BURNCO ROCK PRODUCTS LTD.

REPORT ON

BATHYMETRIC AND SUB-BOTTOM ACOUSTIC PROFILING SURVEY

McNAB CREEK DOCKING FACILITIES

HOWE SOUND AREA, B.C.

Frontier Geosciences Inc.

BURNCO ROCK PRODUCTS LTD.

REPORT ON

BATHYMETRIC AND SUB-BOTTOM

ACOUSTIC PROFILING SURVEY

McNAB CREEK DOCKING FACILITIES

HOWE SOUND AREA, B.C.

by

Kevin Payne, P.Eng.

Cliff Candy, P.Geo.

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PROJECT FGI-1078

Frontier Geosciences Inc. 237 St. Georges Avenue, North Vancouver, B.C., Canada V7L 4T4
Tel: 604.987.3037 Fax: 604.984.3074

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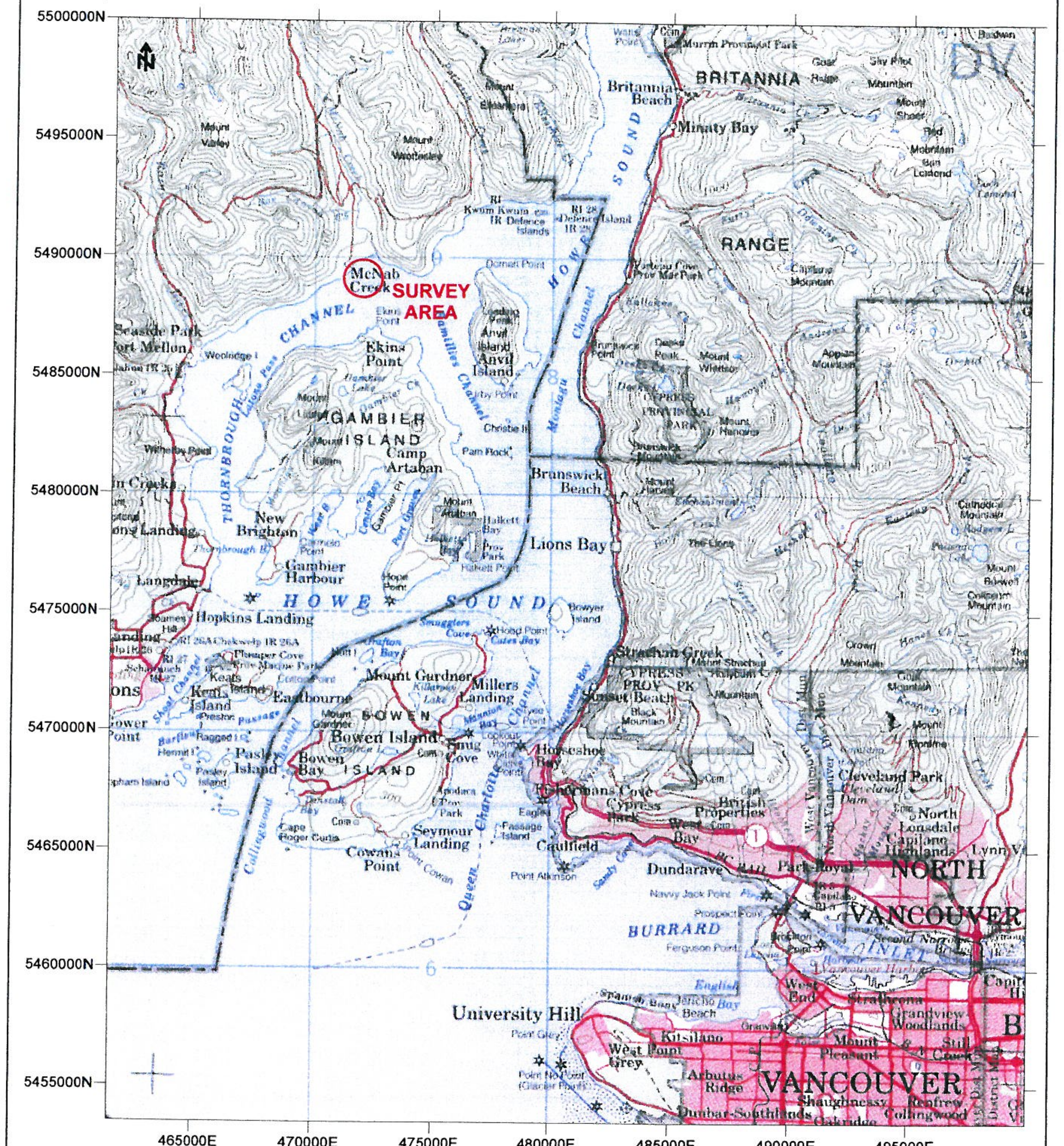
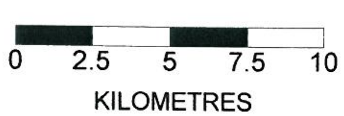
ILLUSTRATIONS

1. INTRODUCTION

In the period May 27 to May 28, 2009, Frontier Geosciences Inc. carried out an overwater geophysical survey for Burnco Rock Products Ltd. at a proposed docking facility near McNab Creek in the Howe Sound area of British Columbia. A Survey Location Plan of the survey area is shown at a scale of 1:250,000 in Figure 1.

The overwater survey consisted of bathymetric and sub-bottom acoustic profiling in an area approximately 1000 metres by 800 metres. A total of 29 survey traverses were recorded for a total coverage distance of about 19 kilometres. The majority of survey line data was recorded on traverses sub-parallel to the shoreline as well as traverses oriented in a southwest to northeast direction. The purpose of the overwater survey was to determine bathymetric depths and to identify sub-bottom layering in the marine area adjacent to the proposed aggregate mining development.





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McNAB CREEK, HOWE SOUND AREA, B.C.

OVERWATER SEISMIC SURVEY

SURVEY LOCATION PLAN

FRONTIER GEOSCIENCES INC.

DATE: MAY 2009	SCALE 1:250,000	FIG. 1

2. THE OVERWATER SEISMIC SURVEY

2.1 The Multibeam Bathymetric Survey

2.1.1 Equipment

The sonar survey was completed using a pair of Imagenex, DeltaT, dual channel, high resolution, multibeam sonars. The system utilizes selectable beam widths and provides a resolution of 0.08 metres on the 40 metre range. The sonar employed an ethernet LAN approach to transmit the data at high speed to the shipboard system for real-time display and logging. Each sonar provided a 120 degree field of view, and were oriented so as to provide an overlap of 60 degrees below the survey vessel.

The sonar was placed in the water at a depth of 0.13 metres at the stern of the boat. The sonar range was adjustable up to a range of 200 metres to either side of the survey vessel. Correction for sensor orientation was carried out by means of continuous monitoring of heading, pitch and roll information using a gyro system capable of one tenth degree accuracy at a sampling rate of 5 readings per second.

Variations in tide level were determined by a Solinst Levelogger Gold. This data was used to correct the survey observations to Tide and Chart datum. Data collected on the Imagenex DeltaT was correlated with a differential San Jose DGPS so that each pulse position could be contoured for final data presentation and interpretation. The positioning accuracy of the differential GPS was 0.3 metres to 1 metre. The positioning datum of NAD83 in UTM grid coordinates was used on all plans.

2.1.2 Data Processing and Interpretation Procedure

The sonar files were loaded into software written by Frontier Geosciences to read in position and images along the survey track, and correctly place the data in UTM NAD83 map view. The sonar return data were corrected for the pitch, roll, and heading of the boat, and for changes in tide during the survey. The corrected data were gridded to produce a three dimensional, surface image of the ocean bottom.

2.2 The Sub-bottom Acoustic Profiling Survey

2.2.1 Equipment

The overwater acoustic profiling survey was completed with an electric pulser source. The pulser system (precision double coil, vertical boomer) was used with a multi-element hydrophone receiver array. The system was calibrated in milliseconds and has a broad band output with a 250 Hz centre frequency. Reflected signals were amplified for viewing and recorded in a field computer. The field computer recorded a seismogram of 200 milliseconds two-way time duration approximately twice per second. Power for the seismic system was also provided from the 120V AC generating set.

The pulser source was placed in the water, 10 metres astern of the vessel with the midpoint of the receiver hydrophone "eel," 15 metres behind the source. In operation, pulses from the source were reflected from the bottom and sub-bottom horizons and were summed in the eel hydrophone elements and transferred to the recording amplifiers.

2.2.2 Data Processing and Interpretation Procedure

The sub-bottom acoustic profiling data was processed into SEG-2 format and imported into the Kansas Geological Survey (KGS) WinSeis reflection processing package. The positioning information was processed to account for the lay-back of the source and receiver from the GPS transducer. The data was then converted to SEG-Y format and together with the GPS position information, was imported into the Seismic Micro Technologies (SMT) 2D/3D seismic interpretation package. This software is a comprehensive 2D/3D seismic interpretation program that provides interpretive and horizon picking tools integrated into a map and section database, data management and display system. As well, the bathymetry data was imported as a horizon into the SMT package for interpretation and to allow full handling of the time to depth conversion.

The first stage in the analysis was the use of the horizon picking tools to identify reflectors in the data. The software shows time markers at the intersection of lines and tie-lines, facilitating the picking of a consistent event throughout the map area. The data was then converted to depth. These surfaces were plotted in colour contour format.

3. GEOPHYSICAL RESULTS

3.1 General

The bathymetric contour plan illustrated at 1:5000 scale in Figure 2, shows bottom contours together with overwater survey line coverage and shoreline information. The depths shown on the plan were reduced to Tide and Chart datum. Tidal observations were constantly recorded using a Solinst LevelLogger system, and referenced to the Canadian Hydrographic Survey tide log information gathered at Point Atkinson on the survey days. Elevations of the principal sub-bottom reflector interpreted as the bedrock surface, are illustrated in Figure 3, also at a scale of 1:5000. A typical example of acoustic profiling data showing the sea bottom and interpreted bedrock reflector is shown in Figure 4.

3.2 Discussion

The bathymetric water depth contours shown in Figure 2, indicate the sea bottom is highly variable near shore, where very shallow conditions exist in a broad area to the east and very limited, shallow water conditions exist immediately west, in the area adjacent to very steep land topography. Seaward of the shallow water beyond the 5 m contour, the ocean bottom drops off steeply to water depths of the order of 70 m to 75 metres. The sea bottom gradient is more gentle in the broad eastern segment and is steeper to the west, reflecting the steep bedrock-controlled land contours.

Due to the near shore, water conditions in the broad eastern segment, overwater traverses were terminated in shallow water due to the presence of shoals and other hazards that posed a risk to survey equipment and the survey vessel.

The interpreted bedrock depth contours in Figure 3 reflect the steep bedrock descent in the western segment from the steep bedrock onshore, to depths of the order of 100 metres south and southeast of the bedrock promontory. The south-trending ridge in the bathymetric contours immediately east of station 471300E is reflected in the bedrock elevation contours indicating the ridge is bedrock-controlled. Immediately east and adjacent to the Dryland Sort, the bedrock surface is relatively flat in a north-south trending feature with bedrock depths of the order of 20 m to 25 metres. In the embayment to the east, the bedrock depth contours drop-off more gradually and appear to level off to depths of approximately 100 metres in a basin-like feature centred on station 471800E.

An example of a sub-bottom seismic profile is illustrated in Figure 4. The yellow line is an overlay of bathymetric depths acquired from the multibeam sonar system, and the green line represents the interpreted bedrock reflector.

4. LIMITATIONS

The depths to subsurface boundaries derived from overwater seismic acoustic profiling surveys are generally accepted as accurate to within ten percent of the true depths to the boundaries. In practice, the seismic velocity of sub-bottom materials are not determined in the course of an overwater acoustic profiling investigation. Errors may arise from application of an assumed velocity for saturated materials to determine the depths to sub-surface horizons when only the travel time to the horizon is known. An underestimate of the velocity function would produce depths that are too shallow, with the reverse occurring using an overestimate of velocity. True depths may be established by carrying out overwater seismic refraction surveying or by determining velocities with known borehole intersections. Small errors may also occur in data gridding.

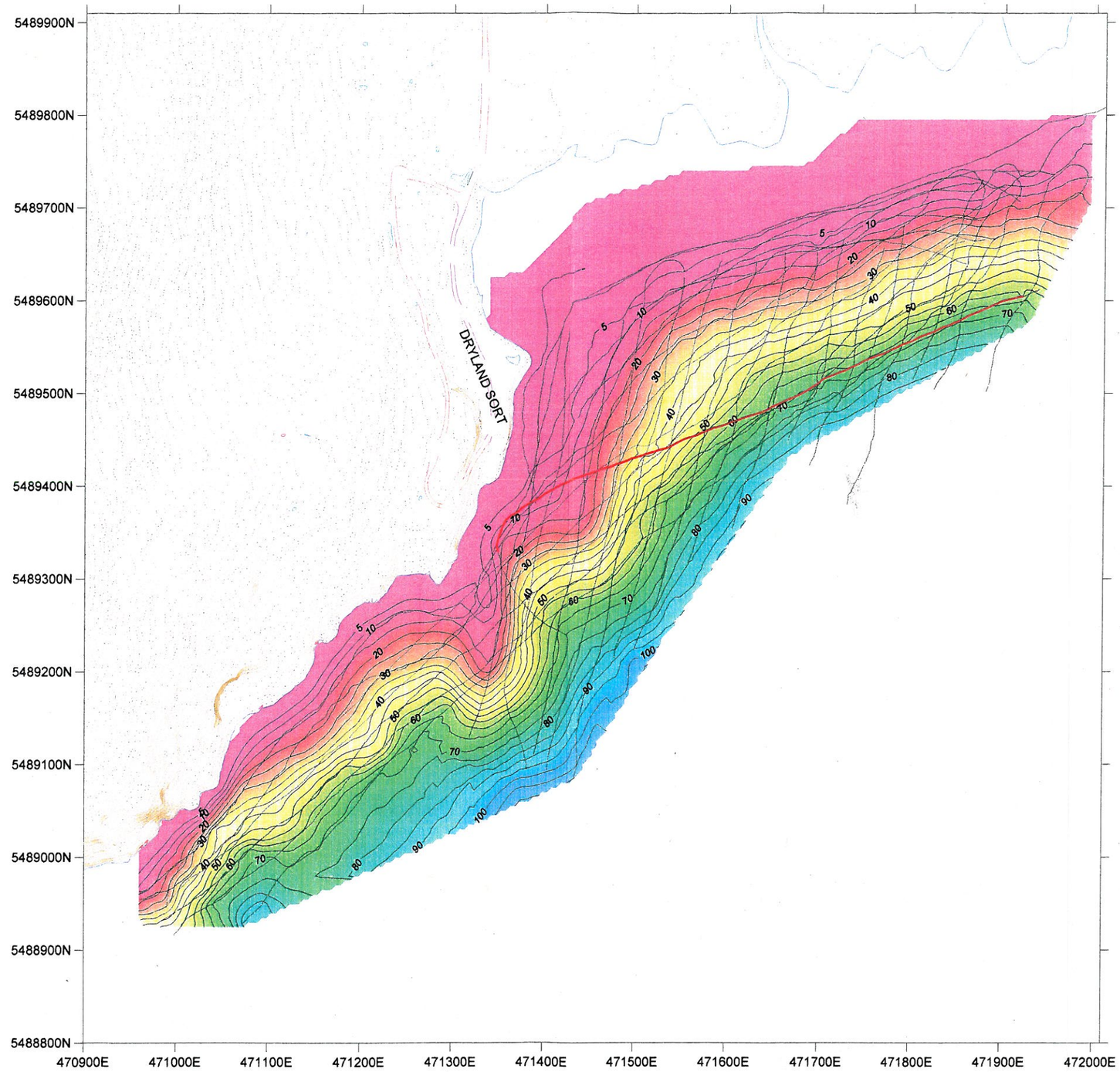
In addition, the nature and composition of sub-bottom layers identified in acoustic profiling surveys cannot be determined by inspection of the data. Several indicators such as reflector strength, diffraction patterns, lack of internal reflectors, multiple thin-bed reflectors, depth position, smoothness of reflectors, and reflector relief may provide insight into sub-surface features. The geology of horizons identified in an overwater acoustic profiling investigation would have to be established by borehole intersections.

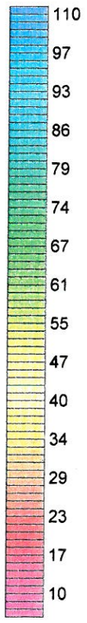
The information in this report is based upon acoustic measurements and field procedures and our interpretation of the data. The geological information is based upon our estimate of the subsurface conditions considering the acoustic data and all other information available to us. The results are interpretive in nature and are considered to be a reasonably accurate presentation of existing sea bottom and subsurface conditions within the limitations of the acoustic profiling methods.

For: Frontier Geosciences Inc.

Kevin Payne, P.Eng.

Cliff Candy, P.Geo.





DEPTH (M)

METRES

LEGEND

BOAT TRACK

EXAMPLE LINE

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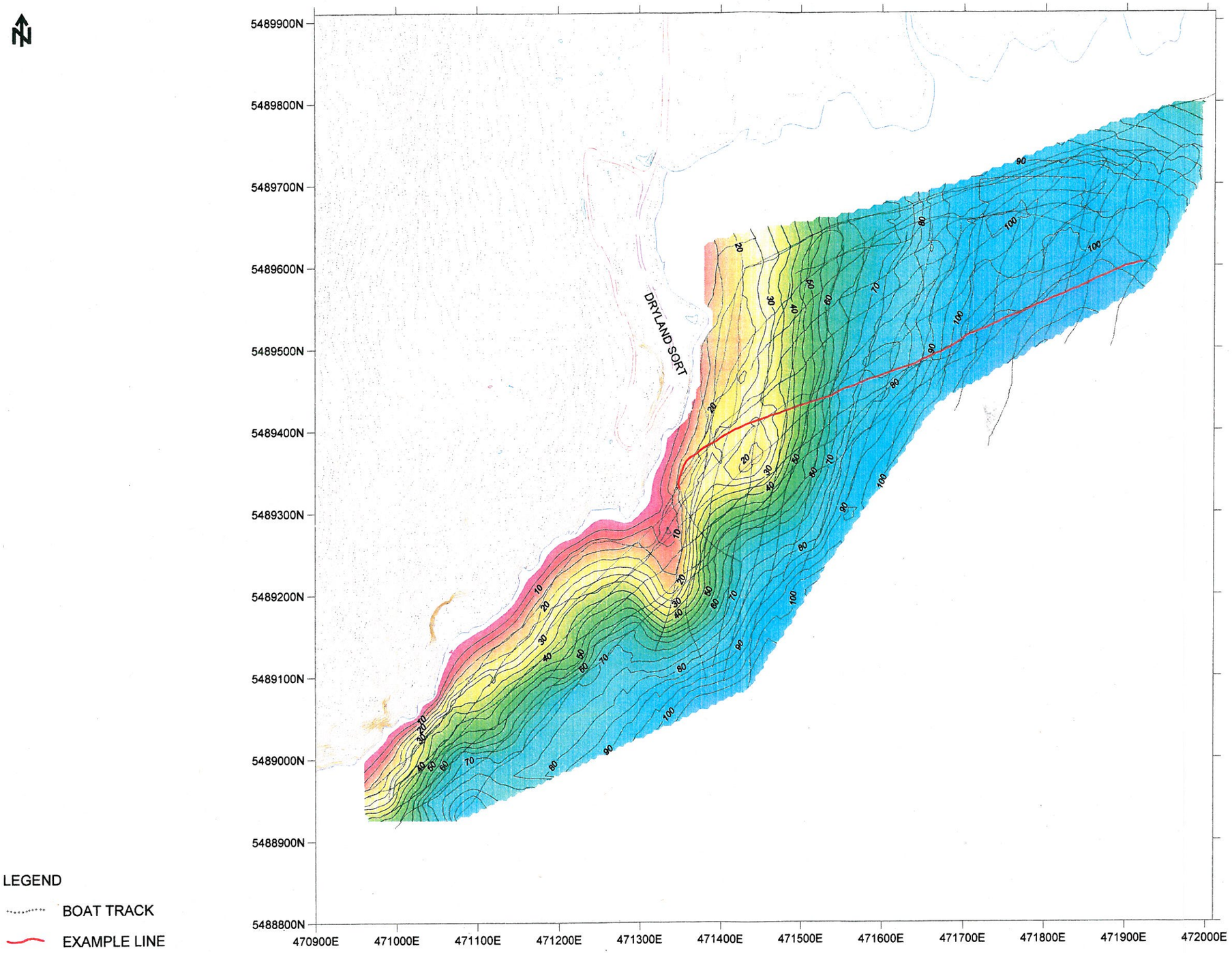
MCNAB CREEK, HOWE SOUND AREA, B.C.

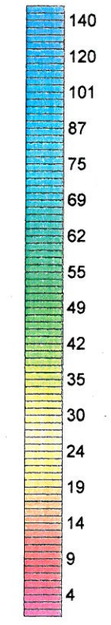
OVERWATER SEISMIC SURVEY

BATHYMETRIC CONTOUR PLAN

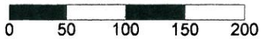
FRONTIER GEOSCIENCES INC.

DATE: MAY 2009	SCALE 1:5000	FIG. 2





DEPTH (M)



METRES

LEGEND

BOAT TRACK

EXAMPLE LINE

BURNCO ROCK PRODUCTS LTD.
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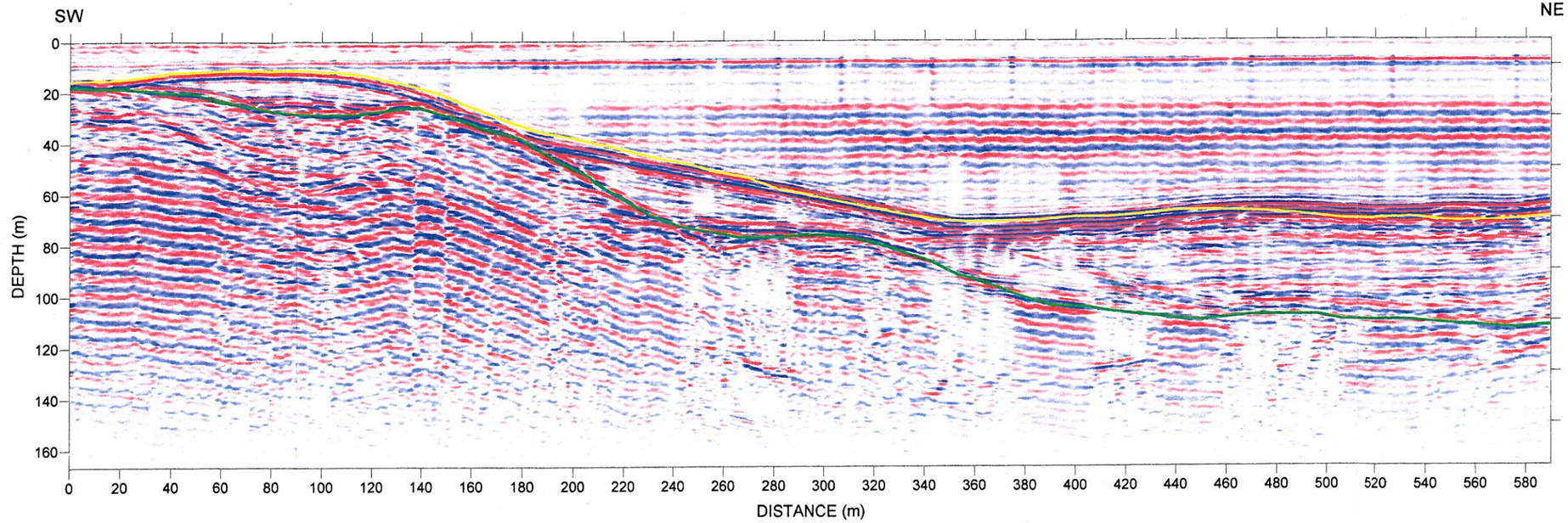
OVERWATER SEISMIC SURVEY

INTERPRETED BEDROCK DEPTH CONTOUR PLAN

FRONTIER GEOSCIENCES INC.

DATE: MAY 2009	SCALE 1:5000	FIG. 3



LEGEND

SEA BOTTOM REFLECTOR

BEDROCK REFLECTOR

0 20 40 60 80

METRES

BURNCO ROCK PRODUCTS LTD. McNAB CREEK, HOWE SOUND AREA, B.C.
OVERWATER SEISMIC SURVEY
SUB-BOTTOM SEISMIC PROFILE LINE 29
FRONTIER GEOSCIENCES INC.

DATE: MAY 2009	SCALE 1:2,000	FIG. 4