of the water. Sulphates (2.1 to 4.2 mg/l) were also determined to be quite low. Cyanide was below detection limit in all samples.

Metals

All Stations exhibited relatively low levels of total and dissolved metals. Total antimony, arsenic, barium, beryllium, bismuth, boron, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, silver, titanium, vanadium and zinc were below the level of analytical detection. Aluminum, calcium, iron, magnesium, molybdenum, silicon and strontium were all detected, but well within guideline limits set for the protection of freshwater aquatic life.

Copper was detected at every sampling Station, though, with the exception of Stations 1 and 3, levels were below the aquatic life guidelines. At Station 3 the total copper concentration was determined to be 0.0035 mg/l. At the corresponding hardness of 14 mg/l $CaCO_3$ the maximum allowable copper concentration was calculated to be 0.0033 mg/l. At Station 4 the maximum allowable total copper was calculated to be 0.0032 mg/l (using a hardness value of 12.3 mg/l $CaCO_3$) and the analysed concentration was less than this at 0.0019 mg/l. This indicates that there is sufficient dilution between the upper Stations 1 and 3, and the lower Station 4, to reduce the total copper concentrations from values above the regulated limits to those deemed safe for freshwater aquatic life.

It should also be noted that upstream of sampling Station 4 there is a physical barrier to fish migration (Irishman Creek goes temporarily subsurface). Due to upstream dilution, the higher levels of copper from the headwaters would not affect the fish-bearing reaches of the stream.

SECTION 3.0 - BENTHIC MACROINVERTEBRATES

3.1 BACKGROUND

Benthic macroinvertebrates are non-backboned animals inhabiting bottom sediments in aquatic systems. As the most important primary consumers in stream ecosystems, benthic macroinvertebrates also form an extremely important food source for fish. Hydrology, water quality, substrate type, creek morphology and climatic conditions constitute habitat variables in any given section of creek. The benthic communities that develop reflect the relative success of the various species that have adapted to suit these environments. As habitat conditions change during yearly cycles or from disturbances, the community structure also changes.

Benthic macroinvertebrates exhibit varying degrees of sensitivity to environmental pollutants/conditions and can be used as reliable indicators of water quality (Hynes 1958, Cairns and Dickson 1971, Kovalak 1981).

The primary objective of the benthic macroinvertebrate sampling program for the Catface Project was to determine whether the habitat created by the water flowing from the exploration adit is capable of supporting a healthy benthic community. The downstream sample from Irishman Creek provides an indication of the overall health of the system.

3.2 METHODS

Benthic macroinvertebrate samples were collected at two of the six sampling sites in May 2004. Sampling Station 1 is located directly at the exploration adit. This site can be described as a very harsh, rocky environment, with groundwater being the primary water source of the small flowing stream. Sampling Station 6 is located further downstream on Irishman Creek and is wider (~1m) with a very bouldery substrate. Shortly downstream of Station 6, Irishman Creek went subsurface, possibly due to a debris flow. Three replicate samples were taken at each site. Large variations in habitat occurred between the two stations.

Samples were taken using a modified Hess sampler measuring 17" high, 14" in diameter with a 250 micron mesh. Samples were preserved with 10% formalin and Rose Bengal stain and shipped to Dr. Charles Low in Victoria, B.C. for taxonomic analysis and enumeration.

3.3 ANALYTICAL APPROACH

Taxonomic identification of the benthic macroinvertebrate samples, sample abundance and number of taxa were determined for each sample. In addition, relative abundance of indicator families, categorized by tolerance categories and a series of community indices were determined for each sample to assist in describing the structure of biological communities relative to overall habitat conditions.

Percent compositions of species in the Ephemeroptera and Chironomid families were calculated for each sample. These two families of benthic invertebrates have been recommended as potential indicator species of metal impacts (Clements, W.H., D.S. Cherry and J.H. Van Hassel. 1992). In

general, the Ephemeroptera are sensitive to heavy metal introduction while the Chironomids are much more resistant.

Laboratory analysis included sorting species into tolerance categories to determine relative abundances of benthic organisms at each station classified as sensitive, facultative or tolerant fauna. Various groups of benthic invertebrates display varying degrees of sensitivity to degradation in habitat quality. Sensitive fauna are found primarily in "clean" water conditions containing little contamination or organic matter. Faculative fauna are those benthic organisms that may persist in relatively poor as well as good water quality conditions. Tolerant organisms are those that tend to dominate communities that are affected by severe habitat degradation.

Various indices were applied to the data to produce quantitative values for community structure measures. The Pielou Equitability Index measures the degree of evenness with which sampled individuals are distributed in the taxa represented in the community. As an extreme example, if the benthic fauna consisted of only one species, very low equitability would prevail due to the skewed abundance for a specific taxa of benthic fauna.

The Margalef Richness Index is the measure of the "taxonomic wealth" in a benthic community. The higher the richness in a community, the more organisms (taxonomically) exist, which in turn reflects habitat complexity (i.e., the greater the number of habitat niches that are available for biological use, the greater variety of invertebrate fauna able to colonize, survive and reproduce in a given area).

The Shannon-Weaver Diversity Index combines the indices of equitability and richness to provide a single measure of community diversity and complexity based strictly on numerical values. As sample size decreases, the diversity index becomes less reliable. In addition, other qualifiers exist; for example, diversity indices do not consider the taxonomic category of fauna used in the calculation and, in addition, studies have shown that a reduction in actual diversity value may be recorded only in the most severe cases of habitat degradation.

Statistical summaries for benthic macroinvertebrate data collected from the Catface Project during the May 2004 sampling period is presented in Table 3.1.

3.4 POPULATION DENSITIES AND TAXONOMIC OVERVIEW

The population densities were 1238 organisms/m^2 and 154 organisms/m^2 at Stations 1 and 6, respectively (Table 3.1). Although Site 1 had a significantly greater density of benthic fauna than Station 6, the number of taxa per sample station was closer in range at 23 and 19 respectively. The relatively high density of organisms at Station 1 was likely due to the mossy environment. Station 6, while located in a larger stream, had a very bouldery substrate and faster velocities, likely contributing to the lower population densities.

3.5 EPHEMEROPTERA AND CHIRONOMID RELATIVE ABUNDANCE

Ephemeroptera and Chironomid abundance comparison is a useful index for year-to-year comparison. These two families of benthic invertebrates have been recommended as potential indicators of metal impact (Clements, W.H., D.S. Cherry and J.H. Van Hassel, 1992). The results of the Clements study indicated that Ephemeroptera are sensitive to copper toxicity while Chironomids are much more resistant. The authors suggest that indices based upon percent composition of these two families could be developed into useful indicators of heavy metal levels in aquatic systems.

Table 3.1 summarizes the percent compositions of Ephemeroptera and Chironomid for the Catface study area for May 2004.

The samples taken at the exploration adit (Station 1) were analysed and found to have an evenly distributed relative abundance of Ephemeroptera and Chironomid (16.75% and 14.75%, respectively). The presence of Ephemeroptera in equal abundance to Chironomids indicates that the aquatic environment is not high in heavy metals.

Station 6 exhibits a much greater relative abundance of Ephemeroptera at 48.00% with Chironomids at only 4.00%. The values indicate an overall decrease in heavy metals concentration from Station 1 to Station 6.

3.6 TOLERANCE CATEGORIES

Table 3.1 summarizes the structure of the benthic macroinvertebrate communities based on tolerance categories.

Tolerant organisms made up less than 1% of the population at either station, which is a good indication that the aquatic systems on the Catface property are extremely healthy.

The substrate at the exploration adit (Station 1) was dominated by faculative fauna with 80.96% of the organisms sampled at this location falling into this category. This value, coupled with the 18.74% sensitive fauna for this station, indicate an aquatic environment with relatively good water quality in which faculative fauna flourish and sensitive fauna can survive.

Analysis of the tolerance categories of benthic macroinvertebrates at Station 6 indicate that the aquatic system is very healthy, with 65.6% sensitive fauna, which generally only flourish in pristine water conditions. The 34.4% faculative fauna is decreased from that found at Station 1, as would be expected due to the more diverse habitat available at Station 6.

3.7 COMMUNITY INDICES

3.7.1 Equitability

Community equitability represents the "evenness" with which numbers of individuals in a benthic community are distributed in the taxa collected: the closer the index is to 1, the

more equitable the distribution of numbers. An equitability value of 0 would indicate that only one species is present.

Equitability ranged from 0.64 to 0.84 for Stations 1 and 6 respectively (Table 3.1). Overall, equitability in these two sites was high, resulting from a wide distribution of fauna in available taxa. A single (or a few) taxa did not dominate inhabitable substrates. These results indicate that benthic macroinvertebrate communities in the aquatic systems associated with the Catface project were relatively stable (in terms of maintaining complexity of trophic structure) and capable of absorbing limited water quality changes.

3.7.2 Richness

Community richness indices provide a measure of community "wealth" based on the ratio of the number of taxa collected from a given area to the number of individual organisms collected in samples. A high richness value is indicative of a system exhibiting a relatively high number of individual niches which specific taxa are able to exploit.

Low levels of niche complexity cannot support high numbers of taxa due simply to exclusion principles in ecological theory. Competitive exclusion thus renders one taxa more capable of exploiting a given niche, thereby excluding others. A given number of niches would therefore only support a given number of taxa. Niche complexity is tied directly to habitat complexity; simple habitats support simple communities; complex habitats support richer, more complex ecological systems.

Table 3.1 summarizes the richness indices of the benthic monitoring Stations in the Catface study area for May 2004. Richness values were quite similar at both Stations 1 and 6 (3.18 and 3.73 respectively). These average levels of richness indicate somewhat intermediate levels of niche complexity with an average abundance of acceptable habitat characteristics conducive to the development of relatively complex biological systems. Richness values will likely increase throughout the summer months.

3.7.3 Diversity

Diversity indices attempt to provide a single quantitative measure of system complexity, synergizing the trends observed in equitability and richness analysis (Table 3.1).

As would be expected, the diversity index for Station 1 was less than that of Station 6, at 2.88 and 3.57, respectively. The overall system complexity is greater at Station 6 as the environment is less harsh, with its relatively gentle gradient and more habitable substrate. This increase in the diversity index is likely due to the greater upstream influence at Station 6, whereas Station 1 (adit) appears to be a complex microhabitat with less possibility for external influence (isolated headwater system).

SECTION 4.0 - CONCLUSIONS

Water quality data indicates that Irishman Creek and the Catface claims area watershed consist of pristine, cold mountain streams characteristic of west central Vancouver Island. Water samples were slightly high in dissolved copper and selenium, to be expected given the mineral rich nature of the property. On the basis of water chemistry, principally the neutral pH, residual alkalinity, low sulphate content, extremely low metals concentrations, time allowed for acid generation and the comparative results from the May 1989 analysis, it can be concluded that acid mine drainage has not developed over the past 30 years since the exploration adit was drilled, and is not likely to be a concern in the future.

The presence of a dense and taxonomically diverse benthic population at the exploration adit demonstrates that the habitat created by the groundwater seepage is capable of supporting a healthy benthic community. The downstream sample from Irishman Creek indicates that the overall health of the system is very good. This collection of baseline data will aid in the implementation of a biomonitoring program to assess the impacts to the aquatic environment as the project is further developed.

The very high population density of 1238 organisms/m^2 at the exploration adit, combined with the 80.96% faculative and 18.74% sensitive fauna give a strong indication as to the overall health and vitality of this water source. The greater presence of facultative organisms is most likely due to the extreme environment (rocky with little to no riparian vegetation), somewhat elevated metals concentrations and the lack of upstream additions to the benthic population, as this site is located at the headwater source (Photos 2 through 6). Despite the environmental challenges presented at the exploration adit indices show that the benthic community has a relatively stable trophic structure (equitability index of 0.64), with an average abundance of acceptable habitat niches conducive to the development of a complex biological system (richness index of 3.18), which would be able to absorb limited water quality changes.

The benthic macroinvertebrate population sampled further downstream in Irishman Creek (Station 6) had a population density of 154 organisms/m^2, comprised of 65.6% sensitive and 34.4% faculative fauna, indicating a very healthy, 'clean' water aquatic system. The high equitability index (0.84) demonstrates that the benthic community has a strong trophic structure capable of withstanding stress, with an average abundance of acceptable habitat niches conducive to the development of a complex biological system (richness index of 3.73). The benthic community at Station 6 is slightly more diverse with marginally more habitable niches than the community found at the exploration adit, as would be expected due to the influences of numerous upstream sources, bringing in nutrients and additional benthic organisms (Photos 20 through 22).

Both the lower reaches of Irishman Creek and the water at the exploration adit exhibit traits of healthy mountain streams, capable of supporting a diverse quantity and range of sensitive and faculative benthic organisms.

SECTION 5.0 - REFERENCES

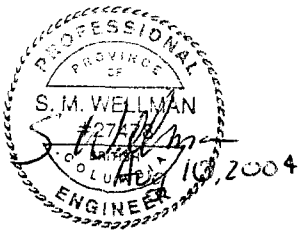
Clements, W.H., D.S. Cherry and J.H. Van Hassel, 1992. Canadian Journal of Fisheries and Aquatic Sciences. 49:(8) pp. 1686-1694

Hallam, R.L., 1989. Report on Base-line Environmental Evaluations and Environmental Audit of the Catface Property. Unpublished company report, Falconbridge Limited.

Steffen Robertson and Kirsten (Canada) Inc. (SRK Consulting), 1993. Description of the Catface Property, Vancouver Island, British Columbia. Unpublished company report, Doublestar Resources Ltd.

SECTION 6.0 - CERTIFICATION

This report was prepared and approved by the undersigned.



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CONSULTING

TABLE 2.1

DOUBLESTAR RESOURCES LTD.
CATFACE PROJECT

2004 BASELINE ENVIRONMENTAL PROGRAM
SUMMARY OF SAMPLE STATION INFORMATION

Print: 10-Aug-04 AM
M:\1\02\00170\01\A\Report\1-Rev 0\[station info_rev0.xls]Sheet1 Rev: 29-Jul-04

Station	Location (Figure 1.1)	Longitude	Latitude	Parameters Sampled	Photos	Site Description
1	Exploration Adit	125°58.965'W	49°15.685'N	Water Quality Benthic Macroinvertebrates	Photos 2 through 6	Width: 0.2 to 0.3 m Depth: 0.05 to 0.1 m Substrate: angular cobbles, some sand/gravel Riparian: Little, no cover, instream moss and small flowering plants
2	Water License Creek	125°58.831'W	49°14.027'N	Water Quality	Photos 7 through 9	Width: 1 to 2 m, braided Depth: 0.05 to 1 m pool Substrate: gravel/cobble Riparian: Dense, predominantly deciduous
3	Irishman Creek above exploration adit discharge	125°58.550'W	49°15.705'N	Water Quality	Photos 10 through 12	Width: 0.9 to 1.5 m Depth: 0.15 to 0.2 m Substrate: Boulder/cobble/gravel Riparian: Dense, predominantly deciduous
4	Irishman Creek	126°00.674'W	49°16.487'N	Water Quality	Photos 13 through 15	Width: 2-5 m Depth: 0.1-0.2 m Substrate: Cobble/gravel/boulder Riparian: Dense, mixed deciduous/coniferous
5	Camp Creek	125°56.601'W	49°15.104'N	Water Quality	Photos 16 through 19	Width: 0.9 to 1.5 m Depth: 0.15 to 0.2 m Substrate: Cobble/boulder/gravel Riparian: Dense, predominantly deciduous
6	Irishman Creek	125°59.979'W	49°16.068'N	Benthic Macroinvertebrates	Photos 20 through 22	Width: 1-2 m Depth: 0.15 to 0.2 m Substrate: Boulder/cobble/sandy gravel Riparian: little overhanging vegetation, predominantly deciduous shrubs

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TABLE 3.1

DOUBLESTAR RESOURCES LTD.
CATFACE PROJECT

2004 BASELINE ENVIRONMENTAL PROGRAM
BENTHIC MACROINVERTEBRATE SURVEY - MAY 2004

Print: 11-Aug-04 AM

M:\1\02\00170\01\A\Data\[benthics_rev0.xls]Summary Rev'd Jul-29-04

	Station	
	1	6
Samples per station	3	3
Organisms/m2	1238	154
Taxa/Station	23	19
TOLERANCE CATEGORIES		
%Sensitive Fauna	18.74%	65.60%
% of Faculative Fauna	80.96%	34.40%
% of Tolerant Fauna	0.30%	0.00%
SPECIES COMPOSITION		
% Ephemeroptera	16.75%	48.00%
% Chironomids	14.75%	4.00%
INDICES		
Diversity Index	2.88	3.57
Richness Index	3.18	3.73
Equitability Index	0.64	0.84

Rev 0: Issued with Report

KEY PLAN

NOTES

1. *Stations 1, 3 and 5 consistent with 1989 sampling program.*
2. *Station 4 moved upstream and Station 2 moved downstream to improve accessibility.*

LEGEND

- *Sampled in May 1989*
- *Sampled in May 2004*
- *Sampled in both May 1989 and May 2004*

Scale 500 0 500 1000 1500 2000 2500 m

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BASELINE ENVIRONMENTAL WORK
PROJECT LOCATION MAP

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PROJECT/ASSIGNMENT NO.	REF. NO.	REV.
VA102-170/1	1	1

FIGURE 1.1

REV. 1 | ISSUED WITH REPORT

REV'D July 29, 2004

CAD FILE: M:\1\02\00170\01\A\Acad\Figs\B01.dwg 1=50000 PLOT (1=1(PS) July 29, 2004 by:wal

VANCOUVER B.C.

XREF FILE :

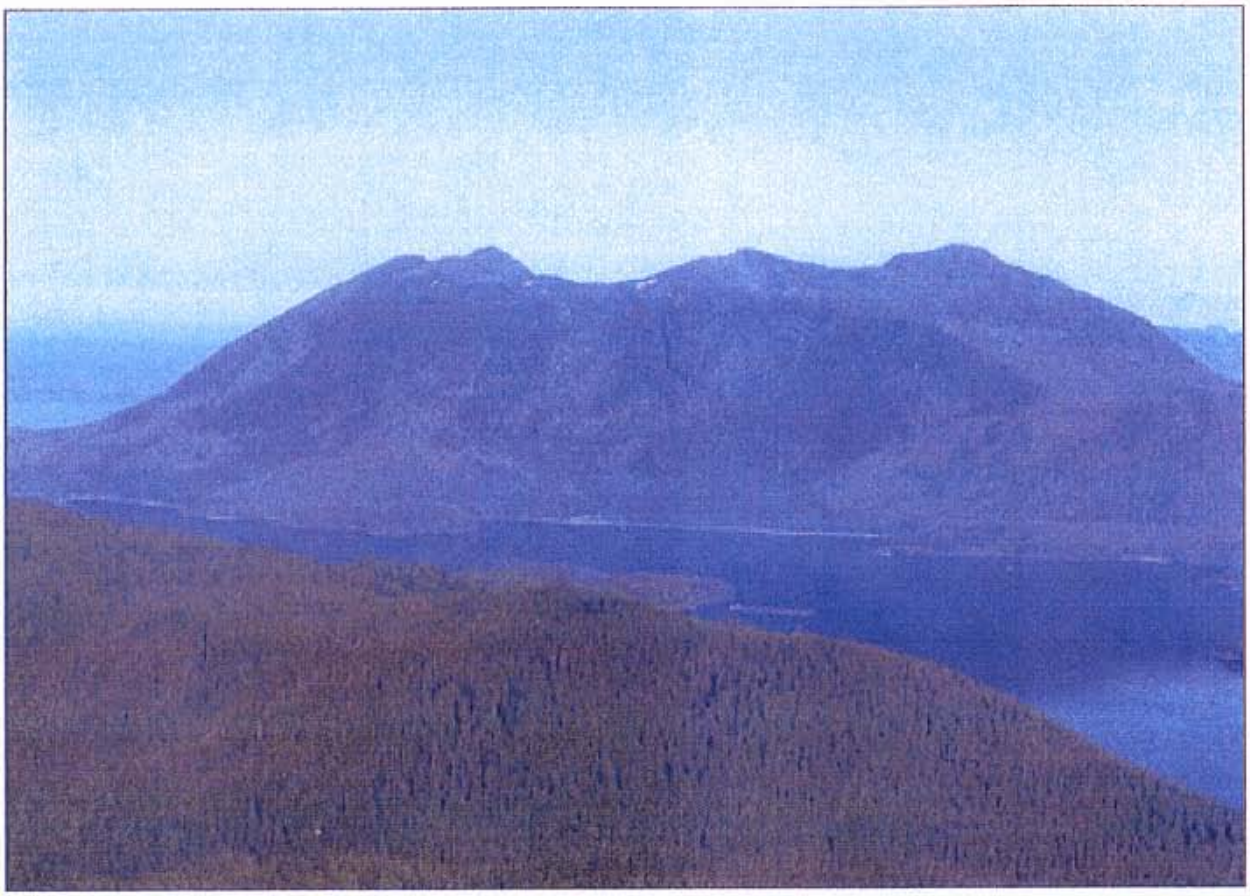

PHOTO 1 – View of the Catface Property.

DOUBLESTAR RESOURCES LTD.
CATFACE PROPERTY

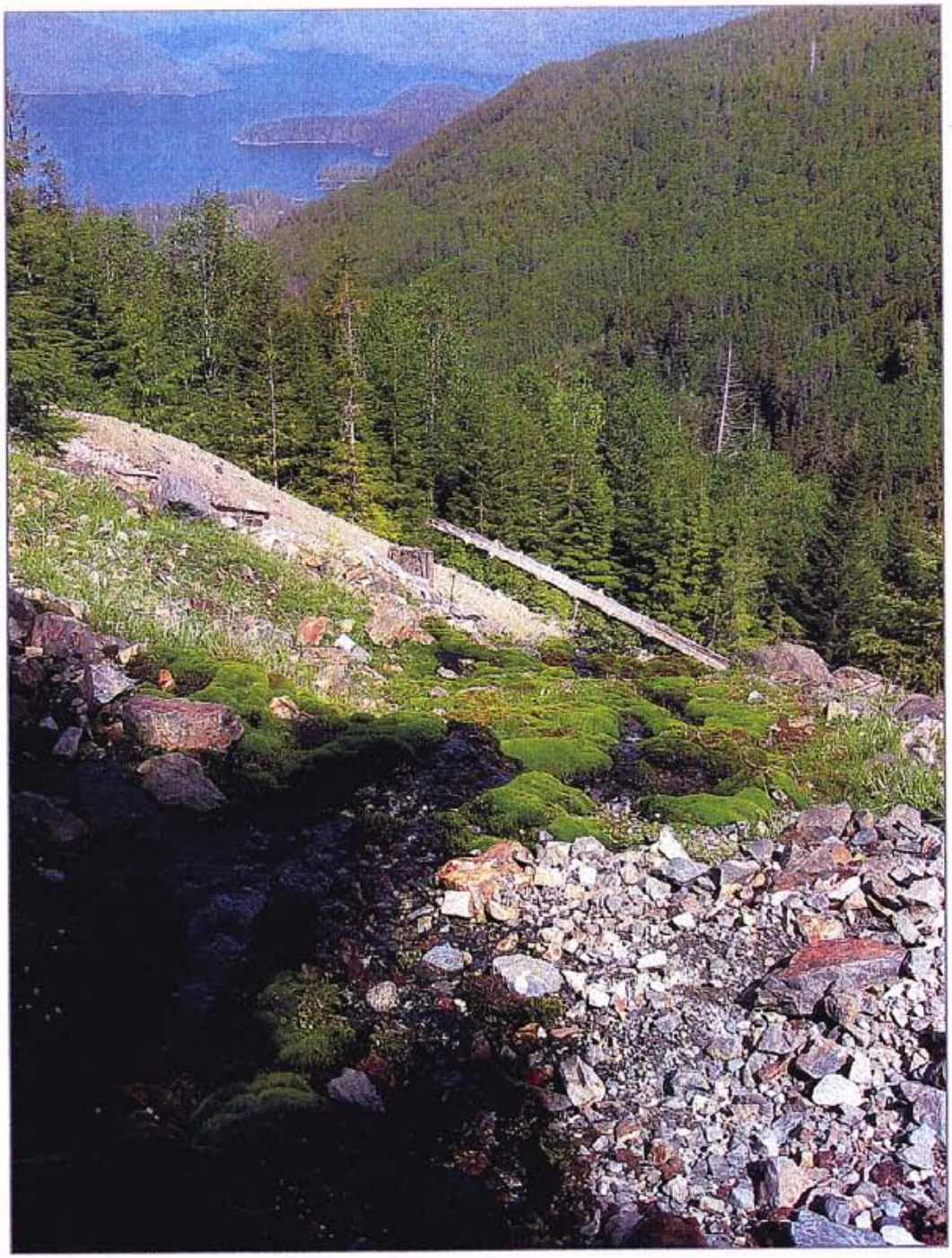

Photo 2 Site 1, looking downstream.

DOUBLESTAR RESOURCES LTD.
CATFACE PROPERTY

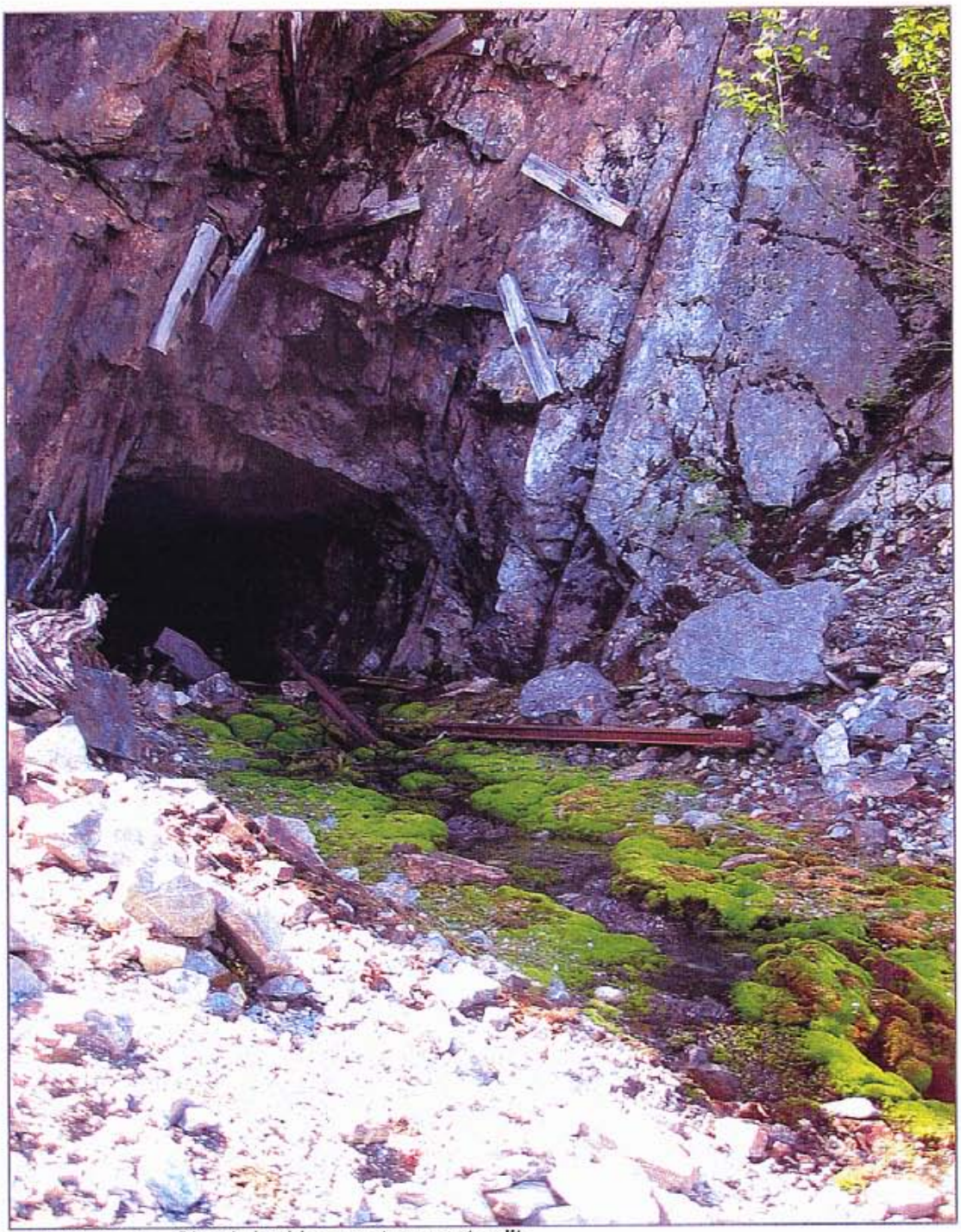

Photo 3 Site 1, looking upstream at adit.

DOUBLESTAR RESOURCES LTD.
CATFACE PROPERTY

PHOTO 4 – Site 1, close-up of vegetation.

Photo 5 Site 1, close up of substrate.

DOUBLESTAR RESOURCES LTD.
CATFACE PROPERTY

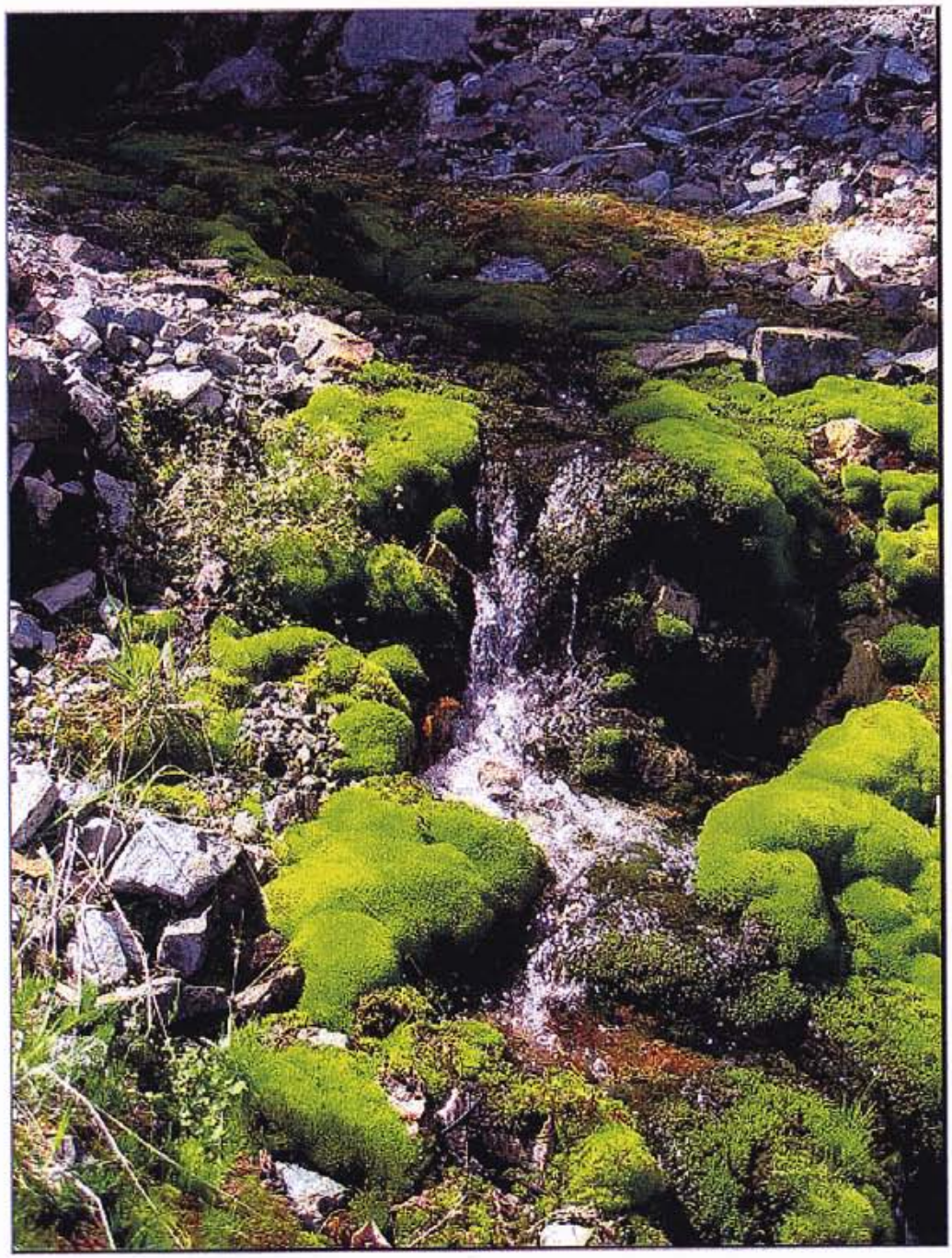

Photo 6 Site 1, substrate and vegetation.

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Photo 7 Site 2, looking upstream at waterfall.

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CATFACE PROPERTY

Photo 8 Site 2, pool at base of waterfall.

Photo 9 Site 2, looking downstream.

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Photo 10 Site 3, looking downstream.

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Photo 11 Site 3, looking upstream.

Photo 12 Site 3, close-up of substrate.

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CATFACE PROPERTY

Photo 13 Site 4, looking upstream.

DOUBLESTAR RESOURCES LTD.
CATFACE PROPERTY

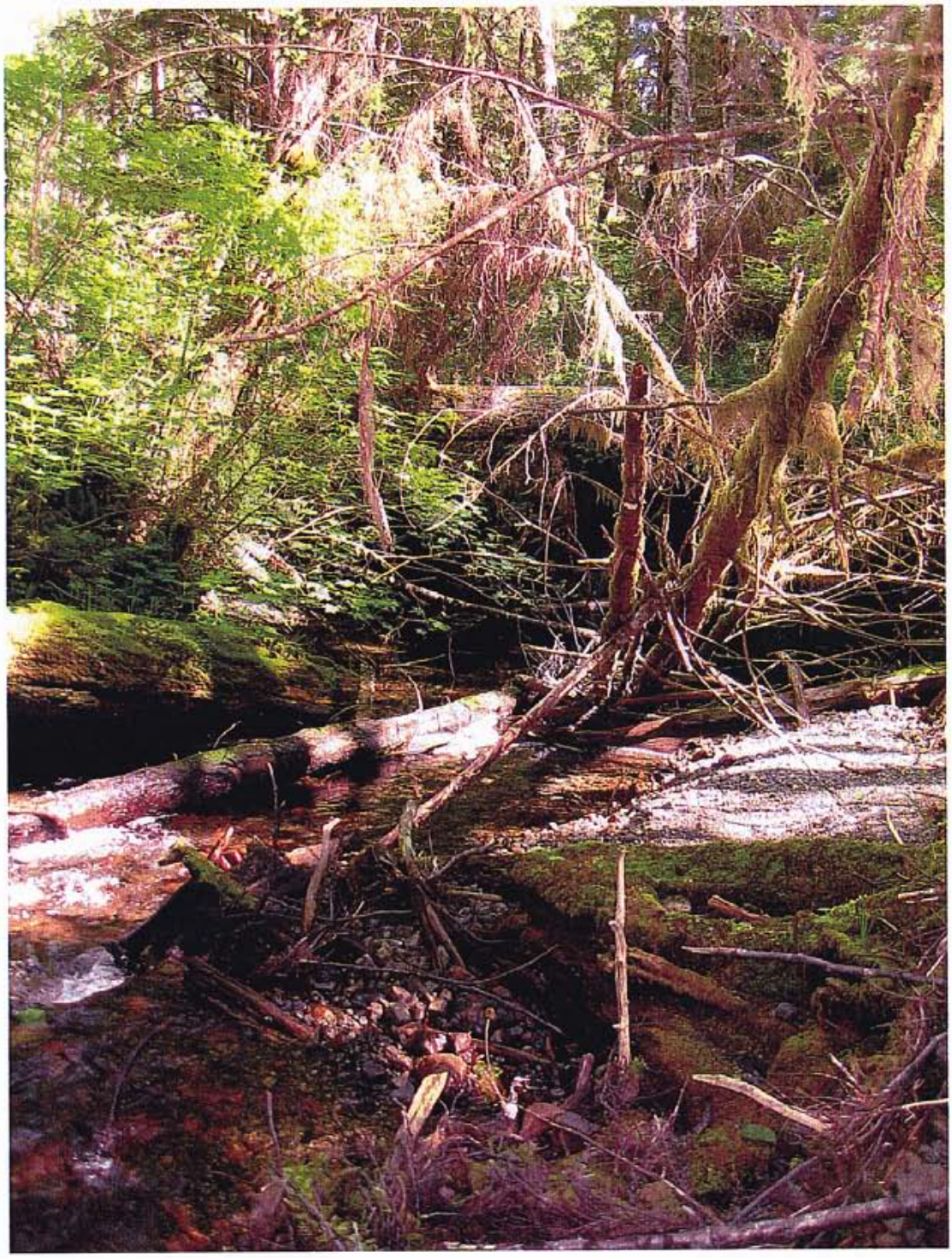

Photo 14 Site 4, looking downstream.

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CATFACE PROPERTY

Photo 15 Site 4, close-up of substrate.

DOUBLESTAR RESOURCES LTD.
CATFACE PROPERTY

Photo 16 Site 5, looking downstream

DOUBLESTAR RESOURCES LTD.
CATFACE PROPERTY

Photo 17 Site 5, close-up of substrate.

Photo 18 Site 5, looking upstream.

DOUBLESTAR RESOURCES LTD.
CATFACE PROPERTY

Photo 19 Site 5, close up of substrate.

DOUBLESTAR RESOURCES LTD.
CATFACE PROJECT

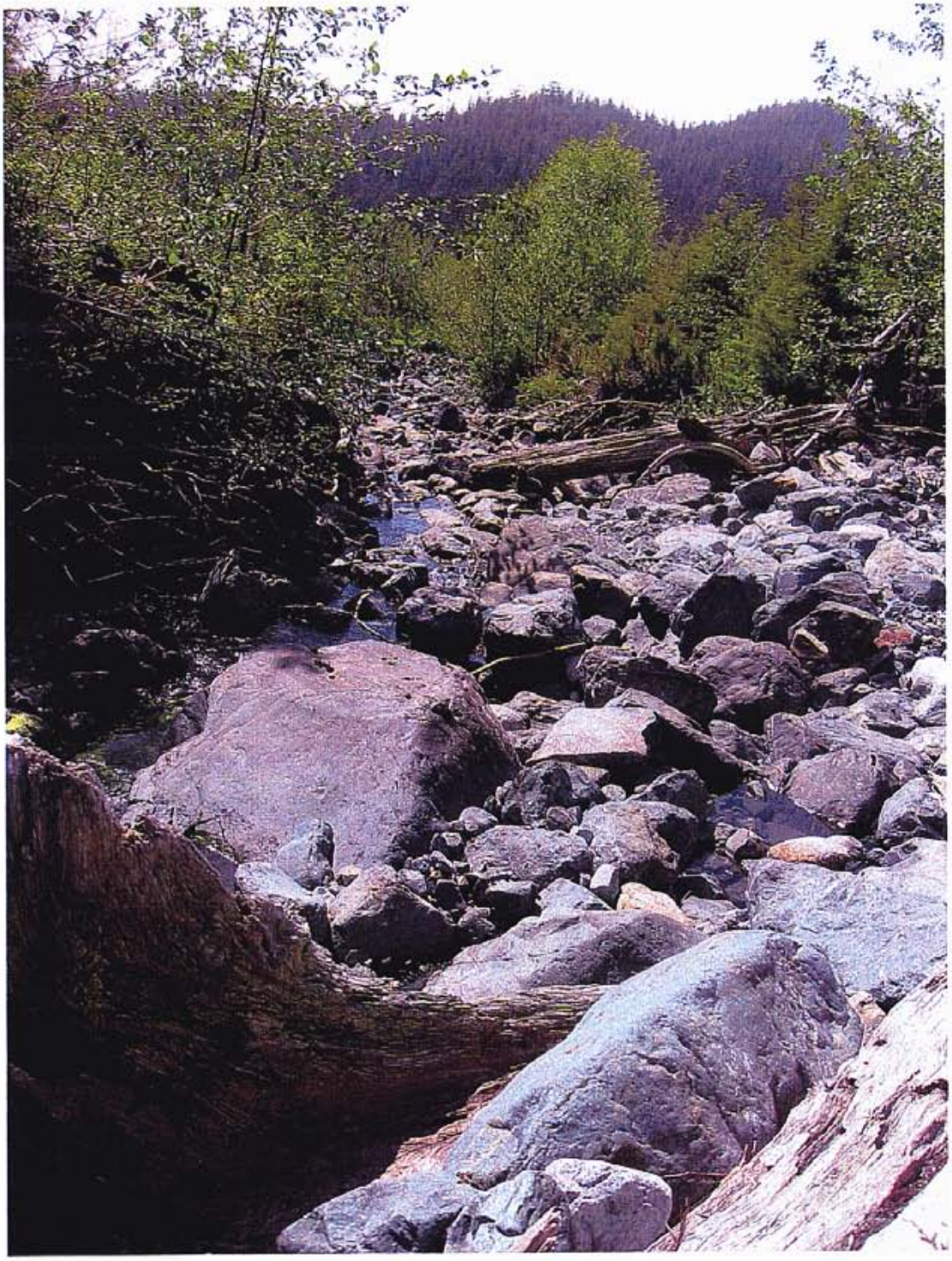

Photo 20 Site 6, looking downstream.

DOUBLESTAR RESOURCES LTD.
CATFACE PROPERTY

Photo 21 Site 6, looking upstream.

Photo 22 Site 6, close-up of substrate.

DOUBLESTAR RESOURCES LTD.
CATFACE PROPERTY

APPENDIX A

CHEMICAL ANALYSIS REPORT
WATER QUALITY - RESULTS OF ANALYSIS

CHEMICAL ANALYSIS REPORT

Date:	June 3, 2004
ALS File No.	U3638
Report On:	Catface 102-17011 Water Analysis
Report To:	**Knight Piesold Ltd.** 1400 - 750 West Pender Vancouver, BC V6C 2T8
Attention:	**Ms. Sarah Wellman**
Received:	May 20, 2004

ALS ENVIRONMENTAL
per:

Amber Springer, B.Sc. - Project Chemist
Scott P. Hoekstra, B.Sc. - Project Chemist

ALS CANADA LTD.
1988 Triumph Street, Vancouver, BC Canada V5L 1K5
Phone: 604-253-4188 Fax: 604-253-6700 Website: www.alsenviro.com

File No. U3638

REMARKS

The detection limits for some total and dissolved metals were increased for the samples reported due to interferences encountered during analysis.

For some of the submitted water samples, the measured concentration of specific dissolved parameters is greater than the corresponding total parameters concentration. The explanation for these findings is one or a combination of the following:

- laboratory method variability;
- field sampling method variability;
- bias introduced during general handling, storage, transportation and/or analysis of the sample;
- field sample grab bias - where separate grab samples are processed to produce total and dissolved samples;
- field sample split bias - where total and dissolved parameters samples are produced from the same grab sample.

For further clarification on any of the above information, please contact your ALS representative.

File No. U3638

RESULTS OF ANALYSIS - Water

Sample ID			Site 1	Site 2	Site 3	Site 4	Site 5
Sample Date			04-05-18	04-05-18	04-05-18	04-05-18	04-05-18
Sample Time			11:45	10:15	14:00	11:00	09:00
ALS ID			*1*	*2*	*3*	*4*	*5*
Physical Tests							
Conductivity	(uS/cm)		81.6	58.8	43.5	41.7	45.0
Total Dissolved Solids			46.6	32.7	23.9	22.1	23.9
Hardness	CaCO3		29.8	17.6	14.0	12.3	12.6
pH			7.67	7.47	7.43	7.31	7.25
Total Suspended Solids			<3.0	<3.0	<3.0	<3.0	<3.0
Turbidity	(NTU)		<0.10	0.18	0.19	0.20	0.21
Dissolved Anions							
Alkalinity-Total		CaCO3	26.9	14.8	13.0	10.5	10.3
Chloride	Cl		2.93	5.27	3.23	3.61	3.97
Fluoride	F		<0.020	<0.020	<0.020	<0.020	<0.020
Sulphate	SO4		7.2	4.2	2.1	2.3	3.1
Nutrients							
Ammonia Nitrogen		N	<0.0050	<0.0050	<0.0050	0.0050	<0.0050
Nitrate Nitrogen		N	0.0222	0.0518	0.0511	0.0624	0.0667
Nitrite Nitrogen		N	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved ortho-Phosphate		P	0.0067	<0.0010	<0.0010	<0.0010	<0.0010
Total Dissolved Phosphate		P	0.0067	<0.0020	<0.0020	<0.0020	<0.0020
Total Phosphate		P	0.0068	<0.0020	<0.0020	<0.0020	<0.0020
Cyanides							
Total Cyanide	CN		<0.0010	0.0016	0.0010	0.0012	0.0010

Remarks regarding the analyses appear at the beginning of this report.
Results are expressed as milligrams per litre except where noted.
< = Less than the detection limit indicated.

File No. U3638

RESULTS OF ANALYSIS - Water

Sample ID		Site 1	Site 2	Site 3	Site 4	Site 5
Sample Date		04-05-18	04-05-18	04-05-18	04-05-18	04-05-18
Sample Time		11:45	10:15	14:00	11:00	09:00
ALS ID		*1*	*2*	*3*	*4*	*5*
Total Metals						
Aluminum	T-Al	<0.0050	0.0380	0.0305	0.0240	0.0362
Antimony	T-Sb	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Arsenic	T-As	0.00053	<0.00020	<0.00020	<0.00020	<0.00020
Barium	T-Ba	<0.010	<0.010	<0.010	<0.010	<0.010
Beryllium	T-Be	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Bismuth	T-Bi	<0.20	<0.20	<0.20	<0.20	<0.20
Boron	T-B	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium	T-Cd	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Calcium	T-Ca	9.64	5.18	3.89	3.65	3.60
Chromium	T-Cr	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt	T-Co	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Copper	T-Cu	0.104	<0.0010	0.0035	0.0019	0.0016
Iron	T-Fe	<0.030	0.050	0.037	0.074	<0.030
Lead	T-Pb	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Magnesium	T-Mg	1.39	1.14	0.91	0.72	0.89
Manganese	T-Mn	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Mercury	T-Hg	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum	T-Mo	0.102	0.0024	0.0064	0.0031	<0.0010
Nickel	T-Ni	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Selenium	T-Se	0.00228	<0.00050	<0.00050	<0.00050	<0.00050
Silicon	T-Si	8.12	4.12	4.85	3.68	4.82
Silver	T-Ag	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Strontium	T-Sr	0.0324	0.0180	0.0180	0.0159	0.0196
Titanium	T-Ti	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium	T-U	0.000164	<0.000010	<0.000010	<0.000010	<0.000010
Vanadium	T-V	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc	T-Zn	0.0053	<0.0050	<0.0050	<0.0050	<0.0050

Remarks regarding the analyses appear at the beginning of this report.
Results are expressed as milligrams per litre except where noted.
< = Less than the detection limit indicated.

File No. U3638

RESULTS OF ANALYSIS - Water

Sample ID		Site 1	Site 2	Site 3	Site 4	Site 5
Sample Date		04-05-18	04-05-18	04-05-18	04-05-18	04-05-18
Sample Time		11:45	10:15	14:00	11:00	09:00
ALS ID		*1*	*2*	*3*	*4*	*5*
Dissolved Metals						
Aluminum	D-Al	0.0260	0.0341	0.0222	0.0210	0.0271
Antimony	D-Sb	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Arsenic	D-As	0.00054	<0.00020	<0.00020	<0.00020	<0.00020
Barium	D-Ba	<0.010	<0.010	<0.010	<0.010	<0.010
Beryllium	D-Be	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Bismuth	D-Bi	<0.20	<0.20	<0.20	<0.20	<0.20
Boron	D-B	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium	D-Cd	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Calcium	D-Ca	9.68	5.22	4.11	3.63	3.59
Chromium	D-Cr	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt	D-Co	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Copper	D-Cu	0.092	0.0019	0.0045	0.0025	0.0019
Iron	D-Fe	<0.030	0.037	<0.030	0.050	<0.030
Lead	D-Pb	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Magnesium	D-Mg	1.38	1.11	0.90	0.77	0.87
Manganese	D-Mn	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Molybdenum	D-Mo	0.101	0.0022	0.0073	0.0031	<0.0010
Nickel	D-Ni	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Potassium	D-K	1.03	0.338	0.348	0.266	0.344
Selenium	D-Se	0.00208	<0.00050	<0.00050	<0.00050	<0.00050
Silicon	D-Si	8.16	4.17	5.08	3.65	4.90
Silver	D-Ag	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium	D-Na	3.79	4.38	3.02	2.86	3.30
Strontium	D-Sr	0.0314	0.0171	0.0189	0.0159	0.0195
Titanium	D-Ti	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium	D-U	0.000164	<0.000010	<0.000010	<0.000010	<0.000010
Vanadium	D-V	<0.030	<0.030	<0.030	<0.030	<0.030
Zinc	D-Zn	0.0072	<0.0050	<0.0050	<0.0050	<0.0050

Remarks regarding the analyses appear at the beginning of this report.
Results are expressed as milligrams per litre except where noted.
< = Less than the detection limit indicated.

File No. U3638

RESULTS OF ANALYSIS - Water

Sample ID			Site 5 Dup.	ALS Travel Blank
Sample Date			04-05-18	
Sample Time			09:15	
ALS ID			*6*	*7*
Physical Tests				
Conductivity	(uS/cm)		46.5	<2.0
Total Dissolved Solids			24.0	<1.0
Hardness	CaCO3		12.6	<0.54
pH			7.34	5.51
Total Suspended Solids			<3.0	<3.0
Turbidity	(NTU)		0.45	<0.10
Dissolved Anions				
Alkalinity-Total		CaCO3	10.2	<1.0
Chloride	Cl		4.09	<0.50
Fluoride	F		<0.020	<0.020
Sulphate	SO4		3.1	<1.0
Nutrients				
Ammonia Nitrogen		N	<0.0050	<0.0050
Nitrate Nitrogen		N	0.0690	<0.0050
Nitrite Nitrogen		N	<0.0010	<0.0010
Dissolved ortho-Phosphate		P	<0.0010	<0.0010
Total Dissolved Phosphate		P	<0.0020	<0.0020
Total Phosphate		P	<0.0020	<0.0020
Cyanides				
Total Cyanide	CN		0.0018	-

Remarks regarding the analyses appear at the beginning of this report.
Results are expressed as milligrams per litre except where noted.
< = Less than the detection limit indicated.

File No. U3638

RESULTS OF ANALYSIS - Water

Sample ID		Site 5 Dup.	ALS Travel Blank
Sample Date		04-05-18	
Sample Time		09:15	
ALS ID		*6*	*7*
Total Metals			
Aluminum	T-Al	0.0387	<0.0050
Antimony	T-Sb	<0.00020	<0.00020
Arsenic	T-As	<0.00020	<0.00020
Barium	T-Ba	<0.010	<0.010
Beryllium	T-Be	<0.0050	<0.0050
Bismuth	T-Bi	<0.20	<0.20
Boron	T-B	<0.10	<0.10
Cadmium	T-Cd	<0.00020	<0.00020
Calcium	T-Ca	3.50	<0.050
Chromium	T-Cr	<0.0010	<0.0010
Cobalt	T-Co	<0.0010	<0.0010
Copper	T-Cu	0.0010	<0.0010
Iron	T-Fe	<0.030	<0.030
Lead	T-Pb	<0.0010	<0.0010
Magnesium	T-Mg	0.84	<0.10
Manganese	T-Mn	<0.0060	<0.0050
Mercury	T-Hg	<0.000010	<0.000010
Molybdenum	T-Mo	<0.0010	<0.0010
Nickel	T-Ni	<0.0010	<0.0010
Selenium	T-Se	<0.00050	<0.00050
Silicon	T-Si	4.73	<0.050
Silver	T-Ag	<0.00010	<0.00010
Strontium	T-Sr	0.0195	<0.0050
Titanium	T-Ti	<0.010	<0.010
Uranium	T-U	<0.000010	<0.000010
Vanadium	T-V	<0.030	<0.030
Zinc	T-Zn	<0.0050	<0.0050

Remarks regarding the analyses appear at the beginning of this report.
Results are expressed as milligrams per litre except where noted.
< = Less than the detection limit indicated.

File No. U3638

RESULTS OF ANALYSIS - Water

Sample ID		Site 5 Dup.
Sample Date		04-05-18
Sample Time		09:15
ALS ID		*6*
Dissolved Metals		
Aluminum	D-Al	0.0276
Antimony	D-Sb	<0.00020
Arsenic	D-As	<0.00020
Barium	D-Ba	<0.010
Beryllium	D-Be	<0.0050
Bismuth	D-Bi	<0.20
Boron	D-B	<0.10
Cadmium	D-Cd	<0.00020
Calcium	D-Ca	3.50
Chromium	D-Cr	<0.0010
Cobalt	D-Co	<0.0010
Copper	D-Cu	0.0024
Iron	D-Fe	<0.030
Lead	D-Pb	<0.0010
Magnesium	D-Mg	0.94
Manganese	D-Mn	<0.0060
Molybdenum	D-Mo	<0.0010
Nickel	D-Ni	<0.0010
Potassium	D-K	0.353
Selenium	D-Se	<0.00050
Silicon	D-Si	4.88
Silver	D-Ag	<0.00010
Sodium	D-Na	3.30
Strontium	D-Sr	0.0186
Titanium	D-Ti	<0.010
Uranium	D-U	<0.000010
Vanadium	D-V	<0.030
Zinc	D-Zn	<0.0050

Remarks regarding the analyses appear at the beginning of this report.
Results are expressed as milligrams per litre except where noted.
< = Less than the detection limit indicated.

File No. U3638

Appendix 1 - QUALITY CONTROL - Replicates

Water			Site 3	Site 3
			04-05-18 14:00	QC # 387298
Physical Tests				
Conductivity	(uS/cm)		43.5	43.9
Hardness	CaCO3		14.0	13.5
pH			7.43	7.38
Total Suspended Solids			<3.0	<3.0
Turbidity	(NTU)		0.19	0.19
Dissolved Anions				
Alkalinity-Total		CaCO3	13.0	12.0
Chloride	Cl		3.23	3.24
Fluoride	F		<0.020	<0.020
Sulphate	SO4		2.1	2.1
Nutrients				
Ammonia Nitrogen		N	<0.0050	<0.0050
Nitrate Nitrogen		N	0.0511	0.0501
Nitrite Nitrogen		N	<0.0010	<0.0010
Dissolved ortho-Phosphate		P	<0.0010	<0.0010
Total Dissolved Phosphate		P	<0.0020	<0.0020
Total Phosphate		P	<0.0020	0.0025
Cyanides				
Total Cyanide	CN		0.0010	0.0010

Remarks regarding the analyses appear at the beginning of this report.
Results are expressed as milligrams per litre except where noted.
< = Less than the detection limit indicated.

File No. U3638

Appendix 1 - QUALITY CONTROL - Replicates

Water		Site 3 04-05-18 14:00	Site 3 QC # 387298
Total Metals			
Aluminum	T-Al	0.0305	0.0304
Antimony	T-Sb	<0.00020	<0.00020
Arsenic	T-As	<0.00020	<0.00020
Barium	T-Ba	<0.010	<0.010
Beryllium	T-Be	<0.0050	<0.0050
Bismuth	T-Bi	<0.20	<0.20
Boron	T-B	<0.10	<0.10
Cadmium	T-Cd	<0.00020	<0.00020
Calcium	T-Ca	3.89	3.91
Chromium	T-Cr	<0.0010	<0.0010
Cobalt	T-Co	<0.0010	<0.0010
Copper	T-Cu	0.0035	0.0035
Iron	T-Fe	0.037	<0.030
Lead	T-Pb	<0.0010	<0.0010
Magnesium	T-Mg	0.91	0.93
Manganese	T-Mn	<0.0050	<0.0050
Mercury	T-Hg	<0.000010	<0.000010
Molybdenum	T-Mo	0.0064	0.0064
Nickel	T-Ni	<0.0010	<0.0010
Selenium	T-Se	<0.00050	<0.00050
Silicon	T-Si	4.85	4.86
Silver	T-Ag	<0.00010	<0.00010
Strontium	T-Sr	0.0180	0.0179
Titanium	T-Ti	<0.010	<0.010
Uranium	T-U	<0.000010	<0.000010
Vanadium	T-V	<0.030	<0.030
Zinc	T-Zn	<0.0050	<0.0050

Remarks regarding the analyses appear at the beginning of this report.
Results are expressed as milligrams per litre except where noted.
< = Less than the detection limit indicated.

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Appendix 1 - QUALITY CONTROL - Replicates

Water		Site 3	Site 3
		04-05-18 14:00	QC # 387298
Dissolved Metals			
Aluminum	D-Al	0.0222	0.0230
Antimony	D-Sb	<0.00020	<0.00020
Arsenic	D-As	<0.00020	<0.00020
Barium	D-Ba	<0.010	<0.010
Beryllium	D-Be	<0.0050	<0.0050
Bismuth	D-Bi	<0.20	<0.20
Boron	D-B	<0.10	<0.10
Cadmium	D-Cd	<0.00020	<0.00020
Calcium	D-Ca	4.11	3.94
Chromium	D-Cr	<0.0010	<0.0010
Cobalt	D-Co	<0.0010	<0.0010
Copper	D-Cu	0.0045	0.0045
Iron	D-Fe	<0.030	<0.030
Lead	D-Pb	<0.0010	<0.0010
Magnesium	D-Mg	0.90	0.88
Manganese	D-Mn	<0.0050	<0.0050
Molybdenum	D-Mo	0.0073	0.0072
Nickel	D-Ni	<0.0010	<0.0010
Potassium	D-K	0.348	0.349
Selenium	D-Se	<0.00050	<0.00050
Silicon	D-Si	5.08	4.99
Silver	D-Ag	<0.00010	<0.00010
Sodium	D-Na	3.02	3.01
Strontium	D-Sr	0.0189	0.0179
Titanium	D-Ti	<0.010	<0.010
Uranium	D-U	<0.000010	<0.000010
Vanadium	D-V	<0.030	<0.030
Zinc	D-Zn	<0.0050	<0.0050

Remarks regarding the analyses appear at the beginning of this report.
Results are expressed as milligrams per litre except where noted.
< = Less than the detection limit indicated.

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Appendix 2 - METHODOLOGY

Outlines of the methodologies utilized for the analysis of the samples submitted are as follows

Conductivity in Water

This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.

Recommended Holding Time:
Sample: 28 days
Reference: APHA
For more detail see ALS Environmental "Collection & Sampling Guide"

Conventional Parameters in Water

These analyses are carried out in accordance with procedures described in "Methods for Chemical Analysis of Water and Wastes" (USEPA), "Manual for the Chemical Analysis of Water, Wastewaters, Sediments and Biological Tissues" (BCMOE), and/or "Standard Methods for the Examination of Water and Wastewater" (APHA). Further details are available on request.

pH in Water

This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode.

Recommended Holding Time:
Sample: 2 hours
Reference: APHA
For more detail see ALS Environmental "Collection & Sampling Guide"

Solids in Water

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total dissolved solids (TDS) and total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, TDS is determined by evaporating the filtrate to dryness at 180 degrees celsius, TSS is determined by drying the filter at 104 degrees celsius. Total solids are determined by evaporating a sample to dryness at 104 degrees celsius. Fixed and volatile solids are determined by igniting a dried sample residue at 550 degrees celsius.

Recommended Holding Time:
Sample: 7 days
Reference: APHA
For more detail see ALS Environmental "Collection & Sampling Guide"

Appendix 2 - METHODOLOGY - Continued

Turbidity of Water

This analysis is carried out using procedures adapted from APHA Method 2130 "Turbidity". Turbidity is determined by the nephelometric method.

Recommended Holding Time:
Sample: 2 days
Reference: APHA
For more detail see ALS Environmental "Collection & Sampling Guide"

Alkalinity in Water by Colourimetry

This analysis is carried out using procedures adapted from EPA Method 310.2 "Alkalinity". Total Alkalinity is determined using the methyl orange colourimetric method.

Recommended Holding Time:
Sample: 14 days
Reference: APHA
For more detail see ALS Environmental "Collection & Sampling Guide"

Dissolved Anions in Water by Ion Chromatography

This analysis is carried out using procedures adapted from APHA Method 4110 "Determination of Anions by Ion Chromatography" and EPA Method 300.0 "Determination of Inorganic Anions by Ion Chromatography". Anions are determined by filtering the sample through a 0.45 micron membrane filter and injecting the filtrate onto a Dionex IonPac AG17 anion exchange column with a hydroxide eluent stream. Anions routinely determined by this method include: bromide, chloride, fluoride, nitrate, nitrite and sulphate.

Recommended Holding Time:
Sample: 28 days (bromide, chloride, fluoride, sulphate)
Sample: 2 days (nitrate, nitrite)
Reference: APHA and EPA
For more detail see ALS Environmental "Collection & Sampling Guide"

Ammonia in Water by Colourimetry

This analysis is carried out, on unpreserved samples, using procedures adapted from APHA Method 4500-NH3 "Nitrogen (Ammonia)". Ammonia is determined using the phenate colourimetric method.

Recommended Holding Time:
Sample: 1 day
Reference: APHA
For more detail see ALS Environmental "Collection & Sampling Guide"

Appendix 2 - METHODOLOGY - Continued

Phosphate in Water

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". All forms of phosphate are determined by the ascorbic acid colourimetric method. Dissolved ortho-phosphate (dissolved reactive phosphorous) is determined by direct measurement. Total phosphate (total phosphorous) is determined after persulphate digestion of a sample. Total dissolved phosphate (total dissolved phosphorous) is determined by filtering a sample through a 0.45 micron membrane filter followed by persulfate digestion of the filtrate.

Recommended Holding Time:
Sample: 2 days
Reference: EPA
For more detail see ALS Environmental "Collection & Sampling Guide"

Cyanide Species in Water

This analysis is carried out using procedures adapted from APHA Method 4500-CN "Cyanide". Total or strong acid dissociable (SAD) cyanide and weak acid dissociable (WAD) cyanide are determined by sample distillation and analysis using the chloramine-T colourimetric method. Cyanate is determined by the cyanate hydrolysis method using an ammonia selective electrode. Thiocyanate is determined by the ferric nitrate colourimetric method.

Recommended Holding Time:
Sample: 14 days
Reference: APHA
For more detail see ALS Environmental "Collection & Sampling Guide"

Metals in Water

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" 20th Edition 1998 published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using either hotplate or microwave oven, or filtration (EPA Method 3005A). Instrumental analysis is by atomic absorption/emission spectrophotometry (EPA Method 7000 series), inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B), and/or inductively coupled plasma - mass spectrometry (EPA Method 6020).

Recommended Holding Time:

Sample:	6 months
Reference:	EPA
For more detail see:	ALS "Collection & Sampling Guide"

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Appendix 2 - METHODOLOGY - Continued

Mercury in Water

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" 20th Edition 1998 published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedure involves a cold-oxidation of the acidified sample using bromine monochloride prior to reduction of the sample with stannous chloride. Instrumental analysis is by cold vapour atomic absorption and/or fluorescence spectrophotometry (EPA Method 7470A/7471A/245.7).

Recommended Holding Time:

Sample:	28 days
Reference:	EPA

For more detail see ALS Environmental "Collection & Sampling Guide"

Results contained within this report relate only to the samples as submitted.

End of Report

APPENDIX B

BENTHIC MACROINVERTEBRATES – RESULTS OF ANALYSIS

Appendix B- Benthic Mucro Invertebrates Results of Analysis Source: Dr. C. Low

Knight Piesold 04a Catface	Site 1	Site 6
Sensitive Organisms		
Ephemeroptera		
Ameletus sp		4
Baetis sp	166	12
Cinygmula sp		20
Epeorus sp		22
Paraleptophlebia sp	2	2
Plecoptera		
Capnia sp	1	
Sweltsa sp group		18
Zapada sp	13	4
Trichoptera		
Rhyacophila bifila	6	
Facultative organisms		
Diptera		
Chironomidae Unid P	32	2
Chironomidae Unid L	116	3
Corynoneura sp	259	7
Cricotopus sp	71	9
Diamesa sp	11	1
Eukiefferiella sp	253	12
Psectrocladius sp	1	
Synorthocladius sp	1	
Thienemanniella sp	46	1
Thienemannimyia sp	8	
Empididae		
Chelifera sp	3	
Clinocera sp	3	
Coleoptera Unid L	1	
Collembola		
Isotomurus sp	1	2
Hydracarina		
Torrenticola sp		1
Unioncola sp	2	
Copepoda		
Cyclopoida	3	
Harpacticoida		1
Ostracoda		
Candona sp	1	2
Platyhelminthes		
Dugesia tigrina		2
Tolerant organisms		
Oligochaeta		
Tubificidae	3	