DMR 1

## C: APPLICATION COVER SHEET FOR AN EXPERIMENTAL LEASE

Name: Joseph Porada

Address: 138 Main St/ PO Box 1624

City: Blue Hill

County: Hancock

State, zip: Maine, 04614

Telephone: home: 207 479 0322 cell: same

RECEIVED
JUN 20 2006
MAINE DEPT OF MARINE RESOURCES
MARINE SCIENCES LAB, W. BOOTHBAY HARBOR, ME

Accepted as Complete 6/28/06

Email address: Personal: woods1water2@yahoo.com Business: pending

| | town | county | waterbody |
|---|---|---|---|
| Location of lease site: | Trenton | Hancock | Goose Cove |

Additional description (e.g. south of B Island): Between Haynes Point and Oak Point

Total acreage requested: (2-acre maximum) 2 acres

Lease Term requested: (3-year maximum) 3 years

Name of species to be cultivated, common and scientific names:

Quahog, Littleneck , Cherry stone, Mercenaria mercenaria

Name and address of the source of seed stock, juveniles, smolts, etc., to be cultivated:

Downeast Institute for Applied Marine Research & Education
37 Wildflower Lane: PO Box 83, Beals, Maine 04611

Amount of application fee enclosed: $100 for each of 3 applications
($100 payable to: Treasurer, State of Maine)

I hereby state that the information included in this application is true and correct and that I have read and understand the requirements of the Department's rules governing aquaculture.

Signature: Joseph Porada Date: 6/15/06

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

# APPLICATION FOR AN EXPERIMENTAL AQUACULTURE LEASE


JOSEPH L. PORADA
P.O. BOX 1624
BLUE HILL, MAINE 04614
PHONE: 207-479-0322
E-MAIL: WOODS1WATER2@YAHOO.COM


## 1) LOCATION OF PROPOSED LEASE

a) **Vicinity Map:** Attached (A)

b) **Boundary Description:** Attached (B)

*Boundary description is coordinate survey done by John Lewis, Maine Department of Marine Resources

## 2) LAND OWNERS: Attached (C) No riparian owner of land will be within 1000ft of this site. Names and addresses of all in the vicinity are attached. Access to this site will be from the Trenton Landing.

## 3) REASEARCH PROGRAM AND OPERATION

### a) The purpose and design of the study

*developement toward commercial viability- see MTI grant proposal excerpts below. Grant has been awarded.

" 3a.2.

The proposed fit nicely into the mission of the Downeast Institute, a non-Profit, 501 (C)(3) organization: "*to improve the quality of life for the people of downeast and coastal Maine through applied marine research, technology transfer, and public marine research education.*" We have created a marine business incuabtor to foster working relationships between fisherman and other entrepreneurs to test new ideas that create new economic opportunities. In addition, excellent markets for fresh hard clams exist in eastern Maine in the Ellsworth and Bar Harbor area, however natural production is very low. Typically, this product is eaten raw, on the half shell, unlike soft-shell clams, steamed or used in chowders. Its flavor is milder than soft-shell clams, which is why it has a wider appeal than soft-shell clams outside New England, and with tourists.

*3a.3.*

This is an applied research project, and MTI encourages and supports research that leads to the commercialization of new products and services. In this case, a successful project will allow DEI to enhance our service to Maine's communities and to the research community. If DEI can help demonstrate the efficacy of hard clam farming in eastern Maine, it is possible that this will open the door to other entrepeneurs who wish to create similar opportunities in Hancock and Washington County.

3.a.5 **Timeline for completion, first phase.**
**Broodstock conditioning: March-April 2006: Larval rearing: April 2006; Juvenile growth from size of metamorphosis to 3mm SL; Field trials at the nursery: June through November 2006; Overwintering trials at DEI: November- April 2007. Final report completed: May 2007.**

3.a.6.
**.... the effort involves the intersection of research and private business to create new opportunities in eastern Maine for the commercial production of cultured hard clams. A successful strategy to produce hard clam seed in the cold waters of eastern Maine will lead to future attempts to farm hard clams in this region of the Maine coast. The benefit will be two fold: 1) DEI will be able to diversify its shellfish production to meet the needs of local entrepeneurs, and 2) information will be generated to allow Mr. Porada and future hard clam farmers to grow and overwinter hard clam juveniles in an effective manor.**

3.a.7. **Next steps, such as commercialization or presentation.**
**The second phase, field grow out to commercial sizes, will be investigated beginning in April 2007. To reach that stage, however, it is necessary to investigate the applicability of cold-water techniques for nursery rearing and overwintering hard clam juveniles.....**

3.a.8. **Identifiable and measurable outcomes**
**The outcomes are straight forward and measurable. First we will condition our selected broodstock in an attempt to spawn these animals (successful). Conditioning protocols are well established ( Loosanoff and Davis 1950, 1963) . The proportion of animals that spawn and the number of larva produced will be measured. Larval survival to metamorphosis will be estimated. Survival and growth of recently settled hard clam juveniles to 3mm SL will be measured. Effects of stocking density on growth and survival in the nursery trays will be measured. Finally, interactive effects of clam size and density in over wintering cages will be assessed. We will use analysis of variance to test the effects. "**

*** This study an dapplication will be expanded and developed over the duration of the lease.**

## b) The species, amount and proposed source of organisms to be Grown

- Quahogs (Mercenaria mercenaria), 500-750 thousand organisms, The Downeast Institute (DEI)

## c) A description of the culture and harvesting techniques to be used

- Clams will be planted directly into the lease area mud flats w/o structure.
- Harvesting will be accomplished through hand harvesting and with the use of bullrakes

## d) The expected length of the study

- Three years

## e) Specify whether the research is for scientific OR commercial Research and development

- Research is dual purpose. This research is scientific and commercial in nature with the goals outlined in the grant toward a viable commercial resource

## (4) EXISTING USES

- Limited/occasional hard clam harvesting, recreational and commercial. There is a limited population of soft shell clams near shore (mostly a closed area at this time) and none in or near the proposed lease site(s). I and one other harvester use this resource commercially. While mussels grow outside the mean low tide line at the egde and beyond the proposed lease site, there area has never
  been used as a commercial resource anyone knows of. There may be may be rare incidental use for mussel harvesting but in the
  main, mussel harvesting has been non-existent in the area as any kind of traditional use.

- I am the most regular and primary harvester on what is approximately 150 acres of harvestable flats. I use the area 1 to 3 times per week depending on the season. The other harvester is there less than once per week. It is rare to see anyone else harvesting, commercial or recreational.

- There is one boat owner with a mooring in the area, approximately 1800 ft from proposed site. The mooring, when in use, is above the half-tide line. There is no general navigational channel or navigational channel in the area. There is minimal ingress and egress for recreation by kayak and canoe.

## (5) EXCLUSIVE USE

- This project will require exclusive use on 6 in acres in the subtidal zone at the edge and center of the low tide line in Goose Cove. Very small clams will be planted in succession and rotation will need to be protected from siltation, digging and any disturbance of substrate while they grow and reach harvestable size toward the fruition of this research and investment goal.

  Worm digging (not likely an issue as blood and sand worms are scarce), clamming ( Over 100 acres of harvestable flats are available around the site) and potential mussel harvesting (siltation damage could be extreme) in, near or around the proposed lease site would seriously damage this project. So, I request these activities be restricted within and around the site within a reasonable distance.

  There is no need to restrict fishing for finfish or any current form of nav'gation.

## (6)
## A. DESCRIPTION OF PROPOSED LEASE SITE

- This site will work for the aquaculture of hard clams evidenced by the the existing wild population in the area. There is good recruitment and survival of young clams from wild spawning in the cove, indicating low predation and other mortality due to weather such as freezing in the winter.

Also, green crabs are present in only small numbers making their impact through predation, less of a concern than is likely in other areas.
Water temperatures rise early and stay warm longer relative to water Depth, tidal flow and full southern exposure from sunrise to sunset.

1) Bottom Characteristics: generally a mix of mud and sand
2) Mean low tide water depth is less than 2 to 5 inches. Mean high tide depth is approximately 10 ft.
3) Topography: Bottom is flat with slight incline seaward.
4) Plants are virtually or completely non-existent.
   * Blood and sand worms common though not at commercially gainful harvestable levels. Hard clams are moderately abundant. Soft shell clams do exist in the cove nowhere near the site. Mussels are common within the 150 ft of the mean low tide line.
5) Current speed is tidal rise and fall only, north/south
6) Shoreline is rocky over clay with some areas of gravel and cobble. The upland characteristics include forest and field with homes and camps interspersed.
7) There is no aquatic vegetation evident in the area.

## B. ENVIRONMENTAL IMPACT

- The husbandry and harvesting techniques used will not impact the physical or ecological environment around the lease site except as follows:

  1) Though not high profile as viewed from shore, corner marker buoys will be visible. Lobster buoy size floats will be used. Stakes (wood) will also be visible and protrude approximately 12 inches above the flats.

  2) Any spawning of cultured clams on the site will result in an increase of recruitment of young clams into the larger part of Goose Cove.

## 7) STRUCTURES

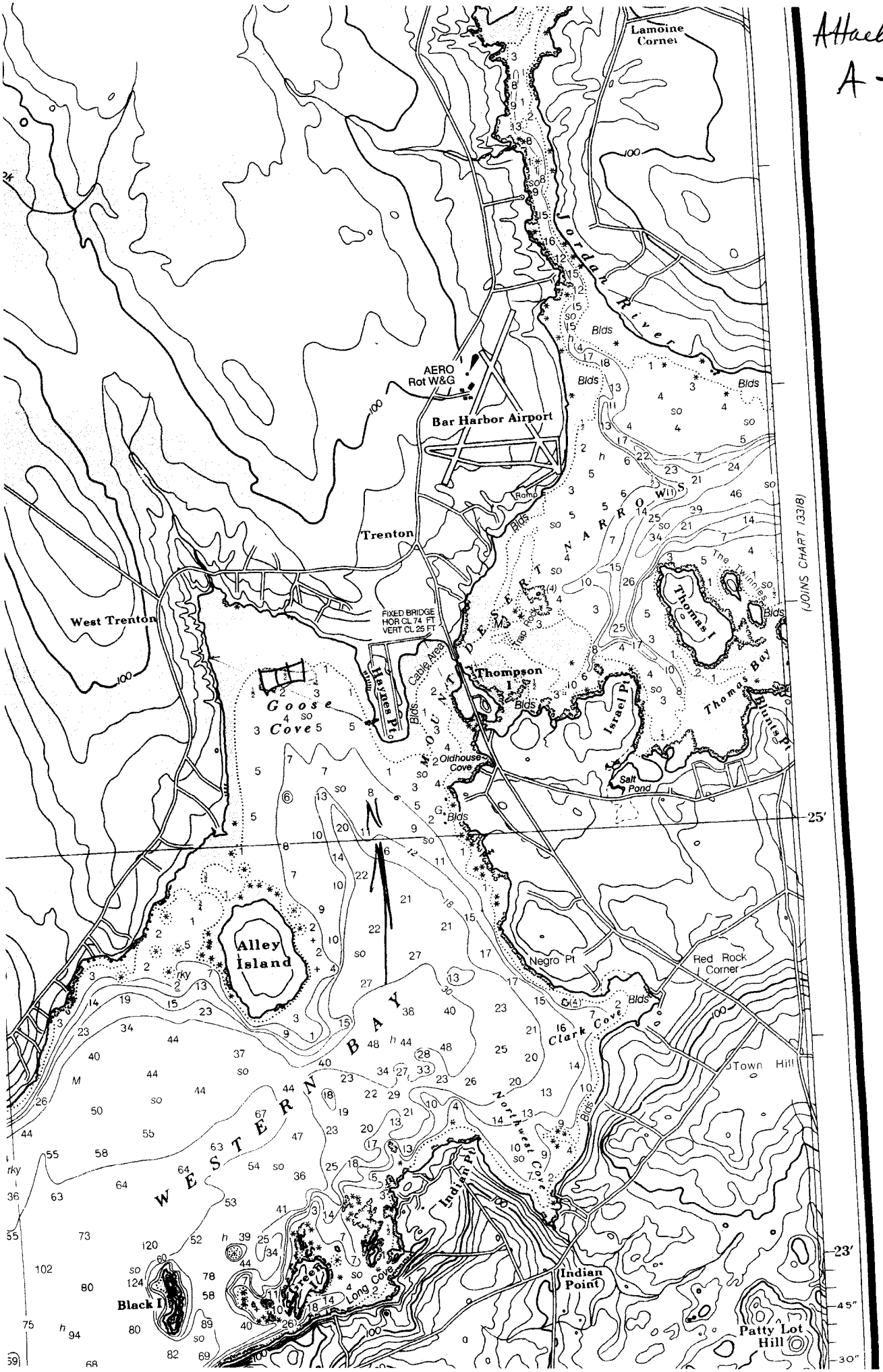
- Not applicable/None

## 8) DISCHARGE

- None

In addition, it is worthy to note, the existing population of hard clams in Goose Cove is the northern and eastern most known population in the eastern United States. Our project will serve to protect and enhance the existing resource as we are using local clams as brood stock. Seed "drift" from the site and spat produced by spawning of individuals within the site, combined with the likely genetic coupling between seeded and indigenous individuals will enhance recruitment of hard clams substantially throughout Goose Cove.

Attachment A + C

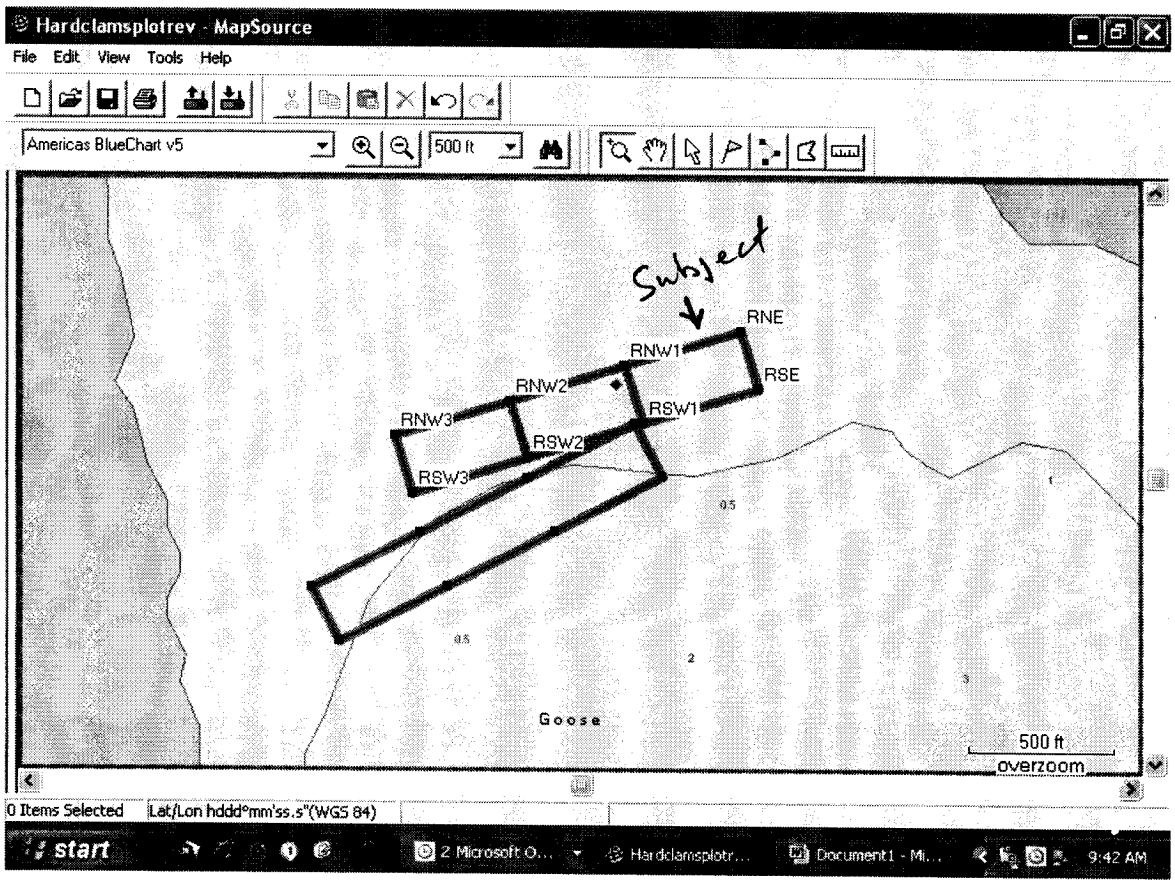


B

Joe - Attached is the way the revised location of your leaseswould plot out. I kept the rock 50 feet inside the northern boundary and 50 feet inside the middle tract. I also shifted the site 10 degrees as you suggested. This is the way it would lay out

The coordinates in degrees minutes and seconds would be (all the corners have an "R" in front of them just for my bookeeping - you can drop them to avoid any confusion) Each lease would be 416 feet East West by 208 feet North South. Bearings around the lease would be 163 deg, 253 deg, 343 deg and 73 deg. Starting at the NE corner and moving clockwise.

| | | |
|---|---|---|
| NE | 44 25 53.217N | - 68 23 05.360W |
| SE | 44 25 51.253N | - 68 23 04.522W |
| SW1 | 44 25 50.052N | - 68 23 10.004W |
| NW1 | 44 25 52.016N | - 68 23 10.842W |
| SW2 | 44 25 48.851N | - 68 23 15.486W |
| NW2 | 44 25 50.815N | - 68 23 16.324W |
| SW3 | 44 25 47.650N | - 68 23 20.969W |
| NW 3 | 44 25 49.614N | - 68 23 21.807W |



DATE OF AERIAL PHOTOGRAPHY 5-9-86
DATE OF COMPLETION 4-4-87

C

# GOOSE COVE, TRENTON, MAINE
# LIST AND ADDRESS OF LEASE VICINITY RIPARIAN OWNERS
**(all addresses are in Trenton unless noted and are in the order they appear on the tax map, clockwise)**

**No riparian owners are within 1000ft of any of these proposed sites. This is a list of all owners in the vicinity and their physical address. I will forward complete mailing addresses and certified town tax map. I hope the chart attached covers and will suffice for shoreland description.** as in: #2 Landowners "tax map or chart".

| | Map and lot # | Address |
|---|---|---|
| **1) Kenneth Gray** | **10-63** | **399 Oak Point RD** |
| 2) Cathy Scarola | 10-63/1 | 60 Blackberry Lane |
| 3) Peter Gorham | 10-55 & 55-1 | 56 Blackberry Lane |
| 4) Anthony Cantonese | 10-54 | |
| **5) Rebecca Richardson** | **10-51** | **37 Bucklin Lane** |
| 6) Steve Savage | 10-46 | 30 Hopkins Meadow |
| 7) Gregory Bell | 10-45 | Oak Point Road |
| 8) David Baldwin | 10-42 | Oak Point Road |
| 9) Fredrick Warner | 10-40 | 279 Oak point Road |
| 10) Phillip Vitiella | 10-39 | 264 Oak Point Road |
| 11) Robert Johnstone | 10-41 | |
| 12) Dennis Damon | 10-38 | 256 Oak Point Road |
| 13) Miicheal Voorhees | 10-36 | 244 Oak Point Road |
| 14) Lucille Harding | 10-35 | 230 Oak Point Road |
| 15) Richard Biello | 11-56 | 190 Oak PointRoad |
| 16) Paul Skofield | 11-55 | |
| 17) Herbert Silsby | 11-54 | 10 pleasant Street, Ellsworth |
| 18) MarK Nadel | 11-52 | 31 Osprey Lane |
| 19) Bodil Chagnon | 11-52 | 30 Osprey Lane |
| 20) William Labelle Jr. | 11-45 | 10 Fran's Way |
| 21) William Wallace | 11-44 | 62 Anthony Lane |
| 22) Ruth Krupa | 11-42 | 3 Anthony Lane |
| 23) Leo James Michaud | 11-41 | 29 & 32 Fran's Way |
| 24) Frederick Stoddard | 11-40/1/b | 27 Deasy Road |
| 25) Jane Mcleod | 11-40 | 35 Deasy Road |
| 26) Robert Cameron | 11-38/a | 9 Captain Douglas Lane |
| 27) John Blodgett | 11-38 | 29 Captain Douglas Lane |
| 28) Jane Blodgett | 11-37 | |
| 29) Mark Warren | 11-36 | |
| 30) Richard Post | 11-35 | |
| 31) Denise Zeller | 11-35/1 | |
| 32) David Rand | 11-9 | 10 Honey Bear Lane |
| 33) Robert Kirkwood | 11-8 | 21 Paradise Lane |
| 34) Donald Wheeler | 11-7 | 37 Paradise Lane |