

The Swannery, Hartland, Devon.

Stephen Hobbs.

Field investigation

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A Report for
The Hartland Society
Exploring Archaeology Project

By
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The views and recommendations expressed in this report are those of the projects team and are presented in good faith on the basis of professional judgement and on information currently available.

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Cover illustration

St. Catherine's Tor and the Tor Marsh Valley (Photograph by Robyn Wilson)

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1 Summary

The report describes a landscape recognition project undertaken by members of The Hartland Society, North Devon Archaeological Society and community volunteers, assisted by the XArch project based at The University of Exeter. This report, in two sections, deals with a hedge bank survey and a topographic and boundary survey using GPS survey methods and off set tape survey techniques to enlighten on the area surrounding the St. Catherine's Tor, ½ Km south of Hartland Quay.

The hedge bank survey was undertaken to judge viability of recording such features and to produce a template for a full survey of the hedges within the Hartland Abbey Barton Farm estate. The base for this is the suggestion that the Barton Farm was the subject of a reordering of its field systems possibly in the 16th or 17th century. A further comparison could then be made with other such estates within the local area to ascertain if a differential is apparent. Participation in the survey by the local community was encouraged in order to extend an interest in the locality by its inhabitants.

The GPS survey centred on an area below St. Catherine's Tor where it was alleged a Swannery existed. Extant banking of the small stream and what appears to be a large earth coffer dam adding to the suggestion. By undertaking a systematic sampling of the features present it was hoped to show the viability of a more comprehensive GPS survey; at the same time to provide data which would indicate the suitability of the extant features for retaining water. Community participation was encouraged and the provision of training facilities by XArch enabled the preliminary survey.

The two landscape surveys were complimented by research on the two deerparks (report in preparation) and the carriage drives of the Hartland Abbey Estate (University of Plymouth/NDC dissertation, unpublished). The involvement of community participants has proven beneficial to both the projects and the community as it has stimulated interest in the historic environment of the parish by its community.

2 Introduction

2.1 Site Location

The site is approximately a half kilometre south of Hartland Quay. This area is in the immediate vicinity of the Hamlet of Stoke and Hartland Abbey. The area under study runs from the 'middle' car park at Hartland Quay in the north as far as the northern end of the cliff top at Spekes Beach in the south.

2.2 Historical and archaeological background:

The Devon H.E.R. has an entry to suggest that all or part of the river meadows lying below St Catherine's Tor was at one time a Swannery which may have been associated with the Abbot at Hartland Abbey (1169-1539). The evidence for this suggestion comes from a sequence of sources. Primarily an entry in the Dean Milles parochial survey of 1762, completed on behalf of Hartland parish by John Velly of Galsham Farm, and has an entry "*Catherine Tor - under which is a marsh in ye abbot's time a swan pool.*" This entry is picked up by William Heard in his MSS Remembrances of Old Hartland (North Devon Athenaeum /H.A.R 900) and then by Richard Pearse-Chope (Transaction of the Devonshire Association /66 (1934)73). The statement is then often repeated in a variety of documents and has drifted into fact. Close inspection of the Dean Milles document would reveal that John Velly was often less than correct in the responses he gave to the standard questionnaire and allowed conjecture to be entered.

There are no known documentary archive materials extant for Hartland Abbey of the period up to the Dissolution, a small number of transitional documents exist within the present archive which is evidences of land transfer and ownership. Entries exist within Exeter Cathedral archive for a small number of communications with the Abbey. In either source there is no evidence to suggest that the Abbot had or had use of a 'Swan Pool'. An alternative is that any Swan Pool could have been part of the Manorial Estate belonging to the Dinham family (c1100 – 1501), but no mention is contained within their document archive (Arundel collection Cornwall Record Office AR/). Explicit works by Fox & Padel¹ and Hannes Kleineke² on these records have no mention of the Dinhams using or producing Swan as a household item. Kleineke has detailed inventories of household consumption for capons, gannets a wide variety of salt and fresh water fish, meats and eggs but no mention of swan or indeed game bird such as duck. Therefore there is no factual documentary reference to a Swan Pool in Hartland or more particularly in the vicinity of St. Catherine's Tor.

2.3 Geography/Geology

The study area is part of a sea dissected river valley system and therefore, of geological interest. The Spekes River, originally running north along the valley system, discharged into an ocean or larger river system at a point west of Smoothlands (Blagdon Valley). Erosion has divided the valley into isolated sections devoid of any river presence.

The study area contains three promontories that are remnant sections of the original valley. The northern promontory, Screda Point, is dry and shows no evidence of the line

¹ Cornish Lands of the Arundells of Lanherne, DCRS, 1998

² The Dinham Family in the Later Middle Ages, Unpublished thesis, University of Holloway, 1998

of a stream. The second, above Childspit Beach, contains evidence of a dry river bed running parallel to the present cliff line (Figure 3). The depth of the erosion of this dry bed would indicate that it had been a stream for a considerable time and had discharged into the sea at its northern end at a now lost waterfall.

Subsequent erosion has cut the stream at a position 150 metres east, where it now discharges over a substantial waterfall onto Childspit Beach. Inspection of the cliff face erosion shows only light evidence of the position of the original stream course. This promontory could also be the source where early people were able to extract the substantial stone slabs from the cliff face for use as monoliths once common in the immediate area³.

The third promontory in this area is formed by the sub-circular tor known as St. Catherine's. This tor is regarded as the site of an early chapel attached to the Hartland church. Erosion has reduced the summit by some forty feet within the last century (Compare photographs of the periods, Cann Picture Archive & Hartland Digital Archive⁴). Evidence of a building is described by Pearse-Chope (1940) in relation to a variety of artefacts recovered from the summit in the early 20th Century and now displayed in the museum within Stoke church at Hartland. William Heard in his M.S.S. also mentions a family picnic when he climbed the tor and returned with a number of tiles which were discarded into a hedge bank when the family showed little interest in a child's find.

The valley system is accessed by a track from Hartland Quay as far as the valley earthworks (now part of the South West Coastal Path), this track was created in the late 19th Century to provide a route for hunting parties. The route is shown as a 'footpath' on the 1891 OS map (see photograph of hunting party in the Cann Picture Archive). A second track runs into the valley south of Big Sheepless field this is shown as a track on the 1891 OS map

3 Hedge Survey

The study area contains a number of hedges and banks that, although not unusual within the Abbey and Barton Estate, their recording and classifying would be beneficial for future comparisons. Two surveys have been undertaken (1) in the immediate vicinity of St. Catherine's Tor and (2) surrounding an area known as the Warren, immediately east of Hartland Quay.

3.1 Method

The method of classification and identification was based on a system developed in association with the 'Historic Environment Research Strategy for Exmoor' (Objective 8.i) and used by The North Devon Archaeological Society (Holworthy Farm, Parracombe). Hedge characteristics are recorded on a *pro forma* based on one used by the Cornwall Archaeological Unit in 1998 and adapted to the local circumstances (Gillard 2002). The Rural Development Service Technical Advice Note 32, 2006, where relevant, was used in the Classification/description of hedges/banks (See Figure 5 for hedge locations)

³ Chope, Book of Hartland, 1940: and R. Wilson unpublished research, University of Plymouth 2007

⁴ Both archives held by Hartland Digital Archive and a small selection at North Devon Records Office

Measuring hedge width at base, width at top and height gives the dimensions of a cross section which is essentially a trapezium. The area of a trapezium is base (B) plus top (T) divided by 2 to give an average; times the average of the heights (H1, H2) (both sides of the hedge) (Figure 4). The resulting figure gives not only the area of cross section, but, when multiplied by 1, gives the cubic volume per metre. Applying this formula to all the boundaries recorded, the resulting figures are rounded up or down to the nearest whole number, producing the basis of a simple numerical classification: Classes 1,2,3,4,5,6,7 based on volume (Table 1 & Figure 5).

3.2 Hedge descriptions

3.2.1 Hedge H1 (Figure 7)

This hedge runs parallel to a small stream and is a substantial construction; it is formed as a dropped bank Corn Ditch in style with the stock coping facing north against the stream. The bank is stone faced on both sides with an earth/turf cap, the infill is packed earth. On the south face, a build up of earth is in situ which could be part of the original construction or may be hill wash or collapse of the cap. Due to erosion, the bank terminates on the west at the cliff top; the eastern end has been reduced by the formation of the track-way and work on the modern reservoir, consequently, it is almost non-existent. It is possible that it formerly continued to join the hedge H8.

3.2.2 Hedge H2 (Figures 8-15)

This is the large bank that dissects the valley north/south at the base of St Catherine's Tor and the subject of the enclosure bank forming the 'Swan Pool'. In its present appearance, it is as a stone faced wall on both sides with a stone coping on the north-west face in the form of a corn ditch. The fill is of compacted earth/clay layers (Figures 14 & 15) which is now exposed at the southern face where a cattle shelter was inserted into the bank (Figure 13). The top of the hedge is 1.1m high and in the form of a domed earth cap now turfed (Figure 11). The western end of the bank abutted the stream but was reduced due to erosion to the extent whereby c.3m was cut back to form an access gateway. Originally a stile was in situ at this point and the stream/enclosure had evidence of a restricting feature such as a weir. The 'new' end has been stone faced to form a circular final and thus corresponds with other such gateways on the greater Barton Estate.

Within the Hartland Abbey document archive are a series of letters from the Hunting Committee (Gorvin Hunt). One such letter describes how the recent heavy flooding had washed away the hound kennels and buildings in the Hunting Marsh. It recommends that to avoid such an incident in the future then a substantial bank should be constructed across the valley. The measurements contained in the letter match the dimensions of Hedge H2 and should be possibly considered as one and the same. If this 'new' bank is excluded then the lower embanking (Figure 9) on the north of H2 can be seen as the original water retention banks associated with the similar banks in the valley.

The north-east end of hedge H2 adjoins H3, but may have originally continued into the incline of the natural hillside thus forming a possible coffer dam. On the west of H2 is a series of small earth embankments (Figure 9) running parallel to the main hedge, which could be seen as a double bank and ditch system or could be the relict feature of an earlier hedge construction whereby the west face was banked to form a more traditional corn ditch appearance (Figure 6). In relation to the above mentioned Hunting Committee letter, it would seem a peculiarity that this small embankment survived the building of the larger hedge, as, if the smaller unit was part of a previous water impounding system this would be made redundant by the new hedge and therefore, the small bank could be robber material for the new bank. If a section through the smaller bank and a comparative study of the base of the larger bank were made it could be discovered if they are of the same initial build period. One would expect any downstream embankment of any water impound to be made substantially stronger than the upstream banks.

3.2.3 Hedge H3

This hedge forms the north boundary of the enclosure and runs parallel with the general hillside below Big Sheepless field. It is double stone faced with compacted earth fill and earth/turf top. The unusual feature is that the hedge has a stone overhanging coping on both faces which would seem to be a contradictory feature as it would effectively exclude stock from either direction. The gradient of the adjoining hillside is such that an animal could, with relative ease jump, the gap onto the hedge (Figure 12).

3.2.4 Hedge H4

As traditional Devon earth bank it forms a break between the St Catherine's enclosures and the Kernstone Valley at Wester Wood the valley floor is wet marshland (Figure 16). A small stream runs against this hedge on the south eastern face discharging into the Wargery Water stream outside of the impounding banking of the valley.

3.2.5 Hedge H5

Forms the boundary between the St Catherine's enclosures and Kernstone Cliff Field; it is a dry stone construction with light earth jointing and a turf cap, and runs south until the Spekes Beach cliff face. Two similar hedges exist on the Stoke Barton Estate both being on the Warren field. These two hedges have evidence of the reuse of materials from a substantial building and in particular the stone stile is made entirely of decorative stone.

It would be expected that if the area had been flooded for a period then a layer of water born sediment, sands and detritus would be evident. There is no similar evidence of sediment layers in the river banks to support controlled flooding; this may be due to the enclosure of such water within the secondary stage embankment on the valley sides (Figure 17).

3.2.6 Hedge H6/H7

These banks form the boundary between the base of St Catherine's Tor and the valley. H6 forms a distinctive feature of the valley side and forms a bank and ditch system which could at one time been an access track which may have ran in a zigzag to the summit of the Tor (Figures 18-23). There is no evidence of any stone face or any coping stone. H6 on the north effectively stops where the two meadow enclosures meet at the stream, the bank being absorbed back into the natural slope of the Tor. On the south,

H6 is absorbed back into the slope of the Tor. A deteriorated small earth bank runs parallel to the cliff face on the south and is similar in size and construction to other such banks edging the stream. Hedge H7 is the re-emerging H6 at a position west of the coffer dam (H2) and is stone faced on the north, but unlike H6, has no significant track or ditch against the hillside. There is some evidence of stone faced embankment remaining on the east bank of the stream against St Catherine's Tor, although the longer stretches appear to have been lost by water erosion.

3.2.7 Further hedge systems on the Warren

Three easily determinable styles of hedge are apparent on the Warren. The large earth bank either partially supported on or faced with stone, traditional Devon hedge of compacted earth and dry stone walls.

The two sections of dry stone wall are recorded on the Tithe Map (1846) in both locations as is the dry stone wall at St. Catherine's. The two areas vary in the size and composition of the stones used with those on the Warren being of a larger dimension. These walls are also of a greater breadth than the St Catherine's dry stone wall. The stone stile in situ on the Warren that accompanies hedge W4-W6 contains elements that have come from a lost building of some status. The age of the stile is unknown although in construction it matches others found in the boundary of the medieval deerpark. Local tradition has it that the series of stiles running from Hartland Quay through to the east end of the church yard at Stoke were in place to allow local access to the Quay without having to pay the toll charge on the improved road (c.1760). No documentary evidence has arisen to support this although an amount of correspondence does exist in the Hartland Abbey Archive in regard to the usage and service dues of tenants on the estate in regard to access to the road.

The area known as the garden adjacent to Sheeplace field and surrounded by hedge W16 shows evidence of domestic use. The hedge in its southern run is in the style of a corn ditch although its height is less than may be expected. This hedge translates into a more substantial section W17-W18 stone faced with compacted earth core and corn ditch capping. The east face of this hedge shows evidence of a lost building. All hedges are in the process of degradation and the extant features will be lost without maintenance and animal control. Where cattle or sheep have broken the banking evidence can be seen of pottery and bottles dating from the 18th century to modern. The deeper within the breadth of the hedge to earlier the samples.

3.3 Discussion

The hedge and banks within the area form an interesting mix; the traditional earth bank is evident as is a simple stone wall boundary. The double facet corn ditch raises some question on its purpose; although the Stoke Barton Estate contains a considerable number of standard corn ditches which can be seen as indicative of the control of animals most probably associated with a sporting estate. When the result of this small hedge survey is included within similar research of the greater estate, it may be that there are indications of a general improvement of the estate circa the 18th Century. Certainly there is evidence of further substantial hedge structures on the south of the estate that would place them in a classification of 9 or above, which is well above the estate average, some of these have been reduced in width by mechanical means in the 1950s, but evidence of their original size exists at the junctions with adjoining hedges.

Data within the survey of both areas indicates that hedges in category 1 are evenly distributed across both areas. Category 2 hedges are slightly more in evidence on the Warren. Category 3, 4, 5 & 9 hedges are all predominantly on the Warren. This result indicates that the hedges on the Warren being of greater dimensions and built at greater labour costs could be earlier than the lower category hedges. This cannot be taken as conclusive on such a small sample of the estate hedges and with no comparator outside the estate taken. It does however give an indication of the potential of this type of survey work. As these hedges are all in the extreme coastal area vegetation is minimal and no recording of species has been undertaken.

With regard to the hedges and embankments in the St. Catherine's valley comparison taken from GPS readings would show any correlation between levels of the larger banks within the valley and if they are at a consistent level at which water could have been retained by them. If this is shown, then water to a depth of 1.6m would exist over a substantial area of land. The stream through the valley would appear to have been subject to embankment and a number of small linear earth banks are extant on the stream edge. These could also have performed a retaining aspect for any water in the formation of the early 'Swan pool' (Figures 22-23).

4 GPS Survey, Summer (2008)

4.1 Aims

- (1) To allow volunteers to gain experience in the use of GPS survey equipment.
- (2) To produce an initial mapping diagram to allow evaluation of the valley meadows.

4.2 Method

Grid reference points were recorded with a Leica GPS system 500 and Total Station TCR1205. The perimeter of the valley meadows was recorded at approximately 2m intervals. Two traverse lines of the north meadow running SW–NE and one line the length of the same meadow running N–S were taken at approximately 0.5m intervals. In the south meadow, a small area in the south-east corner was traversed in a W–E direction to take account of earthworks of a visible feature. Within the south meadow, other possible earthworks exist of a similar nature, but are less well defined visually.

The data points were first processed in Leica Geo Office program (Figure 25) and then downloaded into Copan Lite from Underhill Geomatics Ltd. This software gives a visual display of all the plot points and reassigns a point number to each recorded data log (944 in total). It is possible to then draw off a tabular table of the Northings, Eastings and Elevation data and produce a diagram of the survey points (Figure 24). There is no facility in this Freeware programme to produce diagrams in the third dimension.

Comparison with the produced display and satellite imagery has shown that within reason and acceptable for our purposes the GPS data co-locates with all perimeter markers.

4.3 Analysis

The traverse runs had the potential to show the gradients of the meadows and if the levels of the earthworks across the site were possibly able to retain water to any depth.

An elementary schematic (Figure 26 & 29) has been produced by entering the elevation readings associated with each run, taken from the data entered this into a spreadsheet. This has allowed a visual representation of the terrain, but is inaccurate in as far as the spacing between each recording is neither consistent nor easily measurable. Therefore the visual representations are either contracted or expanded as the spreadsheet only assigns a reading per data point.

However the diagrams do show that the terrain does rise and fall. What is particularly noticeable is Section-1 (Figure 27) that shows the existing river level, the retaining bank and the meadow floor, and from this illustration we can see that it would be capable of retaining a substantial amount of water.

4.3.1 Section-1 (Figure 27) shows the existing river level, the retaining bank on the left (S-W) and the meadow floor, which from this illustration would be capable of retaining a substantial amount of water. It is considered the depression shown at data point 51 is an anomaly in the data extraction.

4.3.2 Section 2 (Figure 28) shows the traverse of the length of the north meadow (220M), starting from the large earth bank and running towards the track way in the SE corner of the meadow. The ground in the SE rises sharply and the walker has aimed for the highest point. It would have been beneficial if a similar run was made taking recordings only on the lower areas in which a water pool would have been practical.

Similarly the two recordings over the feature in the south meadow (sections D & E below) suffer from the lack of scaling using the spreadsheet. They do however show that a feature exists (Figure 29).

It may be possible to re-plot this data by hand on a graph sheet if the spaces between GPS recording can be sufficiently discovered. This would then allow a more accurate portrayal of the scale of the earthworks within the terrain. It is not proposed to undertake this as the exercise was to show feasibility of the study method for discovering if a water retaining pool could exist in this location and this has been achieved.

Unfortunately it has not been possible to recover all the data from the GPS system in a useable format. The areas shaded Blue in Figure 26 show the lost data although Figure 25 taken from the GeoOffice software shows the data exists but is being masked.

5 Investigation

5.5 Discussion

It has been shown that the Tor valley system does contain a series of earthworks sufficient to be considered as a water retaining pool. It is also possible that there is a two stage development in construction of the pool, possibly the early 12th Century pool with a rebuild in the 18th Century.

Although the documentary evidence does not confirm the use of the Swannery, the evidence on the ground could be suggestive of supporting some form of water impounding and control. The large bank across the valley is a formidable barrier and would be capable of retaining a large volume of water although it is doubtful if the height of water was anywhere close to the capacity at first indicated by the size of the barrier. This gives support to the Hunting Committee letter.

It would seem probable that the secondary banks on the edge of the stream represent the extent of the water retained, thus a depth of no more than 600mm at its western (deepest) end plus an allowance for sedimentary build up. To operate as a pool within the secondary banks it would need an access point with weir or sluice gates for the water from the stream to become impounded at a point close to Wester Woods. If such a control was static by use of simple overflow weirs or with the use of sluice gates is not known or identifiable. On the estate there are further examples of water control primarily for the use of the mills all of which use a first stage overflow weir, with storage ponds and finally a sluice at the mill wheel for control. However a mechanism existed in the river system at Cuckoo wood which was a hand controlled sluice allowing water to enter an open leat supplying an ornamental cascade.

From the layout of the secondary banks (Figure 16 & 22) it would appear that water from the side stream running down from Big Sheepless and Quarry Fields supplied a steady source of water. A form of sluice may have operated on the main stream at a point below Kernstone Cliff Field, therefore, providing additional water if and when needed.

The water could be impounded to a depth of approx 600mm against the stream running to 0mm on the north meadow edge thus forming the marsh as described by John Velly in his response to Dean Milles.

To control the water level a weir would have been sited on the north-west corner of the pool adjacent to the coffer dam (H2). The evidence for this structure is within living memory, along with an inserted stone step stile in H2 at this point. There are two large dressed stones in the stream bed which evidently formed part of the weir (pers. comm. D. Cook & S. Littlejohn)

The secondary banking on the south of the stream may have acted in reverse and prevented water ingress into the second valley enclosure. However the banking on the southern cliff edge is complimentary to the southern river embankment and could have contained an early second pool. The evidence for further smaller enclosures within the south meadow is strong. If these were smaller holding tanks or for other agricultural purposes is unknown at this stage.

No attempt has been made to address the existence of a chapel or beacon on St Catherine's Tor and as the top has eroded to such an extent that any artefact or sub-surface evidence will have been lost. The remaining track and the embankment at the base indicate that a need was felt for access to the summit and some form of division from the remaining landscape. If this was for an early religious purpose or possibly as an enclosure of a piece of land for use as an extension of the existing Warren, both could be accepted as reasonable explanations.

6 Conclusion

Within the landscape there exists enough evidence to be able to suggest that the physical means were present to enable water to be impounded, that a suitable source of water was available and that further improvements to the area had taken place at a later date. These improvements and the size of the coffer dam (H2) are such that they visually create a false impression of the relict Swan Pool as being up to two metres in depth on its northern end. This would be unsustainable geographically due to the presence of the cliff face on the south or the height of the secondary banking. Therefore any pool would have been of a shallow nature extending across the enclosure into the marshland below Wester Woods, the reason why a pool was located in this valley at such a distance from the religious house is unknown as the geographic circumstances exist within the Abbey valley for numerous such features. If indeed the benefit of the Swan pool was for the Abbot then it would enlighten on further aspects of the property associated with their landholding. Further investigation of the reputed fish weir and pond in Smoothlands valley on the north of Blegbury Farm, Hartland and the provenance of the fish pond adjacent to the present Abbey building may add to our knowledge.

7 Recommendations

This report represents an initial stage of an archaeological investigation, presents the analysis of the results and provides a record that can be used to target further assessment and analysis.

At the conclusion of this report the following tasks have been achieved:

This report forms part of the archive outlining the results of a hedge survey and a GPS topographical survey.

To continue with the research it is recommend that the following forms of investigation are conducted:

- To understand the composition of the sub-soil layers, a small number of core samples should be taken from both enclosures.
- Systematic field walking of the immediate surrounding area.
- To provide a complete survey of the area by GPS., a recording grid of 1m x 0.25m points should be laid out across the two meadows. The subsequent data would allow a full three dimensional illustration of the area.
- A further option would be to investigate if this area has been covered by the Lidar imaging and if this has produced further information.

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Figure 1: Location of site at Hartland, Devon (OS Web site 2007)



Figure 2: Location of St Catherine's Tor/Swannery site, Devon (OS Web site 2007)



Figure 3: Dry River Bed at Childspit Beach, looking north (50cm marked rods)

$$v^3 = ((H1+H2)/2) \times ((B+T)/2) \times 1 \text{ or length}$$

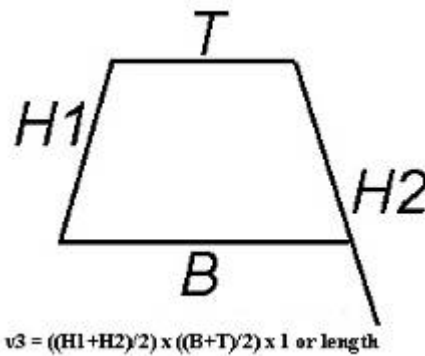


Figure 4: Formulae used to calculate the area of a cross-section of a hedge bank

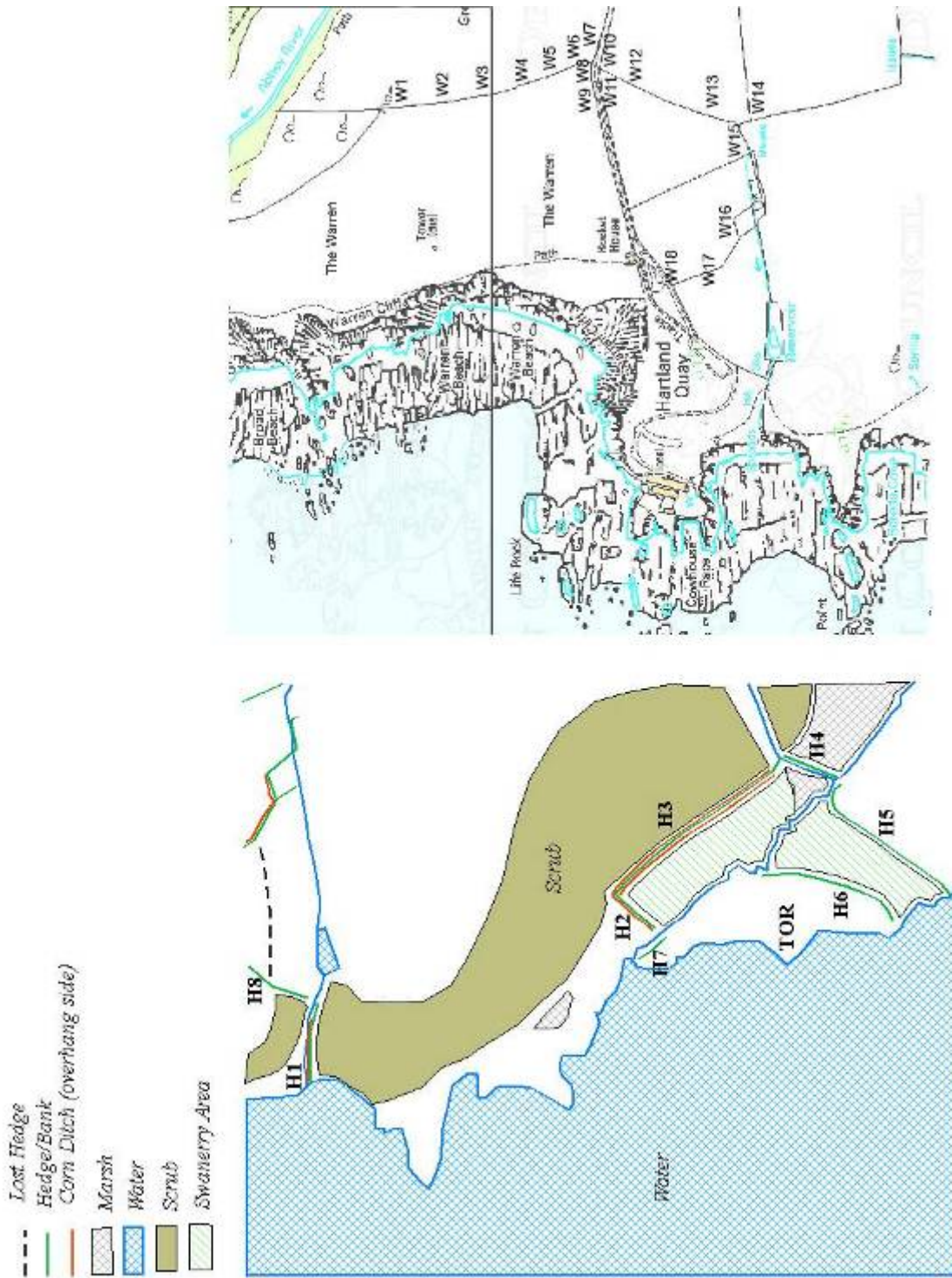


Figure 5: Layout of study area showing hedge survey identifications

ID	H1	H2	Top	Base	Volume	Class	Description
H1	1.76	1	0.86	1.7	1.93	2	Corn ditch stone faced earth top and fill
H2	1.66	2.5	7.8	8.52	16.97	17	Large earthworks (corn ditch), stone face, earth fill earth cap
H3	1.6	1.3	0.9	3.18	2.96	3	Double faced corn ditch, stone faced earth cap and fill
H4	1.2	1.1	1.6	2.3	2.24	2	Earth bank
H5	1.3	1.2	0.6	1	1.00	1	Stone hedge, earth top
H6	1.4	0.68	0.75	1.2	1.01	1	Freestanding hillside bank all earth
H7	1.6	0	0.7	1.1	0.72	1	Embedded hillside bank, stone face
H8	1.1	0.7	1.5	2.2	1.67	2	Stone faced, earth cap and fill
W1	4.0	7.0	2.15	1.3	9.49	9	Earth with stone base layer and walling
W2	2.1	1.4	2.4	1.27	3.21	3	Stone faced both sides, packed earth core
W3	1.5	1.5	2.65	1.35	3.00	3	Earth bank, stone base walling to 1m high, End of wall rounded to form gate opening
W4	2.0	1.4	3.0	1.8	4.08	4	Earth bank, stone base walling to 1m high, End of wall rounded to form gate opening [gate opening now filled in with dry stone wall
W5	1.4	1.3	0.9	0.75	1.11	1	Dry stone wall
W6	0.95	0.95	0.93	0.85	0.85	1	Measured at the gate opening, dry stone wall
W7	1.5	1.5	4.0	2.9	5.18	5	Stone base to height of 0.8m, packed earth bank on top.
W8	1.0	1.2	2.4	1.6	2.20	2	Stone base to height of 0.8m, packed earth bank on top.
W9	1.5	1.4	4.0	2.9	5.00	5	Stone base to height of 0.8m, packed earth bank on top. Rounded end at gate.
W10	1.3	1.3	1.8	1.1	1.89	2	Stone faced packed earth core
W11	1.5	1.75	2.8	1.45	3.45	3	Stone faced on north side, earth faced on south side
W12	1.2	1.2	1.1	0.7	4.86	5	Dry stone wall
W13	1.0	1.1	1.25	0.7	1.02	1	Dry stone wall, rounded end at gate opening
W14	1.8	1.6	2.9	1.9	4.08	4	Large stoned face packed with earth core
W15	1.5	1.5	2.2	1.5	2.78	3	Stone back and sides for 3m from gate opening then packed earth bank. Rounded end at gate opening (some 16 th century bricks in walling)
W16	0.8	0.8	2.0	1.2	1.28	1	Stone faced on east side, sloped earth bank on west side. Corn ditch top.
W17	1.1	0.75	2.9	2.3	2.41	2	Stone faced both sides packed earth core. Corn ditch top.
W18	1.5	1.2	2.35	1.64	2.69	3	Stone faced both sides packed earth core. Corn ditch top.

Table 1: Hedge size and classification

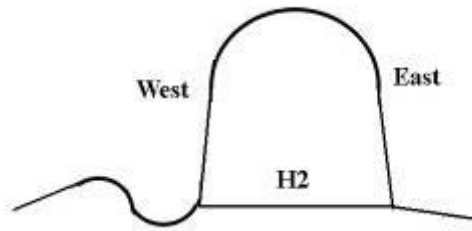


Figure 6: *Diagram of possible bank and ditch system at H2*



Figure 7: *Hedge H1 viewed from the north*



Figure 8: H2 viewed from north west



Figure 9: H2 looking north east



Figure 10: H2 showing depth of the earth/turf cap



Figure 11: H2 showing the width of the bank looking south west



Figure 12: H2 north west corner of H2/3



Figure 13: H2 Inserted cattle shelter on south east face



Figure 14: H2 showing the compacted earth infill layers (west)



Figure 15: H2 showing the compacted earth infill layers (east)



Figure 16: H4 from the north west



Figure 17: Erosion of bank on the valley stream looking south



Figure 18: H6 looking north



Figure 19: H6 looking north



Figure 20: H6 looking north



Figure 21: St Catherine's Tor from the east showing path to summit



Figure 22: Earth bank parallel to stream forming two enclosures within the valley



Figure 23: Earth bank against the west edge of 'Swan Pool' enclosure



Figure 24: *The initial 'New' data logging output (Copan)*

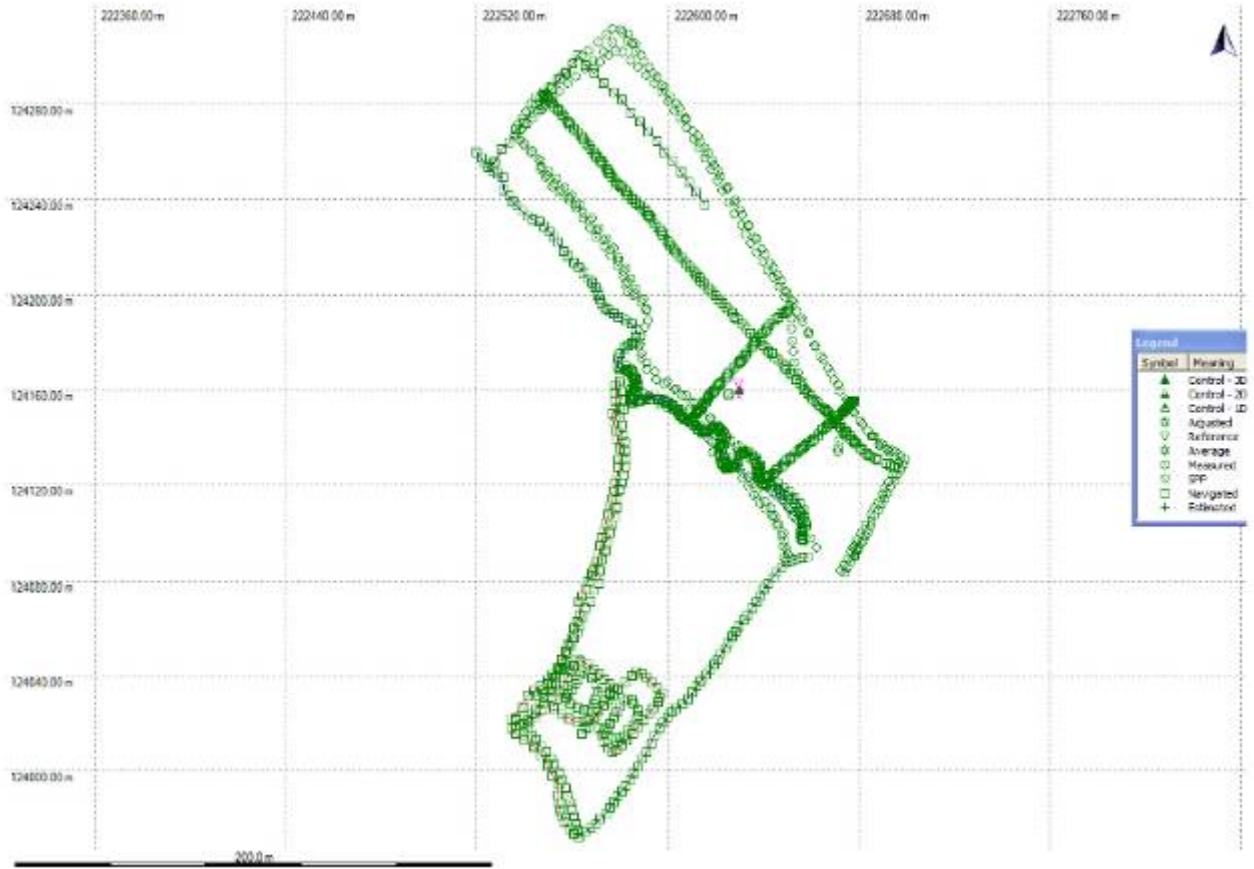


Figure 25: Recovered GPS data plot (Geo Office)



Figure 26. Drawn mapping from new data extraction, showing traverse section runs (red) and lost data areas (blue)

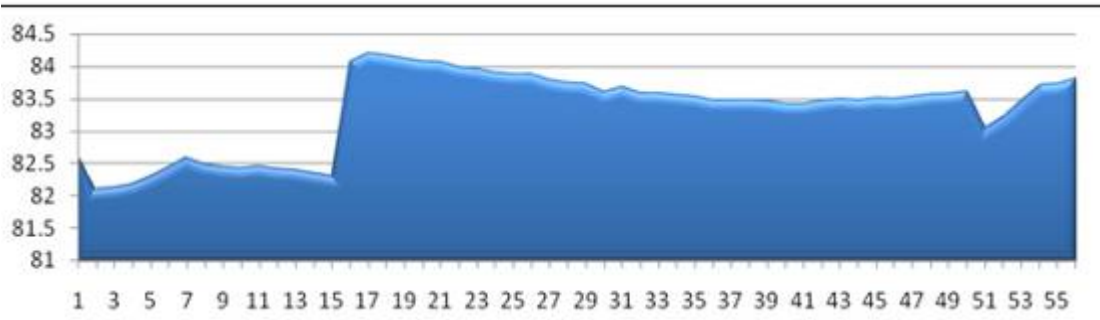


Figure 27: Section 1 (section A below) length of traverse is 60m

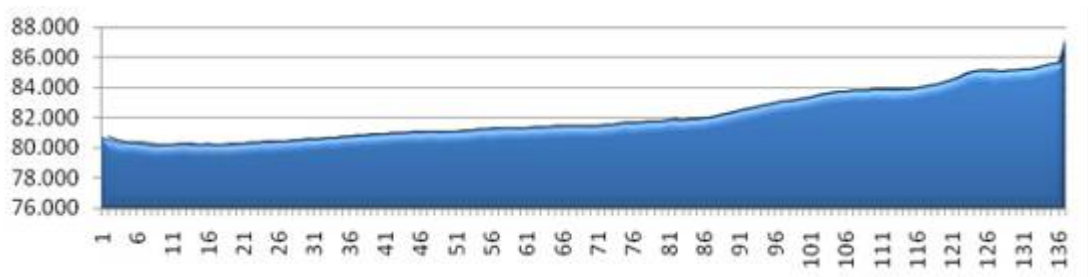


Figure 28: Section 2 (section C below) length of traverse 220m

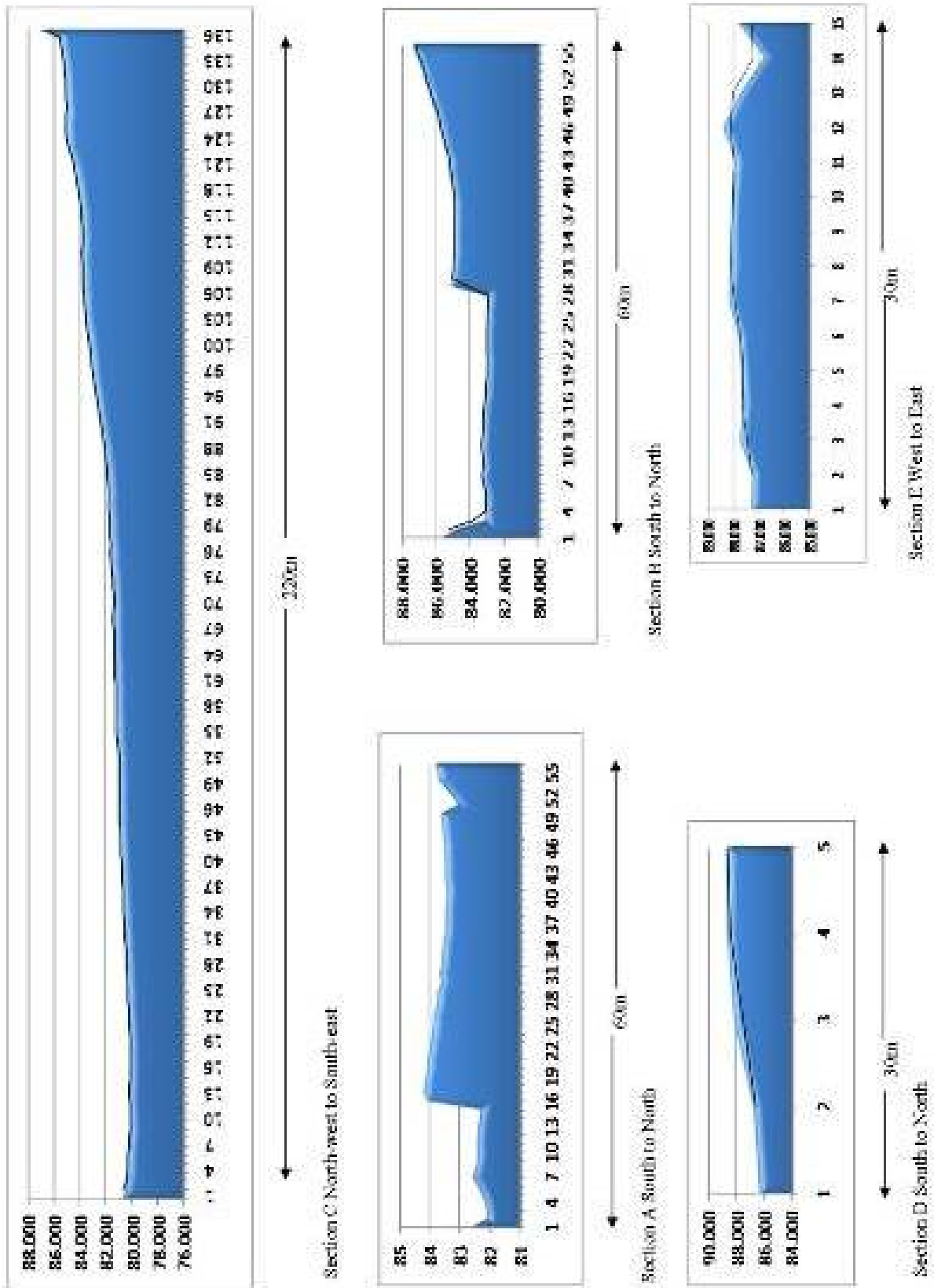
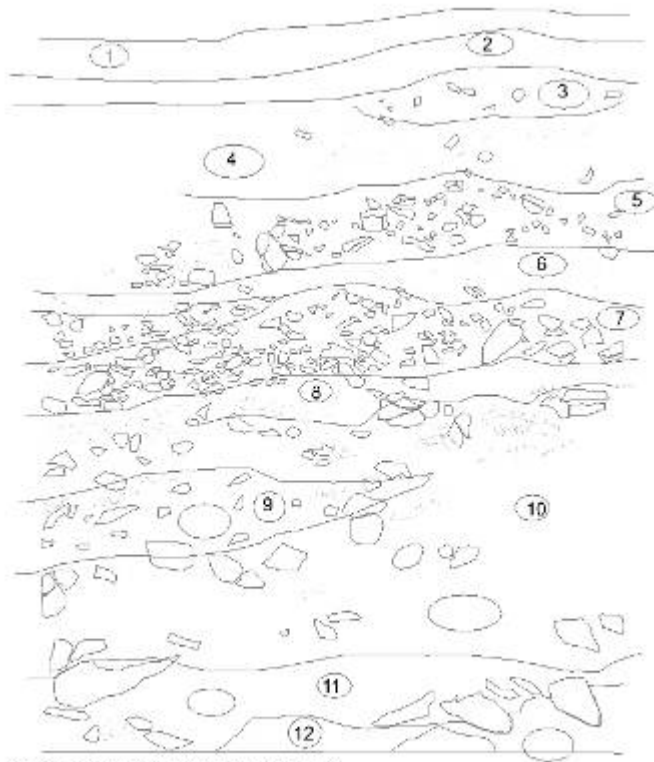
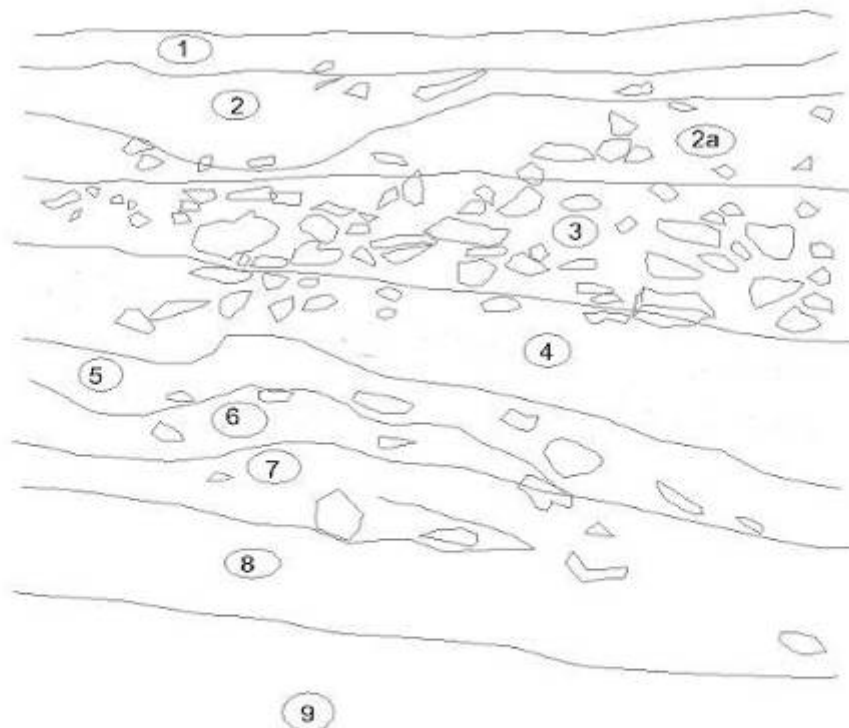


Figure 29: Section created by data entry into a spreadsheet (not to scale)



Section of eroded river embankment -1

Layer	Description	
1	Existing grass land turf	
2	Existing top soil depth of approx. 90mm	
3	Small lens of topsoil and water washed stones	
4	Sub soil, some water washed stone also normal field stone	
5	Layer of mainly water washed stone with 25% gravels	
6	Compacted original top soil	
7	Sub soil heavy with field stone, small lens of clay with stone content	
8	Small lens of clay with gravel and small stone	
9	Lens of gravel and small stone 40/60%	
10	Heavy sub soils with field stone (over 20mm) some gravels 10%	
11	Heavy red clays with some stone (over 200mm)	
12	Present water levels, on heavy clay bed with stone and elements of bed rock	
<p>This section of the embankment has been exposed by the river eroding the retaining banks. It is a typical section of such banking along the length of this river section. This particular section has been used to illustrate the core (2) of the raised bank. Height of section is 1.02m from water level</p>		



Section of eroded river embankment -2

Layer	Description	
1	Existing grass land turf	
2	Existing top soil depth of approx. 90mm with a deeper section containing increased small stone 10%	
2a	A mix of top soil and water washed stone (10%) with some gravels (25%)	
3	Heavy layer of sub soil with extensive stone content (65%) (between 150-300mm)	
4	Sub soil with clay content some small stones (less than 150mm) gravel content (40%)	
5	Compacted red clays little stone or gravels	
6	Lens of clay with small stones and gravels (60%)	
7	Lens of clay with small stones (150mm)	
8	Red clay little stone present	
9	Water level on red clay	
<p>This section of the embankment has been exposed by the river eroding the retaining banks. It is a typical section of such banking along the length of this river section. This particular section has been used to illustrate a linear section of the banking where over 60% of the depth of such banking has been lost.</p>		

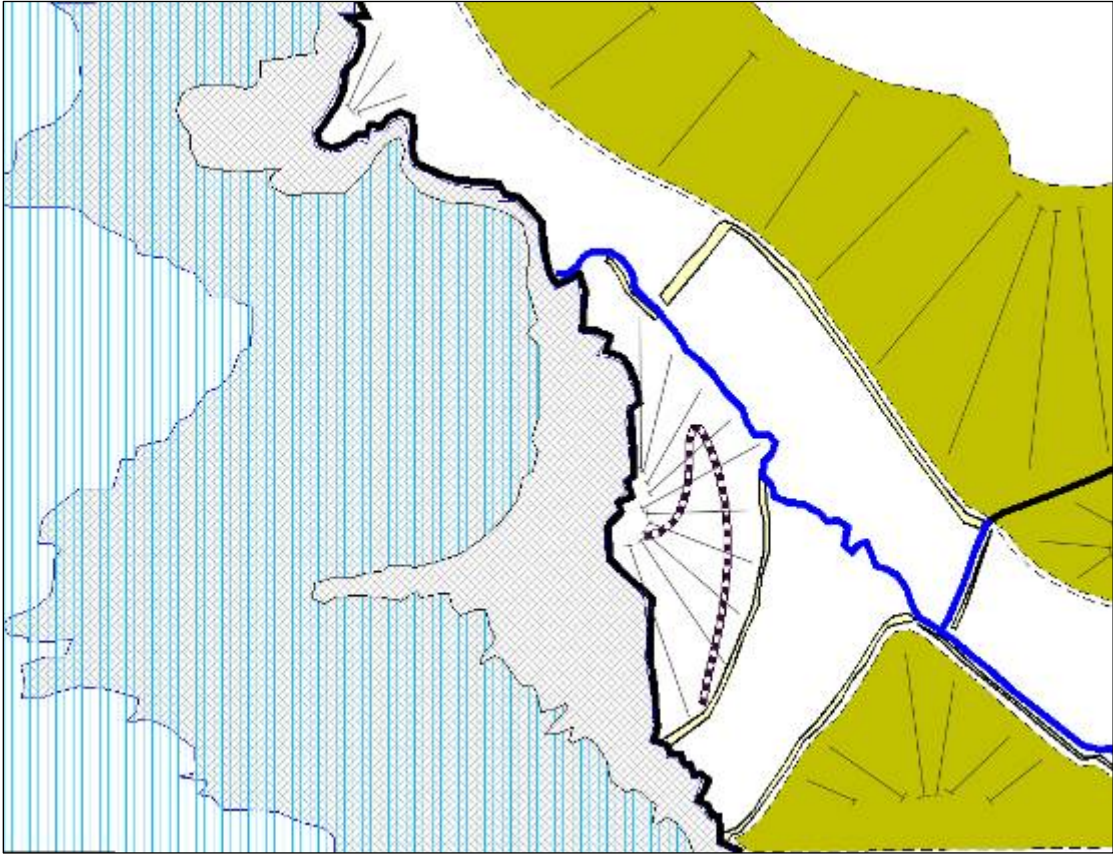


Figure 30: Schematic of the area (north top)

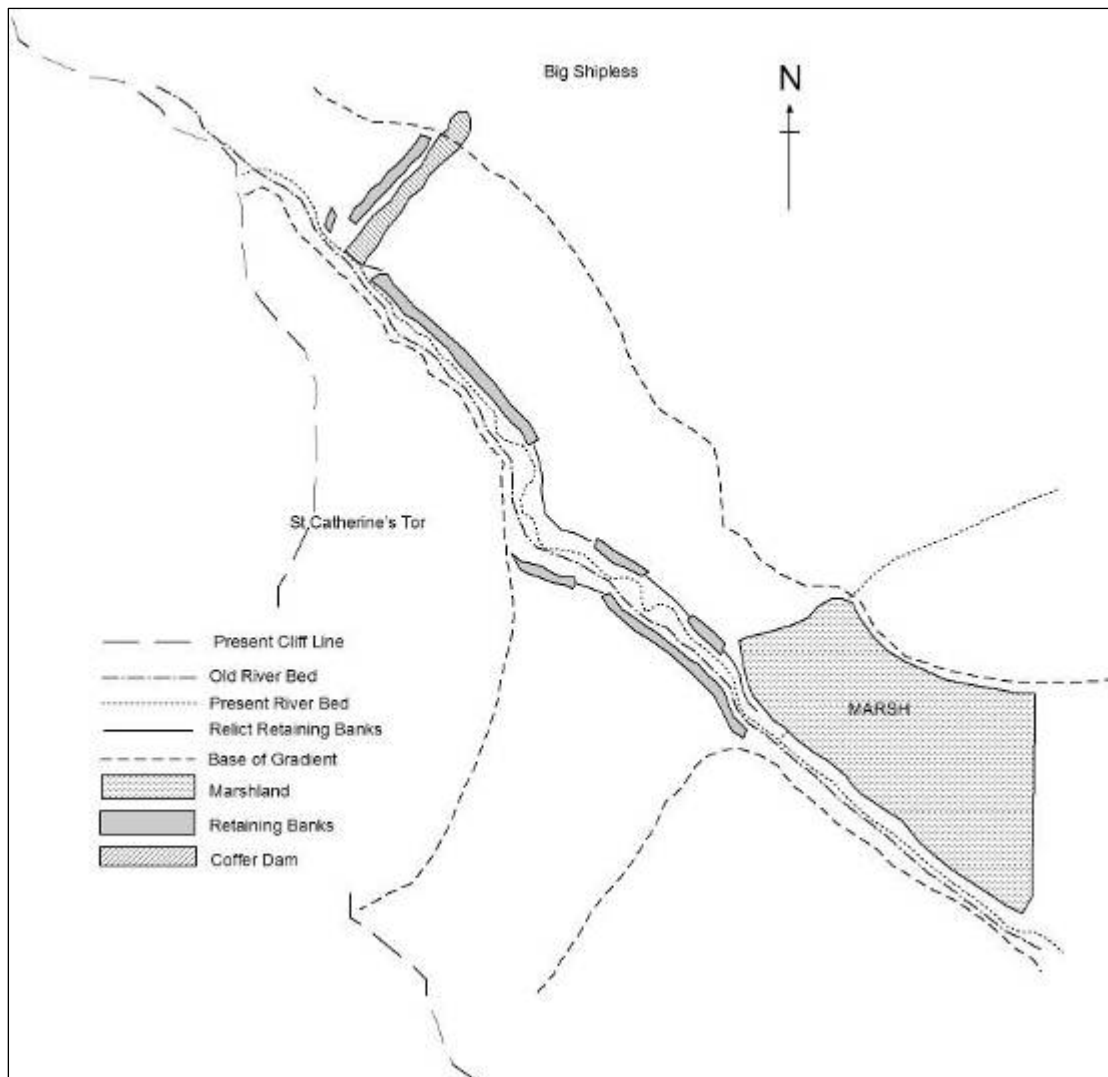


Figure 31: Layout of the Swan Pool area showing retaining banks

9 APPENDIX 1

Tabular data extraction of GPS survey

Point Id	Easting	Northing	Ellip. Hgt.	Posn. + Hgt. Qlty
topban13	-	-	-	-
R248	222519.8	124259.9	77.135	9.3064
R247	222521.8	124257.5	77.0579	9.2822
R246	222523.4	124255.5	77.2377	9.2856
R245	222525	124253.8	77.4154	9.2786
WB01	222525.7	124254.2	80.9796	3.6855
R244	222526.7	124252.5	77.4006	9.2851
WB02	222527.4	124256	81.1519	3.6919
R243	222528.8	124250.6	77.7973	9.2889
WB03	222530.6	124261.5	80.8453	4.177
R242	222530.8	124249.6	78.4379	8.1243
R241	222531.4	124244.1	76.3292	7.6226
R240	222533.2	124241.8	76.6921	7.0469
WB04	222533.6	124264.1	81.9034	3.5359
BT45	222534.6	124021.5	91.344	4.568
BT46	222534.9	124017.9	90.534	4.6418
R239	222535	124239.3	77.2898	7.0406
gate06	222535.9	124266.8	-	0.0085
BB118	222536.3	124021.3	87.6155	5.3851
BB119	222536.4	124022.1	89.6732	4.4963
WB05	222536.4	124269.3	80.7944	5.1594
BT47	222536.6	124015.5	89.6683	4.5623
R238	222536.7	124237.4	77.4412	7.0398
bank base01	222536.8	124267.4	-	0.0085
bt1000	222537.2	124271.6	-	0.0086
BB117	222537.7	124019.2	86.8601	5.7345
bank top47	222538.1	124265.2	-	0.0084
gate05	222538.4	124269.3	-	0.0085
wallbase49	222538.6	124270.1	-	0.0085
R237	222538.9	124235.2	77.8627	7.036
bt1001	222539	124274.3	-	0.0086
TB310	222539.4	124020	86.0354	5.3297
BB01	222539.5	124026.5	88.0075	4.9235
WB06	222539.6	124272.5	81.7535	4.6449
BT48	222539.7	124013.1	88.7026	4.4642
bank base02	222539.9	124263.7	-	0.0083
BB116	222540.2	124017.3	86.3564	5.42
bank top46	222540.3	124263.1	-	0.0082
bt1002	222540.7	124277.3	-	0.0087
BB130	222540.9	124017.3	87.9354	4.779
wallbase48	222541.2	124272.2	-	0.0085
R236	222541.2	124233.5	77.9327	7.0273
BT44	222541.5	124031.6	87.7504	5.2628
TB309	222541.7	124021.1	86.7981	4.3958
BB129	222542.5	124020.6	85.5016	5.418
WB07	222542.5	124276.2	81.5676	4.2752
bt1003	222542.6	124280.3	-	0.0087
bank top45	222542.8	124260.1	-	0.0081
BB115	222542.9	124015.1	87.4014	4.5017
bank base03	222543.1	124260.4	-	0.0081
TB308	222543.2	124023.5	85.5049	5.3331
wallbase47	222543.7	124274.6	-	0.0085
R235	222543.7	124231.7	77.8772	7.0168
BT49	222544.3	124009.9	87.5069	4.6055
BT43	222544.3	124033.4	86.8771	5.197
build06	222544.4	124280.7	-	0.0087
BB128	222544.5	124022.9	85.3204	5.4332

bt1004	222544.6	124282.9	-	0.0087
TB307	222544.9	124025.9	85.1869	5.3372
BB114	222545.1	124012.8	87.3807	4.6076
BB02	222545.3	124031.8	86.3759	4.8936
bank top44	222545.6	124257.2	-	0.008
WB08	222545.6	124279.9	81.2275	4.3174
R234	222546.2	124230.7	77.4493	7.0041
wallbase46	222546.4	124277.7	-	0.0085
TB306	222546.4	124028.3	85.073	5.3392
bank base04	222546.5	124256.3	-	0.0079
BB127	222546.5	124025.5	85.088	5.4302
bank top48	222546.6	124252.8	-	0.0078
build01	222546.8	124277.9	-	0.0085
BT42	222546.8	124035.8	86.4425	5.0489
BB113	222546.8	124010.3	87.3548	4.6387
BT50	222546.9	124006.2	87.5638	4.6359
bank top43	222546.9	124253.8	-	0.0078
bt1005	222547.5	124285	-	0.0087
BB03	222547.7	124034	85.9676	4.8998
build02	222547.8	124279	-	0.0085
build05	222548.1	124284.4	-	0.0087
R233	222548.2	124228.7	77.3824	6.9873
59	222548.2	124284.3	80.7796	4.0171
BB126	222548.2	124028.2	84.8988	5.439
TB305	222548.3	124030.8	84.8109	5.3322
WB09	222548.5	124282.8	82.4591	4.8905
60	222548.6	124284	80.594	4.0134
wallbase45	222548.8	124280.1	-	0.0086
61	222548.9	124283.7	80.4952	4.0439
bank top49	222548.9	124249.6	-	0.0077
BB112	222549.1	124007.9	86.9642	4.6527
BT41	222549.5	124038	86.1649	5.2101
BT51	222549.6	124002.4	88.002	4.3439
62	222549.6	124282.9	80.3487	4.0423
bank top42	222549.7	124250.5	-	0.0077
build03	222549.8	124281.1	-	0.0086
BB125	222549.8	124030.9	84.7342	5.4455
bank base05	222550	124252.2	-	0.0077
BB04	222550.1	124036.5	85.7605	4.9176
TB304	222550.2	124033.5	84.6128	5.3349
63	222550.4	124281.7	80.3656	4.0584
R232	222550.5	124226.7	77.6882	6.9758
bt1006	222550.5	124287.8	-	0.0088
build04	222550.8	124281.9	-	0.0086
BB111	222550.9	124005	87.1409	4.5178
BT40	222551.5	124040.4	86.1145	4.9534
BB124	222551.6	124033.5	84.5435	5.4704
64	222551.6	124280.3	80.3425	4.0753
TB303	222551.7	124036.4	84.6075	5.3401
bank top50	222551.8	124245.5	-	0.0075
wallbase44	222551.8	124282.8	-	0.0086
BT52	222551.9	123997.8	88.1944	4.372
WB10	222551.9	124287.1	82.3767	4.7477
R231	222552.1	124224.4	77.9098	6.9818
BB05	222552.2	124039.3	85.7628	4.9001
TB336	222552.3	124027.1	87.208	6.577
bank top41	222552.5	124246.8	-	0.0075
TB311	222552.6	124025.9	87.1772	6.3652
BB110	222552.7	124002.3	87.2716	4.6052
65	222552.8	124279.2	80.2732	4.0996
BB123	222553.1	124036.1	84.3624	5.486
TB302	222553.2	124039.3	84.6356	5.3546

bank base06	222553.4	124248.9	-	0.0075
bt1007	222553.5	124290.9	-	0.0088
TB335	222553.5	124030.1	86.9468	6.5619
66	222553.7	124278.1	80.2267	4.0814
R230	222553.7	124222.4	77.9573	6.9827
BT39	222553.8	124043.4	85.9992	5.1982
BT54	222553.8	123989.5	87.5127	4.4442
BT53	222554.3	123993.8	87.6371	4.4372
BT55	222554.4	123986.2	87.5967	4.4425
BB06	222554.4	124042.2	85.7034	4.8997
wallbase43	222554.6	124285.7	-	0.0086
BB109	222554.6	123998.8	87.4343	4.6201
BB122	222554.7	124039.3	84.1651	5.4939
67	222554.8	124276.9	80.1585	4.1081
bank top51	222554.8	124242.9	-	0.0074
BT56	222555.1	123983.2	87.4349	4.4932
TB301	222555.1	124042.7	84.4956	5.3433
WB11	222555.2	124291.1	82.8622	4.7912
TB334	222555.2	124033.5	86.8024	6.5496
bank top40	222555.4	124244.1	-	0.0074
BT38	222555.5	124047.2	85.9652	5.0513
BT57	222555.7	123980.9	87.3913	4.4751
TB312	222555.7	124023.8	87.8937	4.7256
68	222555.9	124275.7	80.1918	4.0881
BB108	222556	123996	87.2314	4.5883
BB07	222556.1	124046.5	84.0149	8.3887
BB121	222556.2	124042.2	84.1304	5.5225
R229	222556.3	124218.6	80.4623	4.7993
TB333	222556.6	124036.1	86.6198	6.5394
TB300	222556.6	124045.3	84.2891	5.35
bt1008	222556.7	124293.9	-	0.0088
69	222556.7	124274.6	80.2126	4.1137
bank base07	222556.9	124245.3	-	0.0074
BANKBOT01	222556.9	124029.6	86.873	6.5736
BT58	222557	123978.4	87.3125	4.4698
BT37	222557.1	124050.5	86.3749	5.3798
BANKBOT19	222557.3	124030.7	84.0631	5.3764
BB107	222557.4	123992.7	87.3208	4.6719
WB12	222557.4	124293.3	83.6208	6.1044
70	222557.5	124273.5	80.2425	4.1271
BB08	222557.7	124049.5	83.8961	8.3829
BB120	222557.8	124045.3	84.0176	5.5418
TB332	222557.9	124039	86.622	6.537
BT36	222558	124053	86.2427	5.2795
wallbase42	222558.1	124289	-	0.0087
BANKBOT18	222558.3	124032.2	83.9837	5.3641
BB106	222558.3	123989.5	86.9416	4.6576
R228	222558.3	124216.3	80.4834	4.7944
bank top52	222558.3	124239.9	-	0.0072
71	222558.5	124272.4	80.2722	4.1282
bank top39	222558.7	124241	-	0.0072
TB313	222558.7	124022	88.4975	4.8054
BT59	222559	123975.6	87.2942	4.4938
BB105	222559.2	123986.2	87.1055	4.5762
BANKBOT02	222559.2	124028	86.5566	6.5855
BB09	222559.3	124052.8	83.7761	8.3718
TB331	222559.5	124041.8	86.7385	6.526
72	222559.5	124271.1	80.2172	4.1286
BANKBOT17	222559.6	124034.2	83.9668	5.3806
BB104	222559.9	123983.6	87.1437	4.5722
BT35	222559.9	124055.6	87.1799	5.3128
bank base08	222559.9	124241.7	-	0.0072

bt1009	222560.3	124297.5	-	0.0089
WB13	222560.4	124297.3	84.6429	5.5009
BT34	222560.6	124059.7	85.2272	5.562
BB10	222560.8	124055.4	83.7735	8.3518
BB103	222560.8	123980.7	87.002	4.4935
BT60	222560.8	123973.5	87.1199	4.4962
R227	222560.8	124213.7	80.6297	4.7951
73	222560.8	124269.8	80.2106	4.1349
TB330	222560.9	124044.1	86.7898	6.5284
BANKBOT16	222561	124036.4	83.9214	5.3427
bank top38	222561.4	124238.1	-	0.0071
BB102	222561.5	123977.9	87.0155	4.4918
bank top53	222561.6	124236.7	-	0.007
wallbase41	222561.6	124292.1	-	0.0087
TB314	222561.8	124020.6	87.8659	4.9781
BB11	222561.9	124058.3	83.7267	8.3271
BANKBOT03	222561.9	124026.5	86.7384	6.5878
BT33	222561.9	124063	85.3087	5.1226
74	222562	124268.6	80.2346	4.1302
BANKBOT15	222562.2	124038.4	83.9243	5.354
BB101	222562.3	123975.1	87.1016	4.506
WB14	222562.3	124300.9	84.9498	4.7822
TB329	222562.5	124046.9	86.7502	6.5215
BB100	222562.5	123974.7	87.0972	4.5175
BT31	222562.8	124070.8	81.6182	12.0575
WALLBOT152	222562.9	123972.3	88.3063	5.6642
R226	222562.9	124211.4	80.5444	4.8001
75	222563	124267.5	80.1921	4.1562
BB12	222563.2	124061.2	83.6539	8.3216
BT32	222563.3	124065.6	85.7562	5.1464
bank base09	222563.4	124237.8	-	0.007
BANKBOT14	222563.6	124040.3	84.0004	5.3577
TB328	222563.8	124046.4	86.7615	6.5084
bt1010	222563.9	124300.4	-	0.0089
BANTO32	222563.9	124015.6	87.7372	4.2161
76	222564	124266.4	80.2296	4.1455
BT30	222564.1	124073.5	81.9252	12.0558
bank top37	222564.3	124234.7	-	0.0069
BB13	222564.4	124065	82.9091	8.4856
bank top54	222564.6	124232.4	-	0.0069
BANKBOT13	222564.6	124041.3	84.0314	5.3518
R225	222564.7	124209.3	80.4149	4.7925
TB315	222564.7	124020.1	88.2112	4.9294
BANKBOT04	222564.7	124025.2	87.0285	6.3403
77	222564.9	124265.1	80.2048	4.149
BB14	222565.2	124068.2	81.2876	13.9284
WB15	222565.4	124296.8	84.4604	4.8003
wallbase40	222565.4	124295.3	-	0.0087
WALLBOT151	222565.4	123974.1	87.9473	5.531
BT29	222565.5	124076.9	81.8796	12.0659
BANTO31	222565.7	124017.5	87.738	4.2202
78	222565.8	124263.9	80.2355	4.1537
TB327	222566.4	124044.7	86.8096	6.5036
BANKBOT12	222566.5	124040.4	84.0573	5.3469
R224	222566.5	124207.1	80.3753	4.8053
BT28	222566.7	124079.3	82.0612	12.0779
BANTO30	222566.8	124018.6	88.9171	4.796
79	222567	124262.5	80.2888	4.1616
bank top36	222567	124231.2	-	0.0068
BANKBOT05	222567	124025.7	86.7802	6.6076
TB316	222567.1	124021	88.5175	4.9205
bt1011	222567.1	124303	-	0.009

bank top55	222567.4	124228.3	-	0.0067
BT27	222567.7	124081.7	82.0237	12.0974
BB15	222568	124071	84.167	8.7742
WALLBOT150	222568	123976.1	88.3154	5.4776
80	222568	124261.3	80.325	4.1645
R223	222568.1	124205.4	80.2495	4.7913
bank base10	222568.2	124232.3	-	0.0068
BANKBOT11	222568.3	124039.1	84.1331	5.3383
BT26	222568.4	124083.3	81.2824	12.107
BB16	222568.6	124075.5	82.526	10.1171
BANKBOT06	222568.6	124027.7	86.8418	6.6234
wallbase39	222568.8	124298.3	-	0.0088
TB326	222568.9	124042.8	86.8468	6.5101
81	222569	124260.1	80.3517	4.169
BT25	222569.1	124085.1	81.9662	12.1251
basban1000	222569.2	124295.5	-	0.0087
TB317	222569.2	124022.5	88.724	4.9149
WB16	222569.3	124293.5	83.9046	5.1506
R222	222569.7	124203.2	80.2109	4.7893
82	222569.7	124259	80.4047	4.1812
BANKBOT07	222569.8	124030	86.8617	6.6416
bank top35	222569.8	124227.1	-	0.0066
WALLBOT149	222570	123977.7	89.6403	6.3594
BANTO29	222570	124022.7	86.8739	4.3563
bank top56	222570.1	124224.5	-	0.0066
BANKBOT10	222570.1	124036.5	86.8205	6.6514
BT24	222570.3	124087.9	82.2842	12.1344
83	222570.6	124258	80.3713	4.1827
R221	222570.6	124201.2	80.2864	4.7978
bt1012	222570.8	124306.3	-	0.009
R220	222571	124199.6	80.1132	4.7937
BANKBOT08	222571	124032.5	86.9004	6.6358
BANTO01	222571.1	124017.9	87.2382	4.4051
BT23	222571.1	124091.2	82.4223	12.1534
TB318	222571.1	124025.6	87.0401	6.4764
BB17	222571.2	124078.4	84.0382	8.465
bank base11	222571.3	124227.6	-	0.0066
TB325	222571.4	124040.7	86.9034	6.5013
BANTO28	222571.5	124024.9	86.3534	4.2188
84	222571.5	124256.9	80.4341	4.1747
BB18	222571.5	124084.1	80.6273	12.6476
R219	222571.7	124198	80.1033	4.8018
WALLBOT148	222571.8	123979.9	90.8841	7.163
BT22	222571.8	124094.8	82.3828	12.1548
basban1001	222571.9	124297.9	-	0.0087
BANKBOT09	222572	124034.8	86.9548	6.6479
BANTO02	222572.3	124015.3	87.3137	4.402
R218	222572.3	124196.3	80.1763	4.8125
85	222572.4	124255.8	80.4544	4.1705
BT21	222572.6	124098	82.4848	12.2006
BB19	222572.8	124088.7	80.1603	12.4184
bank top34	222572.8	124223	-	0.0065
wallbase38	222572.9	124302	-	0.0089
TB319	222573	124027.7	87.0356	6.4744
WB17	222573.1	124289	84.0297	5.2879
BANTO27	222573.2	124027.3	85.658	4.7451
bank top57	222573.3	124220.5	-	0.0064
BANKBOT20	222573.3	124017.3	87.6718	4.1958
86	222573.3	124254.4	80.482	4.1701
R217	222573.4	124194.8	80.0005	4.8187
BANKBOT39	222573.4	124016	87.838	4.1585
BANTO03	222573.4	124012.3	87.3055	4.3865

BT20	222573.4	124101.2	82.3602	12.201
TB324	222573.5	124038.6	86.947	6.5048
BB20	222573.9	124092.4	80.2839	12.4993
bt1013	222574.1	124309.5	-	0.0091
87	222574.1	124253.4	80.5096	4.161
bank base12	222574.1	124223.6	-	0.0065
BT19	222574.3	124104.3	82.51	12.2444
WALLBOT147	222574.4	123982	88.1116	5.516
BB21	222574.5	124095.8	80.5056	12.5148
R216	222574.5	124194	80.1817	4.8115
TB320	222574.5	124029.7	87.0738	6.4652
88	222574.5	124252.7	80.5848	4.1668
BANKBOT38	222574.7	124017.8	87.8413	4.1685
89	222575	124251.7	80.5759	4.1715
basban1002	222575.1	124300.8	-	0.0088
BANTO04	222575.1	124009.6	87.2618	4.3965
BT18	222575.2	124108	82.4408	12.2995
BANTO26	222575.4	124029.5	85.5607	4.7543
BANKBOT21	222575.4	124015.2	87.7624	4.162
TB323	222575.5	124036.6	87.0419	6.5062
BT17	222575.6	124110.9	82.5302	12.4778
R215	222575.7	124193.3	80.6556	4.8149
BB22	222575.8	124100.2	80.293	12.6017
BANKBOT37	222575.9	124019.8	87.8253	4.1821
90	222575.9	124250.5	80.6225	4.1681
WALLBOT146	222575.9	123984.3	88.095	5.5175
bank top58	222575.9	124216.6	-	0.0063
TB321	222576	124032.1	87.0041	6.4655
bank top33	222576.1	124218.8	-	0.0063
BT16	222576.5	124114.5	82.644	12.3149
wallbase37	222576.7	124306.1	-	0.009
bt1014	222576.7	124311.8	-	0.0092
91	222576.8	124249.3	80.6964	4.1663
BANTO05	222576.8	124008.1	87.3533	4.3983
BT06	222577	124150.1	82.086	12.2887
BB23	222577	124103.1	80.8036	12.7103
bank base13	222577.1	124219.6	-	0.0063
WB18	222577.1	124285.2	83.9514	5.2696
TB322	222577.1	124034.6	87.02	6.4868
BANKBOT36	222577.2	124022.6	86.795	4.4279
R214	222577.2	124191.9	80.898	4.8049
BT15	222577.3	124117.9	82.554	12.3383
BANTO25	222577.4	124031.9	85.6261	4.7478
WALLBOT145	222577.4	123986.5	88.1234	5.5364
92	222577.6	124248.3	80.6667	4.1618
BB24	222577.6	124106.7	80.6616	12.7819
BT07	222577.6	124146.3	82.1705	12.3085
BANKBOT22	222577.7	124013.4	87.6081	4.1732
BT14	222578.1	124121.1	82.7086	12.3573
BT01	222578.1	124162.1	87.3086	4.6354
BT03	222578.2	124155.7	87.1805	4.4716
basban1003	222578.2	124302.5	-	0.0088
BT02	222578.3	124158.7	86.9994	4.3403
BB25	222578.3	124110.6	80.8013	12.7382
BANTO06	222578.4	124008.9	88.8381	4.8503
BT08	222578.5	124142.6	81.9632	12.3415
BANKBOT35	222578.6	124024.7	86.5216	4.0513
93	222578.7	124247	80.7331	4.1791
R200	222578.7	124169.8	80.9117	4.8203
R201	222578.8	124171.8	80.9959	4.8166
BT13	222578.8	124124.4	82.7732	12.44
BT04	222578.8	124152.6	87.2871	4.7928

BT09	222578.9	124139.1	82.1387	12.3196
bank top59	222579	124212.5	-	0.0061
BB26	222579.1	124114	80.6305	12.7369
BT05	222579.1	124149.7	87.5208	4.8646
WALLBOT144	222579.1	123989	88.0327	5.5328
bank top32	222579.2	124214.6	-	0.0062
R213	222579.3	124190.8	80.8734	4.7873
R202	222579.4	124173.7	81.0674	4.824
BT12	222579.5	124127.8	82.8287	12.4451
bank base14	222579.5	124215.9	-	0.0062
BANTO24	222579.5	124034.3	85.5894	4.7494
BT11	222579.6	124131	82.9207	12.5447
BT10	222579.6	124135.6	82.1183	12.3411
94	222579.6	124246.1	80.7871	4.1758
BB42	222579.7	124164	85.0504	4.6334
BB27	222579.7	124117.9	80.4826	12.7235
R199	222579.7	124168.4	80.9541	4.8227
R138	222579.8	124168.9	82.5368	5.6182
BB37	222579.8	124152.1	80.7687	12.6748
BANKBOT23	222579.8	124013.3	87.7029	4.1772
BB41	222580	124162.8	84.4792	5.0241
BANKBOT34	222580.1	124027.2	86.0893	4.6607
BB36	222580.1	124148.7	80.8081	12.6993
bt1015	222580.2	124311.6	-	0.0091
R203	222580.4	124175.7	80.8867	4.7893
WB19	222580.6	124282.3	81.8827	6.1511
BB28	222580.6	124120.9	80.6785	12.7221
BB35	222580.6	124145.1	80.8368	12.6932
WALLBOT143	222580.6	123991.1	88.1162	5.5437
95	222580.6	124245.1	80.7697	4.1892
BANTO07	222580.6	124010.9	88.8826	4.8325
BB40	222580.7	124159.4	85.1634	4.5498
wallbase36	222580.9	124310.1	-	0.009
bank top60	222581	124208.4	-	0.006
R212	222581	124190.3	81.0469	4.7876
BB34	222581.1	124141.2	80.7971	12.7213
BB39	222581.2	124156.2	85.285	4.525
basban1004	222581.2	124302.2	-	0.0088
R137	222581.3	124168.4	82.5757	5.6388
BB29	222581.5	124124.4	80.6863	12.6922
BANKBOT24	222581.6	124014.8	87.8099	4.2288
BB38	222581.6	124152.3	86.186	5.0457
bank top31	222581.6	124210.2	-	0.006
BB33	222581.7	124138.2	80.9308	12.6918
R204	222581.8	124177.6	80.8577	4.7987
96	222581.8	124244.1	80.8479	4.179
R198	222581.8	124168.1	81.4444	4.8308
BANKBOT33	222581.8	124029.1	86.1505	4.6645
BB30	222581.9	124127.9	80.8002	12.7236
BB32	222582	124134.4	80.8318	12.7039
BB31	222582.1	124131.3	80.8715	12.7251
bank base15	222582.2	124211.3	-	0.0061
BANTO23	222582.3	124037.2	85.5772	4.7546
bank top61	222582.3	124204.3	-	0.0059
WALLBOT142	222582.4	123993.6	88.142	5.5287
bb25	222582.7	124171	-	0.0056
97	222582.8	124242.9	80.8389	4.2017
R136	222582.8	124168.5	82.6968	5.6297
BANTO08	222582.8	124012.8	89.0682	4.8318
R211	222583	124189.3	81.1415	4.7772
wallbase35	222583.1	124306.8	-	0.0089
bank top62	222583.3	124201.5	-	0.0059

bank top30	222583.3	124205.2	-	0.0059
BANKBOT25	222583.4	124017.2	88.1968	4.142
BANKBOT32	222583.4	124030.6	86.2025	4.6712
bt1016	222583.5	124309.3	-	0.009
R197	222583.6	124167.9	81.3539	4.8191
R205	222583.7	124178.7	80.6903	4.7728
98	222583.7	124242	80.8818	4.1851
bb24	222583.9	124168.1	-	0.0055
R124	222584	124156.8	82.8176	4.1709
R123	222584	124156	82.8204	4.1898
R125	222584.1	124157.7	82.8845	4.1788
WALLBOT141	222584.3	123996.5	88.1053	5.5134
bank base16	222584.4	124206.8	-	0.0059
bank top64	222584.4	124169.3	-	0.0055
bb22	222584.6	124161.2	-	0.0055
R122	222584.6	124155.2	82.9729	4.1819
WB20	222584.7	124276.5	83.5559	6.0472
basban1005	222584.7	124298.7	-	0.0086
bb23	222584.7	124165	-	0.0055
R126	222584.7	124158.6	82.9889	4.1773
BANKBOT31	222584.8	124029.8	86.1774	4.6699
R135	222584.8	124168	82.8057	5.6301
BANTO22	222584.8	124039.8	85.6691	4.7642
99	222584.9	124240.7	80.9069	4.1991
R206	222584.9	124179.9	80.6192	4.8164
wt01	222584.9	124305.5	-	0.0088
R121	222585	124154.8	83.076	4.1809
R210	222585	124187.7	81.746	4.9053
R196	222585	124166.2	81.5465	4.815
R127	222585.1	124159.4	82.9975	4.1845
BANKBOT26	222585.2	124019.4	88.0871	4.1159
BANTO09	222585.3	124015.6	88.6829	4.5465
R120	222585.3	124154.8	82.3558	4.1889
R128	222585.3	124160.4	82.7869	4.1616
bank top63	222585.4	124199.6	-	0.0058
R119	222585.4	124155	82.4475	4.2177
R191	222585.4	124156.5	81.1809	4.753
bank top65	222585.5	124164.9	-	0.0055
R190	222585.6	124155.2	81.2133	4.7531
R134	222585.6	124166.8	82.8354	5.6285
WALLBOT140	222585.7	123999.2	88.297	5.5289
R129	222585.7	124161.5	82.2382	4.1788
BANKBOT30	222585.9	124027.8	86.3312	4.6676
bank top29	222586	124200.8	-	0.0058
100	222586.1	124239.5	80.9635	4.1836
R133	222586.1	124165.4	81.977	4.1695
bank top66	222586.2	124160.7	-	0.0055
bt1017	222586.2	124305.7	-	0.0088
R192	222586.2	124158.1	81.1759	4.7606
R207	222586.2	124180	81.0462	4.7307
R130	222586.3	124162.1	82.2254	4.1801
R209	222586.5	124185.4	81.2531	4.4195
R131	222586.5	124163.3	82.1691	4.1731
R132	222586.6	124164.2	82.0863	4.1763
wallbase34	222586.7	124302.5	-	0.0087
R118	222586.7	124154.9	82.4223	4.208
BANKBOT27	222586.8	124021.4	88.0989	4.1078
bank base17	222586.8	124202.5	-	0.0058
R195	222587	124164.3	82.5915	4.5914
R208	222587	124182.8	81.2513	4.3025
101	222587.1	124238.6	80.9851	4.1944
BANTO21	222587.2	124041.4	85.7381	4.7665

R193	222587.2	124159.9	81.4554	4.3443
WALLBOT139	222587.3	124001.7	88.3699	5.5348
bb21	222587.3	124159.1	-	0.0055
basban1006	222587.3	124295.9	-	0.0084
R194	222587.4	124162.4	82.1905	4.3259
BANKBOT29	222587.5	124025.3	87.9377	4.1153
R189	222587.6	124155.6	81.5319	4.3075
BANKBOT28	222587.8	124023.3	88.0484	4.1068
BANTO10	222587.8	124018.6	88.0445	4.3332
bank top23	222588	124178.5	-	0.0055
WB21	222588.1	124272.7	83.7534	4.8298
bank base20	222588.1	124179.2	-	0.0055
R117	222588.2	124155.6	82.3184	4.1956
102	222588.3	124237.5	80.9952	4.1908
wt02	222588.6	124300.9	-	0.0086
bank top22	222588.9	124173.3	-	0.0055
bank top28	222588.9	124197.4	-	0.0057
bank top24	222588.9	124182.6	-	0.0055
BANTO20	222589	124040.7	85.8765	4.7716
R188	222589	124156.3	81.7648	4.3058
bank base21	222589.2	124175.4	-	0.0055
WALLBOT138	222589.3	124004.9	88.4764	5.5474
bank base18	222589.4	124198.5	-	0.0057
103	222589.6	124236.3	81.0529	4.196
bank top67	222589.6	124158.9	-	0.0054
BANTO11	222589.9	124021.1	88.1498	4.293
wallbase33	222590.1	124298	-	0.0085
bank top25	222590.6	124186.4	-	0.0055
104	222590.7	124235.1	81.0085	4.2186
R116	222590.8	124156.1	82.4388	4.1878
BANTO19	222590.9	124039.3	86.0541	4.7865
basban1007	222590.9	124292.6	-	0.0083
bank top27	222590.9	124193.9	-	0.0056
bank top21	222591.1	124168.9	-	0.0054
WALLBOT137	222591.1	124007.9	88.5363	5.5528
R187	222591.2	124157.1	81.7732	4.2917
bank base22	222591.3	124171.5	-	0.0054
bb20	222591.4	124156.6	-	0.0054
bank base19	222591.5	124194.1	-	0.0056
105	222591.6	124233.8	81.046	4.215
bank top26	222591.6	124189.7	-	0.0056
WB22	222591.7	124268.7	84.0826	4.8216
BANTO12	222591.9	124023.6	88.226	4.2735
R115	222592.1	124156.4	82.6192	4.1906
wt03	222592.1	124296	-	0.0084
bank top68	222592.2	124157.6	-	0.0054
106	222592.3	124232.8	81.0864	4.2106
WALLBOT136	222592.9	124011.5	88.6466	5.5534
BANTO18	222593.1	124037.3	86.4035	4.7746
R114	222593.3	124156.3	82.6423	4.1969
107	222593.4	124231.4	81.0205	4.2404
wallbase32	222593.7	124293.3	-	0.0083
BANTO13	222593.8	124026	88.3846	4.2603
R186	222594	124157.3	82.8707	3.6865
basban1008	222594.1	124288.9	-	0.0081
R113	222594.4	124156.2	82.675	4.1991
108	222594.4	124230.1	81.0655	4.2225
WALLBOT135	222594.4	124014.7	88.8861	5.5031
bank base23	222594.5	124167.9	-	0.0053
bank top20	222594.9	124164.6	-	0.0053
WB23	222595.3	124264.7	83.9396	4.9049
wt04	222595.4	124291.5	-	0.0082

	109	222595.5	124228.8	81.0776	4.2452
BANTO17		222595.5	124035.1	86.7803	4.7736
BANTO14		222595.8	124028.7	87.7046	4.3755
R112		222595.9	124156	82.6671	4.2063
WALLBOT134		222596.2	124017.6	88.9979	5.5141
	110	222596.4	124227.6	81.0895	4.2453
BANTO15		222596.6	124030.9	86.7936	4.7574
bb19		222596.8	124154	-	0.0053
	111	222597.4	124226.3	81.1244	4.2547
basban1009		222597.5	124285.4	-	0.008
bank top69		222597.5	124156	-	0.0053
R111		222597.5	124155.7	82.7003	4.204
wallbase31		222597.5	124288.2	-	0.0081
BANTO16		222597.5	124032.5	87.8228	6.887
R185		222597.9	124156.2	83.0314	3.6886
WALLBOT133		222598	124020.3	88.9723	5.5258
	112	222598.3	124225.1	81.1862	4.2471
bank top19		222598.5	124162.8	-	0.0053
R110		222598.6	124155.3	82.6787	4.2068
WB24		222598.7	124260	84.1528	4.7794
	113	222599	124223.7	81.2605	4.2458
wt05		222599.1	124287	-	0.008
R109		222599.4	124154.8	82.7839	4.2222
bank base24		222599.6	124163.5	-	0.0053
WALLBOT132		222599.6	124022.4	88.9828	5.5036
	114	222599.7	124222.5	81.2136	4.2765
bb18		222599.9	124152.5	-	0.0053
R108		222600.1	124154.5	82.878	4.2234
basban1010		222600.3	124281.3	-	0.0078
R184		222600.3	124155.3	83.1056	3.7015
	115	222600.6	124221.3	81.254	4.2881
R107		222601	124153.9	82.8352	4.2157
wallbase30		222601	124283.2	-	0.0079
	116	222601.5	124220.2	81.295	4.2878
WALLBOT131		222601.7	124024.4	89.0495	5.4922
WB25		222601.8	124256.2	84.3644	4.8364
R106		222601.9	124153.5	82.8113	4.2186
bank top70		222601.9	124154.3	-	0.0052
R105		222602.2	124152.7	82.9845	4.2305
R183		222602.5	124153.9	82.9606	3.6958
	117	222602.6	124219	81.3112	4.298
R104		222602.7	124152	82.9877	4.2559
bank top18		222602.7	124160.2	-	0.0052
basban1011		222602.8	124277.3	-	0.0076
	118	222603.5	124217.9	81.2828	4.3174
wt06		222603.6	124280.5	-	0.0077
WALLBOT130		222603.6	124026.2	89.0752	5.4558
bank base25		222603.7	124160.6	-	0.0052
R103		222603.8	124151.1	83.1528	4.2358
bb17		222604.1	124150.5	-	0.0052
R102		222604.3	124150.4	83.6053	4.2328
	119	222604.4	124216.8	81.3145	4.3183
R182		222604.5	124152.3	82.6981	3.6923
wallbase29		222604.7	124278.2	-	0.0077
R101		222604.8	124149.7	83.8121	4.2277
R100		222605.2	124149.3	83.8531	4.2392
basban1012		222605.2	124274.1	-	0.0075
R99		222605.5	124149.1	83.8443	4.2333
	120	222605.6	124215.5	81.3549	4.3204
WB26		222605.7	124251.5	84.3356	4.8513
R181		222606	124150.2	82.6815	3.6896
R98		222606.2	124148.6	83.881	4.231

WALLBOT129	222606.3	124028	89.6852	5.9198
bank top17	222606.3	124157.7	-	0.0052
bank top71	222606.5	124151.8	-	0.0052
121	222606.6	124214.5	81.3374	4.338
R97	222606.9	124148.2	83.7471	4.2399
R96	222607.2	124147.8	83.8429	4.235
wallbase28	222607.4	124273.8	-	0.0075
wt07	222607.6	124274.4	-	0.0075
122	222607.6	124213.3	81.396	4.3336
bank base26	222607.7	124157.6	-	0.0052
R95	222607.8	124147.6	83.7079	4.2332
basban1013	222608	124270.1	-	0.0073
bb16	222608.1	124148.1	-	0.0052
R94	222608.3	124147.2	83.6573	4.2395
WALLBOT128	222608.3	124030.1	89.8267	6.35
R180	222608.3	124147.8	82.729	3.7068
123	222608.7	124212.2	81.4253	4.3336
WB27	222608.9	124247.3	84.0588	4.8096
R92	222609.1	124146.6	83.5823	4.2269
R93	222609.1	124146.7	83.5298	4.2342
R91	222609.5	124146.1	83.5768	4.2364
124	222609.7	124211	81.4178	4.3524
bank top16	222609.9	124154.7	-	0.0051
bank top72	222610	124148.2	-	0.0052
WALLBOT127	222610.3	124032.9	89.9185	6.3297
R179	222610.3	124146	82.7694	3.7004
wallbase27	222610.5	124269.1	-	0.0073
125	222610.6	124209.8	81.4512	4.3457
basban1014	222610.7	124265.7	-	0.0072
3	222610.8	124148.6	82.656	3.4994
bank base27	222611.1	124154.7	-	0.0051
R90	222611.1	124144.8	83.5011	4.2375
WB28	222611.6	124243.1	84.6354	4.848
4	222611.6	124149.9	82.1111	3.1916
R178	222611.7	124144.7	82.7679	3.6989
126	222611.7	124208.6	81.449	4.35
5	222611.8	124150.1	82.1345	3.2005
6	222612	124150.3	82.1865	3.2032
7	222612.1	124150.6	82.3002	3.1969
WALLBOT126	222612.2	124035.6	90.0378	6.2978
8	222612.3	124150.8	82.4431	3.2117
bb15	222612.4	124145.3	-	0.0052
wt08	222612.4	124266.8	-	0.0072
R89	222612.4	124143.6	83.5928	4.219
9	222612.7	124151.2	82.5961	3.219
127	222612.8	124207.4	81.4478	4.3594
basban1015	222612.9	124261.9	-	0.007
10	222612.9	124151.7	82.4921	3.2248
R177	222613.1	124143.7	82.8911	3.6957
R88	222613.2	124143	83.747	4.2309
wallbase26	222613.3	124264.3	-	0.0071
11	222613.5	124152.3	82.4527	3.2314
bank top73	222613.6	124145	-	0.0052
128	222613.8	124206.2	81.4268	4.357
bank top15	222613.8	124151.3	-	0.0051
WALLBOT125	222614	124037.8	90.2004	6.2873
12	222614	124153	82.4291	3.239
R87	222614.1	124142.6	83.7287	4.2308
R86	222614.3	124142.4	83.754	4.2305
bank base28	222614.6	124151.5	-	0.0051
13	222614.6	124153.7	82.463	3.249
R85	222614.8	124142.2	83.7887	4.2444

	129	222615	124204.8	81.449	4.3563
R176		222615.1	124142.1	82.8222	3.7009
	14	222615.3	124154.6	82.4189	3.2568
WB29		222615.4	124237.8	85.0253	4.9483
basban1016		222615.5	124257.5	-	0.0069
R84		222615.6	124141.8	83.9307	4.2466
wt09		222615.6	124261.8	-	0.007
	15	222615.8	124155.3	82.403	3.2651
WALLBOT124		222616	124040.3	89.9151	6.3237
R83		222616	124141.8	83.3404	4.224
	130	222616.2	124203.5	81.4988	4.3555
bb14		222616.2	124141.9	-	0.0052
	16	222616.4	124156	82.3565	3.2638
R82		222616.5	124142.1	83.0313	4.2139
wallbase25		222616.6	124259.6	-	0.007
bank top74		222616.7	124142.4	-	0.0052
R175		222616.7	124142.8	83.0368	3.69
R81		222616.9	124142.6	83.0707	4.2421
	17	222617	124156.8	82.3093	3.2787
	18	222617.1	124157.5	84.0613	3.2074
	131	222617.4	124202.2	81.5206	4.3772
bank top14		222617.5	124148.1	-	0.0051
R80		222617.6	124143.6	83.0861	4.2232
	19	222617.7	124158.1	84.2002	3.2823
WALLBOT123		222617.7	124042.4	89.9179	6.3818
bank base29		222618	124148.2	-	0.0051
basban1017		222618.3	124252.8	-	0.0067
R174		222618.3	124143.8	83.3824	3.7223
	20	222618.5	124158.9	84.1657	3.3854
bb13		222618.7	124138	-	0.0052
wt10		222618.7	124256.7	-	0.0068
	132	222618.7	124200.9	81.5904	4.3696
R79		222618.7	124144.2	83.1663	4.2067
bank top76		222619	124134	-	0.0053
	21	222619.1	124159.8	84.1203	3.5879
WALLBOT122		222619.2	124044.6	89.8692	6.3489
wallbase24		222619.4	124254.6	-	0.0068
R78		222619.5	124144.6	83.1436	4.2166
bank top75		222619.7	124139	-	0.0052
	133	222619.9	124199.6	81.688	4.3628
	22	222620	124160.7	84.0726	3.5839
basban1018		222620.4	124248.4	-	0.0066
R173		222620.6	124144.5	83.4006	3.7228
R77		222620.7	124144.8	83.1181	4.2097
	23	222620.7	124161.4	84.0675	3.5984
WALLBOT121		222620.8	124046.7	89.8989	6.3666
R76		222621.1	124144.4	83.1945	4.2729
	134	222621.1	124198.3	81.641	4.3656
wt11		222621.2	124252	-	0.0067
R64		222621.4	124135.4	84.1275	4.2339
	24	222621.4	124162.3	83.9872	3.6113
R63		222621.5	124133.8	83.9591	4.2323
R75		222621.6	124143.5	83.3257	4.1983
R66		222621.8	124136.9	84.1451	4.2573
R172		222621.9	124144	83.4083	3.7257
R74		222621.9	124142.9	83.4039	4.1952
R65		222621.9	124136.2	84.1217	4.2215
R62		222621.9	124132.7	83.7733	4.2132
R61		222622	124131.7	83.945	4.218
wallbase23		222622.1	124249.9	-	0.0066
R67		222622.1	124137.5	83.821	4.2048
R73		222622.1	124141.9	83.4583	4.1983

	135	222622.1	124197.4	81.6768	4.3713
R68		222622.3	124137.8	83.5142	4.2024
	25	222622.3	124163.3	83.9603	3.626
R72		222622.4	124140.9	83.607	4.1955
R69		222622.5	124138.5	83.5224	4.1955
R60		222622.5	124130.1	84.2152	4.2114
WALLBOT120		222622.5	124049.4	89.8233	6.3482
R70		222622.6	124139.4	83.5313	4.2071
R71		222622.6	124140.1	83.4861	4.1828
R59		222622.8	124129.3	84.4142	4.2213
basban1019		222622.8	124243.9	-	0.0064
R167		222622.8	124135	82.9686	3.7239
R171		222623	124142.5	83.3864	3.6976
	26	222623.1	124163.9	83.9038	3.6296
R166		222623.1	124133.1	83.2882	3.7303
R58		222623.2	124128.1	84.4731	4.2071
	136	222623.3	124196.2	81.7408	4.3654
bank top13		222623.4	124142.3	-	0.0051
R165		222623.5	124131.1	83.1789	3.7361
R168		222623.7	124137.1	82.9077	3.7291
bank base30		222623.7	124142.6	-	0.0051
R57		222623.8	124127.3	84.5083	4.2144
	27	222623.9	124164.9	83.8774	3.6296
WALLBOT119		222623.9	124051.5	89.8634	6.3768
R170		222624.1	124140.6	83.5325	3.7212
R164		222624.3	124129	83.3832	3.7656
R56		222624.3	124127	84.5455	4.2045
R163		222624.4	124127.2	83.0822	3.7768
R169		222624.4	124138.8	83.3281	3.7127
	137	222624.5	124194.9	81.7634	4.3701
R55		222624.8	124126.8	84.5647	4.2026
bank top12		222624.8	124140	-	0.0052
	28	222624.9	124166.2	83.8801	3.6521
wallbase22		222624.9	124244.6	-	0.0065
wt12		222625	124245.6	-	0.0065
	1	222625.2	124157.9	82.8579	3.4584
WALLBOT118		222625.2	124054	89.8325	6.3318
R54		222625.5	124126.8	84.5381	4.2029
	2	222625.5	124158.4	82.7806	3.4912
	138	222625.5	124193.6	81.7617	4.3711
basban1020		222625.6	124238.8	-	0.0063
R162		222625.6	124127.9	83.8981	3.9305
	29	222625.9	124167.3	83.787	3.6391
bb12		222625.9	124128.4	-	0.0053
R53		222626.7	124127.3	84.4966	4.2226
bank base31		222626.7	124139.1	-	0.0052
	30	222626.7	124168.3	83.7439	3.6465
	139	222626.8	124192.3	81.8658	4.3673
WALLBOT117		222626.9	124056.3	89.9327	6.323
R161		222627.1	124129.4	84.0593	3.9539
	31	222627.6	124169.3	83.7297	3.6605
R52		222627.6	124127.6	84.5977	4.2006
R51		222627.7	124127.7	84.1577	4.2253
basban1021		222627.9	124234.2	-	0.0062
R160		222628	124131.6	84.3482	3.9589
wallbase21		222628	124238.7	-	0.0063
	140	222628	124191	81.8744	4.3872
wt13		222628.1	124239.9	-	0.0063
R50		222628.3	124128.4	84.0665	4.1703
bank top11		222628.3	124136.3	-	0.0052
WALLBOT116		222628.4	124058.4	89.9987	6.3212
	32	222628.6	124170.3	83.6021	3.655

R49		222628.9	124129.3	84.1676	4.1589
	141	222629.2	124189.8	81.8381	4.3983
	33	222629.4	124171.2	83.6828	3.6579
R47		222629.4	124131	84.0139	4.2182
R48		222629.4	124130.3	84.1395	4.1572
R159		222629.5	124133.6	84.5495	3.9681
R46		222629.5	124131.7	83.9047	4.1521
R45		222629.5	124132.6	83.982	4.1895
bank base32		222629.6	124136.7	-	0.0052
bs1		222629.7	124162.5	82.538	4.4828
tsbase		222629.8	124158.3	82.0462	4.5592
gps base		222629.8	124160.2	81.2794	0
WALLBOT115		222630	124060.5	90.2062	6.3041
bank top77		222630.1	124127.9	-	0.0053
R44		222630.3	124133.2	84.1023	4.1877
	34	222630.3	124172.1	83.5881	3.6665
bb11		222630.4	124126.4	-	0.0054
wt14		222630.4	124235.4	-	0.0062
	142	222630.6	124188.4	81.9073	4.3744
basban1022		222630.7	124229.6	-	0.006
wallbase20		222631.1	124233.8	-	0.0061
	35	222631.1	124173.1	83.5857	3.6661
R43		222631.2	124133.2	84.1967	4.1726
bb10		222631.5	124123	-	0.0054
R158		222631.6	124134.3	84.7806	3.976
WALLBOT114		222631.8	124063.1	90.4055	6.2749
	143	222631.9	124187.1	81.9198	4.3838
	36	222631.9	124174	83.5579	3.675
bank top10		222632.4	124134.7	-	0.0052
R42		222632.6	124132.8	84.4334	4.1537
basban1023		222632.6	124225.8	-	0.0059
	37	222632.7	124175	83.5354	3.6796
	144	222633.2	124185.6	81.9606	4.3882
	38	222633.5	124175.9	83.4781	3.6865
WALLBOT113		222633.5	124065.3	90.4047	6.3348
R157		222633.6	124133.7	84.5163	3.9808
wt15		222633.6	124229.7	-	0.006
wallbase19		222633.8	124228.9	-	0.006
bb09		222633.8	124119.6	-	0.0055
bank top78		222633.9	124123.7	-	0.0054
R41		222634	124132.1	84.482	4.1699
	39	222634.2	124177	83.4759	3.6956
	145	222634.6	124184.2	82.0668	4.3947
basban1024		222634.8	124221.9	-	0.0058
	40	222635	124178.1	83.4803	3.7044
R156		222635.3	124132.7	84.4119	3.9816
R40		222635.3	124131.1	84.569	4.1619
bank top79		222635.6	124120.5	-	0.0055
WALLBOT112		222635.7	124068.3	90.4717	6.4449
bank top09		222635.8	124131.5	-	0.0053
	41	222635.9	124179.2	83.4649	3.7105
	146	222635.9	124182.8	82.1291	4.3921
bb08		222636	124115.9	-	0.0056
wallbase18		222636.3	124224.1	-	0.0059
bank base33		222636.3	124131.8	-	0.0053
R155		222636.6	124131.3	84.421	3.9916
	42	222636.7	124180.3	83.4244	3.7052
R39		222636.8	124129.2	84.6553	4.1787
R35		222637.2	124125.2	85.3848	4.1755
R36		222637.2	124125.9	84.9941	4.1668
R34		222637.3	124124.6	85.3445	4.2243
	147	222637.3	124181.4	82.2507	4.3947

basban1025	222637.3	124218.1	-	0.0058
R38	222637.4	124128	84.6658	4.1731
WALLBOT111	222637.4	124070.9	90.4019	6.5225
wt16	222637.4	124223.4	-	0.0059
R37	222637.4	124126.8	84.7422	4.1784
R33	222637.5	124124.3	85.3859	4.1847
43	222637.6	124181.5	83.4221	3.7162
R32	222637.7	124123.6	85.5941	4.1627
bank top80	222637.7	124116.5	-	0.0055
R154	222637.8	124129.8	84.571	3.9908
R31	222638	124122.8	85.7237	4.1725
bank top08	222638.1	124127.9	-	0.0053
R151	222638.2	124124.9	84.4703	4.005
148	222638.5	124180.4	82.3667	4.4008
44	222638.5	124182.5	83.4725	3.7188
bb07	222638.6	124112.7	-	0.0056
R30	222638.7	124121.7	85.7417	4.1651
R150	222638.8	124123.4	84.5025	4.0045
R153	222638.9	124128.4	84.6221	3.9832
R152	222638.9	124126.9	84.4054	3.9925
WALLBOT110	222639	124073.5	90.3669	6.3712
bank base34	222639.1	124128.1	-	0.0053
wallbase17	222639.3	124219.1	-	0.0058
45	222639.4	124183.6	83.4993	3.7296
R29	222639.4	124121	85.7959	4.2307
basban1026	222639.6	124214.2	-	0.0057
149	222639.7	124179.1	82.4738	4.3976
R28	222640	124120.5	85.5951	4.224
WALLBOT109	222640.3	124076.2	90.7037	4.4071
R149	222640.3	124122	84.7701	3.9963
46	222640.4	124184.5	83.4769	3.7269
bank top81	222640.5	124113.4	-	0.0056
R27	222640.6	124120.2	84.6481	4.2397
wt17	222640.7	124217.3	-	0.0057
bank top07	222640.8	124124.2	-	0.0054
150	222641	124177.8	82.5972	4.4025
bb06	222641	124109.8	-	0.0057
R26	222641.3	124119.8	84.7276	4.1987
196	222641.3	124122.5	83.1041	4.5624
47	222641.5	124185.9	83.5122	3.7174
bank base35	222641.5	124124.3	-	0.0054
197	222641.8	124122.9	83.1603	4.5566
basban1027	222641.8	124210.5	-	0.0056
WALLBOT108	222641.9	124078.7	90.6123	4.572
151	222642.2	124176.5	82.6786	4.4108
48	222642.3	124187	83.5015	3.7346
198	222642.5	124123.6	83.1004	4.5644
wallbase16	222642.5	124213.5	-	0.0057
R148	222642.8	124120.9	84.9637	4.0085
bank top06	222642.8	124121.2	-	0.0055
bank top82	222643.2	124110.3	-	0.0057
199	222643.3	124124.3	83.1295	4.5582
49	222643.3	124188	83.534	3.7408
R25	222643.4	124118.4	84.8654	4.1867
152	222643.4	124175.3	82.7861	4.4112
bb05	222643.5	124107.1	-	0.0058
bank base36	222643.7	124121.1	-	0.0055
WALLBOT107	222643.9	124081.1	91.1177	4.3083
200	222644.1	124125	83.328	4.5489
wt18	222644.1	124211.5	-	0.0056
basban1028	222644.1	124207.3	-	0.0056
50	222644.5	124189.1	83.569	3.7582

	201	222644.6	124125.5	83.3935	4.5635
	153	222644.9	124173.9	82.8833	4.4131
bank top83		222645.1	124107	-	0.0058
	202	222645.1	124125.9	83.2818	4.5662
bank top05		222645.3	124117	-	0.0056
	51	222645.4	124190	83.5793	3.7481
WALLBOT106		222645.4	124083.1	91.2697	4.2881
bb04		222645.8	124103.1	-	0.0059
	203	222645.9	124126.6	83.3289	4.5818
wallbase15		222645.9	124208	-	0.0056
R147		222646.2	124120.5	85.2962	4.0088
bank base37		222646.2	124117.9	-	0.0056
	154	222646.4	124172.5	82.9979	4.4238
	52	222646.4	124190.9	83.6115	3.7583
basban1029		222646.4	124203.4	-	0.0055
bank top84		222646.6	124103.5	-	0.0059
	204	222646.7	124127.3	83.4023	4.5819
R24		222647	124116.8	85.0918	4.1864
bb03		222647.4	124098.9	-	0.006
wt19		222647.4	124206.2	-	0.0056
	205	222647.5	124127.9	83.349	4.5798
WALLBOT105		222647.5	124085.4	91.4285	4.2513
	155	222647.6	124171.5	83.078	4.4306
bank top04		222647.7	124114	-	0.0057
	53	222647.9	124191.9	83.0552	4.766
bb02		222648.1	124094.1	-	0.0061
bank top85		222648.1	124100.2	-	0.006
	206	222648.2	124128.5	83.333	4.5974
R23		222648.4	124116.1	85.0234	4.2369
R146		222648.4	124118.9	85.4643	4.0182
bb01		222648.5	124089.5	-	0.0063
bank top86		222648.7	124096.8	-	0.0061
bank base38		222648.8	124113.9	-	0.0057
	156	222648.9	124170.2	83.1431	4.4205
basban1030		222648.9	124199.4	-	0.0054
	54	222649	124192.7	83.2284	4.7692
	207	222649.2	124129.4	83.2986	4.5891
wallbase14		222649.3	124201.7	-	0.0055
WALLBOT104		222649.6	124087.3	91.4954	4.2892
	55	222649.7	124193.1	83.4787	4.7933
bank top87		222649.9	124093	-	0.0062
wt20		222650.1	124201.2	-	0.0055
	157	222650.1	124168.8	83.2077	4.4346
	208	222650.1	124130.3	83.2866	4.601
bank top88		222650.2	124090.7	-	0.0062
bank top03		222650.3	124110.5	-	0.0058
	56	222650.4	124193.7	83.7112	4.8072
R22		222650.5	124114.9	84.908	4.1729
	57	222650.6	124193.7	83.7298	4.8044
basban1031		222650.7	124195.7	-	0.0054
	58	222650.9	124193.9	83.8125	4.8253
R145		222651	124117.2	85.7855	4.0167
	209	222651.2	124131.2	83.2166	4.5972
	158	222651.4	124167.4	83.3018	4.4471
bank base39		222651.4	124109.6	-	0.0058
WALLBOT103		222651.6	124088.4	91.4449	4.2936
R21		222651.8	124113.9	85.035	4.1882
wallbase13		222651.8	124197.4	-	0.0054
basban1033		222651.8	124185.8	-	0.0053
basban1032		222651.9	124190.5	-	0.0053
basban1034		222651.9	124180.5	-	0.0052
	210	222652.1	124132.1	83.1236	4.6077

basban1035	222652.3	124176.1	-	0.0052
159	222652.4	124166.1	83.3759	4.4441
bank top02	222652.6	124107.1	-	0.0058
wt21	222652.6	124196.8	-	0.0054
R144	222652.9	124114.7	85.9312	4.0338
basban1036	222653.1	124171.6	-	0.0052
211	222653.2	124133.1	83.1362	4.6151
R20	222653.3	124112.6	84.9062	4.2409
160	222653.8	124164.6	83.4828	4.4458
bank base40	222653.9	124105.5	-	0.0059
WALLBOT102	222654	124089.3	91.4519	4.2975
212	222654.1	124133.9	83.0827	4.6101
wallbase12	222654.2	124192.9	-	0.0054
R19	222654.4	124110.4	84.934	4.1784
basban1037	222654.5	124167.4	-	0.0052
213	222654.9	124134.5	83.0713	4.6135
R143	222654.9	124112.5	86.1101	4.0599
161	222655	124163.1	83.6016	4.4445
R18	222655.1	124109.2	85.0689	4.2067
R08	222655.5	124099.7	86.3338	4.175
R17	222655.6	124108.1	85.0133	4.1991
R07	222655.6	124098.9	86.3345	4.166
R09	222655.7	124100.2	86.0835	4.6848
214	222655.7	124135.3	83.0517	4.614
wt22	222655.8	124190.3	-	0.0054
R06	222655.8	124098.7	86.1984	4.153
R16	222655.9	124107.1	85.0655	4.1966
R10	222656	124100.8	86.0764	4.2412
R15	222656	124105.9	85.1257	4.2151
R05	222656	124098.4	86.0982	4.1598
R12	222656.1	124101.7	86.1881	4.2089
R04	222656.1	124097.8	86.2216	4.2133
162	222656.1	124161.7	83.6701	4.4653
WALLBOT101	222656.1	124089.7	91.5661	4.3296
R13	222656.2	124101.9	85.3616	4.2063
R11	222656.2	124101.3	86.1552	4.2528
R03	222656.3	124097.4	86.2839	4.1795
basban1038	222656.3	124163.4	-	0.0052
R14	222656.4	124104.4	85.1975	4.2484
wallbase11	222656.4	124188.8	-	0.0054
R02	222656.6	124097.1	86.3924	4.1721
215	222656.6	124136	83.1217	4.6015
R142	222656.7	124109.6	85.6149	4.0449
R01	222656.9	124097	86.3119	4.2483
bank top01	222657	124100.2	-	0.0061
bank base41	222657.2	124101.3	-	0.006
163	222657.3	124160.3	83.7198	4.4579
R141	222657.4	124106.8	85.2224	4.078
R140	222657.5	124104.7	85.3606	4.0942
216	222657.7	124136.8	83.0985	4.6065
R139	222657.9	124103.2	85.3957	4.0863
basban1039	222657.9	124159.8	-	0.0052
WALLBOT100	222658.5	124090	92.1189	4.3883
164	222658.5	124158.9	83.7266	4.4717
217	222658.7	124137.6	83.1091	4.6104
wt23	222658.9	124184.3	-	0.0054
wallbase10	222659.1	124183.7	-	0.0054
218	222659.6	124138.2	83.0482	4.6074
bank base42	222659.6	124097.5	-	0.0062
165	222659.7	124157.7	83.7999	4.4638
basban1040	222660.2	124156.3	-	0.0053
219	222660.6	124139	83.0599	4.6162

	166	222660.8	124156.4	83.8082	4.4658
wallbase09		222661.5	124179	-	0.0053
	220	222661.6	124139.8	83.0091	4.6034
	167	222661.9	124155.4	83.7967	4.4757
wt24		222662	124178.6	-	0.0054
bank base43		222662.3	124094	-	0.0063
	221	222662.5	124140.6	82.986	4.6186
basban1041		222662.8	124153.3	-	0.0053
	222	222663.1	124142.1	85.0463	5.2406
	168	222663.2	124154.2	83.9011	4.4771
wallbase08		222664	124174.4	-	0.0054
	223	222664	124142.9	85.0599	5.2396
	169	222664.6	124152.9	83.845	4.4759
	224	222664.9	124143.6	85.0041	5.2388
wt25		222665.3	124172.7	-	0.0054
	170	222665.6	124152.2	83.8506	4.4829
	225	222665.9	124144.4	84.9767	5.2365
basban1042		222665.9	124150.5	-	0.0054
	171	222666.5	124151.4	83.8231	4.4984
	226	222666.8	124145.1	84.9152	5.2406
	172	222666.9	124150.6	83.876	4.5
wallbase07		222667	124169.1	-	0.0054
	227	222667.7	124145.8	84.9452	5.2345
	173	222667.9	124149.4	83.8986	4.4871
wt26		222668.4	124167.3	-	0.0054
	228	222668.9	124146.7	84.9433	5.2345
basban1043		222668.9	124147.9	-	0.0055
	174	222669	124148.1	83.9635	4.4929
wallbase06		222669.6	124164.3	-	0.0054
	229	222669.7	124147.5	84.934	5.2377
	175	222670.3	124146.9	84.066	4.5019
	230	222670.7	124148.4	84.9263	5.2401
basban1049		222671	124135.5	-	0.0056
wt27		222671.1	124162.1	-	0.0054
basban1050		222671.2	124133.7	-	0.0056
	231	222671.4	124149.1	84.9122	5.229
	176	222671.5	124145.6	84.1608	4.5073
basban1045		222671.5	124144.4	-	0.0055
basban1048		222671.6	124138.3	-	0.0056
basban1044		222671.6	124147	-	0.0055
wallbase05		222672	124159.8	-	0.0055
	232	222672.1	124149.7	84.9876	5.2364
botb024		222672.5	124084.1	-	0.0067
	177	222672.5	124144.4	84.2379	4.5175
	233	222672.7	124150.3	85.0509	5.2338
	234	222673.1	124150.6	85.137	5.243
	235	222673.3	124150.8	85.2478	5.2392
basban1047		222673.5	124141.5	-	0.0056
	236	222673.5	124151	85.2171	5.2536
botb023		222673.7	124086.5	-	0.0066
	237	222673.8	124151.2	85.4274	5.2755
basban1046		222673.8	124142	-	0.0056
	178	222673.8	124143.1	84.3861	4.5204
topban01		222674	124083.1	-	0.0067
	238	222674	124151.5	85.5469	5.2873
wt28		222674.4	124156.1	-	0.0055
	239	222674.4	124151.8	85.6891	5.2788
	240	222674.6	124152.1	85.8202	5.2896
	179	222674.8	124142.1	84.5297	4.519
	241	222674.8	124152.3	85.941	5.3049
wallbase04		222674.9	124155	-	0.0055
botb022		222675	124089.2	-	0.0066

topban02		222675.1	124085.5	-		0.0067
	242	222675.1	124152.8	86.1453		5.3009
	243	222675.4	124153	86.2981		5.2965
	244	222675.8	124153.6	86.4577		5.2972
	180	222676	124140.9	84.7088		4.5112
	245	222676	124153.8	86.658		5.2978
	246	222676.2	124154.1	86.7624		5.2915
	247	222676.5	124154.2	86.9741		5.2925
topban03		222676.6	124087.8	-		0.0066
botb021		222676.6	124091.9	-		0.0065
	248	222676.8	124154.6	87.1805		5.2896
	181	222676.9	124139.8	84.9743		4.522
	249	222677.1	124154.9	87.3288		5.2969
	250	222677.4	124155	87.4342		5.2911
botb018		222677.5	124093.8	-		0.0065
	182	222677.5	124138.9	85.0875		4.5242
	251	222677.6	124155.1	87.6574		5.2918
wt29		222677.8	124151	-		0.0056
	252	222677.9	124155.5	87.7995		5.2911
topban04		222678	124090.2	-		0.0066
	183	222678.1	124138.3	85.1195		4.5293
wallbase03		222678.1	124150.2	-		0.0056
botb017		222678.1	124094.8	-		0.0065
	253	222678.2	124155.7	87.9565		5.2957
gate04		222678.3	124090	-		0.0066
botb020		222678.5	124091	-		0.0066
	184	222678.8	124137.5	85.119		4.5114
botb019		222679.1	124092.4	-		0.0066
gate03		222679.2	124092.8	-		0.0066
botb016		222679.5	124097.2	-		0.0065
topban05		222679.8	124093.9	-		0.0065
	185	222679.9	124136.3	85.032		4.5038
wt30		222680.7	124147.1	-		0.0057
	186	222680.9	124135.4	85.0899		4.5235
topban06		222680.9	124095.4	-		0.0065
botb015		222681.1	124099.9	-		0.0064
wallbase02		222681.3	124145.6	-		0.0057
topban07		222681.7	124097	-		0.0065
	187	222681.9	124134.4	85.1269		4.5246
topban08		222682.8	124098.6	-		0.0065
botb014		222682.9	124103.2	-		0.0064
	188	222683.1	124133.4	85.1591		4.5364
topban09		222683.6	124100	-		0.0065
wt31		222683.7	124143	-		0.0058
	189	222684.1	124132.7	85.1802		4.558
topban10		222684.8	124102.6	-		0.0064
wallbase01		222685.3	124140.4	-		0.0058
topban11		222685.3	124104.5	-		0.0064
	190	222685.4	124131.9	85.2114		4.5644
botb013		222685.4	124107.7	-		0.0063
wt32		222685.6	124140.7	-		0.0059
wt34		222686.4	124140.4	-		0.0059
botb012		222686.6	124110.3	-		0.0063
topban12		222686.7	124107.1	-		0.0064
	191	222686.9	124131.1	85.3447		4.5586
botb011		222688.2	124113.2	-		0.0063
topban14		222688.2	124109.5	-		0.0064
	192	222688.3	124130.4	85.4373		4.5702
wt33		222688.4	124137.7	-		0.0059
botb001		222688.9	124136.6	-		0.006
topban15		222689.6	124111.9	-		0.0063
botb010		222689.8	124116.2	-		0.0063

topban28	222689.8	124137	-	0.006
topban16	222690.9	124114.3	-	0.0063
botb009	222691	124118.9	-	0.0063
193	222691.5	124128.9	85.5696	4.5652
botb002	222691.5	124134.7	-	0.006
topban27	222691.8	124135.6	-	0.006
topban17	222692	124116.7	-	0.0063
botb008	222692.6	124121.5	-	0.0062
botb003	222692.9	124133.6	-	0.0061
194	222693.2	124128.2	85.6291	4.5671
topban18	222693.4	124119.5	-	0.0063
topban26	222693.9	124134.5	-	0.0061
botb007	222694.3	124124.4	-	0.0062
195	222694.8	124128	87.2541	5.0696
topban19	222694.8	124121.7	-	0.0063
botb004	222695.1	124131.9	-	0.0062
topban25	222695.3	124133.6	-	0.0062
topban20	222696	124124.4	-	0.0063
botb006	222696.2	124127.4	-	0.0063
botb005	222696.9	124130.1	-	0.0062
topban21	222697.6	124126.6	-	0.0063
topban24	222697.7	124132.4	-	0.0062
topban22	222698.4	124128.5	-	0.0063
topban23	222699.2	124130.6	-	0.0063