Rec 318

## SITE ASSESSMENT: MATAKA POINT SOUTH (NEW SITE)

U950399

*Description:* 5.25 ha new site in outer Pelorus Sound approximately 2.5 km north of West Entry Point.

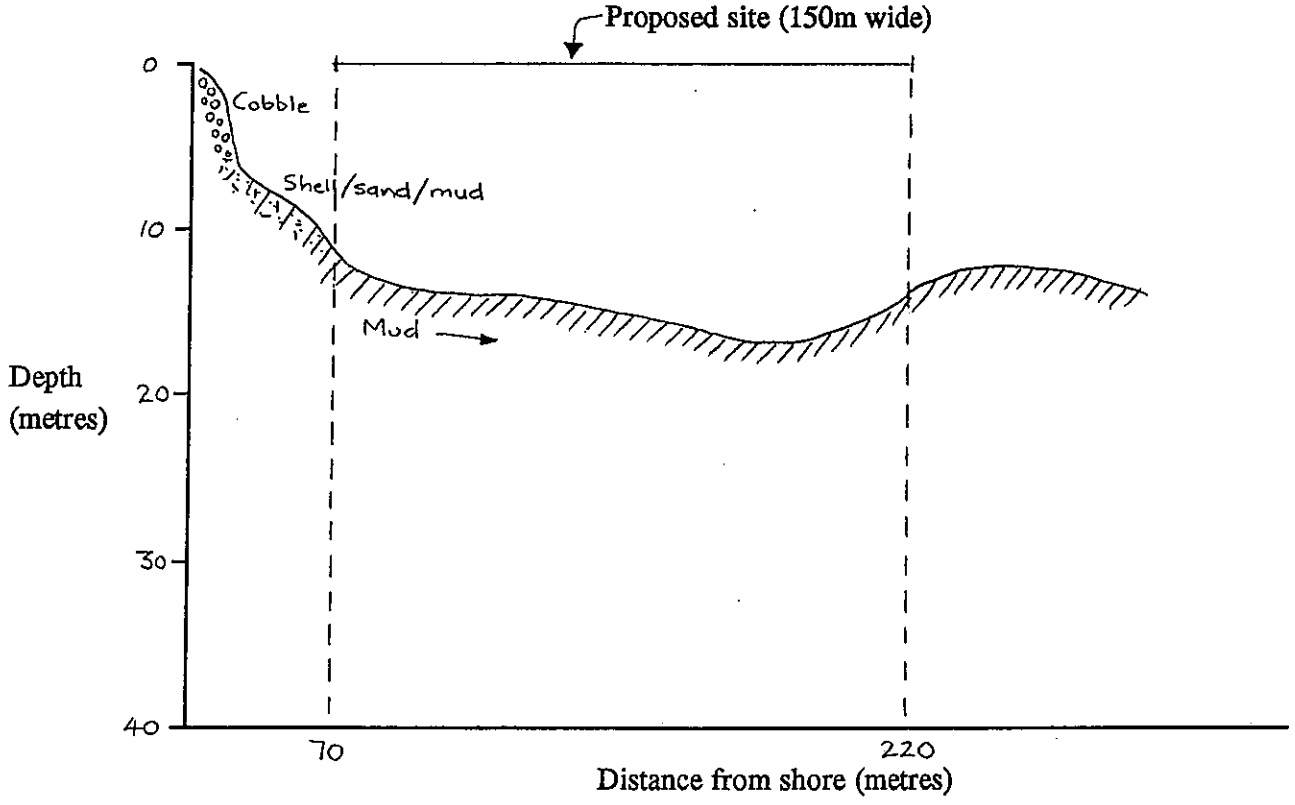
*Purpose:* Cultivation of greenshell mussels.

*Surface features:* Bedrock and boulder/cobble foreshore below steep land covered by grass, pockets of native bush and radiata pines.

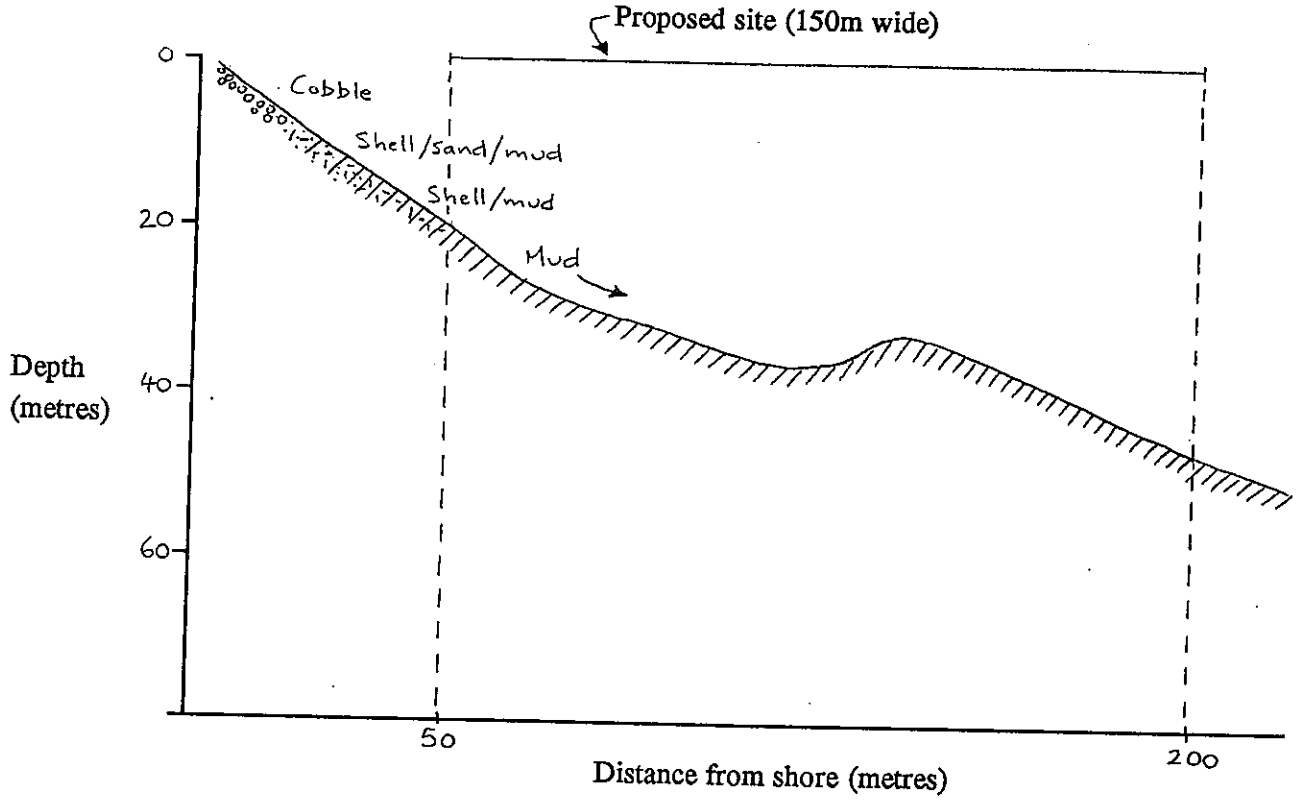
*Subtidal physical and biological features:*

The shore profile of this site is quite unusual for the Sounds. From the depths recorded on the attached site plan, it can be seen that the site gets deeper in both a seaward and eastern direction (see attached site plan). The shore profile slopes gently (6-15m) at the west end of the site, is relatively flat (12-16m) at the centre (see profile A below), and has a steep slope (16-44m) at the east end (see profile B below). A low subtidal ridge (approx 2m high) exists along the entire outside edge of the site (see profiles below). A small rocky reef occurs at the east end of the site. The reef biota was not substantially different to that of the cobble zone which occurred along the rest of the shore. The reef drops off steeply to mud habitat and does not extend into the site.

**Profile A: Seabed profile (perpendicular to shore) through centre of site in relation to position of proposed farm**



**Profile B: Seabed profile (perpendicular to shore) through east end of site in relation to position of proposed farm**




The shallow cobble zone along the shore contained a dense forest of brown algae (*Carpophyllum flexuosum* and *C. maschalocarpum*) and moderate densities of kina (0.5/m$^2$). Paua were also common. A steep cobble zone extends to about 5-6m depth at the west end of the site and 8m depth at the east end. A sand/mud/shell substrate (with some cobbles) occurs at the base of this cobble zone but grades into predominantly firm mud by about 10m depth. In the 5-10m zone, snakestars and patches of red algae were the main surface biota seen. Deeper than 10m the substrate is soft grey mud lacking notable epifauna, although at the deeper east end, brachiopods were seen from 16-24m.

Hence, in the western one third of the site, the shoreward edge of the farm lies approximately over the sand/mud/shell habitat at the base of the cobble zone. The main surface biota in this area were snakestars and red algae, while horse mussels were uncommon (0.05-0.1/m$^2$). In the eastern two thirds, the shoreward edge of the farm covers predominantly mud habitat, and notable epifauna were absent.

*Features of particular ecological interest:*

A small area of reef habitat occurs in the shallows at about 30-40m from the east end of the site, but would be beyond the range of effects from a mussel farm. Horse mussels were uncommon (maximum density 0.1/m$^2$) and confined to the shoreward edge of the site at the west end.

*Fishery resources:*

Kina were restricted to the nearshore cobble zone. Scallops were patchy and uncommon overall (maximum density 0.1/m$^2$).

*Expected adverse effects on the seabed and their significance:*

A shell litter and weak to moderate deposition and enrichment are expected beneath mussel lines at this site. The highest enrichment would be expected in the shallower shoreward and western areas where there would be less dispersion of organic material.

The site has no features of special ecological or fisheries significance. Horse mussels and scallops were present at low densities ($0.1/m^2$) in patches, but were uncommon overall. Notable epifauna were not present over most of the site. Most of the site lies over muddy habitat. The deposition of muddy and enriched sediments onto this habitat is expected to result in a change in species composition, and an overall increase in the number of animals present (Forrest, 1995). However, subtidal mud habitat is widespread in the Sounds, and contains no known special ecological values (Forrest, 1995). The impact on this habitat is therefore not regarded as significantly adverse.

When compared to the mud habitat, the sand/mud/shell substrate beneath the shoreward and western end of the site: (1) is less widespread in the Sounds; (2) can contain a greater range of animals; and (3) is expected to be altered to a greater degree by deposition of shell and enriched material from a mussel farm. The ecological cost of affecting this habitat is therefore regarded as greater (Forrest, 1995). However, many existing mussel farms have been (and continue to be) placed over similar habitat type, and only a very small area of this habitat will lie directly below the site.

A small area of habitat in the cobble zone may be adversely affected by deposition from a mussel farm, especially at the western end of the site where it extends almost to the site edge. This effect could be minimised by moving the nearshore edge of the site 20-30m seaward.

*Distance to adjacent farms:*

No farms currently exist in the vicinity of this site.

*Other notes:*

A bird roosting area (probably for spotted shags) was noted on the shore at the west end of the site.

This site occurs in an area proposed by the Department of Conservation and the French Pass Residents Association, as one of four options for the location of a marine reserve.

**REFERENCE CITED**

Forrest, B. 1995. Overview of ecological effects from shellfish farms in the Marlborough Sounds: background information for marine farm applications. Cawthron Report No. 282. 18pp.

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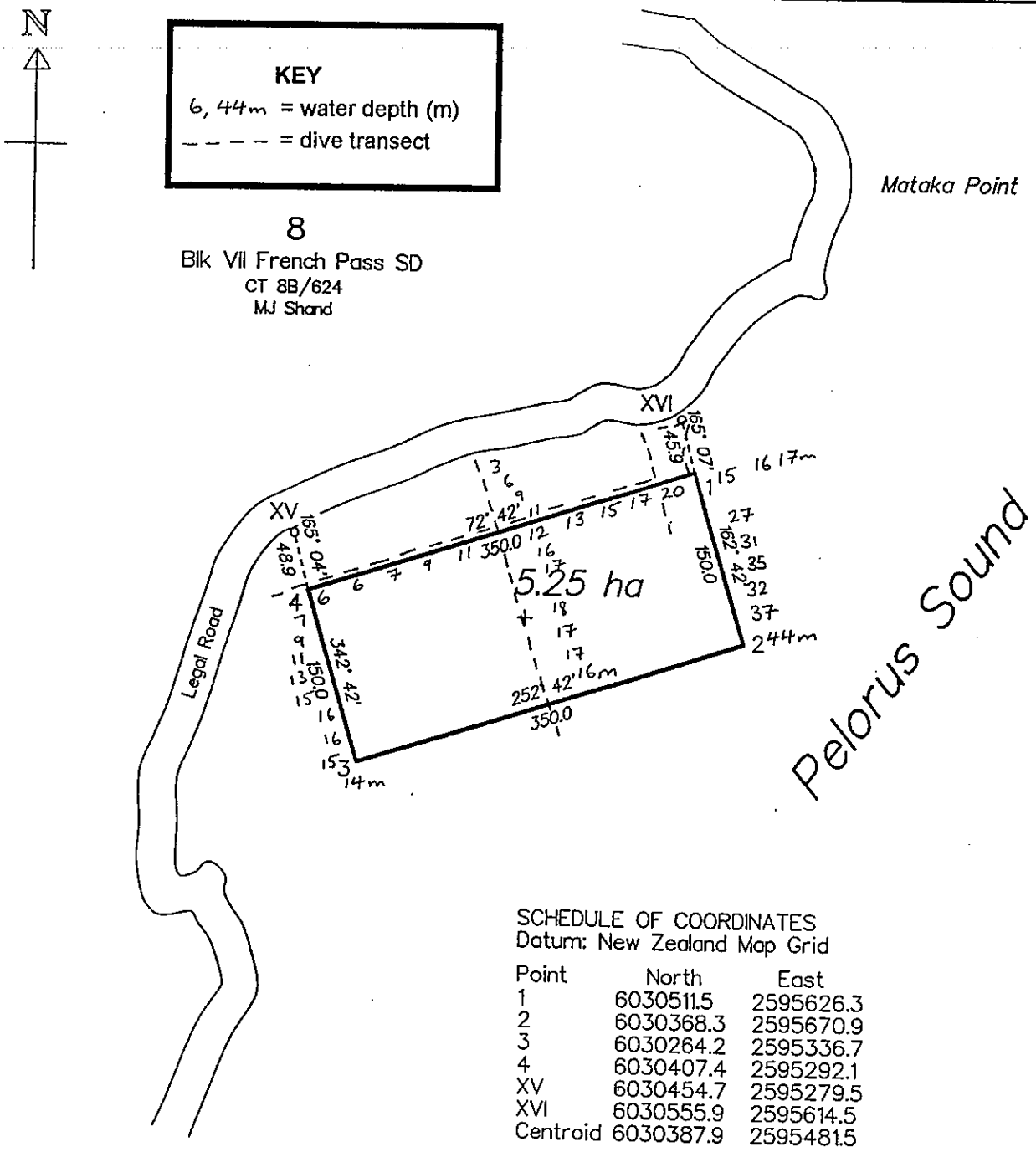


SCHEDULE OF COORDINATES
Datum: New Zealand Map Grid

| Point | North | East |
|---|---|---|
| 1 | 6030511.5 | 2595626.3 |
| 2 | 6030368.3 | 2595670.9 |
| 3 | 6030264.2 | 2595336.7 |
| 4 | 6030407.4 | 2595292.1 |
| XV | 6030454.7 | 2595279.5 |
| XVI | 6030555.9 | 2595614.5 |
| Centroid | 6030387.9 | 2595481.5 |

# Plan of Proposed Coastal Permit

## Sanford South Island Ltd

Survey marks adopted from SO 5684

Bearing variation Geodetic Datum 1949 to NZMG +12° 00"

SCALE 1:5000

50 0 50 100 150 200 250 300 350 400 450 metres

| LOCAL AUTHORITY: MARLBOROUGH DISTRICT | NELSON LAND DISTRICT |
|---|---|
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| Prep. By JB | Date 28/2/95 | Job No 726649 | File 6475/01/02 | Reference P26/6.2 |
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