

1. Gerry Egan, divisional engineer
2. Dick McKeever, Assistant chief Engineer

12/10/09

Survey of Mussel Lines In Killary Harbour 2009

A survey of all mussel farm structures in Killary Harbour was undertaken on the 29th and 30th of September and 1st of October 2009 by Mr. John Sutton and I.

A boat (rib) and driver were supplied by BIM. The survey was recorded using the RTK system. In brief this system is **Real Time Kinematic** (RTK) satellite navigation it's a technique used in land survey and in hydrographic survey based on the use of carrier phase measurements of the GPS, GLONASS and/or Galileo signals where a single reference station provides the real-time corrections of even to a centimeter level of accuracy. With RTK, you need a base station placed on a known, surveyed point, and one or more mobile receivers. The base station transmits corrections via radio to the mobile receivers in the field. It uses a dual frequency data format that transmits data in a more compact and robust way than other formats.

For the purposes of the Killary survey a base station was set up from a known survey point and a connection established. The roving unit was securely fixed to the rib on the port side (left hand side); each point was taken by positioning the port side of the rib over the first and final barrel on each mussel line. Buoys were surveyed using one point and raft survey points were recorded at the south west corner and their dimensions taken.

Staff from BIM were simultaneously conducting a survey on a separate rib and meeting with individual growers. In the course of their survey they labelled each mussel line identifying its site number, allowing us to establish the owner of each mussel line.

Day 1

The survey commenced on Tuesday 29th of September at 10:30am in Middle Killary at site No T09/317A and concluded at site No T09/175D also in middle Killary with 136points surveyed.

Day 2

The following day the survey commenced at site No T09/397 in Outer Killary and concluded at site No T09/308A also in outer Killary with 252 points surveyed.

Day 3

The final day commenced in Inner Killary at site no T09/392B and concluded at site no T09/401B with 140 points surveyed.

Tide Table information for those dates in 2009 are as follows:

Date/Day	Time	Ht	Time	Ht	Time	Ht	Time	Ht
Sept 29 Tues	03:06	3.75m	15:07	3.99m	08:59	2.10m	21:26	1.71m
Sept 30 Wed	03:51	4.01m	15:52	4.24m	09:42	1.79m	22:04	1.41m
Oct 01 Thur	04:27	4.27m	16:29	4.49m	10:19	1.48m	22:36	1.12m

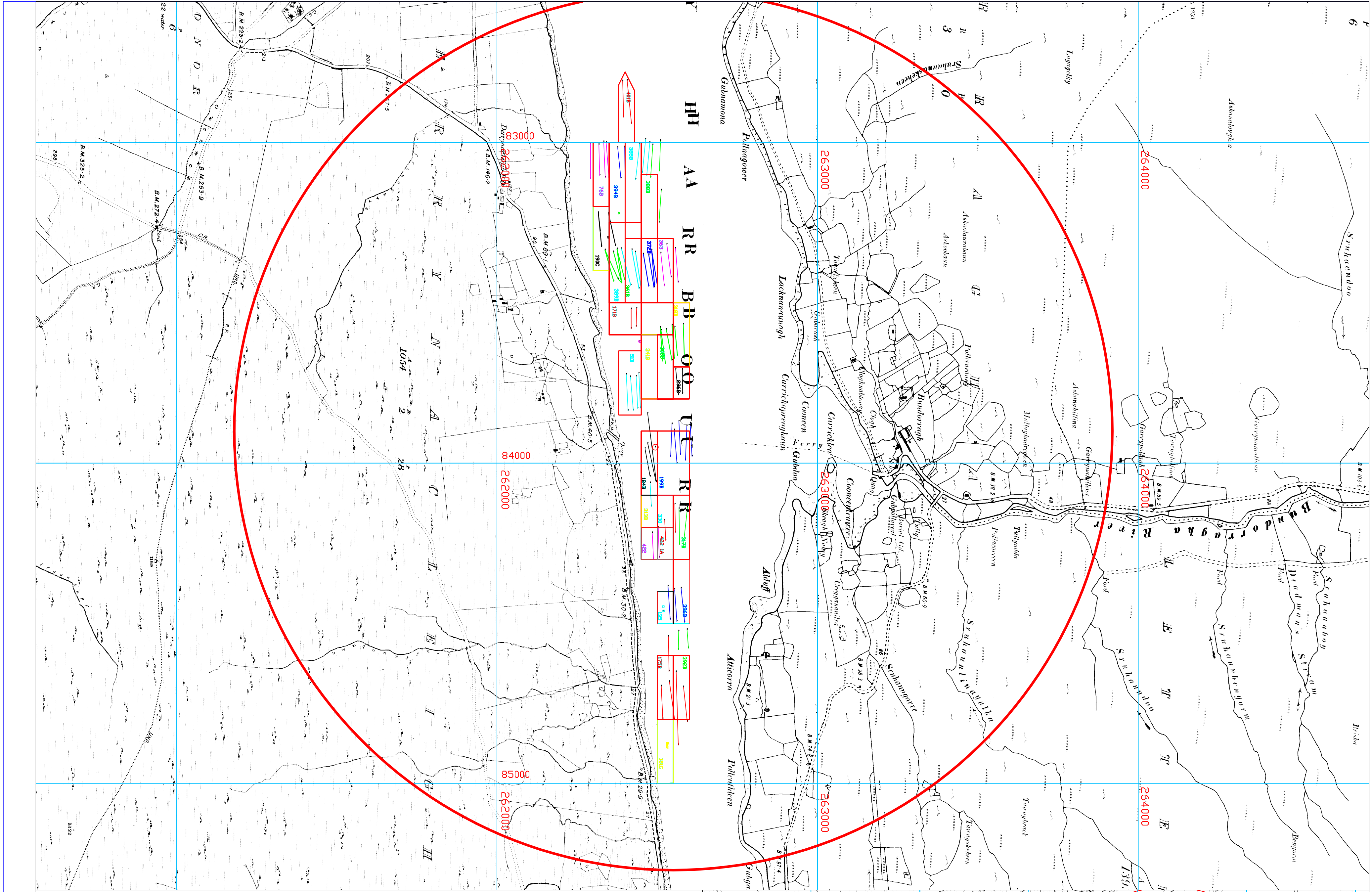
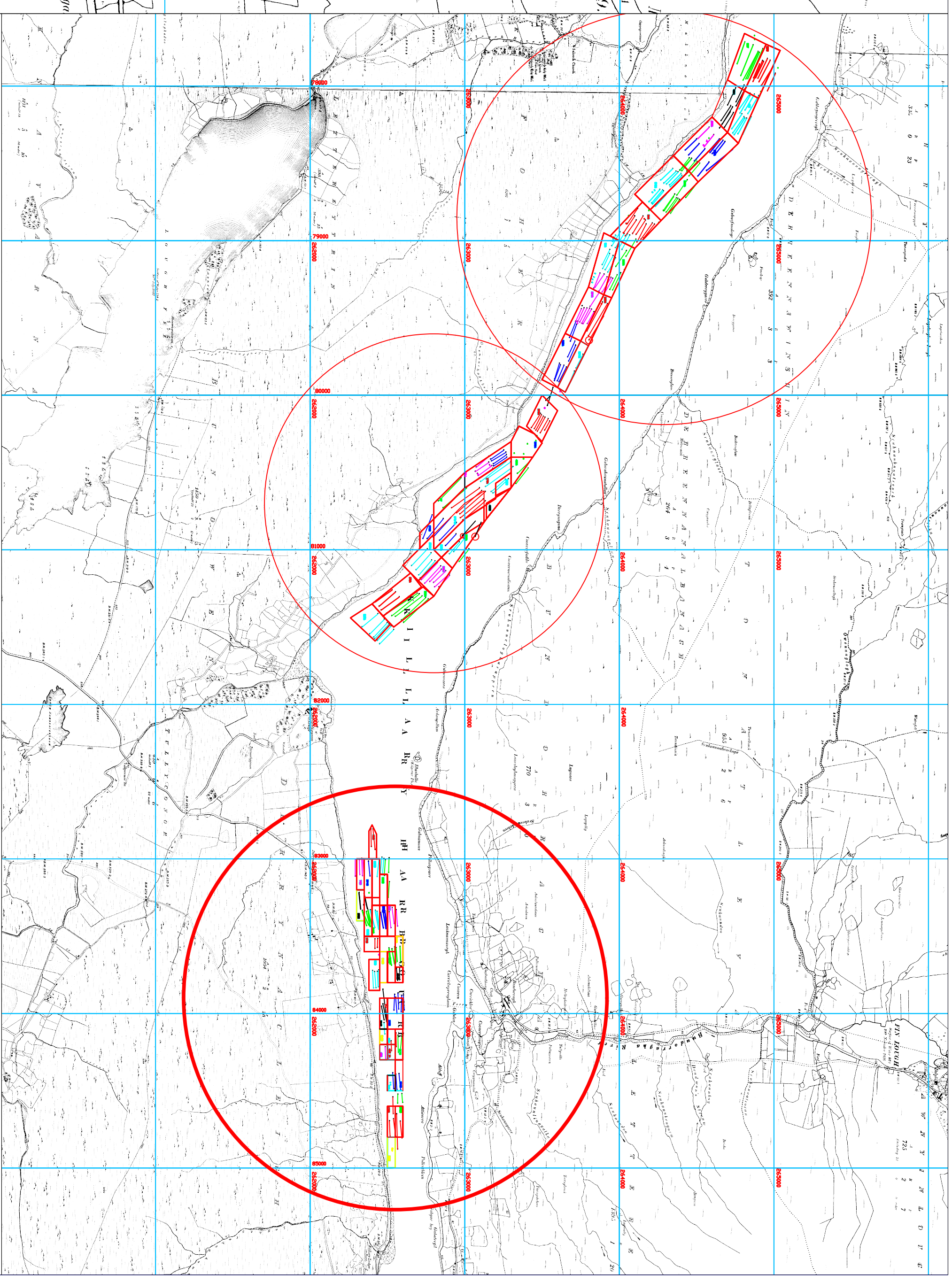
The surveyed points and data were then down loaded from the RTK into its software package for post processing. An ordinance survey 6" map of the area was used for the background as each license issued, includes Irish National Grid coordinates.

The licensed areas were then superimposed onto the survey.

This clearly highlights the structures that are not within their licensed areas.

The attached drawing shows all points surveyed. During post processing each licensed site has been identified and labelled appropriately with the site number. The accompanying table provides information on the licensee, the number of lines and the area licensed.

Edwina Forde
Engineer Grade II (Acting)



File No	AQ No	Licensee	Location	Species	Area (Ha)	No Lines
T09/181C	394	Sean McCarthy/simon Kennedy	Inner Killybeggs Harbour	Mussels	1	0
T09/175B	233	Shellfish Ltd.	Inner Killybeggs Harbour	Mussels	1	5
T09/392B	243	Pat Coyne and Pat Walsh	Inner Killybeggs Harbour	Mussels	1	2
T09/396B	245	Brian Spellman	Inner Killybeggs Harbour	Mussels	1	3
T09/135B	391	Coleman McDonagh	Inner Killybeggs Harbour	Mussels	0.5	2 Ratts
T09/317 B	238	Martin Nee	Inner Killybeggs Harbour	Mussels	1	2
T09/422/1A	472	On Line Mussels	Inner Killybeggs Harbour	Mussels	1	2
T09/422	379	On Line Mussels	Inner Killybeggs Harbour	Mussels	0.5	2
T09/330	627	Seosamh O'Laoi, O'Laoi Teoranta, Muirachheainn Teo	Inner Killybeggs Harbour	Mussels	0.5	1
T09/199B	397	Killybeggs Fish Farming Co-operative Society Ltd, John Killoynne, Kevin Lydon	Inner Killybeggs Harbour	Mussels	2	5
T09/313	528	Danny McNulty	Inner Killybeggs Harbour	Mussels	0.5	0
T09/296B	450	Danny McNulty	Inner Killybeggs Harbour	Mussels	0.5	2
T09/308 B	235 or 878	Michael Lydon	Inner Killybeggs Harbour	Mussels	1	6
T09/341B	23 and 702	John M. Ruddy, Fees paid by Kevin Lydon.	Inner Killybeggs Harbour	Mussels	1	0
T09/51B	399	Brendan Nee, Killybeggs Shellfish Ltd.	Inner Killybeggs Harbour	Mussels	1.4	4
T09/318B	237	John Duane	Inner Killybeggs Harbour	Mussels	1	0
T09/171B	392	John Coyne	Inner Killybeggs Harbour	Mussels	1	2
T09/363	628	Eddie Nee	Inner Killybeggs Harbour	Mussels	1	3
T09/372B	575	Jim O'Malley	Inner Killybeggs Harbour	Mussels	1	4
T09/190 C	374	John Foyle	Inner Killybeggs Harbour	Mussels	1	2.5 & 1 raft
T09/361B	575	Jim O'Malley	Inner Killybeggs Harbour	Mussels	1	5
T09/389B	884 and 241	Kieran Kane	Inner Killybeggs Harbour	Mussels	1.23	3
T09/388B	883 and 240	Peter Nee	Inner Killybeggs Harbour	Mussels	1	3
T09/385B	239	Martin Nee Purple Spade Ltd.	Inner Killybeggs Harbour	Mussels	1.25	3
T09/394B	244 and 887	Edward Nee(dnr)	Inner Killybeggs Harbour	Mussels	1.25	2
T09/76B	496	John Killoynne, Balenos Seafoods Ltd.	Inner Killybeggs Harbour	Mussels	1	4
T09/401B	250 and 893	Michael James Laffey	Inner Killybeggs Harbour	Mussels	0.97	2
T09/184B	395	Kevin Lydon	Inner Killybeggs Harbour	Mussels	1	3

General Notes

Tides

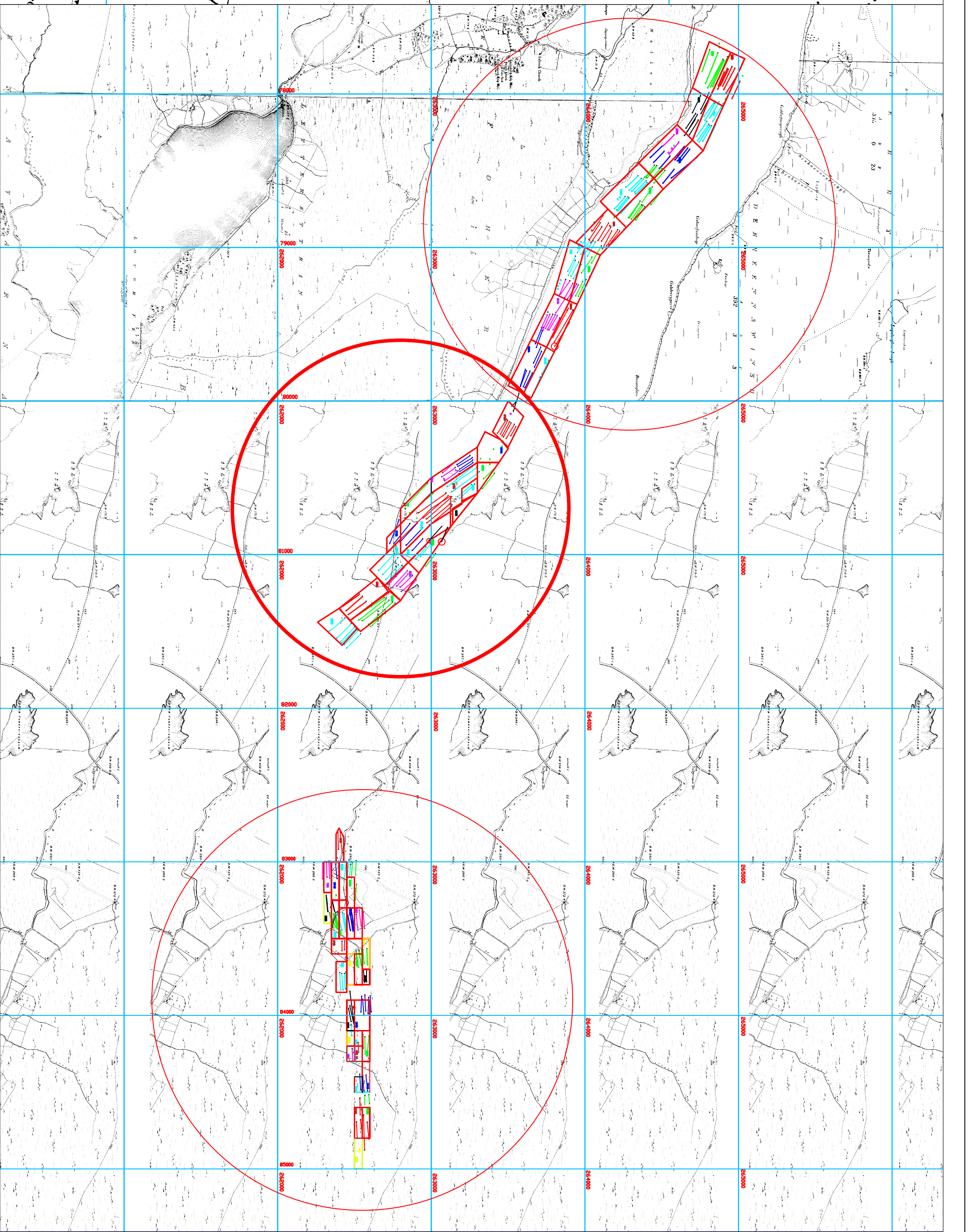
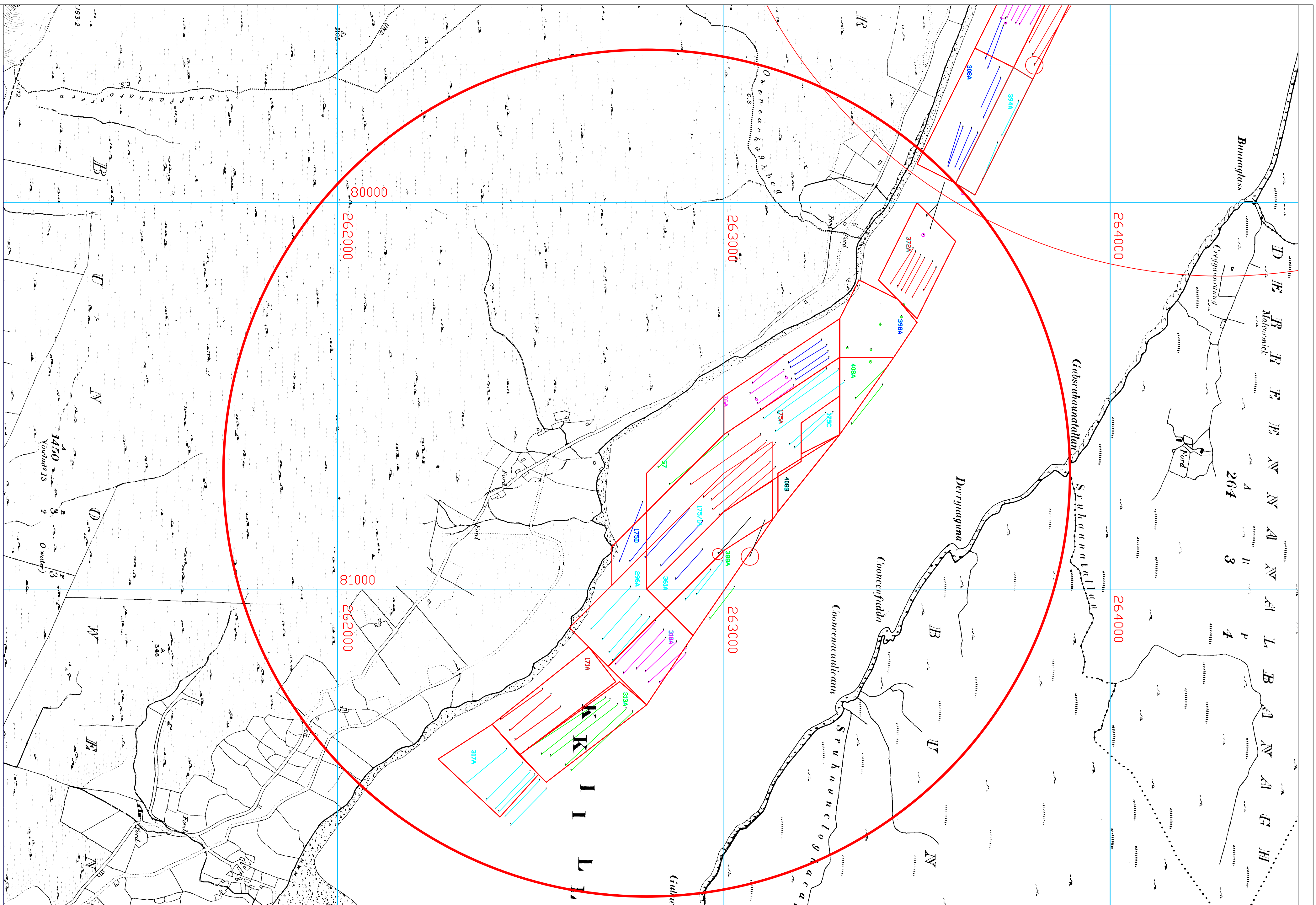
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 Set 21 Wed 08:51:01m 15:53:24pm 09:42:17m 22:04:14m
 Set 22 Thu 09:25:27m 16:39:49pm 10:19:16m 22:59:15m

No.	Revision/Issue	Date



Project Name and Address
 Killybeggs Fjord
 Mussel Line survey
 Inner Killybeggs
 1/3

Project Killybeggs 2009 1/3 Sheet 1/3
 Date 14th of October 2009
 Surveyed By John Simon
 Drawn By Eamon Forde
 Checked By Derry Egan



File No	AQ No	Licensee	Location	Species Area (Ha)	No Lines
T09/317A	236	Purple Spade Martin Nee	Killary Harbour Middle	Mussels	3
T09/313A	528	Danny McNulty	Killary Harbour Middle	Mussels	6
T09/171A	392	John Coyne	Killary Harbour Middle	Mussels	5
T09/318A	237	John Duane	Killary Harbour Middle	Mussels	3
T09/296A	450	Danny McNulty	Killary Harbour Middle	Mussels	6
T09/175D	233	Simon Kennedy Killary Fjord Shellfish Ltd.	Killary Harbour Middle	Mussels	3.25
T09/388A	883 and 240	Peter Nee	Killary Harbour Middle	Mussels	0.9
T09/361A	575	Jim O'Malley	Killary Harbour Middle	Mussels	2.1
T09/175A	233	Simon Kennedy Killary Fjord Shellfish Ltd.	Killary Harbour Middle	Mussels	3
T9/57	651	Simon Kennedy Killary Fjord Shellfish Ltd.	Killary Harbour Middle	Mussels	9.5
T09/408 B	251 and 894	Peter Kane	Killary Harbour Middle	Mussels	2
T09/408 A	251 and 894	Peter Kane	Killary Harbour Middle	Mussels	0.8
T09/175C	233	Simon Kennedy Killary Fjord Shellfish Ltd.	Killary Harbour Middle	Mussels	1.4
T09/398A	247 and 890	Martin Nee	Killary Harbour Middle	Mussels	0.9
T09/372A	639	Bartley O'Malley	Killary Harbour Middle	Mussels	2.83
T09/175/1	234	Simon Kennedy Killary Fjord Shellfish Ltd.	Killary Harbour Middle	Mussels	3
T09/076A	496	John Kilcoyne, Belenos Seafoods Ltd.	Killary Harbour Middle	Mussels	3.25
		Jack foyle	Killary Harbour Middle	Mussels	5
					4 & 2 rafts
					2.5

General Notes

Tides

Date/Day Time H Time H Time H Time H
 Sep 29 Tue 03:06:25h 13:07:33h 08:59:21h 21:28:17h
 Oct 01 Thu 04:24:27h 16:29:43h 10:19:14h 22:36:11h

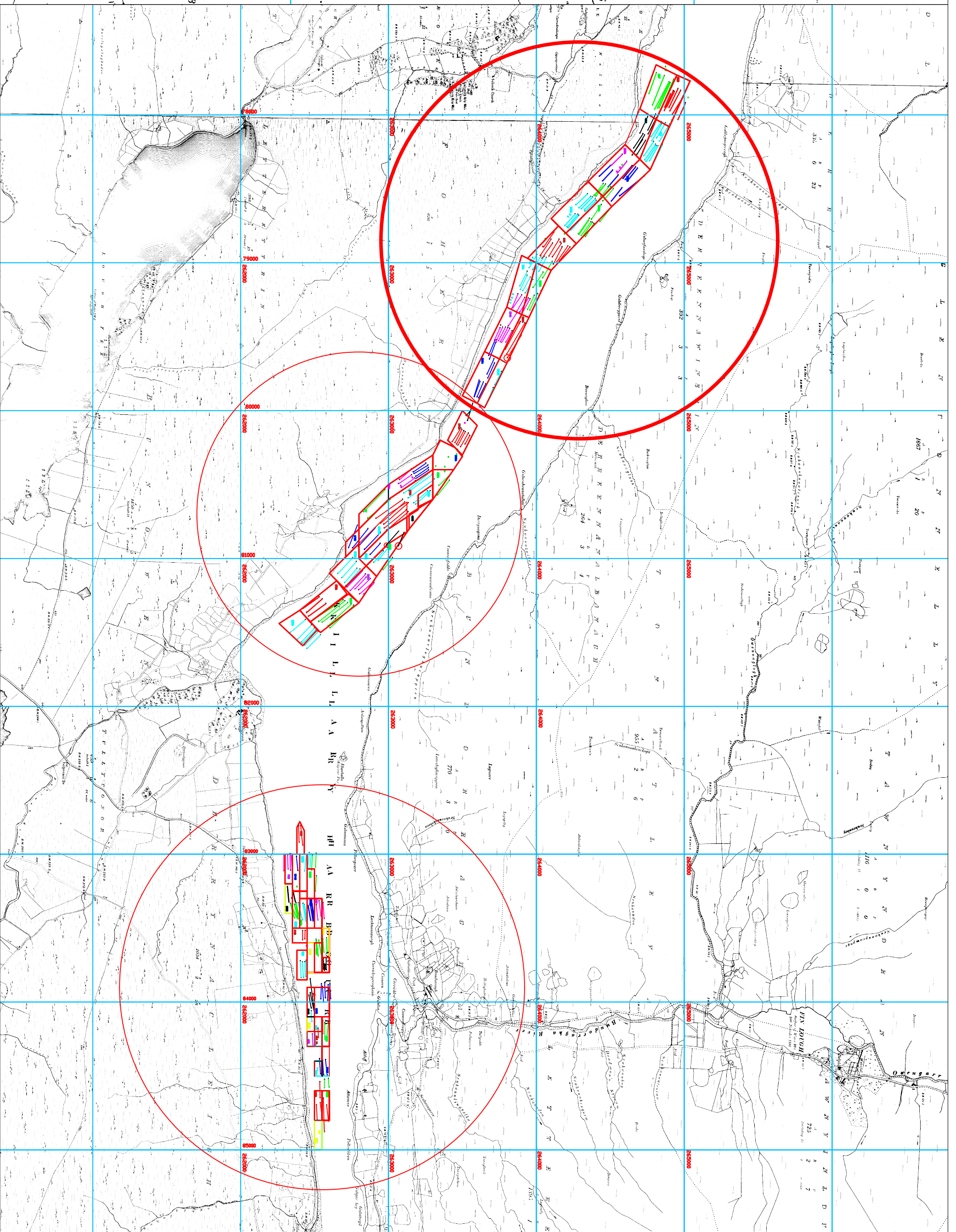
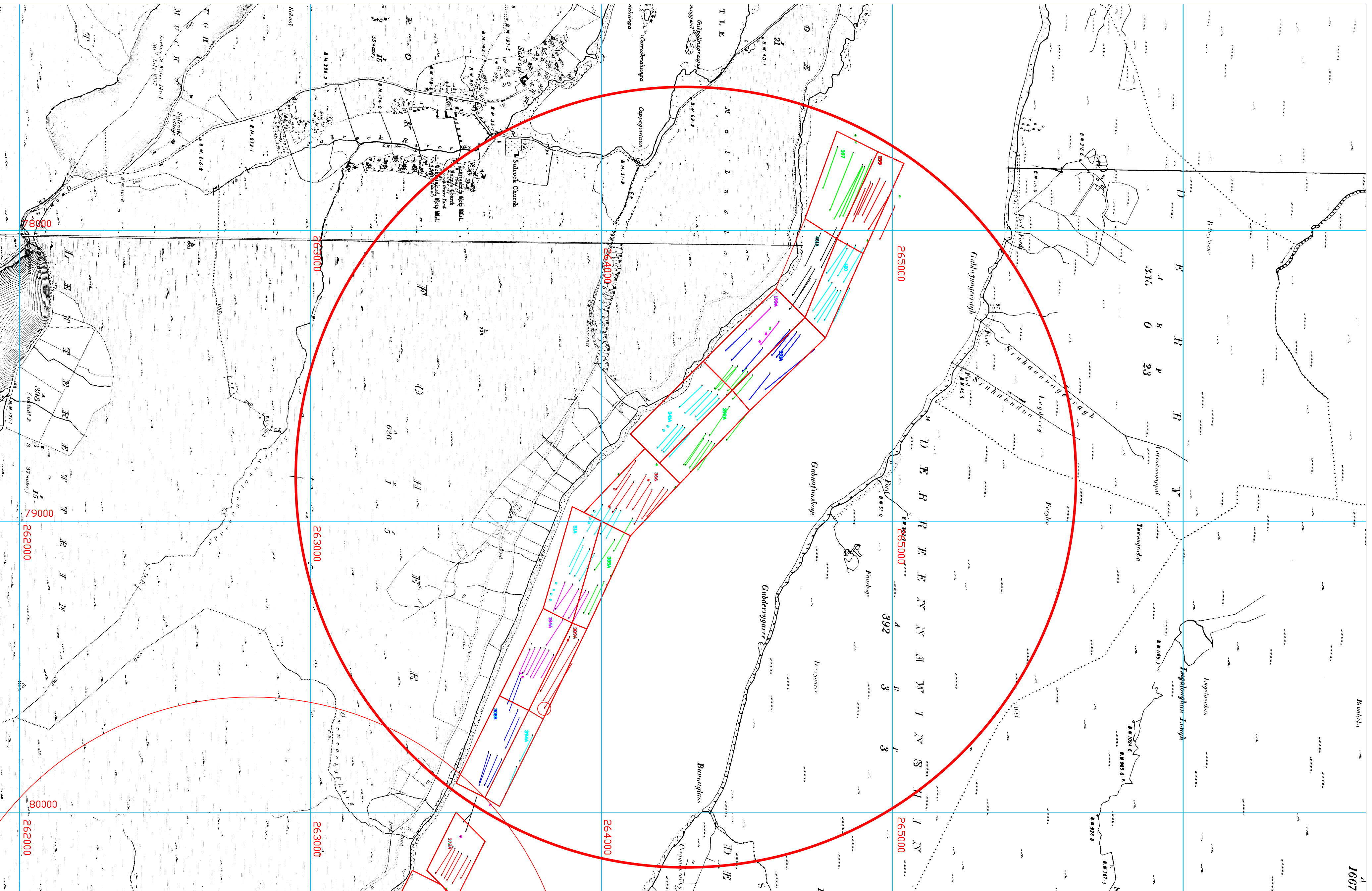
No.	Revision/Issue	Date

From Name and Address



Project Name and Address
 Killary Fjord
 Mussel Line survey
 Middle Killary
 2/3

Project Killary 2009 2/3 Sheet 2/3
 Date 14th of October 2009
 Prepared By: John Sinton
 Drawn By: Eamonn Frazer
 Checked By: Gerry Egan



File No	AQ No	Licensee	Location	Species	Area (Ha)	No Lines
TO9/394	244 and 887	Edward Nee(Jnr.)	Killary Harbour Outer	Mussels	1.95	2
TO9/308A	395	Kevin Lydon	Killary Harbour Outer	Mussels	3.72	8
TO9/184A	395	Kevin Lydon	Killary Harbour Outer	Mussels	3.75	12 & 1raft
TO9/389A	884 and 241	Kieran Kane Brendan Nee, Killary Shellfish Ltd.	Killary Harbour Outer	Mussels	1.9	3 & 1raft
TO9/51A	389	Martin Nee Purple Spade Ltd.	Killary Harbour Outer	Mussels	4	8 & 8rafts
TO9/385A	239	Martin Nee	Killary Harbour Outer	Mussels	2.95	6
TO9/366	238	Martin Nee	Killary Harbour Outer	Mussels	4.7	8 & 3Rafts
TO9/341A	23 and 702	John M. Ruddy - Fees paid by Kevin Lydon.	Killary Harbour Outer	Mussels	5	9 & 2rafts
TO9/392A	243	Pat Coyne and Pat Walsh	Killary Harbour Outer	Mussels	3.34	13
TO9/199A	397	Killary Fish Farming Co-operative Society Ltd. John Kilcoyne. Kevin Lydon	Killary Harbour Outer	Mussels	5	2 & 2rafts
TO9/391A	242	Ciaran Coyne	Killary Harbour Outer	Mussels	3.4	9
TO9/400	249 and 892	Liam Gerard Laffey	Killary Harbour Outer	Mussels	2.96	9
TO9/401A	250 and 893	Michael James Laffey	Killary Harbour Outer	Mussels	3.57	7
TO9/397	246	On Line Mussels	Killary Harbour Outer	Mussels	4.6	6
TO9/399	884 and 241	Kieran Kane	Killary Harbour Outer	Mussels	3.375	7

General Notes

Tides

High Water Time: 11:15 AM
 Low Water Time: 5:30 PM
 Spring Tides: 1.5m
 Neap Tides: 0.5m
 Mean High Water: 1.5m
 Mean Low Water: 0.5m
 Mean Sea Level: 1.0m
 Datum: 1985
 Source: Ordnance Survey

No.	Revision/Issue	Date

From Name and Address



Project Name and Address
 Killary Fjord
 Mussel Line survey
 Outer Killary
 3/3

Project: Killary 2009 3/3
 Date: 14th of October 2009
 Prepared By: John Sizer
 Drawn By: Eileen Fegan
 Checked By: Gerry Egan