

The Chinese Discovery of Britain c 5,000 Years Ago, And Their Later Support for the Roman Occupation

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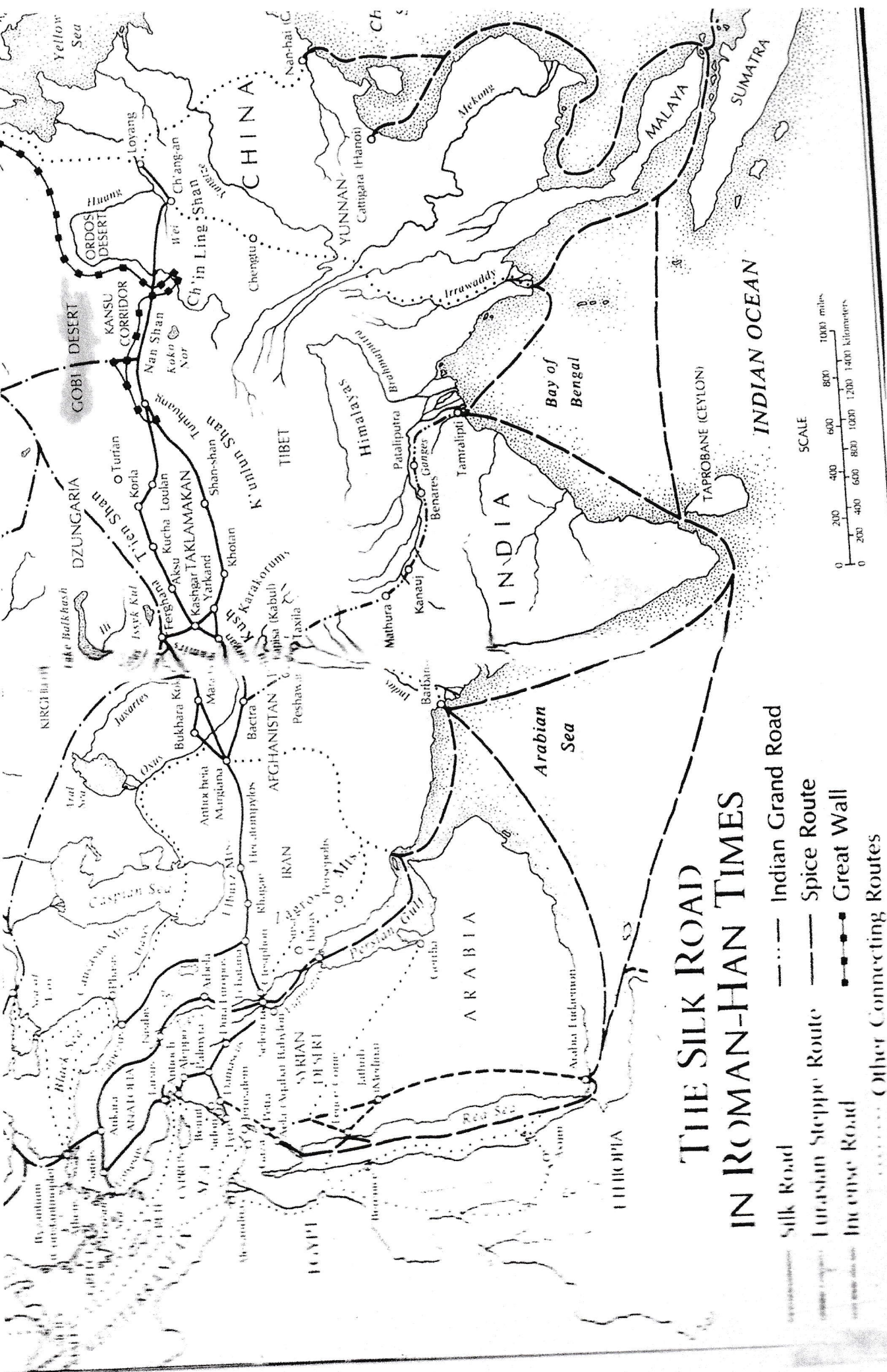
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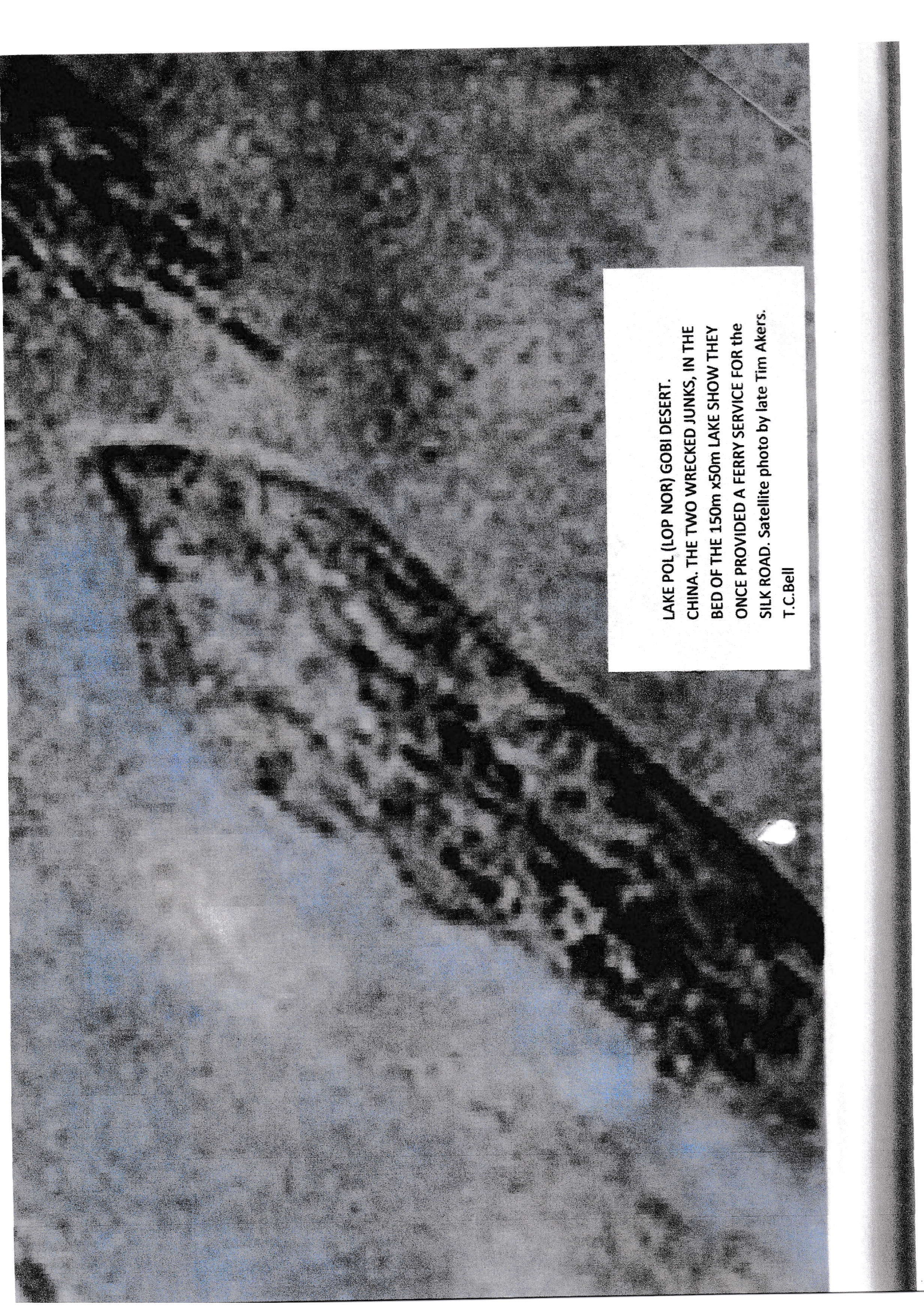
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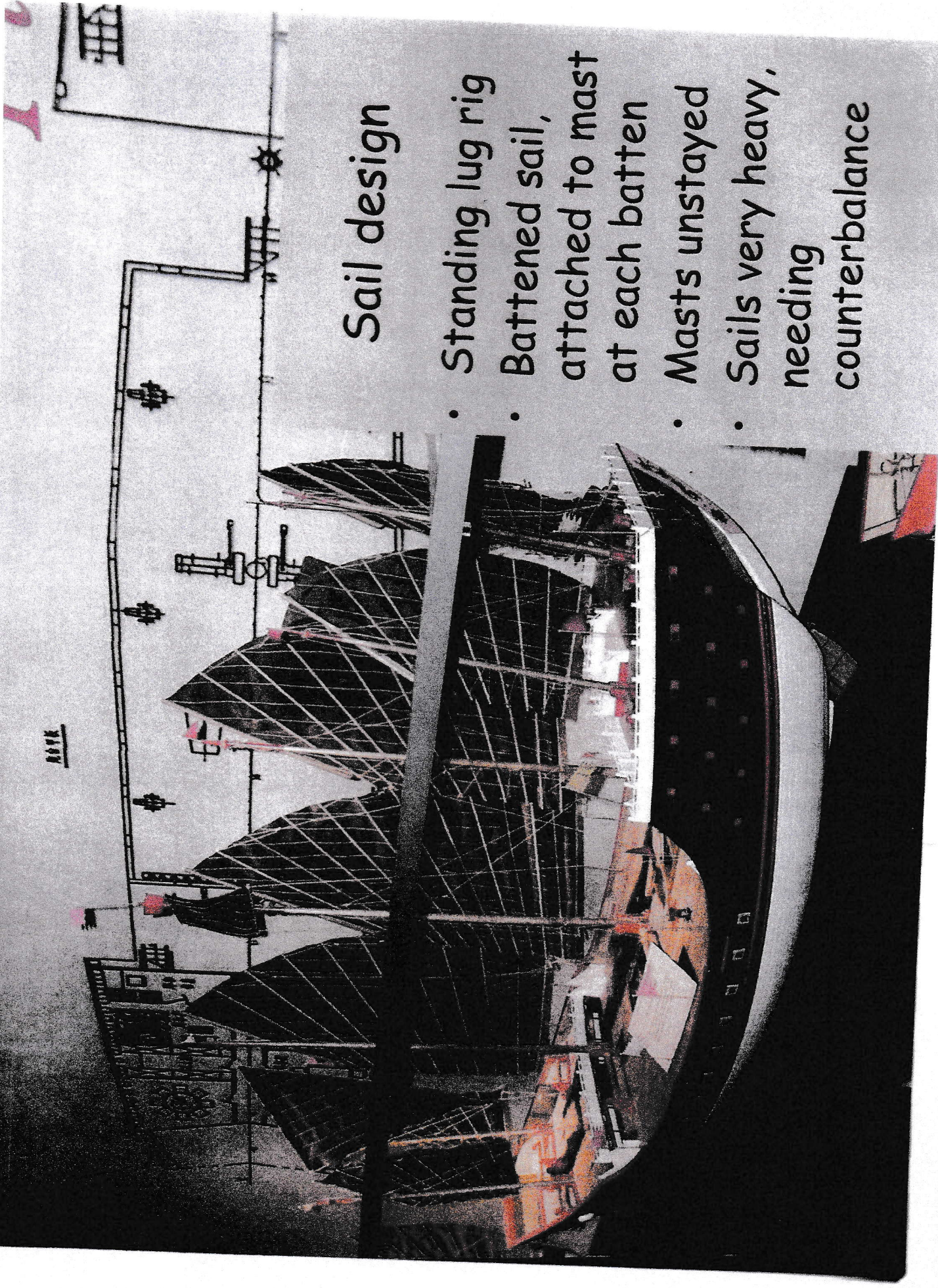
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FINIS.





LAKE POL (LOP NOR) GOBI DESERT.
CHINA. THE TWO WRECKED JUNKS, IN THE
BED OF THE 150m x50m LAKE SHOW THEY
ONCE PROVIDED A FERRY SERVICE FOR THE
SILK ROAD. Satellite photo by late Tim Akers.
T.C.Bell



Sail design

- Standing lug rig
- Battened sail, attached to mast at each batten
- Masts unstayed
- Sails very heavy, needing counterbalance

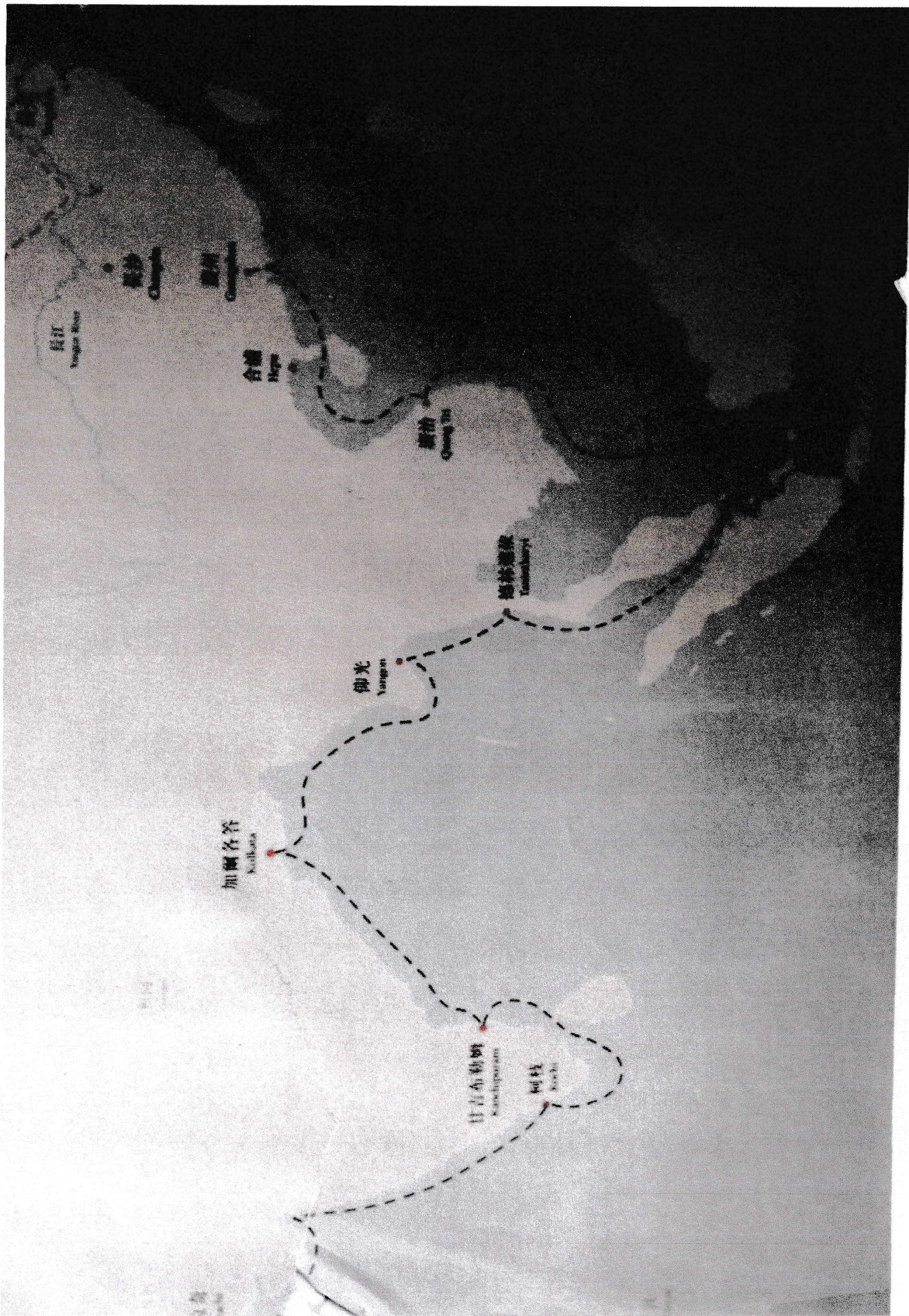


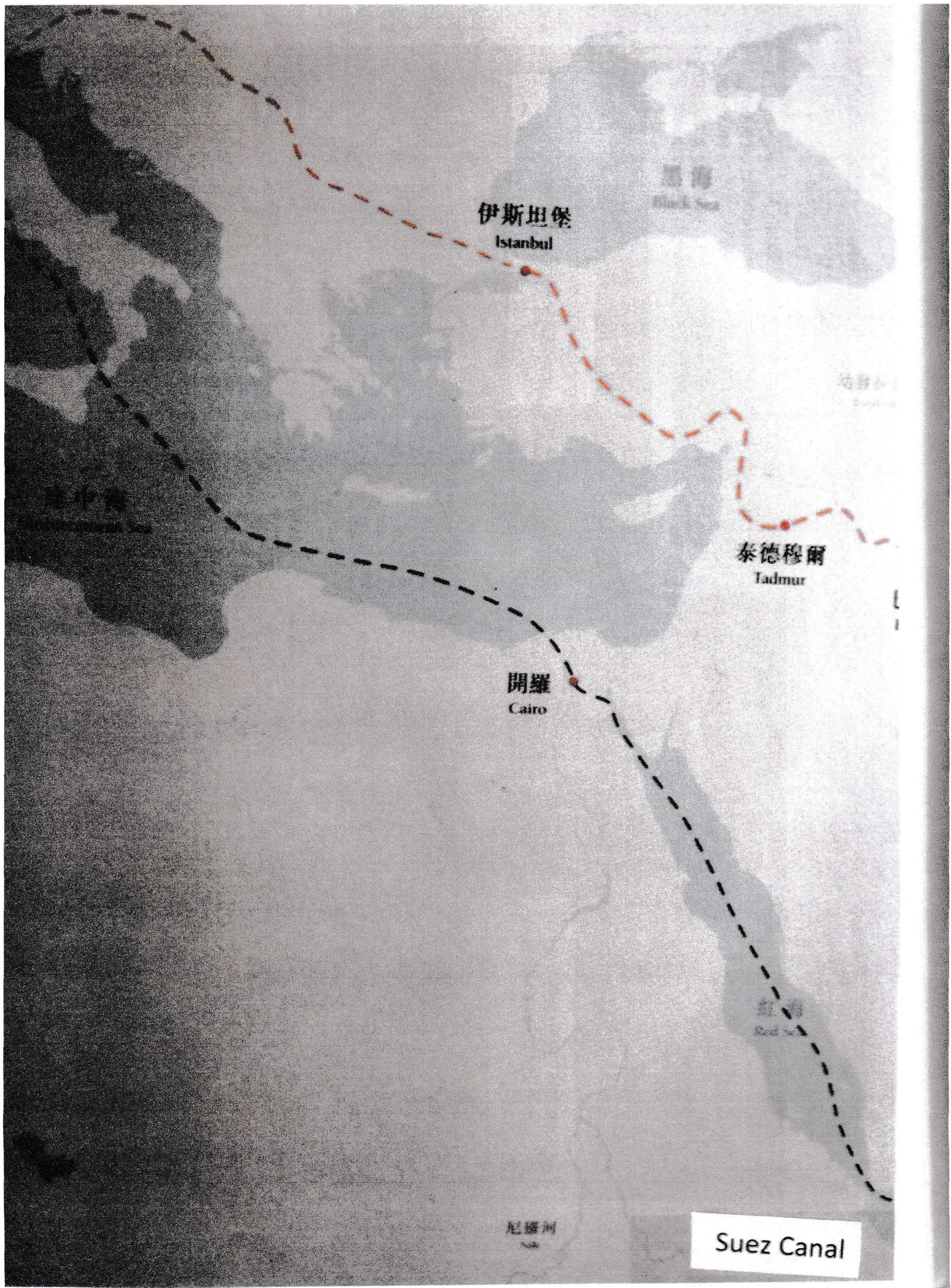
A well preserved section of the Zhao State Wall, built c. 300 B.C. and extant in the Inner Mongolia Autonomous Region.

A well preserved section of the Zhao State Wall, built c300BC and extant in the Inner Mongolia Autonomous Region.

This is possibly the Chinese frontier constructed in stone, that was used as the design for the Hexham-Plennellor Stone Roman Frontier "South" of The River South Tyne and also Hadrian's Wall. Rome's Final East-West frontier in Britain.

Ex William Lindesay's "The Great Wall Revisited".





伊斯坦堡
Istanbul

黑海
Black Sea

幼發拉底河
Euphrates

泰德穆爾
Tadmur

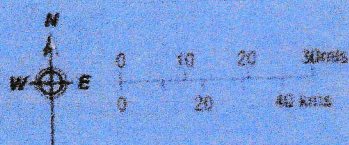
開羅
Cairo

紅海
Red Sea

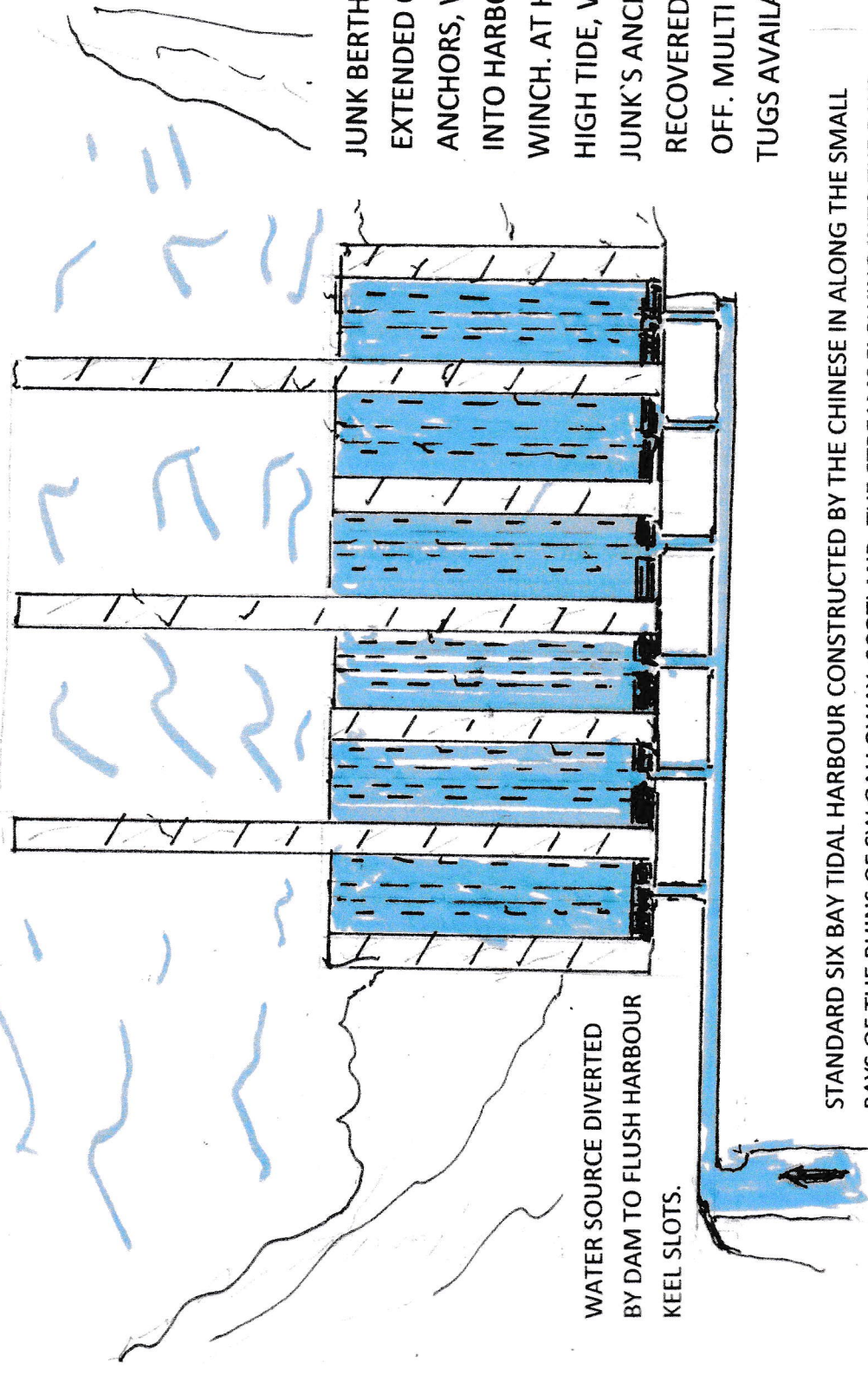
尼羅河
Nile

Suez Canal

SCOTLAND



ROMAN SITES IN SCOTLAND
BELL'S SURVEYS.



JUNK BERTHED ALONGSIDE
EXTENDED QUAY, DROPPING
ANCHORS, WAS HAULED
INTO HARBOUR BY MANUAL
WINCH. AT HIGH TIDE. EXIT
HIGH TIDE, WINCHED OUT ON
JUNK'S ANCHOR CABLE WINCH,
RECOVERED ANCHORS, SAILED
OFF. MULTI OARED ROWING
TUGS AVAILABLE .

STANDARD SIX BAY TIDAL HARBOUR CONSTRUCTED BY THE CHINESE IN ALONG THE SMALL
BAYS OF THE RHINS OF SW GALLOWAY, SCOTLAND. THE STREAMS FLOWING INTO THE BAYS
WERE DAMMED AND DIVERTED VIA A FLANKING SHORELINE AQUEDUCTS CONNECTING TO
A SLOT RUNNING THE LENGTH OF EACH HARBOUR DESIGNED TO TAKE THE KEELS OF THE
JUNKS. THE WATER FLUSHED AWAY ANY DEBRIS AND KEPT THE KEEL SLOT FREE.

THE EARLIEST UNIQUE HARBOUR SITE, (c70 x 11m) WAS DATED FROM THE ADJACENT
CHINESE BARRACKS (carbon dated 2850BC), AND THE LATER HARBOURS AND FORTS TO THE
ROMAN OCCUPATION OF BRITAIN (c45AD-410AD) BY THE ADJACENT ROMAN HARBOURS
AND BARRACK DESIGN.

THE EVIDENCE OF CHINESE IN ANCIENT BRITAIN.

T.C.Bell

My first experience of Chinese marine engineering dates from the nineteen fifties when as a marine engineer, my ship, crewed mainly by Chinese, sailed in the Far East, in those days sailing junks still operated, berthing alongside to discharge their cargoes. Much later, my 2003 -2006 surveys in New Zealand and Cape Breton Island, Nova Scotia, with Gavin Menzies author of "1421 The Year China Discovered the World" located massive evidence of Chinese occupation. Gavin kindly funded the technical carbon dating and geophysics surveys in New Zealand. I funded the surveys, travel and satellite surveys. The experience of the Chinese engineering designs gained from these surveys enabled me to both recognise and differentiate it from Roman engineering when surveying in Britain and Ireland.

Most folk when confronted with a Chinese site in Britain, express amusement and then doubt and then state how could they possibly have got to Britain?.

In Roman times, the Chinese with whom the Romans had traded from around 170BC, led the world in building the largest ships and were the most advanced navigators, who had already mapped the complete world. Recently an excavation of a Chinese grave near Beijing located a wooden map of the world showing the accurate outlines of the five continents, the date c1093AD. Prof C.Hopgood in his classic book "Maps of the Sea Kings" concluded that the Chinese had mapped the world when the Antarctic was mainly ice free. Examination of the glacial marine sediment obtained from drilled cores around the Antarctic confirmed that the area had been glacially free within the period 6,000-40,000 years. See "Path of the Pole" by Charles Hapgood Pg109-120. This period is of interest when compared to the carbon dating of c3,450BC years ago which I obtained for the clearance of the site for the Chinese barrack block at Stirk Farm, Poolewe, Wester Ross, Scotland. The Antarctic mapping dates confirm that the Chinese were active worldwide c 5,000 years ago. Hence the correctness of Oronce Fine's 1531 "Map of the World", which incorporated part of the Chinese map of Antarctica.

In Roman times the world's short cuts included the North West and North East ice free passages, the Red Sea to the Nile canal built in 500BC and the Chinese Pacific to Caribbean canal. (Not Dated).The Chinese have recently published their charts showing their use of the Red Sea/Nile canal as the Marine Silk Road. Following my surveys of New Zealand 2003 - 2006 on behalf of Gavin Menzies, author of "1421 The Year China Discovered the World", the account of Chinese admiral Zheng He's 15th cent voyages, when I discovered that the Chinese had occupied New Zealand from c 1,500BC to the 15th century AD and had constructed a canal up the east coast of New Zealand's South Island. Gavin Menzies and I then discussed the practicality of the Chinese having constructed a canal to link the Pacific to the Caribbean, via Lake Nicaragua and the Rio San Juan. Research began and in 2010 Col John Blashford Snell and his Columbian colleague Yolima Capauguta Rodriguez, undertook the Nicaraguan survey, within defined parameters, locating the canal. The canal cut from solid rock in parts, was capable of accepting c 10m x 3m vessels. Using enhanced penetrative satellite photography by Tim Akers, (UK Marine Historian), we located, now sunken, cargo transfer harbours at the Pacific and Lake Nicaragua ends of the canal. The Rio San Juan also contains linear navigation islands. Proof of it's navigation. The costs of the Nicaraguan survey were shared between Gavin Menzies, The Scientific Exploration Society and myself.

Our surveys of Cape Breton Island, Nova Scotia in 2005 with Paul Chiasson, also located massive evidence of the Chinese using the island as their North Atlantic base.

My first realisation that the Chinese had reached Britain in ancient times, was during a survey of the fascinating forts on the unspoilt isle of Innis Mor, Aran Isles, Galway Bay, Ireland. The survey of the unusual cliff side fort of Dun Aengus located evidence of Roman engineering. A Survey of the beach on the opposite side of the island the only accessible beach at Port Mhuirbhigh for evidence of a harbour and located two, one now regarded as a shore side pond. Noting the visible stonework for locks to the adjacent inland harbours, I scanned along the beach for further evidence and located the outlines of two sand covered c 47m x 11m wrecks, their unique double fluked anchors, c 3.5m between the stone flukes, and the length x breadth ratio of the hulls, confirmed the Chinese origin of the wrecks. The history of the bay records violent storms which destroyed the quays and roads.

I have located evidence of Chinese, from wrecks, harbours, barracks, forts, towns, cemeteries, one ship yard in Somerset alongside the R. Parrett, the first site was on Innis Mor, (Aran Islands, Galway Bay), the Scottish Isle of Arran, The Isle of Skye, Ullapool, Gairloch, Poolewe, Gruinard Bay, Rhins of Galloway, Loch Ryan, (Galloway), Luce Bay (Galloway), By Carlisle Airport, Penrith, Stainton, by Shap (Penrith) and Hadrian's Wall (Limestone Corner). Hoylake, Wirral, mouth of River Dee. River Thames adjacent creek. Most sites adjacent to metallic ore exploitation.

Chinese deep sea harbours are of the slot design, akin to modern dry docks, with each vessel being contained in a walled structure, little wider than the vessel. The harbours being accessed from half to full tide, every harbour being connected to a water source ie streams or creeks which flushed the harbour of debris. Harbours designed for vessels over 47m x 11m with keels, had a central water flushed stone lined keel slot, flanked by rows of stone pads to support the hull at low water. The Roman harbours located in Britain are rectangular, stone walled, at all times wet, make up water being obtained from adjacent rivers or streams.. The harbours being accessed via locks for the Roman 30m x 6m deep sea vessels. The locks allowed vessels to access the harbour from half to full tide and retained the water levels.

The difference in harbour design enabled sand covered harbours to be identified by the use of magnetic anomaly surveys and intrusive satellite photography. Identification of wrecks, at low tide, again located by magnetic anomaly and also checked by intrusive Satellite photography, was aided by the length x breadth ratio of Chinese vessels being far greater than European vessels. Eg Nelson's Victory length x breadth ratio was 17%, the Cutty Sark's was 12.9%, the Chinese work horse c 47m x 11m length breadth ratio was 22%, the 70m x 27m Chinese vessels mostly located around Scotland ratio was 38%. The second identifier is the anchors, the Chinese anchors being formed from two blocks of stone each c 2.5m x 0.75m and carved to form two flukes, each block was drilled to hold a connecting stock made from timber, the width of the complete anchor inside the two stone blocks is c 7m for the larger vessels over 47m x 11m and c 3.5 m for the under 47m x 11m vessels. These unique anchors by always providing two flukes into the sea bed, provided a far greater holding power than the standard Admiralty anchors whose design only enabled one fluke to dig into the sea bed.

The surveys also showed that by every Chinese harbour was a set of barracks, indicating that the Chinese sailors lived ashore when in home ports. The 36m long barracks where sited within walled compounds, each with external towers at the corners. The barracks contained eight unpaved and one paved room each c4m square. By comparison Roman barracks contained ten unpaved room and one paved room each 4m sq, designed for 80 men, plus an officer.. Chinese towns had double walls with external towers and defended by an external

ditch. The town's citizens being housed in 30m x 10m buildings, each with a centre paved room and the two unpaved end rooms. Roman towns had a single external wall, or rammed earth dyke, with a single external ditch. The citizens being housed in strip houses (insula) each 70m x 10m with ten unpaved rooms and one paved room.

Interestingly the Chinese bathhouse is virtually identical to the so called Romano Celtic temples, both are of a rectangular shape, with an internal and external wall, the space between the walls probably roofed to form a vestibule for clothes. At the centre of the building is the immersion bath, fed via an aqueduct. The difference is that the Chinese bathhouse had an external boiler house. One wonders if the Romans copied the design of the Chinese bathhouse as their temple design, minus the boiler house. Both the Roman temples and the Chinese bathhouses have external toilet blocks. The design of Roman and Chinese aqueducts are identical, the water duct is flanked by rubble to provide side support.

The understanding of the design of Roman and Chinese constructions enables a surveyor using magnetic anomaly, to speedily and accurately identify both the construction and the constructor.

The next evidence of the Chinese was at Glencoy, Brodick Bay on the Scottish of Arran, by the golf course, noticing discoloured grass, a sure sign of under lying foundations.

A magnetic anomaly scan revealed the foundations of two walled barrack blocks, each containing the standard Chinese 36m m long barracks, with eight unpaved rooms and one paved room. A small cemetery was adjacent, with the inhumations orientated North South. The presence of Chinese barracks indicated the proximity of a Chinese harbour.

A scan along the beach soon located the walls of a harbour, (NS 01435-36287) the adjacent burn, providing the water via an aqueduct, to flush the keel slot. Further to the west, on a small island, where further barracks and nearby two more harbours. All three harbours contained lines of pad stones for the vessels to sit on at low water conditions.

The adjacent golf course had at one time been defended by rammed earth dykes, constructed on a cobble stone foundations. Inside the defensive dykes, the golf course contained large numbers of barracks, each with eight unpaved rooms and one paved one. The number of barracks suggested that this site had been a reception area for workers, possibly slaves, brought in by the large vessels.

Further harbours and walled barracks where located at Kingscross, Whiting Bay, Lamlash Bay and Blackwater. The major fort was at Brodick Castle, in Roman times the base for a Roman governor, housed in a trapezium shaped turreted praetorium, later used as the foundations for Brodick Castle. The triple, in line gateways, of the praetorium and defensive gateways confirm the presence of a Roman of a high rank. The tunnel from the castle to the Bath house and extending to the harbour side, is indicative that these were troubled times and an emergency escape route advisable. On the west coast Drumadoon Fort, Blackwaterfoot was a good example of a Chinese miner's fortified residence, the internal building foundations being of the standard Chinese 30m x 10m three roomed buildings.

The next Chinese site was located north of Carlisle Airport, at Laversdale OSNY47710-62343, the site was constructed between Hadrian's Wall and the extension to Longtown and eventually, The Devil's Dyke, which extended to Loch Ryan, forming the North Solway defence. The clue was a field boundary composed of a rammed earth dyke, with an integral

core of stone bricks laid in herringbone design, (Standard Chinese design), the stone core was exposed by animal action. The dyke was the inner defensive structure, the foundations of the outer dyke are still in place, but the dyke itself had been removed. Interestingly the use of herringbone was so unusual that it was recorded in a copy of the Handbook to the Roman Wall when located in the core of the Wall. Another interesting Handbook record was of finding a three legged vessel in an excavation alongside the Wall, three legged vessels are a standard Chinese design. Adjacent were the foundations of a large granary compound of Roman design supplied by an adjacent canal of Roman design connecting via Laversdale and Brunstock Becks to the River Eden. The raised platform, contained the foundations of a double walled Chinese fort. Inside the area defended by the rammed earth dykes, a scan located the foundations of triple roomed houses, each 30m x 10m with the centre rooms paved and the end rooms unpaved. Standard Chinese houses of the Shang period. One can only presume the occupants of the town were employed on constructing Hadrian's Wall.

ULLAPOOL, The written histories of Ullapool do not contain any references to the Roman or Chinese presence. Ullapool is situated on Loch Broom and is a major port for the Hebridean Isle of Lewis and the transfer port for fish and crabbers, many to Russia.

The Roman and Chinese presence was based on metallic ore exploitation. The uniformity of the platform the town is built on appears to be the actions of man, not nature. The sides of the platform contains the foundations of a wall, internally are the foundations of a Roman town, roughly 400m North-South x 200m East-West, 8ha (19.2acres). The occupants being housed in insula, (Strip houses) 70mm x 10m, each with 10 unpaved rooms and one paved.

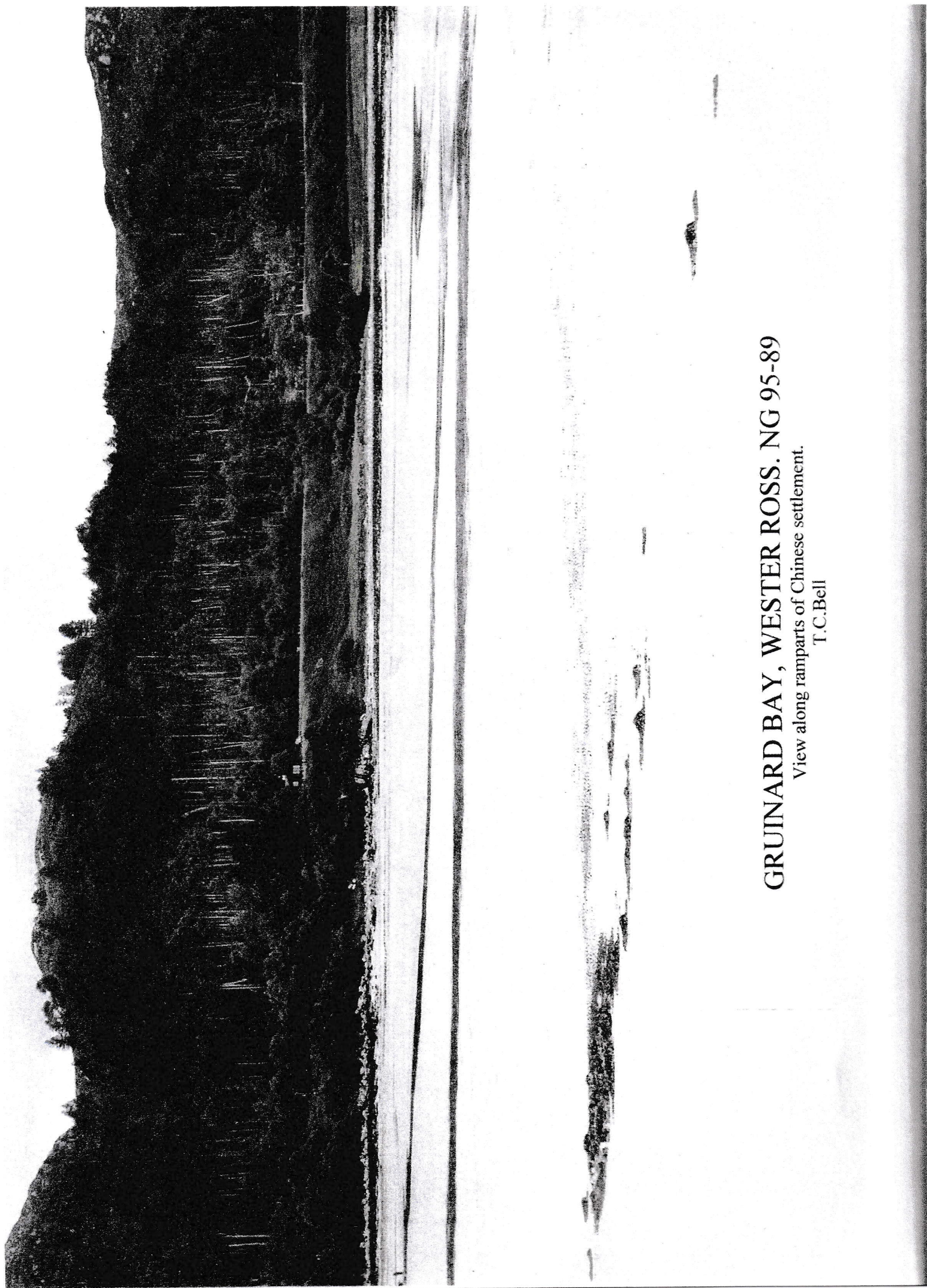
The return of the platform is best viewed from the Broomfield Holiday Park (NH12540-93885). The Holiday Park is the site of an usual fort NH12540-93885 with one still visible rampart. The fort is roughly 160m square, double walled with external towers and four defensive ditches. Unusually, the fort was divided into two halves with an internal gateway allowing access between the two halves, one half contains the foundations of six standard Roman barracks, each 44m long x 4m wide, with 10 unpaved rooms and one paved and one half with the foundations of Chinese barracks, each 30m x 10m, with three rooms, the centre one paved and the end ones unpaved. The platform, nearby contains the foundations of the granary, adjacent to a small puddled clay lined harbour. NH12565-93942

The foundations of the Roman 120m long harbour are west of the modern ferry pier and flank West Shore Street, the two Chinese slot harbours (NH12401-94038 to NH12349-94126) are west of the town's platform, accessed by run downs. The barracks for the Chinese crews are built on still visible platforms and the toilets for the crews are adjacent flanking the platform the town is built on. The water supply for the Chinese harbours and toilets was via a large aqueduct fed from the Ullapool River. The northern side of the Town's platform up to Ullswater River contains the Roman cemetery, a number of temples and a small fort with visible ramparts (NH 12792-94554), NE of the town. Ore extraction terraces are visible east of the town and also at NH13244-94648, this site is accessed from Broom Court by the electricity sub station.

POOLEWE, GRUINARD BAY, GAIRLOCH, WESTERROSS.

Evidence of Chinese harbours was located at all three sites, Plus evidence of metallic ore exploitation at Poolewe and Gruinard Bay. A large Viking site was also located at Poolewe.

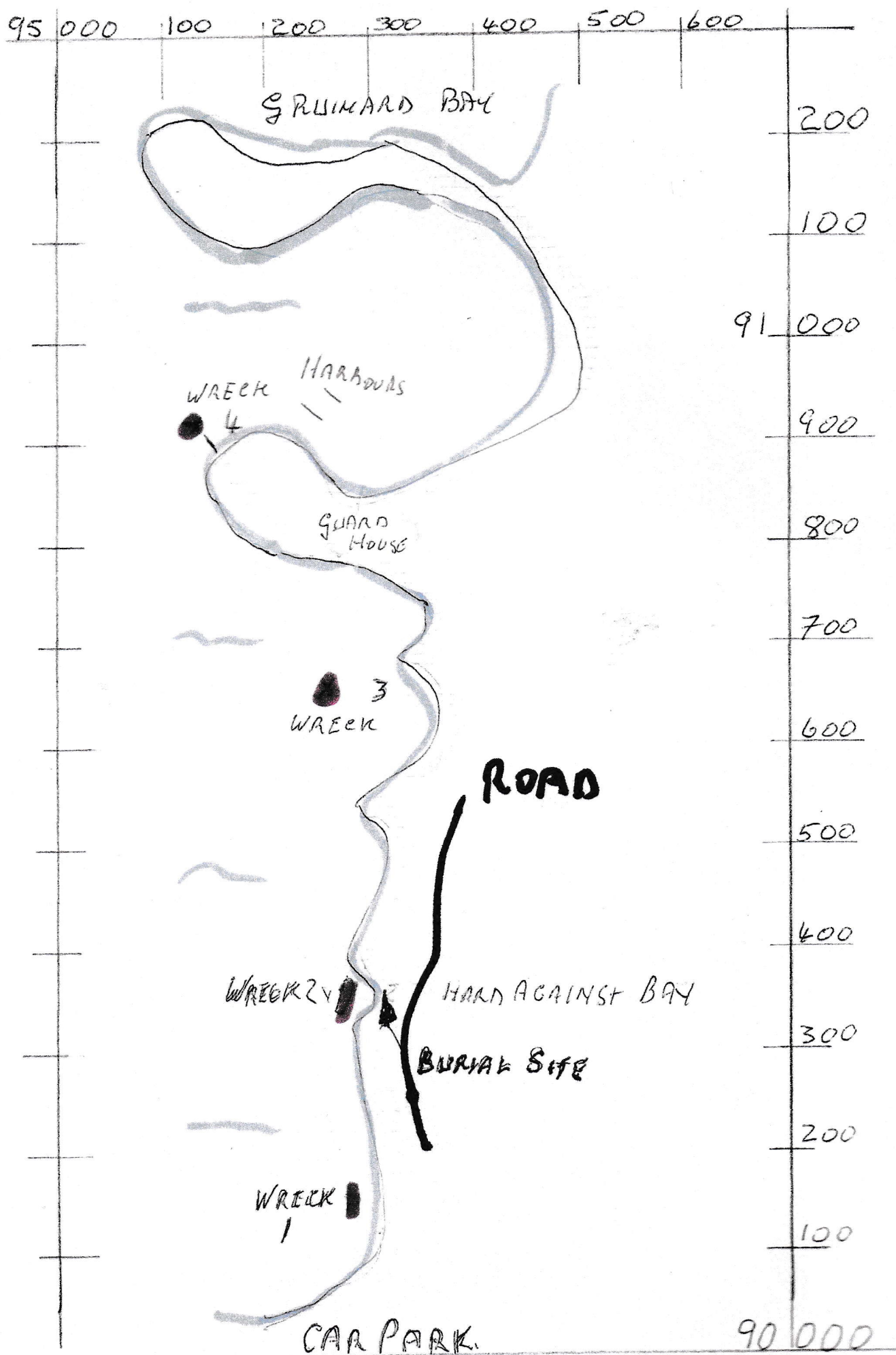
GRUINARD BAY. (WESTER ROSS)



GRUINARD BAY, WESTER ROSS. NG 95-89

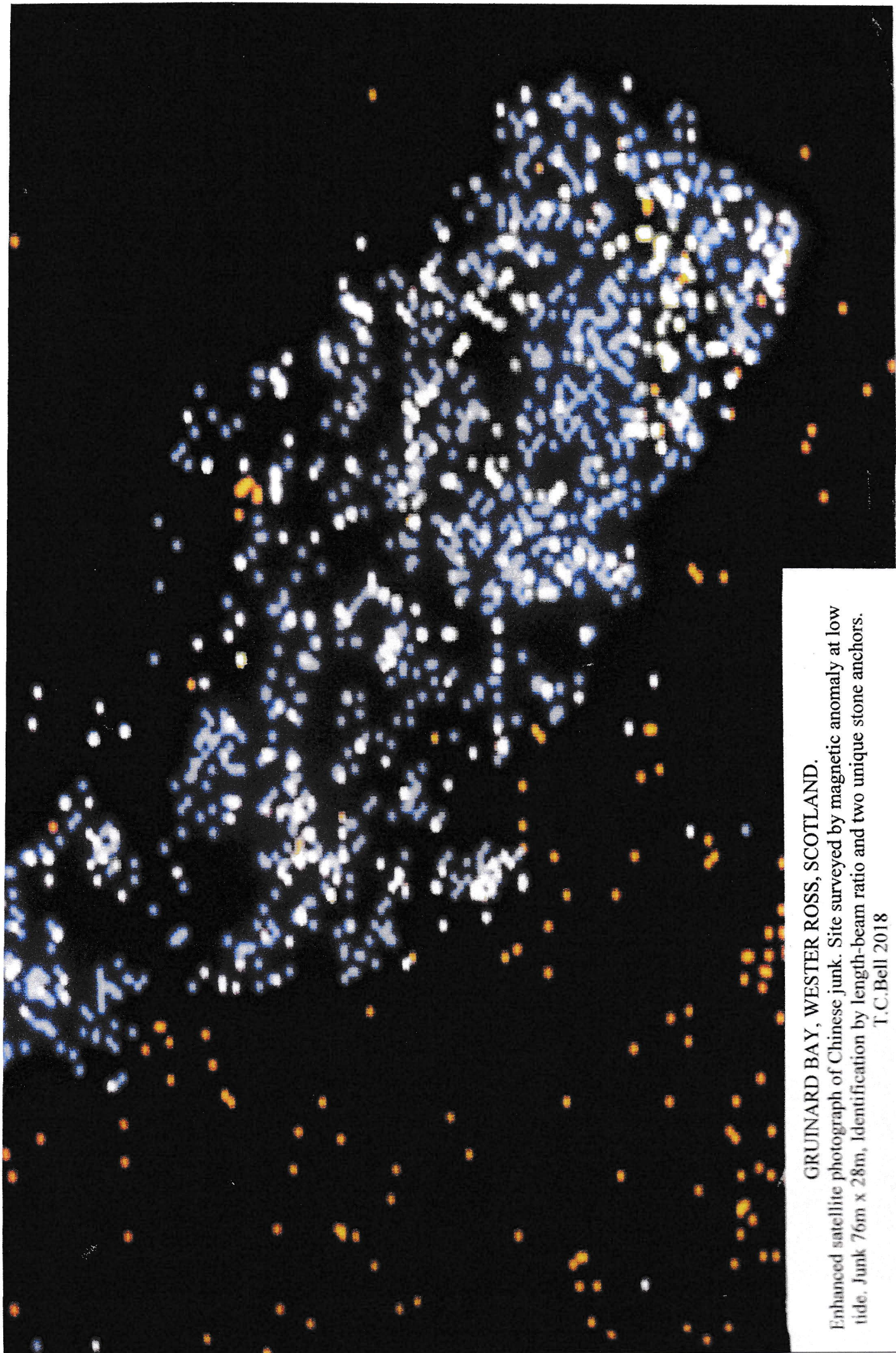
View along ramparts of Chinese settlement.

T.C.Bell



GRUINARD BAY, RHINS OF GALLOWAY
CHINESE WRECKED JUNKS. ONE CHINESE BURIAL SITE

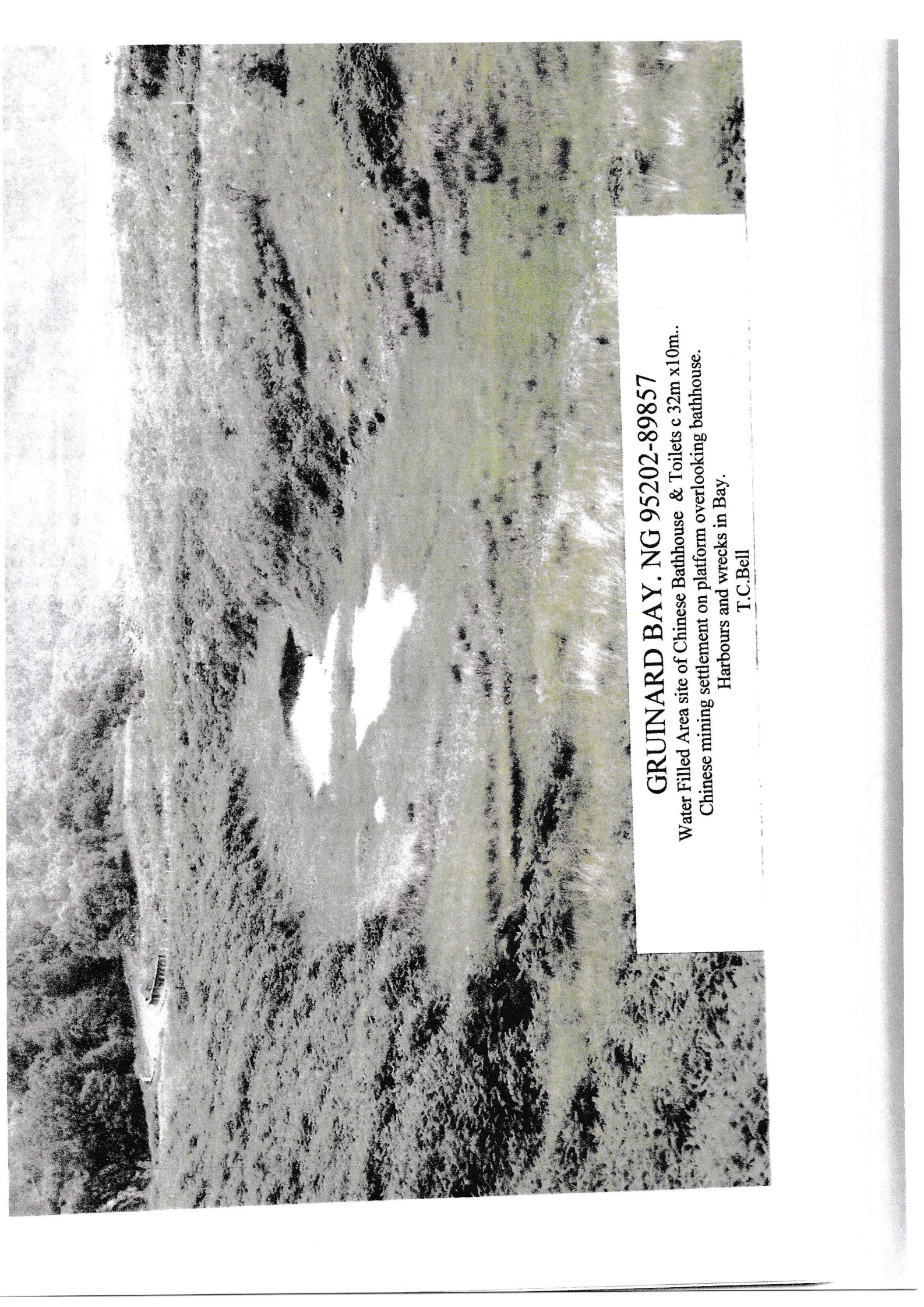
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GRUINARD BAY, WESTER ROSS, SCOTLAND.

Enhanced satellite photograph of Chinese junk. Site surveyed by magnetic anomaly at low tide. Junk 76m x 28m, Identification by length-beam ratio and two unique stone anchors.

T.C.Bell 2018



GRUINARD BAY. NG 95202-89857
Water Filled Area site of Chinese Bathhouse & Toilets c 32m x 10m..
Chinese mining settlement on platform overlooking bathhouse.
Harbours and wrecks in Bay.

T.C.Bell

Surveys, using magnetic anomaly, over the shores at low water in Gruinard Bay, located four sand covered harbours designed for Chinese c70m x 28m vessels, four in line (95151-90821), and one harbour at 94881-89917, plus four wrecks, all sand covered, identified by their length x breadth ratio and unique anchors. 95232-90682, 95200-90137, 95177-90927 and 95254-90345.

Presumably all hit by the same storm and washed out of their harbours. (See satellite intrusive photograph of one of these wrecks the most northern (NG95177--90927). Two sites, both with the foundations of Chinese standard buildings, 30m x 10m, where located, one by the Gruinard Bay car park, based on metallic ore exploitation, plus a large flooded depression, the site of the bath house, (95202-89857, overlooked by agricultural terraces. (95288-89885). The other settlement is southwards of the car park (NG 94775-89900). One cemetery, with the inhumations orientated North South was located, in a small bay, presumably the crew ex the adjacent wrecked vessel. (Burial Site NG95309-91329). (Wreck site 95254-90345).

POOLEWE. (Stirk Hill Farm). Loch Ewe. Gaineamh Beach (Accessed from nearby carpark). A scan along the beach flanking Loch Ewe located a group of six Chinese slot harbours designed for 70m x 28m vessels. An aqueduct ran the full width of the harbours, this fed water from a local burn into the central keel slot which ran the full length of each harbour. The water kept the keel slot free of debris. Flanking the keel slot on both sides for the length of the harbour, each harbour had three rows of stone pads, each c 2m square, and c 2m apart, these pads supported the vessel at low water. The slot harbours ran from NG81426-88520 to NG 814121-81750.

Flanking the beach at the base of the land which rose to the road, could be seen a row of boulders, a scan showed that these sat on foundations and had formed a defensive wall. Two entrances could be seen 81335-88693 and 81352-88620 and between them what appeared to be the foundations of a bastion (81346-88654). The depression at 81863-88601, was that of a bath house one bath was c 12m x 6m and one 6m sq, with an external boiler house. The bath house was guarded by the still visible remains of dykes. The adjacent flat area set into the hillside c14m x 8m (81330-88527) appeared to contain the foundations of a fisherman's house. To the north, on Stirk Farm, the beach was overlooked by a series of agricultural terraces.

To the south of the path to the beach, the visible boulders formed the remnants of the site's two defensive walls, with an external 6m wide ditch. Between the double walls are rows of Lilia, man trap pits. It would appear that the Lilia attributed to the Romans originated from China. The modern road is sited over the Chinese road, the Chinese defences for the site continued on both sides of the road flanking the adjacent field which contained the barracks for the sailors who crewed the ships which used the harbours, to the entrance to Stirkhill Farm.(81150-88900). The site was c 1,000m x 100m. Immediately north of the Stirkhill Farm entrance road was a small cemetery, with the inhumations orientated North-South. Half way up the path to the farmhouse, a culvert carried the burn which discharged to the beach. This burn was canalised and used to transport the cargoes from the vessels docked in the lower harbours, via ladder locks to the small upper harbour situated alongside the modern farm access road.

The walled field when surveyed by magnetic anomaly, showed that it contained the foundations of many 30m x 10m three roomed barracks, the centre room being paved, the external rooms unpaved. A standard Chinese Shang era design. The water filled depression at the centre of the field contained the foundations of an aqueduct fed bathhouse with an external boiler house. The trenches excavated across the field by the farmer prior to inserting drain pipes, showed the presence of carbonised bushes, indicating that the site had been cleared of vegetation by firing, prior to constructing the barracks. A sample was sent to SUERC, Scottish Joint University Laboratories for carbon dating. The result c 2,348BC, indicated that the Chinese had entered Britain in two periods, around 3,000BC, when Chinese fleets set out to survey the world, at a time the Arctic was mainly ice free. Similar carbon dates have been recorded for Pit Graves on the Isle of Arran. (Chinese graves??). The second wave of Chinese is known in Roman Times c45AD -410AD, and the several Chinese sites located by the author in Britain, alongside Roman fort sites, or with Roman infrastructure, ie canals or granaries..

This c2,348BC very early date prompted the author to examine the dates for the Scottish Isle of Arran pit graves, (Chinese design!!) at Lamash and Whiting Bay, excavated and carbon dated by others. These dates ranged from c 3,000 BC to 2,500BC, as these graves flanked Chinese sites located by the author, they suggested that the sites had been occupied by the same group of Chinese. There are historical references to early Chinese explorers sent out to map the world, many of the Chinese sites in America date to these period.

MID TOWN POOLEWE (WESTER ROSS).

Four kilometres up Loch Ewe from Poolewe is Midtown, a linear collection of houses. Turning left at the bridge in the field uphill from the first house on the left, is a visible canal NG 818-848, which contours up the steep slope in two runs, then flanks the field fence to contour southwards. The design of the canal is Roman with the standard flanking aqueducts. The function of the canal was to form a transportation highway to move the iron bearing ore exploited from the upper hillside to the lower smelters. One smelter ramp is still visible in the lower field. The ramparts of a small Roman fort (NG819-850) can be seen in the garden of the first house on the left, at the fork in the road. The adjacent barn was built over one of the fort's granaries. The identification of the granary is the flanking buttresses, that of the Roman fort are the ramparts and the foundations of the barracks, ten unpaved rooms and one paved. A Roman canal NG814-860 runs NW from Midtown. Identification was by a magnetic anomaly survey which located the canal's standard Roman flanking aqueducts. Presumably the canal served further metallic ore exploitation sites along the hillside, a large smelter ramp site was located alongside the main road NG8200-8540. Near the Midtown end of the canal is the depression of a large site, best viewed from the hillside above, this served the smelter site. What has not been located is the walled barracks for the large number of slaves employed on the ore exploitation operations..

Interestingly, prior to the turn off for Firemore Sands are the remains of a small stone circle.(NG819-877). Invariably stone circles are located by metallic ore exploitation sites. It is interesting that the canals are of Roman, not Chinese design, yet the carbon dating at Stirk Farm is c 2,348BC, yet the Roman invasion leading to 350 years of occupation was 45AD, this suggests that there was a very early Chinese presence, followed by a later Chinese, Roman occupation c44AD-410AD

GAIRLOCH, WESTER ROSS

CHINESE IN ANCIENT BRITAIN IN ROMAN & PRE ROMAN TIMES. (T.C.Bell) THE EVIDENCE.

Carbon dating in Wester Ross, Scotland, of Earliest Chinese double walled barrack site dated c 2,800 BC, adjacent to their harbour.

SITE PRESUMED TO BE EX A SQUADRON OF CHINESE SHIPS
KNOWN TO HAVE SURVEYED THE WORLD WHEN THE
ANTARCTIC WAS ICE FREE.

READ "THE PATH OF THE POLE" (Prof Charles Hapgood
" MAPS OF THE ANCIENT SEA KINGS. (Prof Charles Hapgood)


SUERC
Scottish Universities Environmental Research Centre
Rankine Avenue, Scottish Enterprise Technology Park, East Kilbride, Glasgow G75 0QF, Scotland, UK
Director: Professor F M Stuart Tel: +44 (0)1355 223332 Fax: +44 (0)1355 229898 www.glasgow.ac.uk/suerc



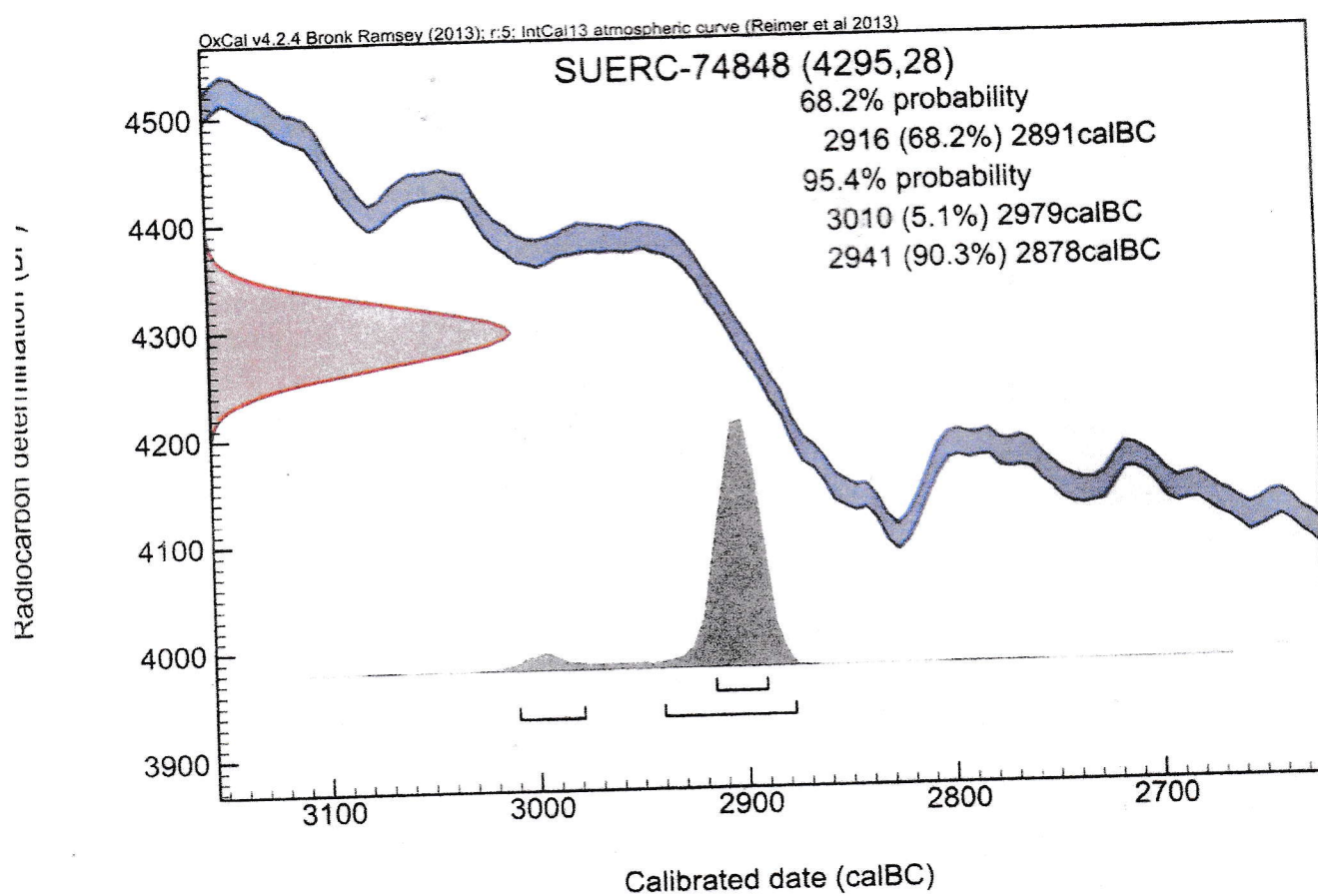
RADIOCARBON DATING CERTIFICATE

12 September 2017

Laboratory Code	SUERC-74848 (GU44846)
Submitter	T C Bell 21 Thorpe Field Sockbridge Penrith Cumbria CA10 2JN
Site Reference	11 Stirkhill, Inverasdale, near Poolewe, Wester Ross IV22 2LS
Context Reference	Ref TCB 1421
Sample Reference	Sample 1421
Material	Section of tree root left after site clearance for
$\delta^{13}\text{C}$ relative to VPDB	-26.2 ‰
Radiocarbon Age BP	4295 $\pm$ 28

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal13 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

This small town and harbour is now the centre of the local Tourist industry. The golf course south of the town is above a c550m long beach called Gainneamh`r. A survey of the Bay by below the golf course showed that as at Poolewe, the bay contained six Chinese slot harbours designed for 70m x 28m vessels, and at the eastern end of the bay, a Roman harbour, c 40m x 40m with three sections, access being via 30m x 6m locks.. The harbour served a Roman fort, situated on the now golf course.

The burn running down to the shore, flanking the footpath, provided the water for the aqueduct which flanked the shore feeding the Chinese and the Roman harbours. Thus dating this Chinese harbours site to the Roman occupation of Scotland. Interestingly the Gairloch Museum (2017 survey) was built over a small Roman fort, the adjacent (to be recommended) café being built over the granary, a section of the car park is also over the fort's foundations.. It is planned to resite the interesting museum, but devoid of Roman, Chinese and Viking information and artefacts, in the near future..

The old burial ground adjacent to the Golf Club, was built on a hill and the upper part of the site contains the foundations of a Roman Pharos (lighthouse) (NG80715-75644), the remains of the Lighthouse's defensive ditches and ramparts are still highly visible. The function of the Pharos was to safely guide the vessels into the harbours.

ALTEBEA. WESTER ROSS

The (to be recommended) café Oran Na Mara (NG87816-88356) is sited on the hillside overlooking the harbour.

This café was originally the reception for the adjacent hotel, the site consists of three terraces each roughly 45m x 30m, each terrace contains the foundations of 30m x 10m Chinese three roomed barracks, identified by magnetic anomaly, the centre room is paved and the end rooms unpaved. The lower terrace contains the toilet block. Some of the original stonework of the defensive walls is still visible on the upper terrace. Nearby metallic re exploitation terraces are visible when viewed from the harbour.

RHINS OF GALLOWAY, CHINESE SETTLEMENT SITES, HARBOUR AND WRECKS. LUCE BAY (NX253-512) Is east of the Rhins of Galloway. Craignarget Beach. OS Explorer Map 310.

The first impression of this beach is a central clear sandy beach flanked by two arms of stone. Examination of the two arms showed that they had originally formed stone breakwaters. A magnetic anomaly scan between the breakwaters located the stone walls of six Chinese slot harbours of Chinese origin. The harbours being identified by the central keel slots and flanking supporting hull pads. The harbours extended from NX25198-25463-51194, c 265m. Further confirmation of the ancient harbour design being the massive aqueduct flanking the beach which fed water into the keel slots to prevent the build up of debris. A row of depressions along the shore line when surveyed indicated they contained the foundations of the walled barracks which housed the crews of the vessels which used the slot harbours. The 36m x 4m barracks consisted of eight unpaved rooms and one paved one, each 4m square. The adjacent fields hold large piles of building stone, apparently ploughed out from the flanking ancient settlement.

Rebecca Jones's fascinating book "Roman Camps in Scotland" pgs 2 and 217 records a Roman camp at Glenluce NX1985-5665 17.9ha (44acres). The area map shows two Roman

navigation islands in the Waters of Luce, indicating that the Waters formed a Roman transportation highway. Luce Abbey was built over the site of a Roman town and upstream there is evidence of metallic ore exploitation. A major East-West Roman road connected nearby Loch Ryan with the Dumfries region. A Roman frontier, locally called the Devil's Dyke linked from Loch Ryan to Longtown and Hadrian's Wall, providing a northern defence for the metallic ore exploitation sites in Dumfriesshire.

DRUMMORE, EAST COAST OF THE RHINS OF GALLOWAY.

(OS Explorer Map No 309).

A magnetic anomaly survey along Cairngarroch Bay (NX143-309) located the foundations of two Chinese slot harbours, plus an aqueduct flanking the beach which provided the water to keep the 2m wide keel slots flushed. To the north of the Chinese harbours the survey located the harbour walls of a 200m x 60m four bayed Roman harbour. The harbour had been accessed by locks designed for 30m x 6m vessels. In the area now designated the Picnic Area, the depressions held the ramparts of the Chinese sailor's barracks. At the rear of the Harbour Road cottages, adjacent to the (now closed) Coastguard Station the ramparts of the walled barracks of a Roman cavalry fortlet are clearly visible. Opposite these cottages on the shore are the remains of a roughly circular fish trap.

MARYPORT BAY, EAST COAST OF THE RHINS OF GALLOWAY. NX143-344)

(OS Explorer Map N0 309).

The Creehan Burn discharges into Maryport Bay in the region of the camp site, the lower end of the burn now runs in two concrete culverts. The burn had fed a large aqueduct which flanks the shore line and provided the flushing water to the keel slots of two Chinese slot harbours, each c 100m long and 40m wide. (NX1435-3430). North East from the camp site is a large white cottage, opposite the cottage, by magnetic anomaly, a sand covered wreck 70m x 40m was located, orientated North-South, the stern was to the south, with one anchor and two to the bow. The design of the anchors are standard Chinese. (See photo).

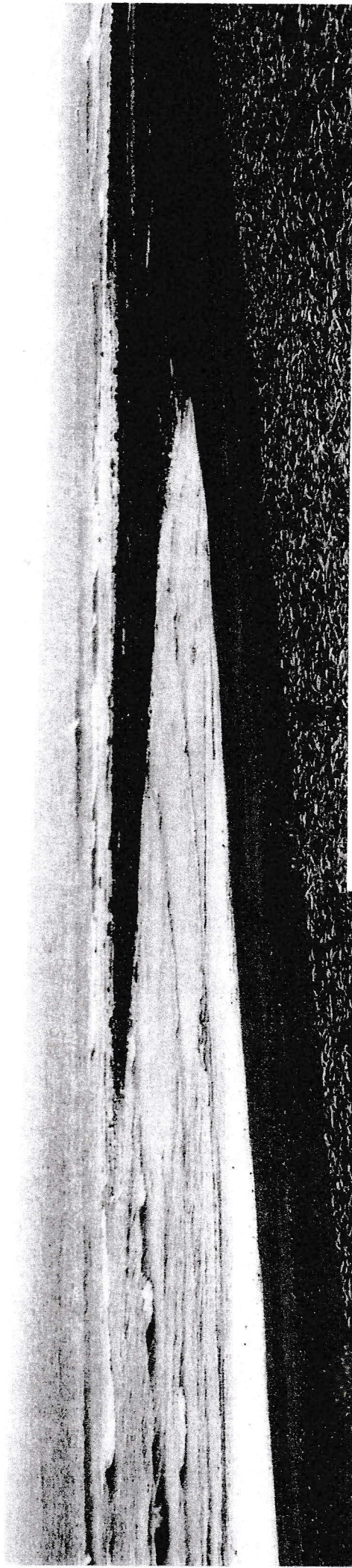
The narrow field adjacent to the shore, immediately south of the camp site and Creehan Burn, contains a prominent man made ramp from the lower field to the upper plateau. (See Photo) The lower field contained a 280m long line of toilets, the absence of wash rooms confirmed the Chinese, not Roman origin. The seaward edge of the 6.25ha (15acre) plateau NX1415-3420) was still partially walled at the survey period and vast quantities of stone ex the buildings had been gathered into heaps on the edge of the plateau. A survey on the plateau located the foundations of the Chinese 30m x 10m three roomed houses. The size of the toilet blocks suggested a population of several thousand. One can only assume that this was a holding camp for imported labour prior to being sent off to work camps, similar to the massive holding camp located on Brodick (Isle of Arran) Golf course alongside three Chinese harbours.

CHAPEL ROSSAN BAY, ARDWELL. (Adjacent to Ardwell House)

East Coast of the Rhins of Galloway (NX110-453).

Ardwell House grounds contains the foundations of a Roman fortress.

The southern section of the beach contains a car park and picnic area. The shore is accessed by a concrete ramp. North of the ramp are the foundations of six Chinese slot harbours, south are the foundations of a Roman harbour 130m x 60m accessed by 30m x 6m locks. The Killaser Burn divides the beach into two sections and formed a canal which served the Roman Fortress and also provided the water for the aqueduct flanking the beach. The water from burn, via the aqueduct, flushed the keel slots of the Chinese harbours and also the water



CRAIGNARGET BAY, LUCE BAY, GALLOWAY

NX253-52 site of 6 Chinese slot harbours designed for c 70m x 26m junks

This line of large stones marks the line of the harbour's southern breakwater, the adjacent photograph shows the line of the northern breakwater. The distance between is 260m.

In the far distance can be seen the low outline of the Rhinns of Galloway.

The harbour was supplied via a large aqueduct, this supplied an aqueduct flanking the beach with supply to each of the six slot harbours, each slot harbour contained a keel slot, the water served to flush the slot of sand. Each harbour also contained rows of pad stones to support the hulls as the tide went out. The Chinese sailors slept ashore, their walled barracks flank the modern road. Each

Internal barrack measured 36m x 4m and contained 8 unpaved rooms and one paved one..

The remains of the slot harbours were detected by magnetic anomaly and also by enhanced satellite

photography. T.C.Bell



CRAIGNARGET BAY, LUCE BAY, GALLOWAY

NX253-52 site of 6 Chinese slot harbours designed for c 70m x 26m junks

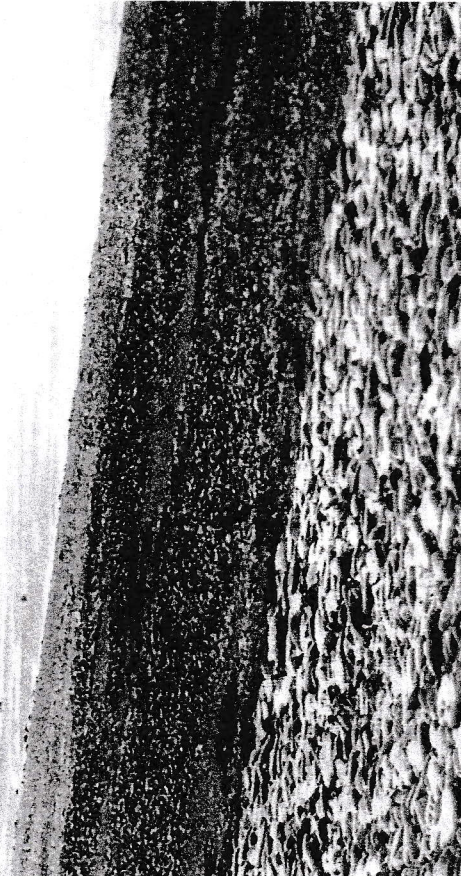
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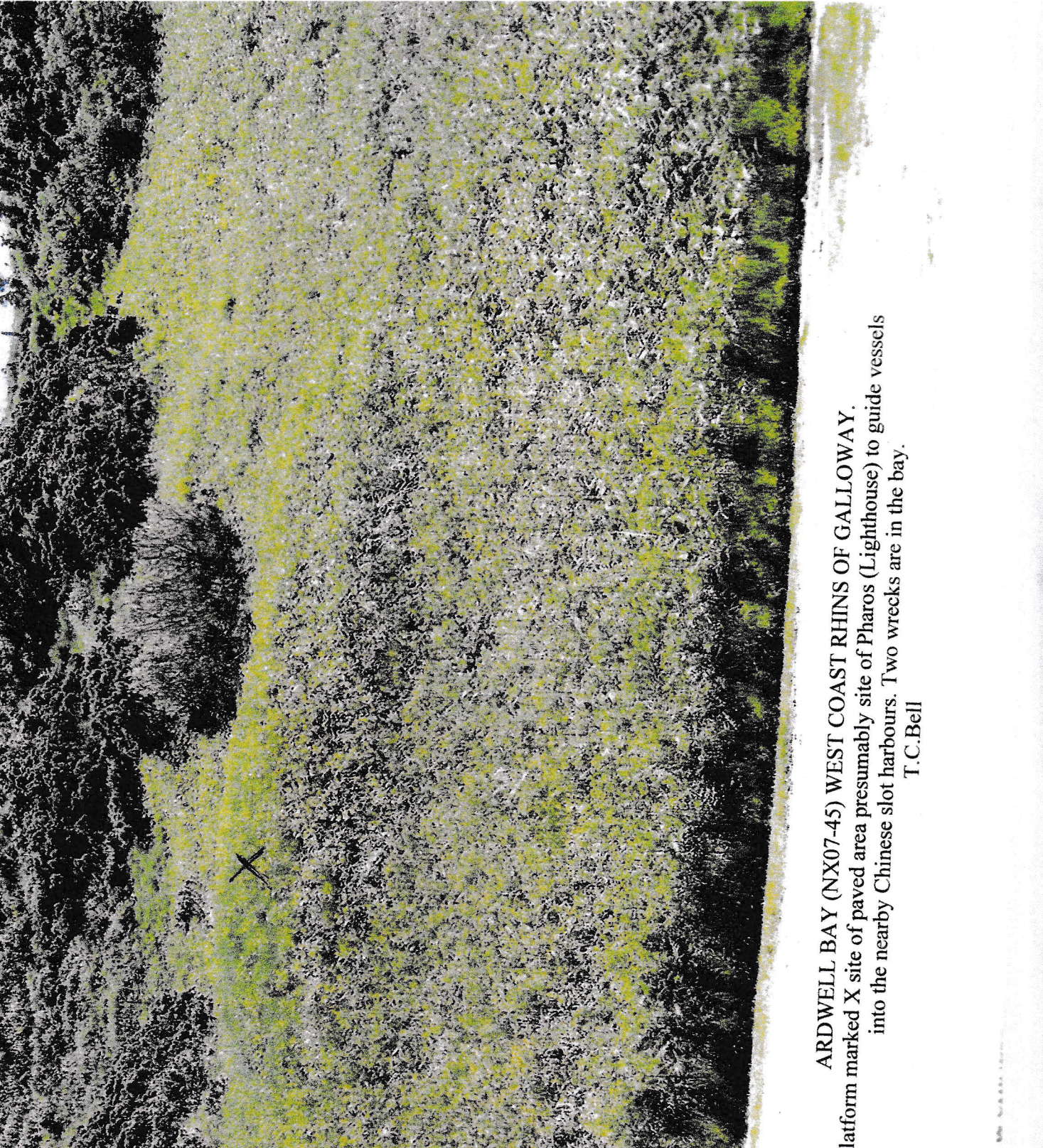
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photography. T.C.Bell





ARDWELL BAY (NX07-45) WEST COAST RHINS OF GALLOWAY.
Platform marked X site of paved area presumably site of Pharos (Lighthouse) to guide vessels
into the nearby Chinese slot harbours. Two wrecks are in the bay.
T.C.Bell

for the Roman harbour. Along the shore line by the picnic area clearly visible are the ramparts of the ship's crews barracks and the depressions of the toilets.

ARDWELL HOUSE GROUNDS.(NX104-455)

The wooded grounds are accessible via a permissive circular footpath which passes a large ornamental lake. One wonders if this depression was originally a Roman puddled clay lined harbour. The agger of a Roman road crosses the path at the NW corner of the site adjacent to the church and the EW road to Ardwell. The agger was the first visual indication that the site had a Roman origin. The ramparts of a Roman fort were noted opposite the entrance to Ardwell mains. The eastern ridge section of the walk had been fortified by a wall and held Roman barracks. Separated by a man made ditch and constructed out of the ridge was a tapered mound with a flat top and a round well at the centre. (NX107-455). The site history claims this was a Norman motte. However a scan across the top of the platform located both the inner and outer walls, thus the site was actually the remains of a double walled Broch, thus at least 1,000 years older than claimed. The Broch had four entrances, the well was interesting, Roman spill wells are square and Chinese are round, this well was round and not an artesian well, but aqueduct fed from the same source that fed the nearby toilet block. The toilet design was Roman, or Chinese, their design is identical.

The siting of the Broch, overlooking the harbours, would appear to have been to provide a Pharos (lighthouse) to guide the ships to the harbour.

ARDWELL BAY (NX07-45) WEST COAST OF THE RHINS OF GALLOWAY.

Ardwell Bay is one of the most delightful bays on the complete coast. The only listed archaeology site at Ardwell Bay is the Broch. Brochs are normally associated with Scottish coastal area. The buildings are constructed in dry stone, circular and tapered with an inner wall tied to the outer wall by throughs, diameters vary from 5m -15m, heights are difficult to gauge as the majority have fallen down, those at Glenelg, near the Skye ferry, are among the most complete at 6.5m high. Those that have been carbon dated appear to date from the first cent BC to the third cent AD. Similar buildings have been recorded in Italy. It is interesting to note that the Chinese Hakka people constructed similar, but mainly larger circular buildings.

The Broch at Ardmore Bay NX0665-4485 is in a very poor condition. The Broch has two visible entrances, a magnetic anomaly survey over the site suggests that it originally had three entrances. A central well was fed from the same aqueduct (of Roman or Chinese design, they are the same) which fed the adjacent toilet, situated to the north of the Broch. The design of the toilet was again of Roman, or Chinese design, they are identical. Immediately south of the Broch, the level ground held the foundations of a standard Chinese nine roomed barracks, 36m x 4m, the end room being paved, the others unpaved. Adjacent was a small urinal.

External to the Broch site there is evidence of several dwellings and one spring fed aqueduct feeding into a small storage cistern. On the hillside above the Broch and around the south side of Doon Hill are the remains of agricultural terraces, a scan confirmed they held small irrigation aqueducts, indicating the presence of skilled agriculturists. Doon Hill was walled, and inside the defensive walls the foundations of three roomed houses 30m x 10m with only the central room paved where located. Suspecting that the site held a central stone circle (Observatory) on the upper section of the hill, the site was scanned whilst the large stones had long been removed, their packing stones are still in position. This showed the circle had been 20m diameter(NX068831-4730). The grass colour and a scan confirmed the position of the

spring that supplied the three c 20m long puddled clay channels flanking the circle to the west. These channels plus a gnomon shadow caster, being used to record sun and star reflection shots. The recordings over a year being used to construct a calendar, and record the times for conception, planting and sowing plus bird and fish migration. Invariably stone circles are associated with metallic ore exploitation areas. Our knowledge of the use and design of water troughs and shadow casters was obtained following a visit to Beijing Observatory, China by my colleagues Gavin Menzies and Dr Gunnar Thompson (USA).

Access to Ardwell Bay was via a walled entrance from the south or from the interior by a road cut through the cliffs. Fascinated as to why the road to the site described a perfect arc by what is now the car park, I scanned the site, this revealed the foundations under the car park of a c30m wide c 15m radius half circle of a wall with a gateway in the arc and another gateway in the inner flat wall. This is a standard Chinese design called a Weng –cheng (moon) gateway, the inner courtyard being designed to check the credentials of visitors before being allowed into the main area. The remaining stonework of the gateway had caused the nearby track to arc around it. To date, one similar moon gateway has been located in a major Chinese town in North Island, New Zealand and three in Britain, Lime stone corner, (Hadrian's Wall), by Beacon Edge, (Penrith) and Hardendale (Shap). At Ardwell Bay the town walls are visible around the car park and shown on the OS map of the area the adjacent large depression houses two smelter ramps NX66932-45001. The remains of a fish trap are visible on the shore line.

Opposite the now car park, on the hillside, a man made platform is clearly visible. This was accessed by a paved track, the platform was also paved, from this elevated position the entire bay could be viewed which suggested that this was the site of a pharaos (lighthouse) designed to assist ships accessing the adjacent harbours.

Water supplies always dictated the siting of a settlement or town. The engineers who designed the Ardwell Bay site had constructed two reservoirs, the eastern one at the top of the slope to the beach, The distribution aqueduct flanks the road to the settlement. The reeded areas of the southern reservoir are still visible from the footpath between Slunk Cottage and Ardwell Farm, the footpath runs between Slunk Cottage and the adjacent fortified hill NX07078-44515, this site containing nine roomed barrack blocks, formed the southern defence fort the settlement.

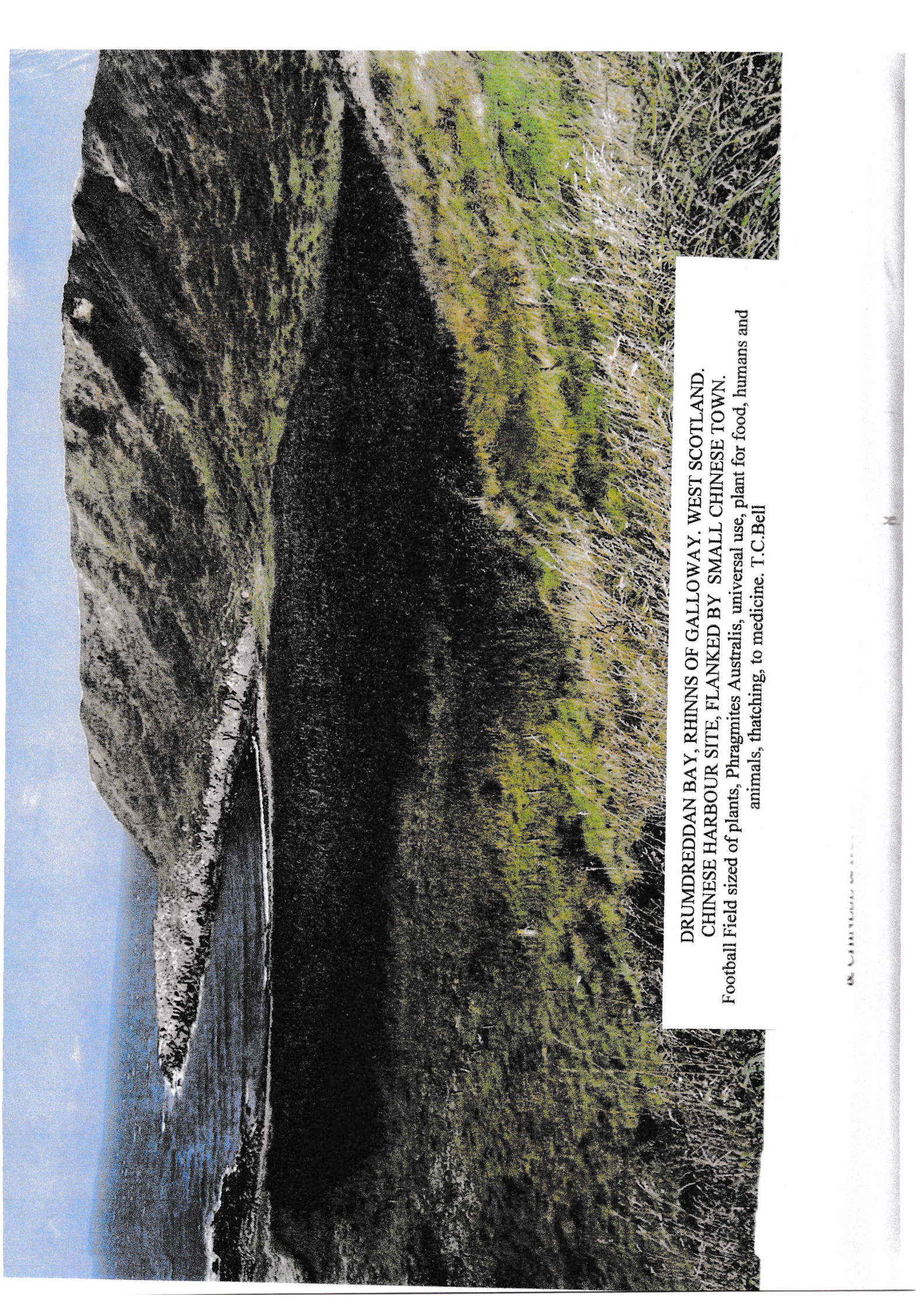
By the modern slipway, two Chinese harbours bays (NNX06913-44959) each c40m wide and 10m long, protected by the rocks to seaward forming a breakwater ran northwards. The outlines of two 100m x 40m sand covered wrecks and their anchors were located nearby.

One bow at NX0696-44969, stern at 06975-45029, the second wreck, bow 07008-44947, stern 06932-45001. The four bow anchors of the junks are alongside the rocks, still attached to the vessels by their anchor ropes, two smaller stern anchors are in place. Intrusive satellite surveys confirmed the positions of these wrecks.

PORT LOGAN NX095-405

West Coast of the Rhins of Galloway.

Scans along the beach located the foundations of two Chinese slot harbours c 100m x 40m at NX09710-41001, these are very close to the picnic site and wooden access steps to the shore. Noteworthy is that the beach is very sandy, except in the areas of the two harbours,



DRUMREDDAN BAY, RHINNS OF GALLOWAY. WEST SCOTLAND.
CHINESE HARBOUR SITE, FLANKED BY SMALL CHINESE TOWN.
Football Field sized of plants, *Phragmites Australis*, universal use, plant for food, humans and animals, thatching, to medicine. T.C.Bell

presumably water is still being flushed into the keel slots and washing the sand away. Recently storm action has uncovered the stone quayside at the land end of the harbours. From this point a sand covered stone road runs inland directly to a cleared depression in the adjacent hillside, identical to the one at Maryport Bay.

Surveys along the beach located the sand covered wrecks of two c100m x 40m junks each with two bow anchors and a single stern anchor out. Both junks lay in line, parallel to the shore, bows headed southwards. The wrecks are north of the port's main drains, the anchors of the first wreck are adjacent to the outfall pie NX 0960-4055. An intrusive satellite survey confirmed the existence of the wrecks.

DRUMBREDDAN BAY (NX08248-43971) West Coast, Rhins of Galloway
The three bays adjacent Drumbreddan, Port Lochan and Port Gill, are defended by earthworks recorded on the OS Landranger 82 1:50,000 and the cliffs contain lovely examples of Chinese agricultural terraces.
Background to survey.

Etymology, Meaning of bays name. Ex Studies of "The Topography of Galloway" by Sir Herbert Eustace Maxwell, "Bretans Ridge". Presumably the ridge is the East West ridge flanking the Chinese canal, possibly it incorporated spoil from the excavation of the canal. Bretan (phonetic of Breddan) being the origin of the folk who farmed the area. Drum is possibly an abbreviation for Drumlin, a ridge formed by glacial action.

Historic Scotland recorded a fort on the cliffs above the bay, marked on OS maps. Google Earth recorded Lines of Agricultural Terraces on the cliffs. My Satellite contractor recorded the remains of Chinese slot harbours in the three bays, my own magnetic anomaly survey in the main bay also recorded the remains of Chinese harbours and supporting infrastructure.

The track to the bay is via Drumdreddan Farm.

The cliffs surrounding the bays are lined with irrigated agricultural terraces, indicative of a large force of highly skilled agriculturists, operating in the area over a considerable period of time. The cliff top fort recorded by Historic Scotland, is accessed by a metre wide stone (now grass covered) path alongside the cliff edge, the actual extended entrance to the fort is also 2m wide with 30m drops on both sides. Sadly, somebody had damaged the fence to access the fort. I decided to accept Historic Scotland's claims of a fort and chickened out of a survey of the fort. The very small site is more akin to a watch tower with commanding views, than a fort. A cliff top fort with only one entrance could easily become be a prison, not a fort, with a determined aggressor. Dally Bay's Chinese fort is far larger and contains the foundations of a complete barracks and has two entrances.

One of the three bays was surveyed using magnetic anomaly and six harbour slots located. Each slot was the standard 70m long x 28m wide slot harbour slot, each with a keel slot and hull support pads. An aqueduct flanked the shore line, with a connection to each of the keel slots, the purpose to keep them flushed and free from debris.

Well above the base of the track to the shore, a flat area had been cut into the cliff and accessed by a stoned path, the flat area contained the standard stone base for a Pharos, (Lighthouse) designed to guide ships into the harbours. The platform and access is clearly visible when viewed from the beach.

Very unusually for a Rhins of Galloway beach, for the first time it was noted there is a football pitch sized area covered in reeds, these extended from the shore line to the access track. A photograph and samples of the 2m high reeds sent to the Royal Botanical Gardens in Edinburgh was identified as *Phragmites australis*. This reed, found all over the world, has many uses, from thatching, rope making, basket and mat making, food for humans and animals and a base for medicines and even for a fuel. (See web sites for the many uses of this amazing reed). Whilst we can never prove who first planted the reed, the fact that it is on a large Chinese harbour and town site cannot just be coincidence

At the top of the track to the beach, opposite the modern farm buildings, the Chinese had built a double walled, small town, c 300m long x 70m wide, the foundations of the 30m x 20m three roomed house are still in place, each house has the centre room paved and the external ones unpaved. The Ordnance survey map records the existence of defensive earthworks presumably for the Chinese town near the cliffs. The depression of the canal to the shore side harbour of the Northern Bay is still very clear. A raised platform at the eastern end of the field (NK08248-43971), by the cattle sheds, contains the foundations of a c 12m x 12m Chinese double walled bath house with an open tub c 4m x 3m and an external boiler house.

Overlooking the bathhouse is the platform of a Roman fort. A guide to the operating period of the Chinese town and harbours, ie during the Roman occupation. AD45-410AD. Several of the Rhins of Galloway Chinese harbour sites have Roman guarding forts, Dally Bay's Roman fort appears to be the largest located to date.

FLOAT BAY. RHINS OF GALLOWAY. OSNK 0620-4730.

Background to survey.

Etymology, meaning of Float Bay name, possibly a bay with an area of flat ground at the head of the bay. Local oral history associates Float Bay with a Spanish Amada wreck, one wonders if this arose from the presence of the stone cannon balls. Actually Chinese ones.

The Ordnance Survey map for the Rhins of Galloway shows a fort at each end of the cliffs overlooking Float Bay and Google Earth satellite photographs show a number of agricultural terraces in the area. The small bay is accessed by a wicket gate from by Little Float Farm, the adjacent five barred gate is locked and only for the house owners in Float Bay.

A scan across the sand located the foundations of six slot harbours each c 30m x 70m, with keel slots and hull support pads. Standard Chinese design. Also located was the aqueduct which ran across the uppermost section of the beach. This aqueduct was fed from the adjacent burn and used to flush each harbour's keel slot. The converted fisherman's cottage, at the south end of the beach had a row of stones on the path to the cottage, one was a worn cannon ball c 200mm diam. Similar balls have been located adjacent to Chinese wrecks in New Zealand. Prior to the 15th cent iron was too expensive to fire at the enemy, so granite was used, labour to cut the balls being cheaper than iron.. The presence of this stone ball indicated an above ground wreck in the area. Viewing across Float Bay, an unusual raised outline was noted.

The curved, gravel covered raised outline, (OSNK 06236-47319) sited above the high water level at the north end of the beach at the base of the cliffs, was scanned by magnetic

Untitled Map

Write a description for your map.

Legend

-  Float Bay Cottage

CHINESE TOWN

FLOAT BAY

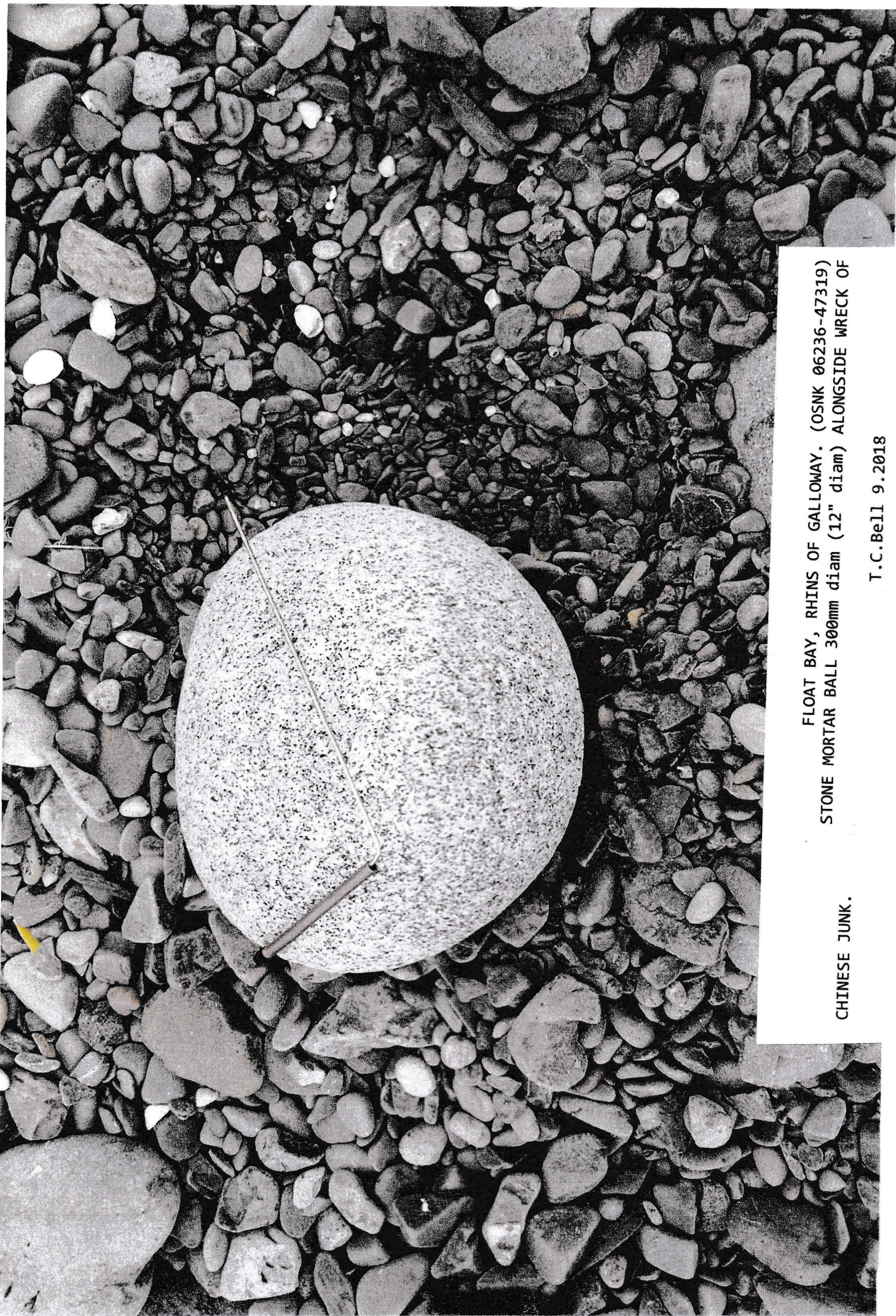
100 m

FLOAT BAY, RHINS OF GALLOWAY. (NX 475-060).
Massive rows of Chinese irrigated agricultural terraces. (Arrowed)
Adjacent flat field site of Chinese town.

T.C.Bell 9,2018

Google Earth

© 2018 Google
Image © 2019 DigitalGlobe



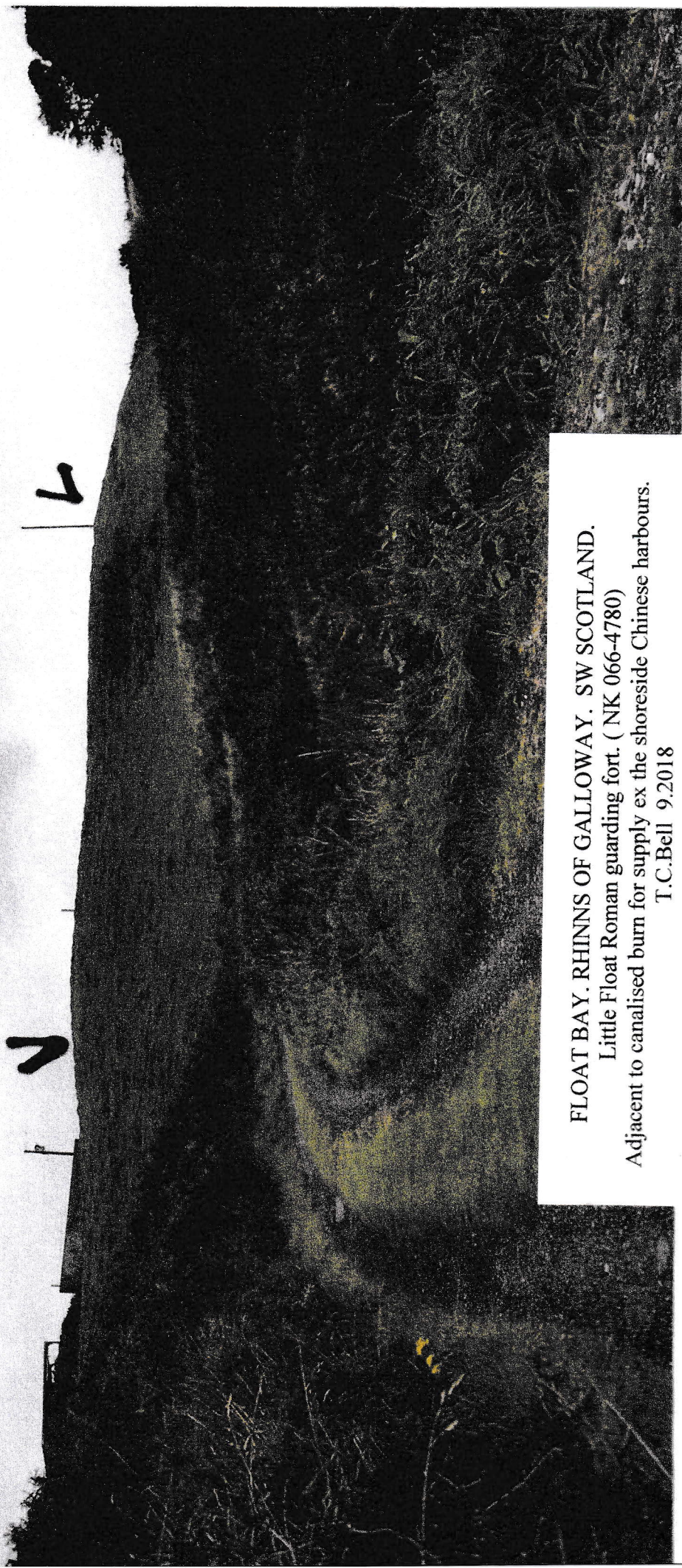
FLOAT BAY, RHINS OF GALLOWAY. (OSNK 06236-47319)
STONE MORTAR BALL 300mm diam (12" diam) ALONGSIDE WRECK OF

CHINESE JUNK.

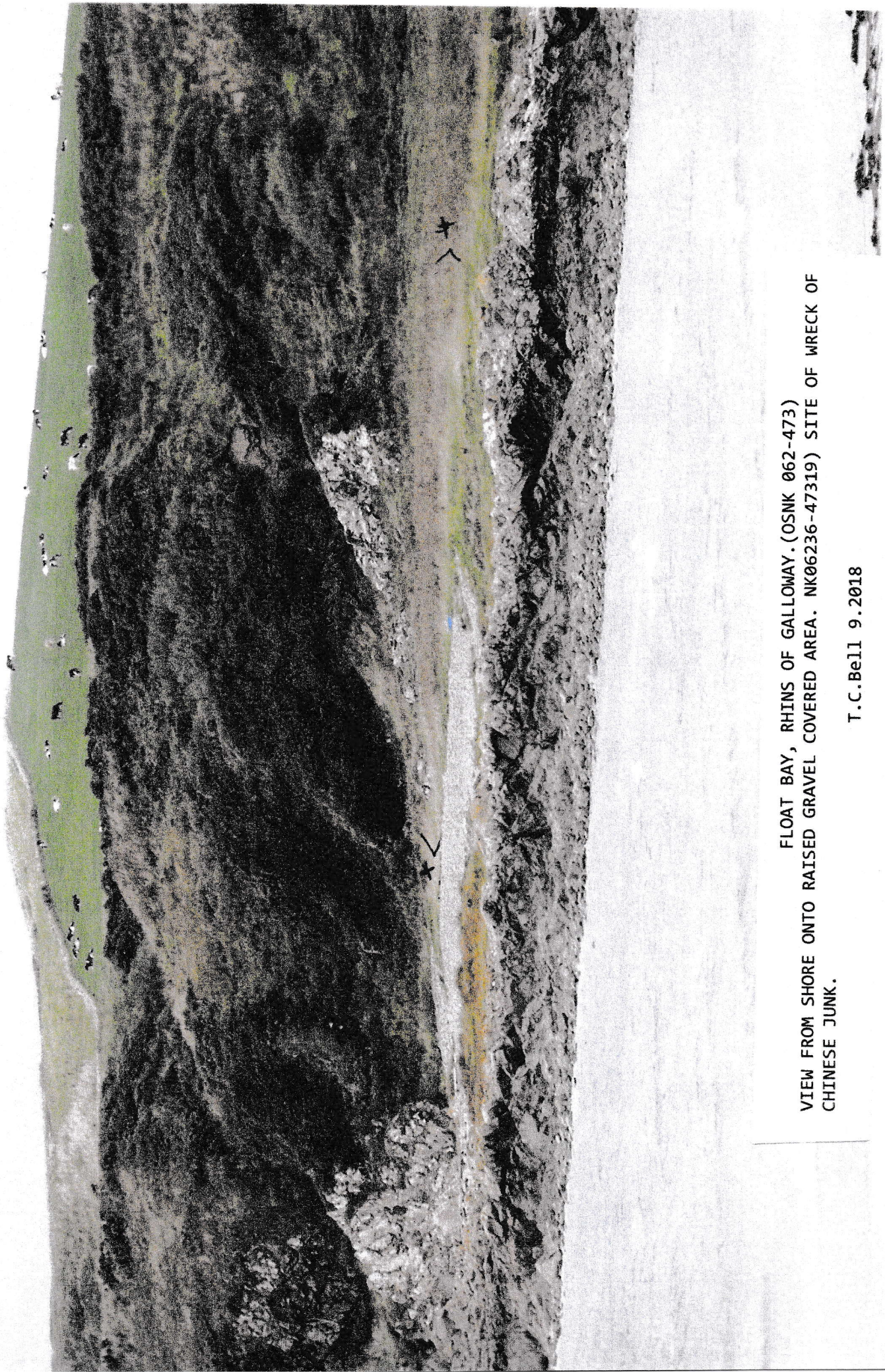
T.C.Bell 9.2018



FLOAT BAY, RHINS OF GALLOWAY. (NK06236-47319)
Remains of section of Chinese stone anchor. c600mm long.
T.C.Bell 9.2018

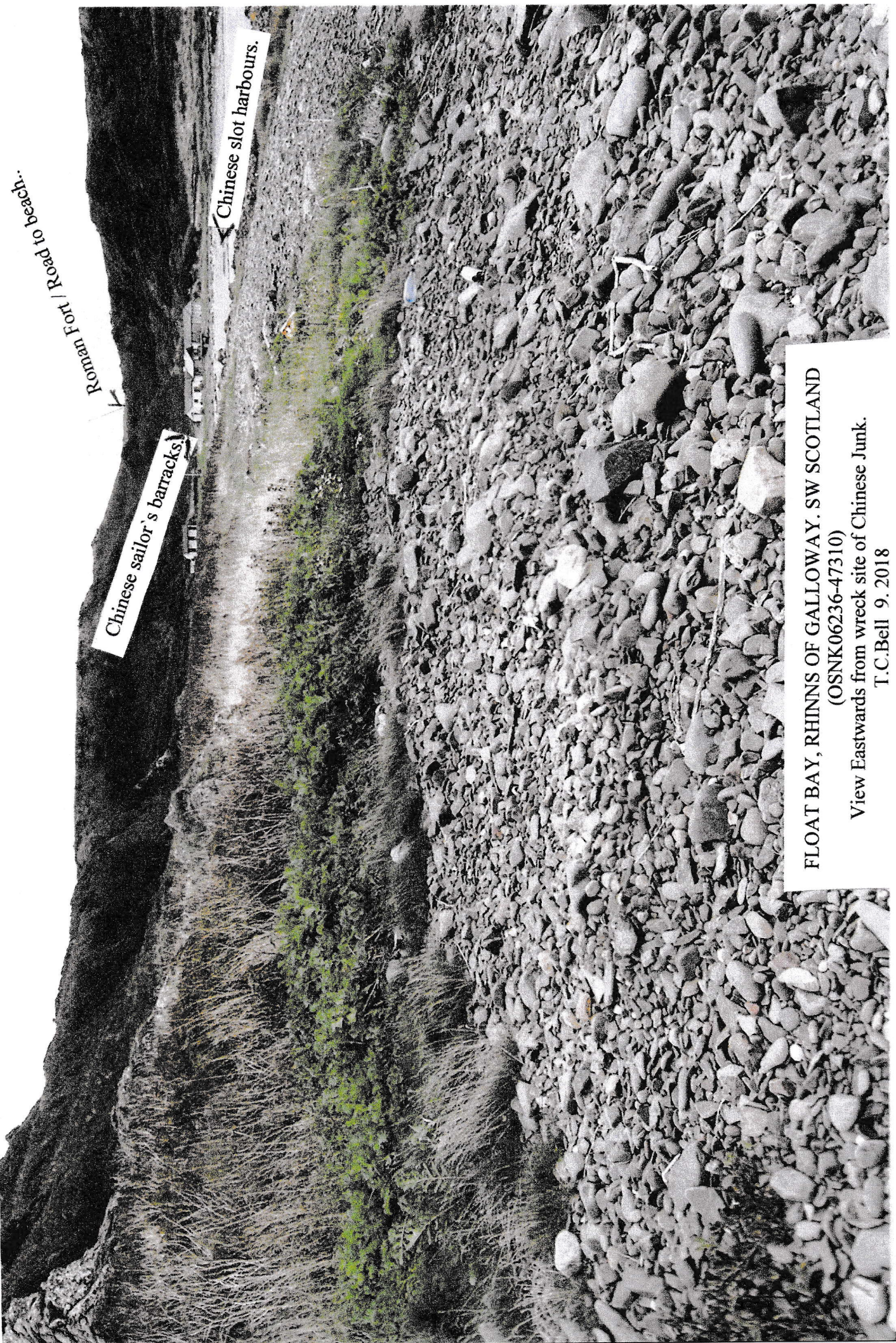


FLOAT BAY. RHINNS OF GALLOWAY. SW SCOTLAND.
Little Float Roman guarding fort. (NK 066-4780)
Adjacent to canalised burn for supply ex the shoreside Chinese harbours.
T.C.Bell 9.2018



FLOAT BAY, RHINS OF GALLOWAY. (OSNK 062-473)
VIEW FROM SHORE ONTO RAISED GRAVEL COVERED AREA. NK06236-47319) SITE OF WRECK OF
CHINESE JUNK.

T.C.Bell 9.2018



FLOAT BAY, RHINNS OF GALLOWAY, SW SCOTLAND
(OSNK06236-47310)

View Eastwards from wreck site of Chinese Junk.
T.C.Bell 9. 2018

anomaly, and identified as a c70m x 28m Chinese vessel. Confirmation of the wreck's identity was by the high length x breadth ratio and the anchor cables and the remains of the unique bow and stern stone anchors and the presence of stone cannon balls. One can only surmise that the vessel was attempting to reach safe harbour when it was hurled well over the rocks at the mouth of the harbour and wrecked. The shortness of the anchor cables less than 10m, suggests that the anchors had not been used to hold the ship outside the bay, nor had it been washed out of one of the harbour slots. We know from our surveys over Chinese sites in New Zealand when many of the Chinese junks were blasted out of their harbours by a Tsunami that normally the junks went into the slot harbours stern first and dropped anchors with c 50m of cable let out and used to hold the junks steadily in harbour at half to full tide. The anchors were used to kedge the junks out of harbour into deep water. Alongside the wreck site was another granite cannon ball and the remains of a larger granite mortar ball, similar to the ones we located in Moeraki, New Zealand. A small piece of green coloured slag ex a smelter used for copper was located on the elevated site. The Geological survey map for the area records the presence of copper in the area..

At the head of Float Bay is an elevated grassy area which has been largely built over by an modern exotic housing structure. A raised section of the grassed area indicated the position of the external defensive wall of the sailor's barracks. A magnetic anomaly scan over the free area located the foundations of the crew's barracks which housed the crews of the junks. Unusually they were housed in 30m x 10m three roomed buildings, the centre room paved and the end two rooms unpaved, these are standard rooms for Chinese towns and inland buildings. Chinese seamen's barracks are usually of the nine roomed version, eight unpaved and the end one paved.

KIRKMAIDEN CHURCH. (NX1245-3690)

A small listed fort is adjacent to the church. Just inside the entrance to the church are the tombstones of navy personnel who died in action in nearby Luce Bay 1914-18 war. Most unusual to find memorials to third engineers, gunners and even a donkeyman. The church yard had originally been the site of a small fort with external corner turrets, the foundations of Chinese nine roomed barracks are still in place. The church had been built over the foundations of a Roman designed granary, a scan down the side of the church walls revealed the presence of buttresses, a hall mark of Roman granaries. One wonders at the large earth mound with an unreadable tombstone. Such a mound normally indicates a signal tower. Nine roomed barracks and forts with external towers are, Chinese, not a Roman design.

KIRKMADRINE CHURCH. (NX080-484)

The disused old church houses some of the oldest known grave markers in Scotland. Unusually these are housed behind a clear glass screen at the end of the church, not in some distant museum. The site's writ up mentions a possible previous church in the area, although the site is unknown. Always enjoying a challenge a survey was commenced. A scan to the right of the church entrance located the foundations of a 12m x 10m double walled structure with an apse end and an internal aqueduct fed immersion bath c 2m x 0.5m. This structure is identical to the Romano Celtic temples and could well be the origin of an earlier church on the site, however the adjacent c 2m square structure adjacent to the 12m x 10m apse ended structure was a Chinese boiler house. However as the adjacent field, accessed by a stile, contained a small tortoise shaped mound, with external towers and contained 36m x 4m nine roomed barracks, all Chinese design, one can only assume the double walled apse ended structure formed a bath house for the fort. To the left (west) of the church entrance are the

foundations of another small walled barrack block, again with external towers. A large number of quarried stones have been deposited in the waste area alongside the entrance to the church, suggestive of further ancient foundations and structures yet to be located in the area.

STANDING STONE. (NX0860-4855) (South Cairnwell Farm).

This recorded single stone is at the edge of a fenced field and inaccessible and can only be viewed from an adjacent wide permissive path. Within the permissive path area a scan located the packing stones of the missing large stones of the circle and a section of the triple external water tables. Indicative of the presence in ancient times of an observatory operated by highly skilled folk.

STAIRHAVEN, LUCE BAY. (NX20839-53703).

Stairhaven is a tiny harbour in Luce Bay, a bay with a reputation for sudden storms and wrecked ships. Galloway Shipwrecks by Peter.C.Miller makes fascinating reading.

A survey revealed one Chinese harbour for 70m x 28m vessels with the standard central water flushed keel slot, the supply aqueduct is still flowing and the flanking hull support pads. A survey using enhanced satellite also located the remains of the harbour. The flat area of the hill overlooking the small village contained the foundations of a small walled barrack area, presumably for the crew of the vessel using the nearby harbour. The foundations of the toilets for the barracks were located at NX 2095-5360, In the adjacent small valley leading down to the shore the foundations of the double walled bath house were located(NX2090-5355). Further along the cliff are the remains of a listed Broch. NX 2090-5335. The adjacent depression held an aqueduct fed toilet of Roman, or Chinese design, both the designs of Roman and Chinese aqueducts and toilets are identical. The only purpose of the Broch appeared to be to serve as a Pharos (lighthouse).

Using an enhanced satellite survey along the shores of the Bay, by Bay Cottage (situated between Stairhaven and Luce Abbey, the wrecks of two sand covered Chinese vessels and support craft were located (NX 19874-55180). See photographs. Accessing the wreck site from Bay Cottages via their steps at low tide, a magnetic anomaly survey revealed that the wreck photographed from the satellite was composed of one large Chinese junk c70m x 28m, facing northwards with two anchors out, the overhanging southerly extension was a mast. Alongside the vessel on the shore side was another junk 40m x 18m. and on the sea side was a 20m x 10m barge with a pointed bow, also with an anchor out. Flanking this was a small sampan, presumably the Junk's small boat. The impression was that the junk had been discharging, or loading cargo via the barge to the Roman harbour (visible on satellite photograph) which served Luce Abbey, the Abbey is built over a Roman settlement which served the northern metallic ore exploitation sites. The semi rectangular barge would have been used for carrying cargo from the Chinese vessels to the shore side Roman harbour. The nearby Luce Abbey Harbour being only accessible by the Roman 30m x 6m vessels. Presumably a heavy storm arose and the vessels were driven onto the adjacent shore. A survey of Bay Cottage at the top of the adjacent cliffs located a small Roman guard house and an adjacent burial site, the inhumations orientated north- south and of small stature, c 5' -3" (1.6m), one can only assume the inhumations are of the sailors who drowned in the shipwrecks.

LUCE ABBEY. (NX1845-5870)

The first impression of Luce Abbey is that it is orientated North -South, NOT orientated East-West as any normal Christian religious building is aligned, suggestive that it has been

built over existing foundations, the second is that the adjacent fields contain the raised platforms of ancient gateways, indicating the presence of ancient buildings. A magnetic anomaly scan around the Abbey revealed that it was constructed over the raised platform containing the basilica (Offices) and Forum (Shopping centre) of a Roman town and the adjacent area contained the foundations of Roman insula (Strip Houses) each 70m x 10m each with ten unpaved rooms and one paved one. Presumably the town's economy was based on the exploitation of the metallic ores sited to the north under the protection of the Devil's Dyke, the North Solway extension of Hadrian's Wall to Loch Ryan. The satellite photograph of the Stairhaven area shows the Roman harbour by the mouth of the Waters of Luce. The harbour would have served the town and metallic ore exploitation operations.

DALLY BAY, WEST COAST OF RHINS OF GALLOWAY.

Dally Bay has one listed shore side fort, no origin stated. NW96573-68775 (OD 18m). At the head of the track to Dally Bay are two cottages, the nearest is called Seascape, immediately adjacent is a Roman fort 186m x 50m (96882-68962) the fort contains 10 standard Roman barrack blocks, each with one paved room and ten unpaved rooms and capable of holding a garrison of 800men. A canal connected the fort to the shore, flanked by a road.

The area between the fort and the shore has been artificially flattened and to the south of the track and (Infilled canal) contains the foundations of a Chinese double walled town, 87m x 83m with external turrets at the corners and nine gateways, one gateway (69800-68845) connects to the adjacent Roman fort situated at a higher level. The area north of the Chinese town flanking the canal contains the foundations of two end to end 30m x 10m toilet blocks. (96762-68929 to 96705-68904) north of the toilets, nearer the modern house, is the double walled Chinese bath house and flanking toilet. (96684-68959). This is the mirror image of a Romano Celtic temple, excepting for the external boiler house and connecting piping.

The upper end of the field contains a walled granary compound (50m x 37m), the granaries are of standard Roman design, (96754-68940), presumably these served the large fort. Overlooking the granary compound to the east and flanked by the modern road is a Roman cemetery, with standard c 20m x 20m kerbed plots each containing fifty inhumations orientated North- South in a 10 x 5 configuration. A harbour has been cut out of the local rocks, this was designed to hold a 70m x 28m junk and contains the standard water flushed keel slot and hull support pads. The adjacent rocky ridge contains the foundations of a Pharos, (Lighthouse). Immediately inland from the Pharos on the same ridge is the listed small fort. This contains the foundations of two Chinese barracks, each 30m x 10m with three rooms, the centre one paved and the end ones unpaved, a standard Shang design, these barracks occupy all the fort's internal space.

Heading southwards along the shore from the Pharos via a man made gap cut through the rocks, is another Chinese harbour, with an adjacent reeded area the site of an inland harbour, connected to the local canalised burn. The local rock faces along the sea shore show evidence of being heavily worked. Furnace slag has been located in this area. Lengths of the cliffs have been converted into agricultural terraces, all with integral aqueducts. See photographs Indication of a skilled agricultural force operating over a long period. (96704-67970)

Along the cliff top the foundations of a walled and turreted barrack block were located at (96748-68285) and another at (96735-68191), both of Chinese design, then a tortoise shaped

platform 96744-68059 defended by four ditches, this contained four barrack blocks and a central granary, all of Roman design. Further along the coast, south of Dally Bay, Between Mains Rennie Farm and the coast is the platform base of a Roman signal tower defended by double ditches. (96704-67970). On the shore lies another listed small fort.

North from Dally Bay and the modern house is a further harbour inlet, only capable of accepting 18m wide vessels, this connected by a canal to the large reeded area, the site of an inland harbour. The cliffs around the area have been heavily quarried.

The ordnance survey maps of the area show a line of fifteen listed forts down to the west coast of the Rhins of Galloway southwards from and including the one at Dally Bay. Plus assorted Duns and Mottes. Assuming that all these forts are of the same design as the one at Dally Bay, ie Chinese it would appear that the Chinese had been entrenched in the area for many years extracting the metallic minerals which range from iron, gold, to copper...

LISTED FORTS, etc, WEST COAST, RHINS OF GALLOWAY. (Located by Heritage Scotland)

Dally Bay	NY 96573-68775 (Surveyed by T.C.Bell Noted Chinese design)
Portebello	NY 968-688
Strool Bay	NY 9600-653
Strool Bay	NY 9600-652
Salt Pans Bay	NY 966-615
Broadsea Bay	NY 976-596

Camp Bay North	NX040-504
Dove Cave	NX06-473
Float Bay	NX 067-469
Grennan Point	NX 075-438
Dunchinnie	NX 075-425
Port Nessock	NX090-415
High Stock Fell	NX098-334
Port Kemin	NX013-310 (Listed as Forts plural)

Motte is recorded at Cairnhingey (Donaldboys) NX02-518

Motte recorded at Castle Butt NW 966-678

Motte recorded at Breddock Bay NX 105-372 (Inland by castle Clanyard)

As the Broch at Ardwell House (Luce Bay) is incorrectly listed as a Motte, one wonders if the above three Mottes have been correctly recorded.

Dun recorded at Killantring Bay NY983-570

Dun recorded at Crammag Head NX 09-34

Brock recorded at Castle Point Doon Castle NX066-448 (Ardwell Bay)

Broch claimed for Stairhaven. Was it a Pharos, (lighthouse) ?

Port Spital Standing Stone listed NX028- 524

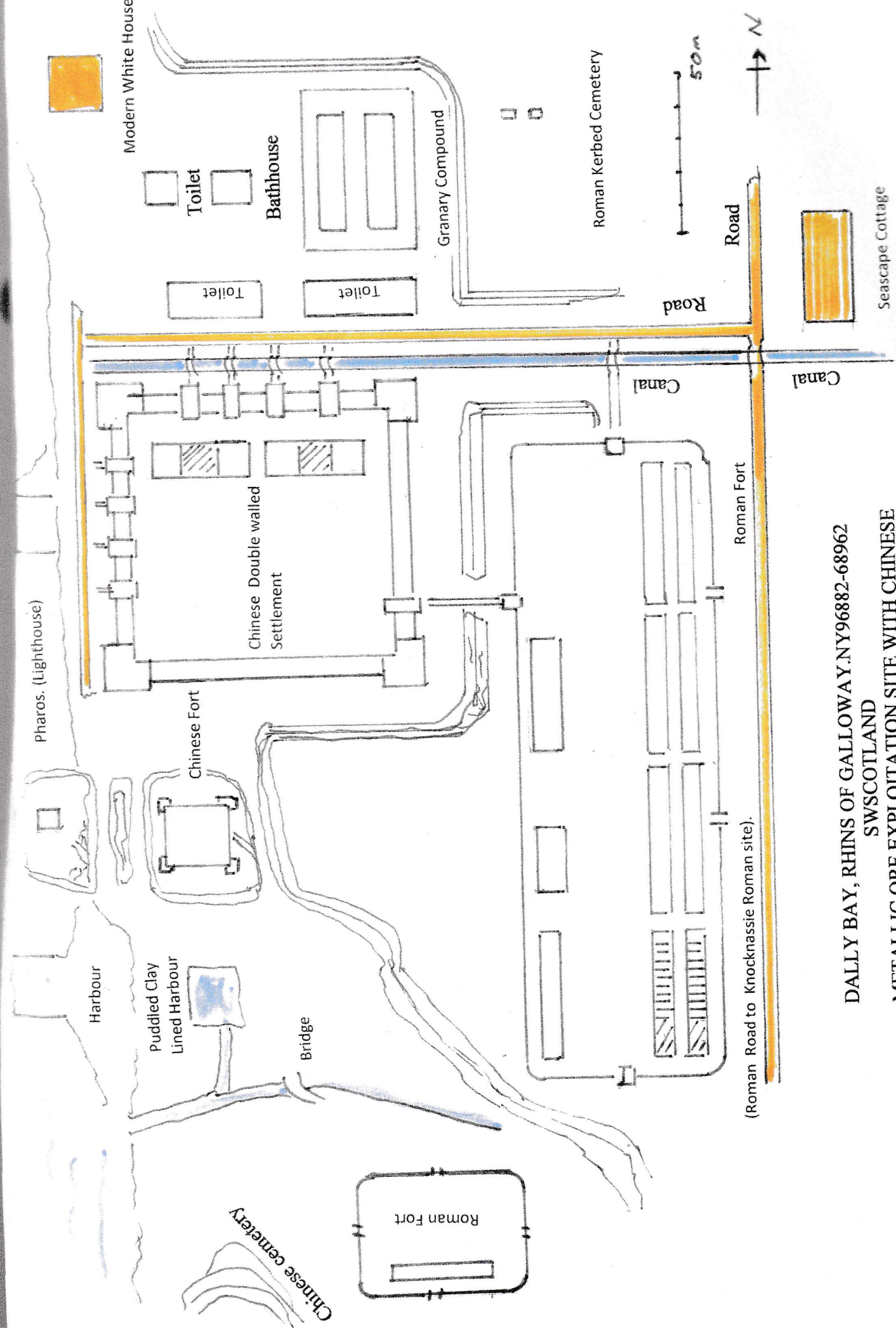
Inland from Scarty Head NX05485 Cairns and hut circles are listed.

Standing Stone Knock Bay NY988-580

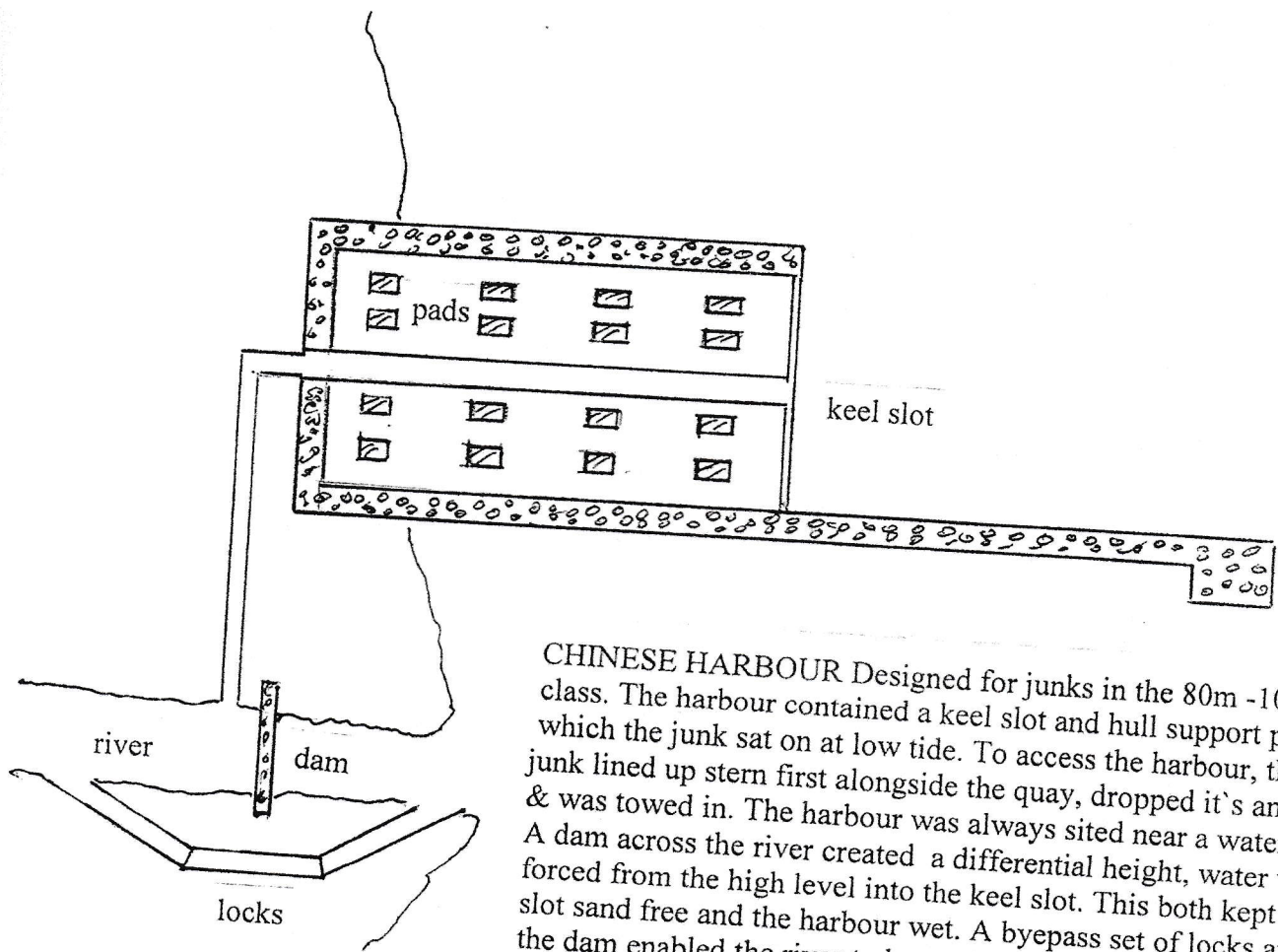
Standing Stone.Port of Spital NX028-5250

Standing Stone Bruntling Hill NX067-488

Standing Stone Belloe Cave NX133-313



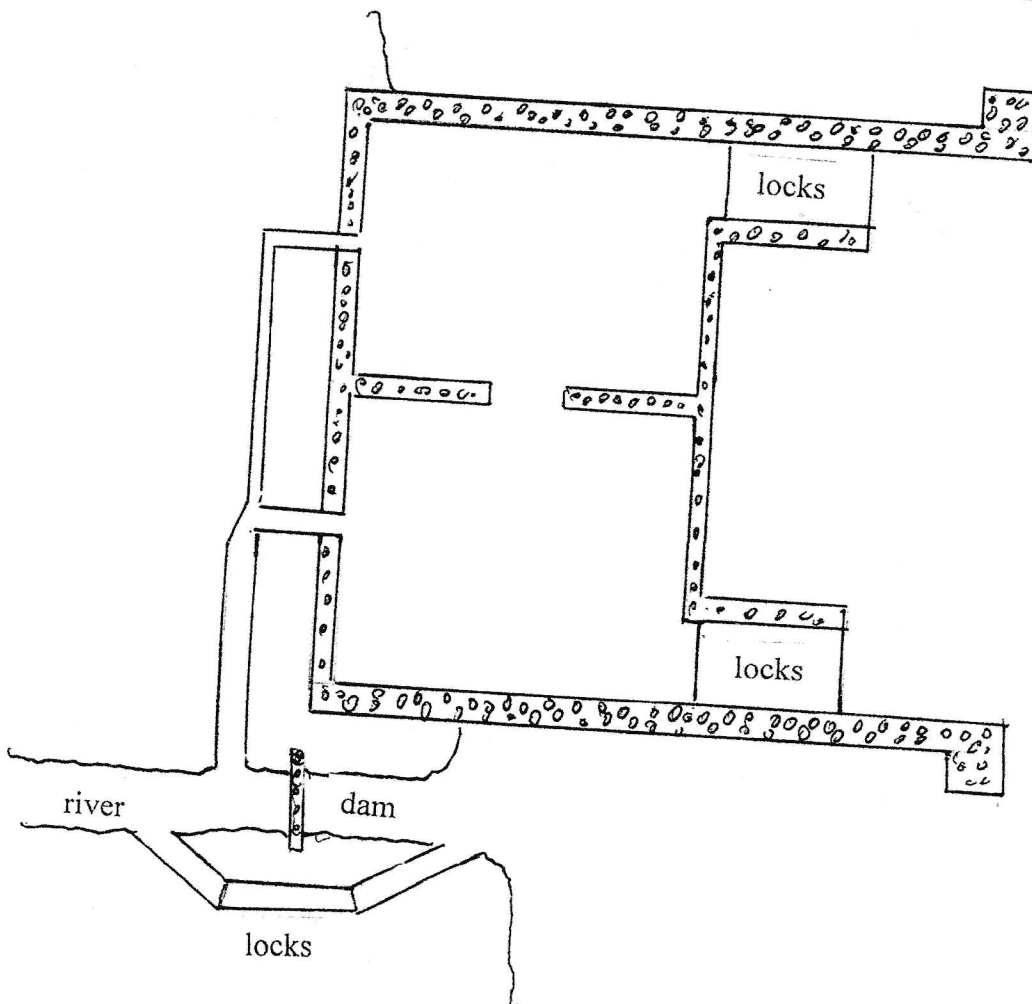
DALLY BAY, RHINS OF GALLOWAY, NY96882-68962
 SWSCOTLAND
 METALLIC ORE EXPLOITATION SITE WITH CHINESE
 DOUBLEWALLED SETTLEMENT SITE & CHINESE &
 ROMAN FORTS, HARBOUR, AGRICULTURAL TERRACES,
 & CHINESE & ROMAN CEMETERIES. T.C.Bell 2015



CHINESE HARBOUR Designed for junks in the 80m -100m class. The harbour contained a keel slot and hull support pads which the junk sat on at low tide. To access the harbour, the junk lined up stern first alongside the quay, dropped it's anchors & was towed in. The harbour was always sited near a water source. A dam across the river created a differential height, water was forced from the high level into the keel slot. This both kept the slot sand free and the harbour wet. A bypass set of locks around the dam enabled the river to be navigated.

ROMAN HARBOUR Designed for c 30m x 6m vessels. The harbour was accessed from full tide to half tide. Water was retained in the harbour by sills. The water feed and the bye pass of the dam were as the Chinese design.

T.C.Bell



Earthworks are shown on Drumbreddan Bay etc 0780-4350

Earthworks are shown Mull of Galloway NX 145-305

Agricultural Terraces NX 0780-350 by Drumbredan Bay & adjacent Bays.

Agricultural Terraces NX475-06 By Float Bay. Note one fort on either side of Float Bay.

Agricultural Terraces NX96704-68285 Dally Bay. Fort adjacent.

Agricultural Terraces NY 066-448 Ardwell Bay. Broch adjacent

LOCH RYAN AREA (DEVIL'S DYKE)

The major modern town at the head of the Loch is Stanraer, half way up the loch on the eastern bank is Cairnryan the site of the ferry to Ireland. A second cent Roman map of Britain by Ptolemy showed Loch Ryan and a major Roman fort, called Reigionium (Rivet & Smith pg 447 The Place Names of Roman Britain) and the frontier Devil's Dyke linking Loch Ryan to Hadrian's Wall, via Penpont, Thornhill. (Shown as a line of brackets)))). I located the fort on Balyett Farm, and am grateful for the Rev C.H.Dick's account of Joseph Train's survey of the frontier, locally called the Devil's Dyke c 60mile long, in his "Highways and Byways of Galloway", 1938 pgs 289-292.

The purpose of the Devil's Dyke frontier and it's extended route detailed in early (1920) Ordnance Survey maps around Drumlanrig, Scotland's finest Roman fortress site, was to defend the c 49 metallic ore exploitation sites south of it, including the gold mine sites on Lowther Hills. Whilst surveying the Drumlanrig Castle site for the late Duke of Buccleuch he asked me to survey the Devil's Dyke on the Lowther Hills, that section was composed of parallel rammed earth dykes built on an extended foundations of cobble stones. I also located a massive smelter area guarded by a large Roman fort was adjacent. Another c49 metallic ore exploitation sites exist around the Lead Hills area. (See Wanlockhead Museum Trust's Gazetter to the Metal Mines of Scotland). It is interesting that flanking the route of the Devil's Dyke are a number of standing stones (Mehirs) and stone circles, further proof that the miners exploiting the metallic ores also constructed the stone circles etc.

Joseph Train stated that the ramparts of the Devil's dyke as invariably eight feet broad and built of blocks of stone, or in the less mountainous parts of the route, of a mixture of stone and earth. The Rev Dick comments that although the superstructure of the old dyke has now disappeared, a section can be traced at a point west of the west of the south end of Loch Ochiltree and across Glenvernoch Fell about a quarter of a mile south of the summit. At the highest point Train located a watchtower made of large stones and immediately above Glendochart a circular stonewall 192 yards in diameter, evidently a large hill fort.

The following is the route of the Joseph Train's Devil's Dyke with modern OS references.

OSNW 082 649 (Map 309) North Bank Beock Burn (Loch Ryan) Heading 70 degree.

147 675 (Map 309) Cairnryan Farm

Heading 25degree

153 700 (Map 309) Killfeddar Farm

Heading 60degree

OX 182-700 (Map 310) Pultadie Farm

Heading 60degree

220 715 (Map 310) Laggarn Farm

Heading 60 degree

260 734 (Map 310) Loch Maberry

Heading East

322 770 (Map 310) Dalnau Farm.

The aerial survey of Dalnau suggests that it was a Roman fort site situated alongside the navigable River Cree. The map indicates a metallic ore exploitation area. The Rev Dick's own survey of the area South of Loch Ochiltree, suggests that the route east from Derry Farm was the main route, with a diversion to Loch Maberry and Dalnau for its magnetic ore deposits and fort site, using the River Cree as the transportation highway. Thus the dyke would have run southwards on the eastern side of Loch Maberry to rejoin the main route over Glenvernoch Fell (OSNX36 74) (East of Loch Ochiltree)

OSNX362-724 (Map 319) Knockville by River Cree Heading East across river.

OSNX370-726 (Map 319) Cordocan	Heading East
404-776 (Map 319) The Thieves Standing Stones	Heading East
390-720 (Map 319) 2nd Cordocan Farm	Heading East
450 780 (Map 319) Auchenleck	Heading East
485-705 (Map 319) Cross River Palnure	Heading N/E
505- 698 (Map 319) Craignelder Hill	Heading North
530- 780 (Map 319) Craigencallie (By River Dee) (West of Clattering Shaw Loch Reservoir)	Heading 60degree
531-790 (Map318) Garrary	Heading North
552-822 (Map 318) Glenrie	Heading North
563- 861 (Map 318) Duckieston	Heading Easterly
600-880 (Map318) Dundough Bridge (Waters of Ken)	
635-887 Map 320) Marskaig	Heading 60degree
660-900 (Map 320) Achenshinnoch	Heading 60degree
669-980 (Map 320) Crossing northwards over now B729	
Running Eastwards on north side of the B729 to Moniave, crossing Dalwhat Water /Cairn Water.	

OSNX 806-930 (Map 321) Tyron	Heading eastwards
847 946 (Map 321) Penpont (Known iron deposits and fort from my own previous Surveys)	
880-950 (Map 321) Thornhill	

It is noted that the Devil's Dyke Frontier crossed several rivers, which formed transportation highways, all running southwards by which the constructors of the frontier and the ore exploitation sites could be served.

LOCH RYAN.

Loch Ryan provided a superb large, safe, west coast harbour for the Romans and presumably also formed the invasion port for Ireland.

My first survey was of the Loch Ryan Roman deep sea harbour by Balyett Farm. The harbour stonework is still in position, but well covered in silt. The harbour NW0830-6195 is c 300m x 300m and accessed by 30m x 6m locks. The water within the harbour was maintained by the

usual shore side aqueduct fed from the local burn, at the time of the survey one harbour feeder aqueduct was still operating on the foreshore..

**BALYETT ROMAN FORT EASTERN SHORE OF LOCH RYAN. (NW0850-6185).
(RERIGONIUM?). 8.8ha (21 acres)**

With the permission of the kind owner, a survey of the farm commenced the access road A77, ran over the original Roman road north. The roadside field immediately north of the site entrance was scanned. (OSNW085-623) the field is 500m x 150m 7.5ha (18acres) and flanked to the north by a burn which the Romans had canalised to the shore side harbour. The field had been walled and ditched internally and externally to form a secure barracks for slaves. The slaves were housed in 36m long x 4m wide barracks with eight rooms unpaved and one paved. The wet area half way down the field held a small puddled clay lined harbour, connected to the main deep sea harbour and via a set of ladder locks, through an area now used as a sillage pit, to the main fort situated on the plateau above. The wet area at the north end of the site held the toilets for the slave barracks. Aqueducts from the plateau fed the site's spill wells and harbour and contributed to the sites wetness. To the south of the access road to the farm are two cemeteries, the westerly one was for the slaves, here the inhumations are orientated North-South and stacked akin to sardines in tins, the easterly cemetery is the Roman one, the kerbed plots are 20m sq and contain 50 inhumations in a 10 x 5 configuration, orientated North-South. Whilst many archaeologists claim inhumations can only be located by excavation, my invitations to such folk to witness how to locate inhumations by magnetic anomaly in a graveyard of their choice, is invariably ignored.

BALYETT ROMAN FORT, LOCH RYAN..

The fort was sited on the plateau above Loch Ryan, with superb views over the loch. The fort was defended by multi ditches and steep drops to the south and the west. Time limitations prevented the eastern section of the fort being surveyed, I would consider it to be as large as the section located, which would bring the fort into the legionary capacity. Three gateways exist to the west Loch Ryan side, one gateway to the south and one to the west as the fort is divided into two by a dyke, possibly to segregate Legionary troops from irregulars. A Roman road flanked the southern side of the fort. The barracks are of the standard ten unpaved and one paved room, each 44m long and 4m wide. A small Cavalry unit was housed on the western side in their own enclosed area, complete with stables. (NW0865-6200) The fort was supplied from the adjacent deep sea harbour via canals and the ladder locks (NW08525-62126) to the two puddled clay lined harbours on the plateau, (NW08617-08799-62133) the two depressions are now used to water the cattle. The water emanates from a spring situated at the south end of the plateau (NW08708-61876) the depression of the route of the harbour's feeder aqueduct is clearly visible.

The fort's granary compound is sited immediately south of the harbours (NW08692-62123). North of the fort's harbours the ground rises to a small platform, the highest point of the fort, the site of the fort's major buildings, the praetorium, the senior officer's villa (NW08685-62123) is 20m x 20m and the principia 30m x 20m complete with the treasury buried strong room. From this elevated position there is a superb view of the length of Loch Ryan. The unusual large size of the principia suggests this was the major command centre for the region. East and adjacent to the major buildings is the raised platform of a signal tower (Seat Hill OD 35m). The signal tower is in the grounds of High Balyett Farm. Immediately north of the principle buildings on a down slope are the foundations of the fort's defensive wall and two sets of flanking double gates (NW08696-63313), presumably the double sets of gates

enable a quick response by the garrison to a threat. The gates opened to another enclosed area, presumably an assembly or parade ground, with one gateway to the north. Within this area are the foundations of a Romano Celtic temple c 12m x 10m (NW90870-62366), the temple's internal immersion chamber overflowed to a toilet block sited downhill. The fort's toilets (NW08750-61867) are situated at the south side of the ramparts, the area is now reeded and muddy due to the supply aqueduct is still operating. Adjacent is a large reeded area, presumably the site of another internal harbour which supplied the eastern section of the harbour.

From the highest point of the fort looking northwards in the elevated field (NW0855-76310) North of the Ryan Bay campsite a clear line of a rampart can be seen, adjacent is the circular base of a motte, listed on the Ordnance Survey map. One wonders if the rampart was part of the missing (Roman ?) Town of Innermessan. As always, further surveys in the area are required. Interestingly Jack Hunter in his article The Lost Town of Innermessan comments on the artefacts ex the town also mentions a three legged brass water ewer, three legged vessels are invariably of Chinese manufacture. (Article available at Stranraer's interesting museum).

INNERMESSAN, LOCH RYAN, SW SCOTLAND. (NX 208419-563291)
SURVEYS 9.2018 by T.C.Bell.

Ptolemy's 2nd cent Roman map of Britain shows a Roman fort by Innermessan, Loch Ryan, the author's surveys located the fort at what is now called Low Balyett Farm (Stranraer) and the now sand covered foundations of an adjacent large harbour. The so called motte at Innermessan Farm, Stranraer, was a Roman Pharos (Lighthouse) c10m high, man made rammed earth mound, c 29m diameter, the site was surveyed using magnetic anomaly. The mound was defended externally by a ditch, and two external parallel walls, the foundations of the external walls roughly 2m apart, are in place outside the ditch, external to the walls are four (now infilled) defensive ditches, standard Roman defences. The foundations of small guard houses (Pharos operators ?) exist on low raised platforms at the SE and SW corners of the mound. Externally what is striking about the mound, but never mentioned in descriptions of the mound, are the agricultural terraces around the mound, each containing internal irrigation aqueducts, an indication of the presence of very highly skilled agriculturist, rare on Roman sites. However such terraces are commonplace on Chinese sites, such as those on the Rhins of Galloway where a large number of Chinese and a few Roman sites have been located by the author, complete with harbours and wrecks. These sites have also been surveyed using magnetic anomaly and further surveyed using enhanced penetrative satellite by Tim Akers, a marine historian. Along the cliffs of the Rhins of Galloway the Chinese constructed hundreds of metres of irrigated agricultural terraces, indicative of a long term residence. Possibly some Chinese, (known as superb agriculturists), were based at Innermessan to provide the local governor with a higher quality of food. By Lowther Castle (a Roman Governor's site) near Penrith, Cumbria, a terraced hill side, has a Chinese barracks overlooking the terraces, the gardener's residence ?.

The top of the platform of the Roman Pharos (So called motte) was defended by a wall, the wall's foundations are in place. The centre of the platform contains a c 20m diameter solid foundation designed to support a lighthouse tower, presumably constructed in wood. Interestingly one survey on the platform top recorded burnt timber. Presumably the wooden tower of the Pharos was fired by the Romans when they left. In the region of Ullswater, Cumbria, the author has made three excavations of Roman sites, all exhibited evidence of firing, suggesting the Romans operated a scorched earth policy when they left.

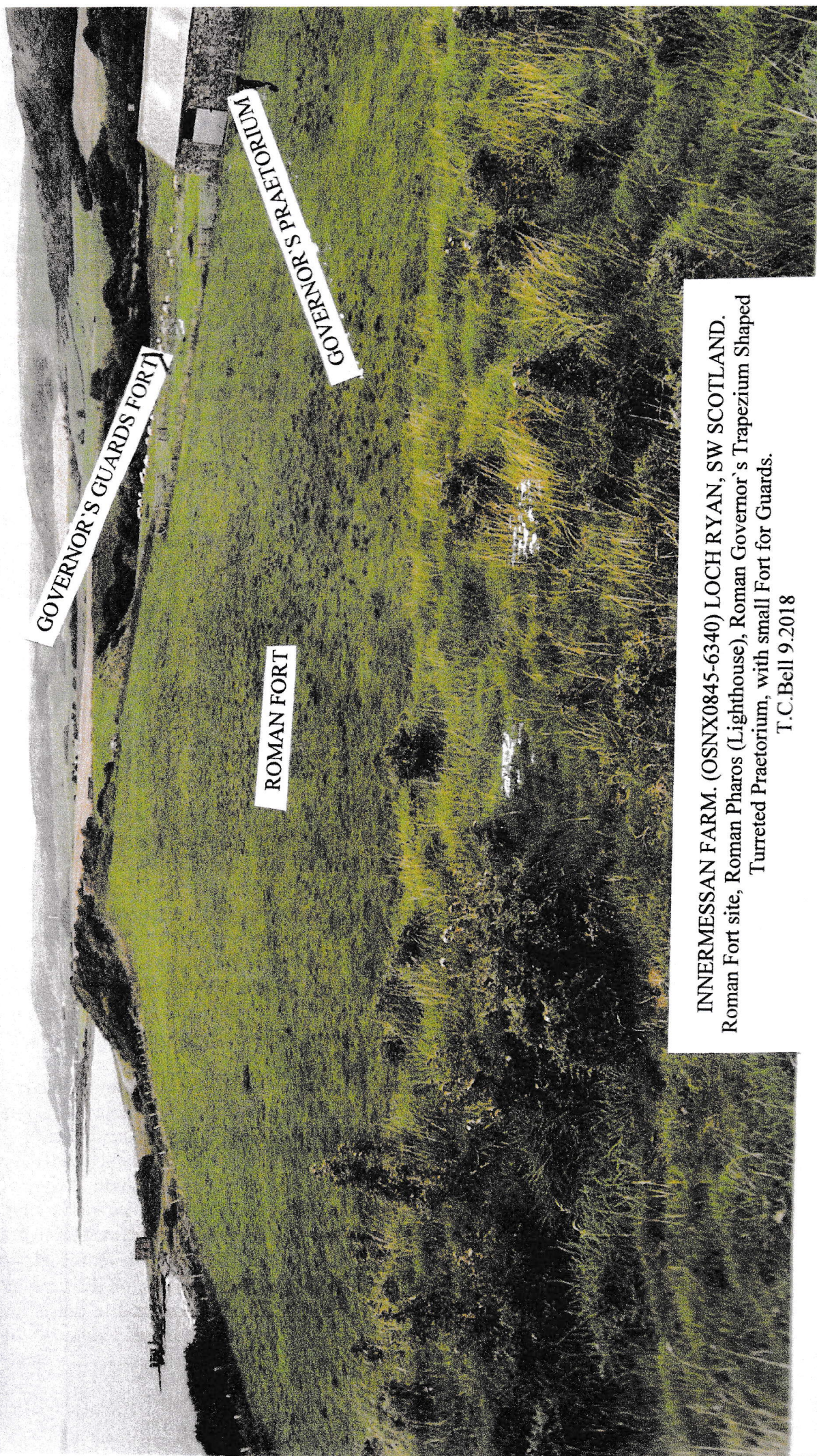
ROMAN PHAROS (Lighthouse) INNERMESSAN FARM. LOCH RYAN.

((OSNX0845-6340)) Pharos Platform is c29m diameter and c 10m high.
Adjacent are the foundations of a Roman fort and a Governor's trapezium shaped turreted
practorium (under Farm's outbuildings). Foundations of a villa type residence and toilet in
Farm House garden.

T.C.Bell 9.2018



INNERMESSAN FARM. LOCH RYAN, GALLOWAY. (NX 208419-563291)
SITE OF ROMAN GOVERNOR'S TRAPEZIUM SHAPED TURRETED PRAETORIUM,
(Under farm buildings). GUARDING CAVALRY BARRACKS, (north of Farm Buildings).
Adjacent A PHAROS, (Lighthouse) and a LARGE ROMAN FORT. T.C.BELL. Sept 2018



INNERMESSAN FARM. (OSNX0845-6340) LOCH RYAN, SW SCOTLAND.
Roman Fort site, Roman Pharos (Lighthouse), Roman Governor's Trapezium Shaped
Turreted Praetorium, with small Fort for Guards.
T.C.Bell 9.2018

On the top of the platform of the Pharos (lighthouse) on the north side is a depression of a well, on the east side a depression for a toilet. The mound was constructed by the Romans (Not Normans, as invariably claimed) to form a Pharos (light house) to guide ships into Loch Ryan, a major Roman and Chinese harbour. A similar Roman Pharos platform can be seen at Portsoy, (Moray) overlooking the Roman harbour site (see T.C.Bell's "Scotland's Roman Heritage", or "Three Roman Harbours on the Moray Firth").

The sand covered foundations of a large Roman harbour are still in place opposite the entrance to Low Balyett Farm (Site of a Roman fort and slave barracks). The foundations of a large Roman and Chinese harbour complex and a 240m long east-west harbour wall are in place at the Scar, the western shore of Loch Ryan, the Irish ferry base is on the eastern shore. There are two known Chinese wrecks alongside the Scar's large harbour wall, one a shallow draught catamaran (c 120m x 38m) was capable of carrying a thousand troops, ideal for the invasion of Ireland, adjacent is the wreck of a 70m x 28m junk, both wrecks identified by their length- breadth dimensions and their unique massive stone anchors. The walls of these complex ancient harbours are the cause of the large sandbank build up, now called the Scar. Presumably Loch Ryan was the Roman base for their invasion of Ireland. One of the author's surveys followed a trail of Roman forts from Dublin to Galway Bay and on to Innis mor (Aran Isles) and also led to two Chinese junk wreck sites. This was the author's first intimation of the presence of Chinese in Ireland and later Scotland, including the isles of Arran and Skye and this published information also included details of the Chinese canal linking the Pacific to the Caribbean, via Lake Nicaragua and the Rio San Juan which was located in 2010 by Col John Blashford Snell and Jolima C Rodrigues (Columbia), following the research carried out by Gavin Menzies (Author of "1421 The Year China Discovered the World") and this author.

Immediately north of the Pharos platform are the foundations of a large Roman fort. Under the farm buildings of the adjacent Innermessan Farm are the foundations of a Roman Governor's trapezium shaped turreted praetorium. Later in c 1426, an Andrew Agnew is reputed to have built his town house on the site, the claim is that there are no records of this building, however a scan around the farm buildings easily located the four c 7m square foundations of the praetorium's massive towers and the external walls foundations, logically Mr Agnew took advantage of the massive foundations to build his town house on them. The triple sills of the two praetorium's gateways, north and south, located by magnetic anomaly, are the hall mark of a Roman Governor's praetorium. The defences to the praetorium consist of two external walls and another hall mark of a Roman Governor's praetorium, three rows of defensive Lilia, man trap pits between the walls.

The author appears to be the first to appreciate and publish, the existence of Roman governor's trapezium shaped, turreted praetorium in Britain, following viewing a copy of a superbly photographed and fascinating book "Ancient Jordan from the Air" by David Kennedy and Robert Bewley. On pages 184 and 185 are photographs of Jordan's Qasr Bshir, a Roman Governor's praetorium.(57m x 54m), possibly the finest example of a Roman fort in the Middle East, complete with the words praetorium carved above the gateway. (photograph by permission of Robert Bewley). In England, especially around Penrith, the author has located many trapezium shaped structures and also a few in Scotland, eg at Crammond.(By Edinburgh), Clun Hill, Forbes, (Moray), under Drumlanrig Castle and under Brodick Castle, Arran. (See T.C.Bell's "Scotland's Roman Heritage", (Copies with Heritage Scotland, or Aberdeen and Moray's Libraries, or available to download from Ullswater Steamer's Web

Site). <http://www.glenriddingcybercafe.co.uk>. The largest Governor's praetorium located to date, is at Penrith, with c150m long East-West massive ramparts, towering over the now covered site of a Roman amphitheatre, the foundations extend northwards by 130m and are 50m wide at the narrow face. Penrith was the Roman Capital of Cumbria, not Carlisle, as frequently claimed, although the author has located one large and one small amphitheatre alongside the River Eden at Carlisle, no trapezium shaped praetorium, have, as yet, been located. Carlisle was apparently too near Hadrian's Wall and the Scottish Freedom Fighters for the safety of the Governor and his staff. Innermessan's praetorium is only around c27m x 25m, presumably a governor of Loch Ryan's area equalled a posting in Siberia, with a small residence to match.

Presumably the Governor's responsibilities also covered the metallic ore exploitation sites defended by the 60 mile long Devil's Dyke, recorded by Joseph Train, a Customs Officer, in the 19th cent after several years of intensive surveying. Interestingly Ptolemy's 2nd cent map also shows this frontier. Sadly this map has been regarded by the Establishment as a forgery because it showed Roman forts on the Line of Loch Ness, these folk in their quaint ideas re the Roman occupation of Scotland, claimed that the Romans never settled in Scotland, nor conquered northern Scotland. The author's surveys along the line of Loch Ness (A Roman lake) located several forts including at Fort Augustus (and adjacent metallic ore exploitation) and Fort William and large Roman towns at Portsoy (with a D shaped theatre) and at Cullen, Moray (complete with a superb amphitheatre) and both with massive metallic ore exploitation sites, these proved the long term occupation of the Romans. (See Bell's Three Roman Harbours on the Moray Firth and Scotland's Roman Heritage).

The Roman defensive dyke ran from Loch Ryan, to Thornhill, defending the multitude of metallic ore exploitation operations south of the wall, (See J.G Landless, A Gazetteer to the Metal Mines of Scotland, Wanlockhead Museum Trust). The dyke extension around Drumlanrig, defended the infrastructure which supported the gold mining operations in the Lowther Hills, to Dumfries and then ran to Longtown and Hadrian's Wall forming a complete East- West defence.

The author's surveys of Drumlanrig in 2002/3 for the late Duke of Buccleuch have shown that it is probably Scotland's finest Roman site, with wonderful hydraulics (Massive spill dam designed to feed water into the harbour). The surveys located the previously unknown 300acre walled Roman fortress, later one of the eight internal forts was part excavated by ITV's Time Team, this fortress site is part overlaid by a 120 acre Legionary fortress, the present 620m long drive to Drumlanrig Castle overlays the ramparts of the Legionary Fortress. By the castle, Jozien Black located the 80m wide D shaped theatre constructed by the Romans by cutting the seats out of the rock of the disused quarry (akin to Jordan's Petra D shaped theatre). A smaller D shaped theatre was constructed in the small Roman town sited on the opposite bank of the navigable River Nith.

Within the garden of the Innermessan Farm House, occupied by David Hunter, a well known local historian, are the foundations of a trapezium shaped turreted praetorium with an internal villa type house, in the garden to the south of the praetorium are the foundation of a villa type house, presumably for the governor's staff. To the south of the villa are the foundations of a standard Roman toilet block, fed by an aqueduct. The irregular ground surface and change in grass structure, outlines the foundations.

Immediately north of the farm buildings, (praetorium site), is a small fort, designed to house the Governor's personal cavalry guard, the fort site includes the foundations of barracks and stables. See sketch of an identical site situated on the NE side of Dunmallard, overlooking the River Eamont at Pooley Bridge, Ullswater, Dunmallard was the 500m x 450m x 80m high fortress of the major Roman governor for Cumbria with a villa at the highest position. The site with five external defensive walls and a large number of Lilia man traps, is probably the finest surviving Roman governor's residence site in Britain, devoid of over buildings. Clun Hill, Forres, Moray, surmounted by a monument to Nelson, is a similar designed site with multi walls, but a very much smaller site. Probably both the Clun Hill and Crammond praetorium were built for Severus, during his Scottish campaigns, both sites being flanked by forts, large walled barracks, one of the two defensive structures at the base of Clun Hill had 66 barracks capable of housing a legion.

The ROMAN TOWN OF BALLANTRAE (NW0835-8320 & 0860-8200).

The small coastal town of Ballantrae is situated 15mile north of Stranraer at the mouth of the River Sinclair. The Roman town is bisected by the river hence the two OS references. The inhabitants were housed in insula (Strip houses) 70m x 10m with ten unpaved and one paved room. The most southernmost section of the town contains a man made tortoise shaped mound which contains the foundations of the town's forum (shopping centre). The site of the forum is best viewed from the side road to Holm Park Farm, the forum was supplied from the deep sea harbour at the mouth of the River Sinclair, via the canalised burn. Within the northern section of the town, the depression marking the route of a short length of canal fed from the River Sinclair is clearly visible. Sadly Sinclair Castle due to fragile stonework was not accessible, presumably this was the site of the town's guarding fort. The town's economy would appear to have been based on metallic ore exploitation.

MAJOR ROMAN FORTS IN THE SW OF SCOTLAND.

Rerigonium, (Loch Ryan), Lucopibia and Carbanta

A map of Britain attributed to Ptomely shows Loch Ryan, the Rhins of Galloway and three names sites, squares are used to represent forts. As Carlisle is also represented by a square it is reasonable to assume the named square alongside the eastern shores of Loch Ryan represents a fort called Rerigonium. Historians have claimed that this detailed map is a fraud because it shows forts in Scotland. I have surveyed these sites in Scotland and located the forts shown on the map, I have also surveyed the frontier (I call it the Petteril Line) shown on the , which runs from west of Carlisle eastwards forming a southern defence to Carlisle, then to the River Petteril and flanking it southwards to Penrith, Shap and Lancaster. My surveys show that this map is extremely accurate.

Dr Mike McCarthy (archaeologist) wrote a paper for the Society of Antiquaries of Scotland in 2004 (Pages 119-129) titles Rerigonium a lost city of the Novantae, this paper listed the little known evidence for the site, but failed to mention Ptolemy's map or that on the map the site was marked as fort, NOT a city. Rivett & Smith the place name of Roman Britain pg 447, stated that they considered the site was a fort. My surveys confirmed it was a large fort. The Stranraer & District Local History Trust have a publication titled "The Lost Town of Immermessan", but they do not claim a Roman ancestry, The Ordnance Survey map shows Immermessan as by Balyett Farm. Dr Mike McCarthy quotes Ptolemy's Geographia as having two site names in the SW area of Galloway Rerigonum and Lucopibia, one of the three named sites on Ptomely's map also shows a site called Lycopibia (slightly different

spelling), this is probably a Roman fort by Newton Douglas, although Rivet and Smith pg139 consider Lucopibia to be at Glenlocher (by Castle Douglas). However bearing in mind the remarkable accuracy of Ptolemy's map, I consider the most easterly named fort to be more likely Dalbeattie (close to Castle Douglas) Dumfriess Roman fort is also shown in the correct area, but not named.

Dr Rebeca Jones in her fascinating book *Roman Camps in Scotland*, stated that as a Roman camp existed at Luce Bay (Glenluce) 17.9ha (43acres) the indications are that a Roman fort existed on the shores of Loch Ryan. *Rebecca Jones also commented on the existence of two overlapping camps at Girvan, one 22ha (54.5acres), the other has as yet not been fully identified and sized. The comment was that the siting of Girvan camp was odd and that it could be associated with the invasion of Ireland, BUT, if so Loch Ryan would have been more suitable.*

The RCAHMS records lists a Roman Road as being projected by White Loch, east of Innermassan. Alan Wilson *Roman Penetration in West Dumfries and Galloway, Dumfriesshire & Galloway Natural and History and Antiquity Vol6 4*, makes reference to a Roman coin hoard found in the Stranraer area, either at Airds Farm, or Cairnryan.

LOCH RYAN'S ROMAN & CHINESE HARBOURS, SITES & WRECKS. ALSO ONE VIKING SITE.

Prior to my on site survey of the shores of Loch Ryan I had arranged for an intrusive satellite survey to be carried out of the Scar (NW0465-6770) as I considered that the cause of the massive sandbank was an underlying Roman harbour, and had been responsible for the sandbank at the mouth of the River Tweed, Berwick upon Tweed. The satellite survey was carried out by Tim Akers a marine archaeologist, a specialist in remote surveying by satellite. This survey located the 240m long Roman quay side whose existence I had suspected for causing the sand bank build up. The Google earth survey (2005) also highlighted the existence of a c 110m x 38m Chinese catamaran flanked by a further 70m x 26m Chinese vessel, both south of the quay side.

A survey using magnetic anomaly over the sites at low water located the two wrecks which had been sheltering south of the massive quay, plus their unique anchors (see photographs of model and photos of similar anchors located off America). The larger vessel and it's two main anchors faced south and the smaller flanking smaller vessel and it's anchors faced north against the massive quay. The survey also ascertained that the larger vessel was a catamaran.

Such a massive vessel would be ideal for an amphibious landing of probably 1,000 troops per voyage for a short trip large numbers of troops, such as when required for the invasion of nearby Ireland. It is known that in the first century the Chinese constructed catamarans capable of carrying 1,000 troops. There are oral accounts of such massive catamarans operating in the Pacific, sadly historians always attribute these references to Polynesian vessels, not Chinese.

The survey located the major Roman harbour north of the massive quay. The harbour foundations are sand covered, but locatable by magnetic anomaly. The harbour is 200m x 140m and immediately north of the Scar and east of the adjacent field. The southern wall of the Roman harbour (NW04160-68056) is roughly 32 m south of the small Bird Hide and

ROMAN HARBOUR FOR 30m x 6m CRAFT, ACCESSED BY LOCKS.

240m LONG QUAYSIDE WITH THREE 40m LONG RETURNS SOUTHWARDS .
CONSTRUCTED BY THE ROMANS, PRESUMABLY TO PROVIDE SHELTER FOR THE MASSIVE
CHINESE CATAMARANS WHICH WERE TOO LARGE TO ENTER THE CHINESE SLOT HARBOURS..

WIGG BAY, ENCLOSED BY THE ROMANS
WITH A WALL TO FORM A SMALL CRAFT HARBOUR.

LOCH RYAN NW 00465 -- 6770

Remains of sand covered Chinese Catamaran, c 110m x 38, complete with anchors out.
A smaller junk c 68m x 28m lies alongside top right. A 240m long harbour wall with three 50m
returns southwards, is immediately north of the wrecks. Further Roman and Chinese harbours are to
the north. The presence of these stone structures has probably been the reason for the massive
sand bank build up opposite the Loch Ryan ferry piers. Photo Google Earth. Survey T.C.Bell 7.2015

Vessels to south of 240m long E-W harbour wall

WIGG BAY, LOCH RYAN.
ENCLOSED BY THE ROMANS
WITH A WALL TO FORM
A SMALL CRAFT HARBOUR.

T.C.Bell 2018

REMAINS OF SAND COVERED CHINESE CATAMARAN c110m x c 38m.
Anchors out southwards.

A smaller junk c68m x25m is alongside.
Anchors out northwards.

extends northwards to (NW04051-68180). The harbour is in two sections and accessed by locks designed to take 30mx 6m vessels.

Immediately north of the Roman harbour are the sand covered foundations of five Chinese slot harbours designed for 70m x 28m junks. Each slot has a keel slot and flanking stone pads to support the hull as the harbours are tidal unlike the Roman harbours which have a maintained water level. The local burn feeds an aqueduct which flanks the shore, this aqueduct floods the keel slots to remove debris and extends to the Roman harbours to keep them flooded. Interestingly the still functioning aqueduct has broken and the ensuing water has eroded the ground above, forming a depression and also a green oasis in an otherwise sandy environment. When the site of the Chinese harbours are viewed via Google Earth, the water flows along the keel slots of the Chinese harbours can be clearly seen.

The depressions along the beach adjacent to the Chinese harbours contain the foundations of the sailors's walled and turreted barracks, each with eight unpaved rooms and one paved room. The vessel's crews who always slept ashore in home ports.

Immediately south of the Wigg Bird Hide is a depression defended by visible dykes. The depression at (NW04105-68011) contains the foundations of the toilet and barracks of the crew for the adjacent slot harbour which extended southwards into barracks, the rammed earth defensive dykes are still visible. The barracks 36m long, held nine rooms one paved and the others unpaved.

THE WIG NW 04-68. THIS IS THE AREA TO THE WEST OF THE SCAR.

During the 1939-45 War this area was the home to Flying Boats, large square concrete pads for the flying boats can still be seen in Wig Bay. I consider that the Romans enclosed the bay with a rock barrier, with a small opening to provide a safe anchorage for their smaller vessels. The barrier ran from half way down the Scar, a man made dyke, (NW03394-67750) at a 45degree angle to a position just short of the boat yard and pier (NW03394-67016) two large boulders on the shore are all that is visible of the barrier, but the route of the barrier's foundations can be followed by magnetic anomaly, one of the few survey methods which will work under water.

There is evidence of six Roman 30m x 6m wrecks in the Wig Bay area alongside the Western side of the Scar (NW 0423-67801), when viewed on Google Earth these can be seen as a linear dark outlines flanking the Scar.

Immediately south of the Bird Hide and flanking the Scar to the West, is a depression defended by visible dykes. The depression at (NW04105-68011) contains the foundations of the toilet and barracks for the crew of the Chinese junk which used the adjacent single slot harbour designed for a 70m x 28m junk, this harbour flanked the Scar.

BARRACKS FOR THE CHINESE CREWS.

Flanking the Kirkland (field) line and the shoreline, north of the Scar, are the remains of the Roman defensive walls of the Roman town. The stone work is generally covered by wind blown sand. A scan up to and over the wall located the overlapping foundations, a hall mark of Roman walls, their purpose is to prevent subsidence.. Between the walls and the high water mark are the foundations of the walled and turreted barracks occupied by the Chinese crews of the docked vessels. The barracks ran from NW04037-68143 (Southern end to

NW03933-682874 (Northern end). The barracks consist of eight unpaved rooms and one paved one, the external defensive walls had external turrets at each corner, with only one access gate.

PHAROS (LIGHTHOUSE) NW0321-68305).

At the northern end of the Town Wall adjacent to the shore and the northern end of the slot harbours, standing out from the wall is a mound c 3m high and 20m diameter. This platform originally supported a stone structure which formed a lighthouse to guide vessels into the harbours, the Pharos was originally defended by a ditch, now infilled but located by magnetic anomaly.

THE ROMAN TOWN OF KIRKHOLM on KIRKLAND (FARM LAND) (OSNW 36-684)

The Roman town covered an area 700m x 700m 49ha (117 acres) a large town by Roman standards, Roman London was only 350 acres, the Roman city of Ullswater, Cumbria, probably the largest in Britain is c375ha (900 acres). The inhabitants of Kirkholm where housed in insula, (Strip houses) each 70m long with ten unpaved rooms and one paved. The town had it's own inland puddled clay line harbour, (NW03060-6885) fed from the adjacent burn. The harbour was connected to the nearby deep sea harbour by a small still visible canal, this canal also fed the water to the deep sea harbours. The town's inland harbour can be viewed from the gardens of the two shore side ruined houses, accessed from the footpath from the school. Do not access the reeded area as the harbour edges are masked by reeds and water depth could be 1.8m deep. I have excavated part of a Roman harbour, one of several within the Roman City of Ullswater, probably Britain's largest Roman city at 375ha (900 acres), Roman London was only 350 acres. The harbour's lining of puddled clay was 100mm thick, akin to children's modelling clay and still flexible when excavated, with exposure to the air it hardened within 24 hours. Little wonder that this harbour is frequented by sea birds. One of the guarding forts for the town is immediately north of Kirkholm School and south of the playground and car park (NW029-689,) the raised platform of the fort is now a grazing area for donkeys.

KIRKHOLM OLD CHURCH AND CEMETERY. (NW0308-6885)

The church orientated East-West, was constructed on the platform of a Roman fortlet's granary, the foundations of the granary and the two flanking barrack blocks are in place. The fortlet's defence was provided by a canal connected to the nearby canalised burn. The spoil for the fortlet's platform was generated by the spoil from excavating the canal.

KIRKHOLM'S VIKING FORTRESS (NW 0315-6880)

Immediately south of the cemetery wall, the Vikings constructed a small semi circular fortress c 50m x 30m defended by a rammed earth dyke, clearly visible on the northern side of the fortress. The external defensive ditch provided the spoil for the defensive dyke. The fortress was accessed by the standard four diametrically sited single portal gates. Internally are the buried postholes of a standard 30m x 9m Viking A frame long house. The Viking tablet located on the site is now sited within the graveyard of Kirkholm's new church.

The so called St Cristopher's Well, south of the Viking Fortress and old cemetery, is actually an aqueduct fed Roman spill well. Adjacent are the foundations of a Romano Celtic temple

with an internal immersion bath, the adjacent toilet is fed from the immersion bath's overflow. Presumably this temple and well served the Roman fortlet.

SUMMARY. CHINESE VESSEL WRECK SITES RHINS OF GALLOWAY.

Maryport Bay One wreck NX1435-3445 Orientated North-South on High water mark.
 Ardwell Bay Two Chinese wreck sites, side by side. Orientated North-South NX0696-44969
 Port Logan Two Chinese wreck sites in line NX0960-4055 by sewage outfall pipe.
 Loch Ryan Two Chinese vessels, one 110m x 38m catamaran, o4348-67939, one 70m x 28m
 04238-67999, hard against each other, both orientated North South at south of 240m long
 harbour wall (Wall orientated east-west into Loch Ryan).
 Float Bay. One wreck on elevated beach, c70m x 28m
 Luce Bay, Stairhaven. Two Chinese wrecks orientated North-South alongside cliffs. One 70m
 x 28m, one 40m x 18m, hard alongside each other 19827-55174.

SUMMARY, CHINESE & ROMAN HARBOURS RHINS OF GALLOWAY.

(EAST COAST) DRUMMORE Cairngarroch Bay NX143-363 Two Chinese slot harbour
 Bays. Plus Roman Harbour 200m x 60m
 (EAST COAST) Chapel Rossan Bay. (Ardwell House adjacent). Four Chinese slot harbour
 bays. NX10-453. North of slipway, Roman harbour 130m x 60m South of slipway.
 Maryport Bay Two Chinese slot Harbour bays NX143-344.
 LUCE BAY West Coast. Six slot Chinese harbours, NX253-512.
 LUCE BAY. West Coast Stairhaven. NX 2080-5365 One Chinese harbour.

RHINS OF GALLOWAY, WEST COAST.

Dally Bay, Three Chinese Slot harbours. Two 70m x 28m, one 18m wide (Length not
 accessible).
 Ardwell Bay NX07-45 Two Chinese Slot harbours NX06913-44959
 Port Logan NX095-405 Two Slot Chinese Harbours
 Drumbredan Bay NX0780-435 Four Chinese Slot harbours
 Float Bay Six Chinese Slot Harbours
 Loch Ryan Five Chinese slot harbours. 70m x 28m NW 03986-69336. One 64105-68011
 NW03986-69336 Roman Harbours Two, NW04160-68056 West Loch Ryan. 200m x 140m
 East Loch Ryan NW0930-6195, 300m x 300m

SUMMARY RHINS of GALLOWAY, LUCE BAY and LOCH RYAN

CHINESE WRECKS	TEN
CHINESE SLOT HARBOURS	THIRTY SIX, All slot harbours for single vessels.
ROMAN HARBOURS	FOUR

SUMMARY WESTER ROSS. POOLEWE, GAIRLOCH, GRUINARD BAY

CHINESE WRECKS	FOUR
CHINESE HARBOURS	SIXTEEN (All slot harbours for single vessels)
ROMAN HARBOURS	ONE (GAIRLOCH)

Total. Rhins of Galloway / Loch Ryan/ Luce Bay/ Wester Ross.
 Chinese Wrecks 13. Chinese Slot Harbours 47, Roman Harbours Five.

PENRITH'S ROMAN HERITAGE.

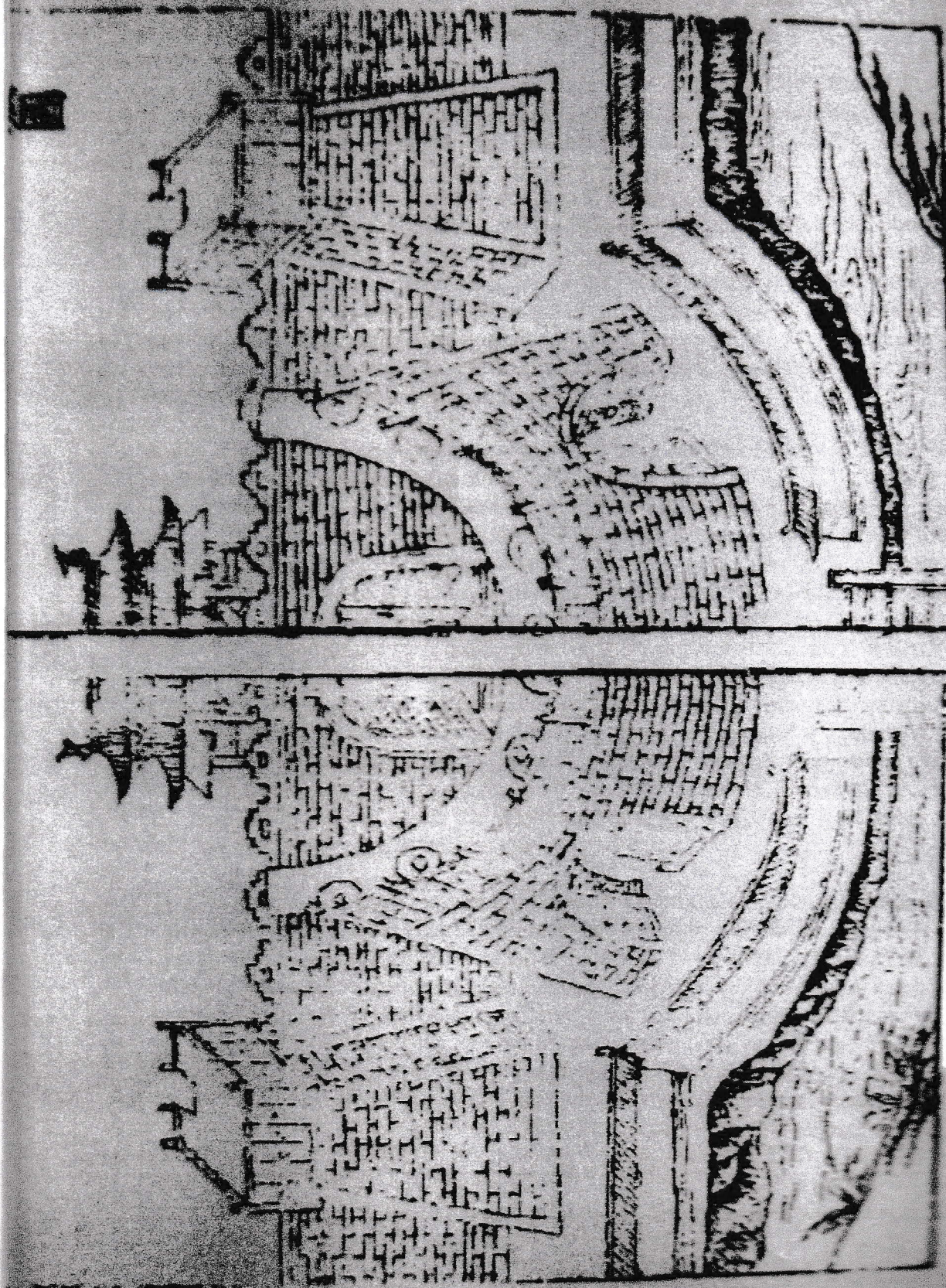
Penrith, Cumbria was the site of the Roman capital town, not Carlisle. The massive ramparts of the Roman Governor's trapezium shaped turreted praetorium still tower over the site of the buried Roman amphitheatre and the adjacent A66 (at Junct 40 M6).

Penrith was a walled Roman town with an adjacent 250ha (600acre) fortress, possibly the largest in Britain. Within the fortress walls are eighteen independently walled sites, four being large walled sites 7ha (17acres) each containing barracks capable of holding 15,000 slaves, a total of 60,000 slaves. I consider that these slaves arrived in Britain via the large Chinese vessels. The slaves are housed in 36m long x 4m barracks, each with eight unpaved rooms and one paved one. *Standard Chinese workers, or soldier's barracks. Outside the slave quarters are a series of 30m x 10m barracks with the centre room paved and the other two rooms unpaved, these are standard Chinese civilian houses, this is suggestive of Chinese jailers.* A large river side burial ground has been located alongside the slave's barracks. The inhumations are orientated North – South of small stature and packed as sardines in tins.

I have located one pure Chinese site in Penrith. The 2.57ha (7.4acre) site OSNY52272-30784) is located between Scaws Drive and Beacon Edge. The site is divided into an eastern and western sections by a stone wall. The western section an public amenity area contains the obvious depression of a harbour and ramparts of a fort, adjacent is the clue of the site's Chinese origin, the c25m a half round platform of a Chinese Weng-cheng (moon)gateway. The wetness of the area is due to a fractured aqueduct, one of six which run into the site. The site is still fed by the Roman distribution main which flanks Beacon Edge along the hillside. The distribution main is fed by the Roman spring fed reservoir on Beacon Hill. The presence of this reservoir and the massive aqueduct distribution system has created serious problems to the new housing estates being constructed in the area.

The complete Chinese site was defended by double walls with external towers (Bastions), between the walls are Lilia, staggered mantrap pits, long thought to be a purely Roman defensive structure. Two metre wide ditches on three sides defended three sides of the site, a canal flanked the western wall (Scaws Drive). The northern section contained sixteen barracks each standard Chinese design of 30m x 10m with three rooms the central one paved and the two external rooms are unpaved. Against the wall dividing the two sites are the foundations of a 48m x 17m toilet block (OSNY 52297-30821) and a 13m x 10m bath house with a 4.5 x 3.4m hot tub and external boiler house. (OSNY52258-30847). One wonders if the Roman temples, known as Romano Celtic temples which are of identical construction to the Chinese bath houses, minus the boiler house. Did the Romans copy the Chinese?.

The western side of the site was accessed by three gateways with towers, one accessed the small double walled fort, (OSNY 52302-30760) internally the fort contained three 30m x 10m three roomed barracks, one gate, the watergate controlled the canal leading to the harbour (OSNY52272-30784), the third gateway controlled access to the site. Adjacent to this gate are the foundations of a toilet block 24m x 10m(OSNY52225-30778) the supply aqueduct is still running hence the change in colour of the grass in this well watered area. the western side of the enclosure contains the foundations of some standard 30m x 10m three roomed barracks. The SE side of the site adjacent to the harbour, contains the foundations of a 47m x 18m granary compound of standard Roman design, (OSNY52320-30783). The wooded area to the south of the site contains a cemetery, the inhumations are orientated North –South. Adjacent is a large puddled clay lined harbour, fed by still running aqueducts from the Beacon Edge Roman reservoir. Thus we can but assume that the Chinese occupants of the site are Roman partners.



TYPICAL CHINESE WENG CHENG (MOON) GATEWAY.
CONTROLLING ACCESS TO AN INSPECTION COURTYARD, PRIOR TO THE CHINESE TOWN.
NOTE GATEWAY'S HALF ROUND PLATFORM, AS AT SCAWS ROAD CHINESE SITE, PENRITH.

The function of this site is unknown. Possibly it formed a secure rest and supply base for traveling Chinese units, as have several similar Roman sites been located, eg Nearby Beacon Edge, Tirril, Thorpe and Soulby (Ullswater).

The most visible and fascinating identification of the Beacon Edge Chinese site is the Weng cheng (Moon Gateway) Such gates are not just a reminder of their homes in China, but their symbolism of linking the human and spiritual worlds. I have located five Weng –cheng (moon) gateways, one in the defensive wall of the largest Chinese city in New Zealand's North Island, One at Ardwell Bay, west coast, Rhins of Galloway, SW Scotland, Hardendale (Shap) the gateway to a walled and turreted Chinese barracks associated with metallic ore exploitation and probably the most fascinating and informative of all, the Weng-cheng (moon gateway), at Limestone corner, Hadrian's Wall. This gateway controlled the access to the, now fallen, Hadrian's commemorative gateway, whose stonework still flanks the Roman canal at Limestone Corner. The presence of this Chinese Moon gateway can only be to commemorate the part the Chinese engineers played in the design, construction and supply of slave labour to construct Hadrian's Wall.

Whilst it is always claimed that the reason two large blocks of stone lie at the base of the canal is that the rock was too hard for the Romans to split. Which is of course nonsense as the Roman workers cut through the rest of the adjacent rock, to construct the canal some 50m south of the large blocks at Lime Stone Corner. I ran a scan down the base of the canal, this located the base aqueduct on either side of the stone blocks, ipso facto, the stonework arrived in the canal after the construction of the canal. Presumably when Hadrian's monument was destroyed by the local Freedom Fighters when the Romans left. The canal's flanking and base aqueducts are part of the standard Roman canal oxygen demand control system (see sketch, as oxygenating fish tanks) I was the first in the UK to publish details of this canal design. Also the existence of the canal's flanking aqueducts can be located by magnetic anomaly even when the canal has been back filled. The vallum is of course a canal defended by flanking rammed earth dykes. The Chinese call such structures, open walls., which suggests they were also responsible for the design of the vallum, the fortified canal structure flanking Hadrian's Wall, without which the Wall could not have been either built and the defending forts supplied when completed.

The Chinese who first discovered gunpowder also produced a Blastless Demolition Powder over 2,000 years ago, this could well have been used by the Chinese Engineers working on Hadrian's Wall to split any hard rocks, if required. The power is still marketed today, under the American trade names Burstar, Ecobust and Dexpan. The material contains Calcium Alumina Sulphate. The advantage is that it's use does not require a blasting licence, there is no sudden explosion and can be used in the basement of a building without any damaging shock effects.. The method is to drill a series of holes along the line of rock that is required to be split. The blastless powder is then inserted into the holes, plus a quantity of water and the holes plugged. The resulting chemical action generates a massive change in volume, which splits the rock along the line of holes. There is evidence of the drilling for Blastless Demolition Powder on the boulder wall at Hardendale, the igneous rock is very tough Shap Pink granite. I have also noted the use of Blastless Demolition Powder on a canal wall at St Peters, Cape Breton Island, Nova Scotia.

STAINTON'S CHINESE JAIL. (PENRITH, CUMBRIA).
OSNY486-2800

The Chinese Jail is situated in what is now the Stainton Cricket Club's ground. This is the third ancient jail I have located in Cumbria,, the other two are at Setterah Park, Helton alongside the River Lowther and one at Stanwix , Carlisle. The Stanwix jail was mistaken by archaeologists as an extension to the Church fort, hence the incorrect claim the fort was called Petriana and a large cavalry fort. In reality I located and published the actual site of the cavalry fort alongside what is known as the Eden Bridge. Recently the fort's bathhouse was excavated on the opposite side of the bridge, within the Carlisle cricket ground. I also reported that the cricket ground had been built over Carlisle's major amphitheatre..

I was the first to recognise that Stainton was the site of a Roman town, Roman coins located within the town covered 200years of occupation. The main Roman town is north of the A66 Penrith to Keswick, the A66 flanks the original Roman double carriageway described by the late Dr Martin Allen in his book "The Roman Route Across the Northern Lake District, Brougham to Moresby", 1994.

The Chinese jails at Stanwix and Setterah Park are both walled with internal and external ditches, the Stainton jail contained an internal ditch and on one side an external ditch, the other three sides had flanking canals. Internally the housing consisted of three rows of barracks each with five barracks, a total of fifteen barrack blocks. Each barrack block was 30m x 10m with three rooms the central room was paved and the external rooms unpaved. These buildings are a standard Chinese Shang design and provided the site's recognition. Both Stanwix and Setterah Parks jail's barracks contain eight unpaved and one paved room, they are designed for the detention of slaves, not Chinese. The jail contained a spill well and toilets which drained into the adjacent beck, once canalised. The cricket ground's children's play area was built over a Roman cavalry unit's barrack block.

CHINESE METALLIC ORE EXPLOITATION SITE AT HARDENDALE. (SHAP).

The Chinese site includes a small double walled fort, an adjacent slave barracks, and adjacent smelter ramps. Further up the hillside is a double walled and turreted exploitation site, flanked by a double walled barracks with a Sheng –weng moon gateway and a walled cemetery. There are two stone circles adjacent to the high level Chinese sites and nearby is a smaller guard house also with a small stone circle.

Hardendale Village is roughly 20mile south of Penrith and accessed form the adjacent M6 Junct 39. The area is best known for the massive quarries formed from the extraction of Lime stone used as a flux when manufacturing steel. Within the paddock originally occupied by the Eden Animal Rescue, there are two metre high Shap Pink Boulders, these are all that is left on the surface of the inner and outer Chinese walls of the double walled and turreted barracks (OSNY58161-1453). At the western end of the site the raised platform marks the main gateway to the barracks. A small gateway at the eastern end of the walls gave access to the toilet and 12m x 12m bath house. Within the walls are the foundations of two 30m x 10m three roomed barracks, the centre room paved the out rooms unpaved. Standard Shang era design. In the field adjacent to the paddock, are the very clear double ramparts of a 100m square double walled barracks. (OSNY58000-14700). The foundations of the barracks each with eight unpaved and one paved room indicate that this was the barracks of the slaves employed in the metallic ore exploitation.

On the southern side of the modern road opposite the slave barracks, signed as a footpath, is a visible rammed earth dyke, built on an overlapping cobble stone foundation. This suggests

that the entire area was defended by rammed earth dykes. Further west alongside the modern road to the M6 and by the site of the Eden Animal Rescue, the road is flanked by ten smelter ramps (OSNY58127-14326), each roughly 10m long and a metre high, each ramp holds three smelters. Each ramp is flanked by an aqueduct which fed the water to the water wheel which drove the bellows which supplied the combustion air to the smelter. Adjacent to each smelter ramp is a flat area c 4m square, presumably a roofed area for the operator and charcoal storage. A series of massive aqueducts (now open) are visible on the hillside fed the water down to the smelters.

ROADSIDE CHINESE BARRACKS & STONE CIRCLE. HARDENDALE.

(By SHAP, CUMBRIA)

At the top of the hill from Junct 39 M6, the road bends to the right leaving to the left a triangular area bounded by two dry stone walls. (OSNY5822-4263). Within the triangular site is a solitary boulder of Shap Pink granite, all that is left of a stone circle which had held 33 boulders. As all the boulders in a circle are locked in place by smaller stones, these are ignored when the large boulders are recycled, thus enabling the number of removed boulders to be counted using magnetic anomaly. The circle was not sited on a spring, but a spring fed aqueduct supplied the water to the three channels sited on the west of the circle. The channels are used for star and sun reflection shots ex a gnomon (shadow caster (also recycled)). The reflective channels formed an observatory, enabling calendars to be constructed to record the dates of conception, seed sowing, harvesting, and bird and fish migration, also sources of food.

An adjacent walled enclosure held the foundations of two 30m x 10m barracks, each with three rooms the centre ones paved the external rooms unpaved. The adjacent depression was the site of the aqueduct fed toilet. An adjacent unusual piece of flat Shap pink granite c 1.5m x 1m with a pointed end was possible a resited grave cover.

HARDENDALE'S CHINESE BARRACKS & METALLIC ORE EXPLOITATION SITE.

Viewed southwards up the hillside from the ex site of the Eden Animal Rescue site, a series of boulders can be seen contouring around the hillside. Examination showed that these boulders had originally formed a flanking wall to a 3m wide road, which accessed the upper Plateau exploited for metallic ores. (OD 357m). One of the boulders (OSNY58184-14256) bore evidence of the use of drilling prior to splitting, suggestive of the use of Chinese blastless demolition powder..

The prominent western ridge holds the foundations of a 30m x 20m bathhouse. (OSNY58079-14166), northwards by the electricity pole the large depression is an 20m x 10m toilet (OSNY58079-14166). The presence of such large infrastructure indicates the use of a large labour force. The presence of two large Lime Kilns in the area indicates recent lime stone extraction, so it is impossible to envisage the terrain pre and post Chinese operations.

Running on the ridge above the access road is a large canal running East-West, the canal is still over 4m wide and a metre deep. The canal is built to a standard Roman, not Chinese, design with flanking aqueducts and 18m long field drains set at 18 m intervals which connect into the flanking aqueducts. Chinese canal design does not incorporate the flanking aqueducts, only the 18m long aqueducts (Field drains) set at every 18m. The flanking aqueducts connect to an aqueduct at the base of the canal, which allows oxygenated water to

bubble up into the canal. (See sketch of canal section). The canal would have transported the excavated rock and also supplied the stores for the occupants of the adjacent barracks.

By the end of the canal is a stone circle 18m diameter (OSNY58217-13825) (OD360m) originally with 45 boulders. The standard triple water channels are adjacent, unusually this circle was not sited on a spring, the water supply for the water troughs, but fed via an aqueduct. Overlooking the stone circle is the site of Chinese double walled and turreted barracks, 80m x 75m, the foundations of the 17m square bath house are adjacent to the stone circle. Some folk have built three stone pillars using stone ex the walls of the barrack block overlooking the stone circle. The most striking feature of the of the west end of the barracks, is the visible stonework of a Chinese Weng –cheng (moon) gateway (OSNY53138-14004) c 20m across. The double walls have the foundation of 5m square towers at each corner. Internally are the foundations of twelve 30m x 10m triple roomed houses, the central room paved, the outer rooms unpaved. Alongside of the south wall of the barracks is a stone c 0.75high and 0.5 wide with two Chinese letters carved on it. My two Chinese advisors confirm the writing is in ancient Chinese, but cannot decipher it.

South of the Barracks is a lime stone ridge c 10m high, the area east of the ridge, has been worked for iron ore, the spring situated at (OSNY58267-13959) supplied the barracks toilets and a well by the SE tower (Bastion) of the barracks (OSNY58226-14002). Several other springs exist in this area.. A canal (OSNY58328-13993, OD 362) connected the eastern ore exploitation area towards the modern quarry.

South of the barracks are the remains of a 15mwide walled avenue with an internal 2m wide road devoid of ditches, so Chinese, not Roman. The avenue contains a gateway (OSNY58224-13928) (OD361) which gives access to a large cemetery the southern end is (OSNY58292-13811). The enclosed area is c100m x50m. The inhumations are orientated North-South, of small stature (c 1.57m) and number c 500. To the west of the cemetery (M6 side a depression (OSNY58224-13887) holds the foundations of a 30m x 10m, three roomed Barrack block The site was defended by an external wall, stonework still exists. Adjacent to the south the depression (OSNY58239-13856) OD 356, is the site of aqueduct fed toilet forthe barrack block.

To the west of the small toilet block are the remains of a 18m diameter stone circle (OSNY58217-13825) only one major stone of Shap Pink granite remains (OD 360m). To the immediate west of the circle are the three standard water channels for taking sun and star reflections shots, only the locking stones for the shadow caster (Gnomon) are still in place. The fascinating part of the three stone circles in the area is that they are not built over springs, the normal source of the water supply to the reflection water table, but fed via stone aqueducts of Chinese or Roman design (they are the same). This indicates that the Chinese constructed the three stone circles.

Stone circles in Britain are usually attributed to 2,500 -3,000BC, these dates concur with the carbon dating of the pit graves on Arran and the carbon dating of the site clearance for the Chinese barrack site at Poolewe, Wester Ross, c2348BC suggesting that the Chinese had responsibility for the developments.

LINEAR NAVIGATION ISLAND, HARDENDALE. There is an excellent example of a linear navigation island (OSNY58200-130013) located in the beck to the west of the Chinese ore exploitation site. The beck can be accessed from the road side parking, immediately east

of the beehive shaped grit storage site at Junct 39 M6. Just walk eastwards downhill for c70m and there is the beck and lovely mini example of a linear navigational island. The dam which forced the water into the locks is long gone, but the arc of the site of the now partially infilled locks between the island and the bank of the Beck is beautifully preserved,

A CHINESE WRECK AT THE MOUTH OF THE WELSH RIVER DEE.

A survey for the Roman deep sea harbour at the mouth of the (Welsh) River Dee at Hoylake at the North end of the Wirral Peninsula, also located a 70m x 20m Chinese junk (OSNG 20337-88016) alongside the harbour. The length x beam ratio 28% of the wreck and the unique design of the two anchors still attached by their cables to the wreck, confirmed the Chinese origin of the wreck. Presumably the vessel was loading from, or discharging to, the Roman Harbour when hit by a gale and driven ashore. The Roman harbour was only designed for 30m x 6m vessels via locks, so was incapable of accepting the large Chinese vessel.

PATTERDALE, (ULLSWATER) (King George 5th playing field)

CHINESE DOUBLE WALLED BARRACKS.

Nearer the middle of the playing field, orientated north-south are the foundations of a standard Chinese double walled fortified barracks with external turrets at the four corners. The walled site is 80m x 28m internally with c 2m gap between the inner and outer walls. The internal barracks consist of eight unpaved rooms and one paved one. A c 6m wide single external ditch defended the barracks. The c20m x 10m toilet block is sited alongside the southern canal. (OSNY39184-16003) SE of the goal posts.

A Chinese Bath House is sited by the cricket pitch covers. The Chinese bath house (OSNY 39026-16058) c 30m x 12m, with an external boiler house c 3m x 2m has an external toilet c 10m x 10m to the east. The bathhouse has an external and internal wall, the c 1m space between would have been roofed and formed a cloakroom. The single c 4m square bath, unlike the multi baths and rooms on Roman bath houses, provided a hot tub for the Chinese miners. Interestingly the Chinese design was used without the boiler house for what is now called Romano Celtic temples, the immersion bath, being the fore runner of Christian baptism. Presumably the Romans copied the Chinese design.

METALLIC ORE EXPLOITATION

The raised rocky area to the south of the playing field contains a metallic ore, and shows signs of having been worked, presumably this site was worked by the Chinese miners.

CEMETERY.

A kerbed Roman cemetery was located at the SW end of the playing ground (OSNY39047-15989). Six standard kerbed plots each c 20m sq and containing 50 inhumations, in a 10x 5 configuration orientated north-south. A total of 300 inhumations. Presumably any Chinese miners where buried in this cemetery, As in London's Roman cemetery. (See below)..

WESTER ROSS SCOTLAND. POOLEWE'S VIKING HERITAGE.

Poolewe is in Wester Ross, north west coast of Scotland and situated between Gairloch and Gruinard Bay. Poolewe was best known as the assembly harbour for the wartime aid convoys to Russia and Gruinard Island for the anthrax chemical warfare trials. Poolewe is now known for a very welcoming village, and part of the well used, from bikes to cars, 500 mile tourist trail around northern Scotland.

The author is a full time historical researcher specialising in Romans and Chinese, but who was also the first to locate complete Viking settlement sites with cemeteries, in Cumbria and has now located 18 Viking sites from Loch Ryan, (Galloway), Ullwater area (Cumbria) to Birkenhead, (Wirral), noting the Viking preference to use Roman sites around Ullswater. One fascinating survey on Cape Breton Island, Nova Scotia, the Chinese North Atlantic base, also located two Viking Hog back grave markers, the only ones ever located in North America, alongside a road to the Chinese settlement. Thus proving the Chinese road existed prior to the Viking's arrival. Needless to say the Nova Scotian archaeologists claim the Chinese with it's wealth of evidence does not exist.

Part of my Viking education was to visit Norway to visit the Viking Museum at Oslo and also a Viking village film set, all built in timber, complete with a palisade constructed from tree trunks.

POOLEWE'S VIKING CIRCULAR FORTRESS

A visit to Poolewe would not be complete without visiting the cemetery. I was fascinated to see that the site was circular within a stone wall. Circular church yards and cemeteries are invariable the sites of Viking fortresses. The author's Viking experience commenced with being requested to locate and record the drainage at Barton's Norman church which has a circular church yard, 100m diameter. Barton is sited between Pooley Bridge (Ullswater) and Eamont Bridge (Penrith, Cumbria).

The Barton Church survey, using magnetic anomaly, located the foundations of the Roman fortlet, under and alongside the church, which is sited on a platform. Many of Cumbria's old churches are sited on the platforms of small Roman forts, directly over the foundations of the granaries which had the heaviest foundations. Sometimes the churches also reused the Roman columns (piers) ex the fort's principia, or nearby forum (shopping centre). To my surprise, the Barton survey also located four in a line postholes, (two of the A frame, with two vertical side members), of two Viking long houses, each c 30m long x 11.5m wide, these A frames are spaced at roughly 4m intervals along the house, 4m being roughly the length of the straight trunks of normal trees. One long house was sited at either side of the church.

Resorting to Holger Arbman's "The Vikings" and Gwyn Jones's "A History of Vikings" for guidance, I read that Viking fortresses all had circular defences with external ditches and four gateways set equidistantly around the circular defensive wall. The best known circular Viking fortress is Trelleborg in Denmark, this is 136m diam and defended by rammed earth dykes with four gateways and an external ditch and contains a number of 30m long A frame long houses. I then went back to Barton Church and located the foundations of the four gateways and the sides of the now infilled defensive ditch. The present wooden entrance to the Barton churchyard is set over one of the four stone foundations of the Viking gateways. (As is Poolewe's burial ground). It would appear that Barton's Viking Fortress was the first to be recognised in Britain.

BURIAL PRACTICES. When surveying a historic site I always try to locate the burial sites, as the design of the cemetery, if one, the mode of the inhumations, their orientation and length, and the presence of temples and their design, tells so much re their operations, origins and mode of death. Eg Finding the burial site by Portsoy (Moray) of thousands of the Caledonian Freedom Fighters who in the battle of Mons Graupius with the Romans. The inhumations are orientated North-South, as close as sardines in tins, proof that Roman

General Agricola could rightfully claim they had killed 10,000. (See references for Bell's "Scotland's Roman Heritage"). Locating the sand covered wreck of a Chinese junk in Gruinard Bay, driven out of their nearby harbour, onto the beach, led to the adjacent burial site of the Chinese sailors drowned by the disaster. The orientation and length (c1.6m) of the inhumations, together with the junk's length to breadth ratio and unique anchor design, confirmed the presence of the Chinese. Roman graves have distinctive kerbed plots c 20m square and contain 50 inhumations in a 10x5 configuration, orientated North-South. Invariably, adjacent will be a Romano Celtic temple with an aqueduct fed central immersion bath and a flanking toilet. One unusual form of Viking burial sites are stonework set as the outline of a vessel, none have, as yet, been recognised in Britain, but located in Denmark and Sweden. Many of these stone vessel outlines have been located on the North West Passage, (North of Canada) first thought to be to be bases for overturned craft for crews wintering in frozen seas. (as Shackleton did), I became involved with one enquiry re the size of Chinese junks, however the sizes of the junks precluded them being overturned onto stone bases. It is feasible that the stone work marks Viking burial sites, those that failed to access the Pacific.

In the Ullswater area, of the fourteen Viking cemeteries located, thirteen have identical burial sites, with the graves orientated North-South and spaced a metre apart. On four of the sites, metre high, flat bottomed cone shaped stones have been located, presumably designed to be used as moveable end of burial site markers. This similarity of burial arrangements suggests that these Vikings had originated from the same country. Originally many of the graves had been furnished with a Hog Back shaped grave marker, the quality depending on the person's wealth or position, invariably the Chieftain who was always buried a short distance from the lower orders, had a head stone of high quality. Whilst the profile of the Hog Back grave markers are the same, c 1.2m wide and 0.5m high, the Chieftain's are thicker, polished and have surface carvings, some with bear's heads at one end, the peasants are thinner, left rough none of these have born inscriptions. One site I located, at Sockbridge, near Ullswater, has generated more Hog Back Grave markers than any other in Britain.

Recently I removed two perfect basic Hog Backs from a field on this site, into safe storage in the farm owner's garden. One perfect Chieftain's Hog Back has been left in place at the end of a wall, this unusually, bears an inscription in Runes. Cumbria has many dry stone walls, Viking Hog back grave markers broken into two halves, appeared to have been in demand as walling "Throughs" (these tied the two stone faces of the wall together). Several Hog Backs, one with a bear's head on it, ex this site even being use as paving stones for a Stage coach road, now the Thorpe/Barton bridleway.

However, one large Viking site by Ullswater, appears to have been inhabited by a group with different burial practices. (As at Poolewe) .By the Viking settlement are three parallel earth mounds, each c 40m x 10m, flanked by the remains of stonewalls, they contain inhumations orientated East-West, suggesting that they had been Christians. Their presence generated the name for the adjacent abandoned village, Trostermont, or Trestermont, (three mounds). One wonders if the adjacent abandoned and buried village with it's 4m square stone walled houses, adjacent food pits, defended by walls and still visible ditches, was the Viking descendant's last home, having abandoned their A frame long houses.

ETYMOLOGY. The names of sites usually indicate their historical origin eg. Londubh, Lon is usually people of, dubh usually means a depression, an inland harbour, (puddled clay lined) accessed by a canal, so possibly the name means the people of the harbour. There was an ancient harbour opposite what is now the Camping and Caravan Club site, which served the

large inland site via the canalised burn, but Roman for a deep sea harbour would be portus, In Norwegian Hafn.

Further examples of the value of etymology include a farm by Ullswater now called Crossdormont, the correct name was Croix de Mont, the Cross (Viking) on the Hill, I located the buried cross base on the hill, alongside a Roman well, then the adjacent Viking settlement. Another Cumbrian hamlet is called Margate Cross, in Cumbrian, marra is two of a kind, gate is a road, or way, not a physical gate, the Cross referred to the Viking Cross, whose buried base I also located. Thus the hamlet's name originated from the known Roman road splitting into two (marra) Roman Roads, alongside a Viking Cross, (also built alongside a Roman well, the third Viking cross site located alongside a Roman well. The adjacent Viking settlement was built over a massive Roman site with a large harbour, accessed by a canal..

PLACES OF WORSHIP. Whilst a total of 17 Viking sites have been located, to date, only seven places of worship have been located, five with apse (half round ends) and the foundations of stone altars, the smallest church is c 8m x 4m and the largest 20m x 10m, all except one being orientated North South, so not Christian. In Norway the stave (wooden churches) some with apse ends, appear to be orientated East- West. Possibly the oldest Viking church, located in Ljarskogum, Iceland, is described as a Pagan Temple in one Norwegian book on Stave churches, it also had an apse end, again, sadly, the Norwegian author neglected to record the orientation of any of the churches. My Norwegian friend carried out a brief survey of old Norwegian churches, including an unusual stone church, all appeared to be orientated East- West. Roman temples are usually orientated East- West, so allowing the rising sun to illuminate the interior.

POOLEWE'S VIKING CIRCULAR FORTRESS. (OSNG 86058-800949)

Access to the Londubh burial ground is via a turning off the A832, alongside the Caravan and Camping Club's camp site. A small car park exists by the burial ground's entrance. The burial site is c 70m diameter surrounded by a rough stone wall. The guide published by the Wester Loch Ewe Community Council, titled Londubh Burial Ground and Pictish Stone is useful, but in the light of my surveys requires updating.

Using my previous experience at the Viking circular fortress at Barton Church (Ullswater). I scanned the internal side of the stone wall and located the foundations of the four Viking single portal gateways, the existing gateway is sited over one of the Viking gateways. A scan across the graveyard located the postholes of six c30m long Viking A frame Long Houses. Noticing a small raised section of ground by the Pictish Stone, a scan revealed the foundations of an apse ended church, complete with the foundations of an altar. The orientation of the church is North- South, it is roughly 15m x 6m with a 3m apse end..

The burial ground guide states that the church built by the Rev Mackenzie is c 12.m x 5.1m and not orientated East- West as is normal with Christian churches. However my scan of the site located the foundations of the altar at the Eastern end of the church, so it was built to the standard Christian orientation. Whilst as the guide book mentioned the church was probably built over a previous building, however it has not been appreciated that the visible remains of the stone lined circular dyke that the Rev Mackenzie's church is built on, was probably the home of the Viking Chieftain. The survey confirmed the presence of A frame post holes of a

small Viking house. A ditch, now infilled, protected this rammed earth dyke, suggesting that it also formed the last place of refuge for the inhabitants, if under attack, somewhat as a Norman tower was designed to in a motte and bailey castle.

Viking burial site and settlement. In the field, south of the circular burial ground, are a pair of parallel dry stone walls some 2.5m apart, orientated North-South, the space between the walls has been part excavated, at one time this Viking burial mound was covered in soil and flanked by the two walls. There are 68 inhumations, between the walls, orientated East – West, suggesting they had adopted Christianity, their height c1.78m, denotes Vikings. Four adjacent smaller mounds, contained five, six and eight inhumations, respectively, the fourth mound contained one inhumation, this grave was covered with stone, suggesting that it was of a chieftain. The total number of inhumations located being 88. On either side of the large burial mound are the post holes of two A Frame long houses, four in total. The total field was walled. One can but suppose that eventually the remainder of the Vikings moved to another Viking site to amalgamate their dwindling band, or integrated into the local community, a DNA survey may help to establish the Viking relationship with the community.

PRE VIKING ARCHAEOLOGICAL EVIDENCE . At the southern end of the field containing the Viking burial mounds and A Frame long houses, (by the modern house), is a small burn, the course highlighted by yellow flags (Iris). (The OS map shows this area as Londubh, in which case my suggestion that the name means people of the harbour could apply). Many years ago this was a wide canal of Roman design, and actually still contains the remains of a small boat, very roughly 10m x 3m, only excavation could prove by design and carbon dating, whether the craft is Viking, or Roman. The canal connects eastwards to the main burn which runs NE, flanking the camping site, to Loch Ewe. Roman canals are easily identifiable using magnetic anomaly, by the unique design which incorporates flanking aqueducts. These form a biological oxygen demand control system, as one oxygenates a fish bowl to keep the water free from weed and hydrogen sulphide (bad egg gas). See sketch.

The presence of a Roman canal is indicative that the Romans or Chinese, were exploiting the local iron ore. Sadly, I still find archaeologists who claim Roman canals could not go up hill, such folk are best ignored. The Red Sea to Nile canal constructed in 500BC, contained a lock. My surveys have shown that the Vikings preferred Roman sites, always defensible, always accessed by water providing mobility, plus aqueduct fed water and availability of cut stone.

The field south of the Londubh burial ground containing the Viking graves and A frame long houses, is West of the still visible roadside stone defensive wall, however, so is the defensive ditch, it is in the Viking's field. This means the Viking took advantage of an earlier defensive wall, and external ditch. This is further confirmation that the area OSNG 865-811, East of the Londubh burial ground covering c 12.5ha (30 acres) will contain the foundations of an ancient settlement, either Roman, or Chinese, or both, and thus worthy of a detailed survey. Sadly, I had inadequate time available to carry out a basic survey.

As with all fascinating archaeological surveys, one leads to another and Time and in my case Distance and Old age, are the greatest obstacles to learning the full details of the fascinating history of the Rhins of Galloway and surrounding area. One but hope that these survey notes form stepping stones to enable future surveyors equipped with enquiring and open minds to further investigate the fascinating historical evidence around them.

During the talks I give and the bi annual public exhibitions I hold, often folks, critically, state, but you could carbon date this, or that, and carry out more ground radar surveys, I then reply, YES, one can always do more. But unlike professional archaeologists who when faced with a potential survey, immediately reach for someone else's cheque book, folk such as I, who fund all our own expenses have to pay £380 for a single carbon date and around £3,500 to fund a 100m square survey by a geophysics contractor. A basic overseas survey cost c £7,000 for travel, insurance, accommodation, food, vehicle hire, before any hire of specialists. My practice of printing off and distribution of detailed illustrated survey folders of my site surveys costs me hundreds of pounds a year, yet are never acknowledged by archaeologists and historians and only occasionally by museums and libraries.

SUMMARY

The large number of Chinese sites, harbours and wrecks located in these surveys prove that the Chinese had exported a large number of their highly skilled citizens, sailors, engineers, geologists, smelter and metal workers and miners to work with their Roman colleagues over a long period of time. a fact never previously appreciated in the UK. The carbon dating of c2,348 BC (4295BP, pre 1950AD) of the site clearance for one large Chinese walled barrack sites at Loch Poolewe, was somewhat of a shock, but when equated to known early carbon dating of burial sites on Arran the dating makes sense and also ties in with the similar dates of the Chinese populating America and their known mapping of the world including a virtual ice free Antarctic. The early BC date and the operations with the Roman occupation of Britain of course suggests two waves of Chinese operations in Britain..

The very probable construction of the stone circles at Hardendale (By Shap) by the Chinese, is fascinating, it is well known that stone circles are invariably located alongside metallic ore exploitation. The connection with Chinese and Brochs is also of interest, especially as it is known that the Hakkas a sea faring Chinese community also built round houses in stone. The limited carbon dating of brochs appears to suggest a range of 100BC to 100AD..

The importation of large numbers of slaves by the Chinese vessels is confirmed by the large slave barracks located alongside Brodick Bay, on the Scottish Isle of Arran alongside three large Chinese built harbours. The origin of the slaves held in the massive slave barracks at Penrith, (c60,000) alongside Loch Ryan and Brodick Bay, Arran is unknown. Interestingly one of the DNA surveys held alongside Hadrian's Wall indicated the surprising result of the presence of black slaves, possibly from Rome's North African colonies. However my surveys of burial sites has indicated a large number of folk of short stature c 1.6m and less, indicative of Asians, possibly the Chinese also exported a number of their surplus population to Britain. In Stainton, Penrith (Cumbria), the jail was built specifically for Chinese.

Only a specialist examination of the known burial sites will provide an answer to the origin of the slaves. The major slave burial sites I have located are at Frenchfield, Penrith, Balyett Farm, Loch Ryan and Setterah Park, Helton, Penrith.

An answer to the operational dates for the Chinese on the Scottish Isle of Arran may already exist with an archaeological group. During my surveys over Chinese and Roman sites on Arran, in Monmore Glen, Lamlash Bay, at the village of Lagaville, I noted that the Chinese miner's site had been excavated to reveal the standard Shang era 30m x 10m three roomed barracks. Sadly, my attempts to locate the archaeological group involved have been

unsuccessful, even the land owner, the Forestry Commission, was unaware of the both the excavation and the excavator. I had hoped that the excavator would have carbon dated the site, thus providing a clue to the date of the gold mining operation. The adjacent chambered cairn (Shaft burial, a Chinese design) Meallach's Grave, was excavated and carbon dated to 3,160BC -2,240BC (By others), similar dates exist for the ancient grave at Whiting Bay, these dates are in the dating area of my surveys of Stirk Farm, Poolewe, (Wester Ross) clearance of the vegetation of the Chinese site prior to the construction of the sailor's barracks.

Locating two Viking sites during the Scottish surveys, Poolewe and Kirkholm) was not unexpected, every one of the many Viking sites I have located have been associated with Roman sites. (Excepting of course the Viking Hog Back grave markers two graves I located on Cape Breton Island, Nova Scotia). Every Roman site I have located over the last 23 years of surveying, was accessed by water, vital for their construction and re supply, every one was in a good defensive situation, with a water supply and a good supply of cut stone. All greatly appreciated by the Vikings.

LATEST SURVEYS 2023,

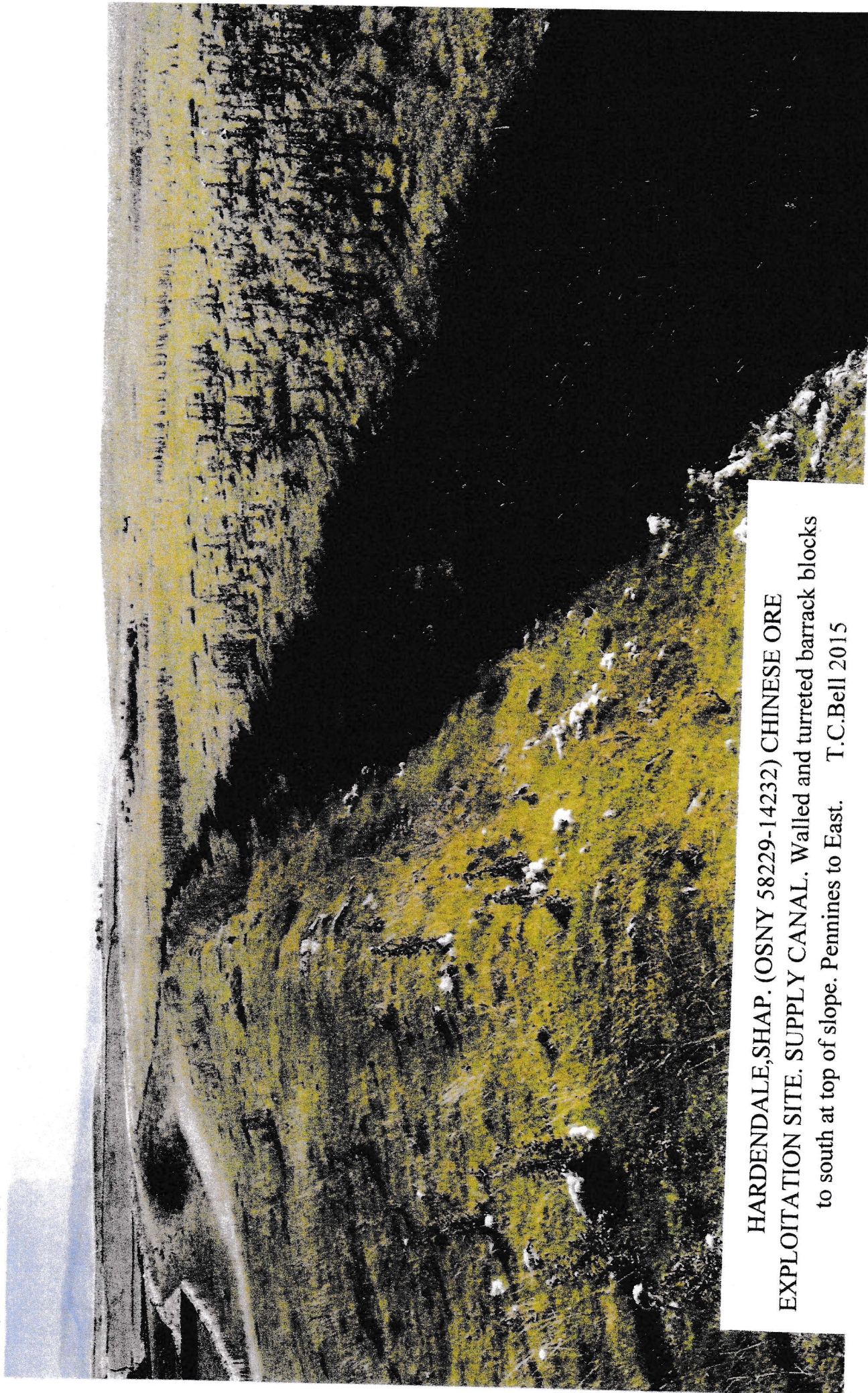
A CHINESE SHIPYARD AND TWO SHIPWRECKS IN SOMERSET, one in the shipyard and one in the adjacent River Parrett.

Locating a Chinese Ship building yard in my New Zealand surveys was a valuable help. Both had flanking canals, these could be used to flood the dry docks, or empty them. The Chinese being capable of constructing large water driven pumps which could be driven from the water flowing through the canal from the flanking river.

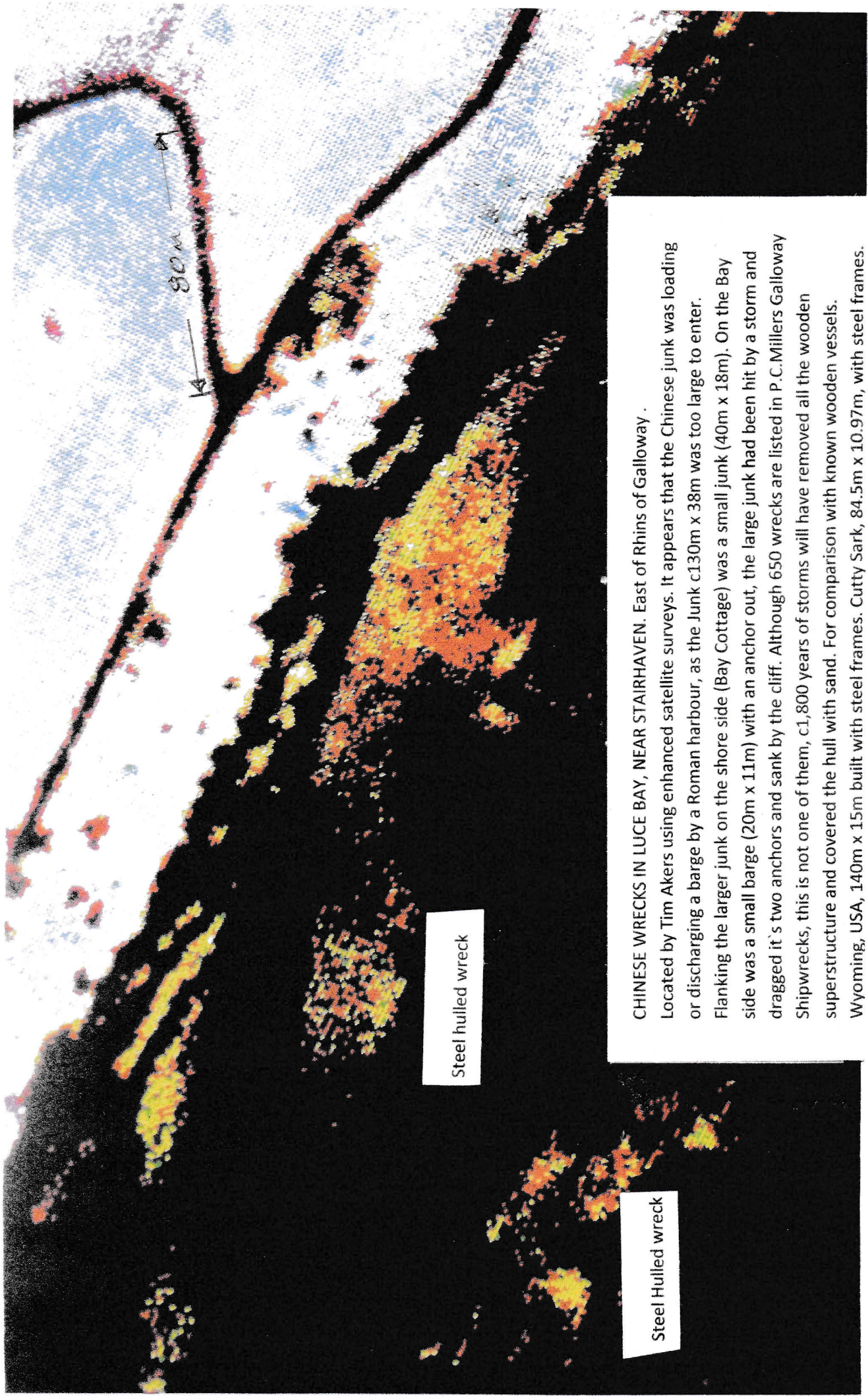
Surveys of the past are never complete, reading in the Telegraph of Chinese graves found near the latest nuclear power plant under construction in Somerset, I thought, if Chinese nearby must be a harbour. Using Google Earth I located a complete ship yard, complete with one wreck and in the adjacent River Parrett, a complete Chinese wreck, of massive size, of such large dimensions which I had never located previously.

TWO CHINESE MASSIVE WRECKS IN A CREEK ON THE THAMES, LONDON.

Some while ago, an old ex RAF pilot, like myself, fascinated with the exploits of Romans. So whilst flying over the South of England, he logged all the Roman Roads he could see from the air. Hearing of my operations in the same field, he, having by this time retired to Canada, posted two large tubes containing a quantity, of large scale maps 1: 1250 scale, all the Roman roads highlighted in red ink. Many hours later spent perusing the coastal areas, magnifying glass in hand, I located two massive Chinese wrecks in a creek off the R. Thames. Fortuitously adjacent map scales confirmed their dimensions.



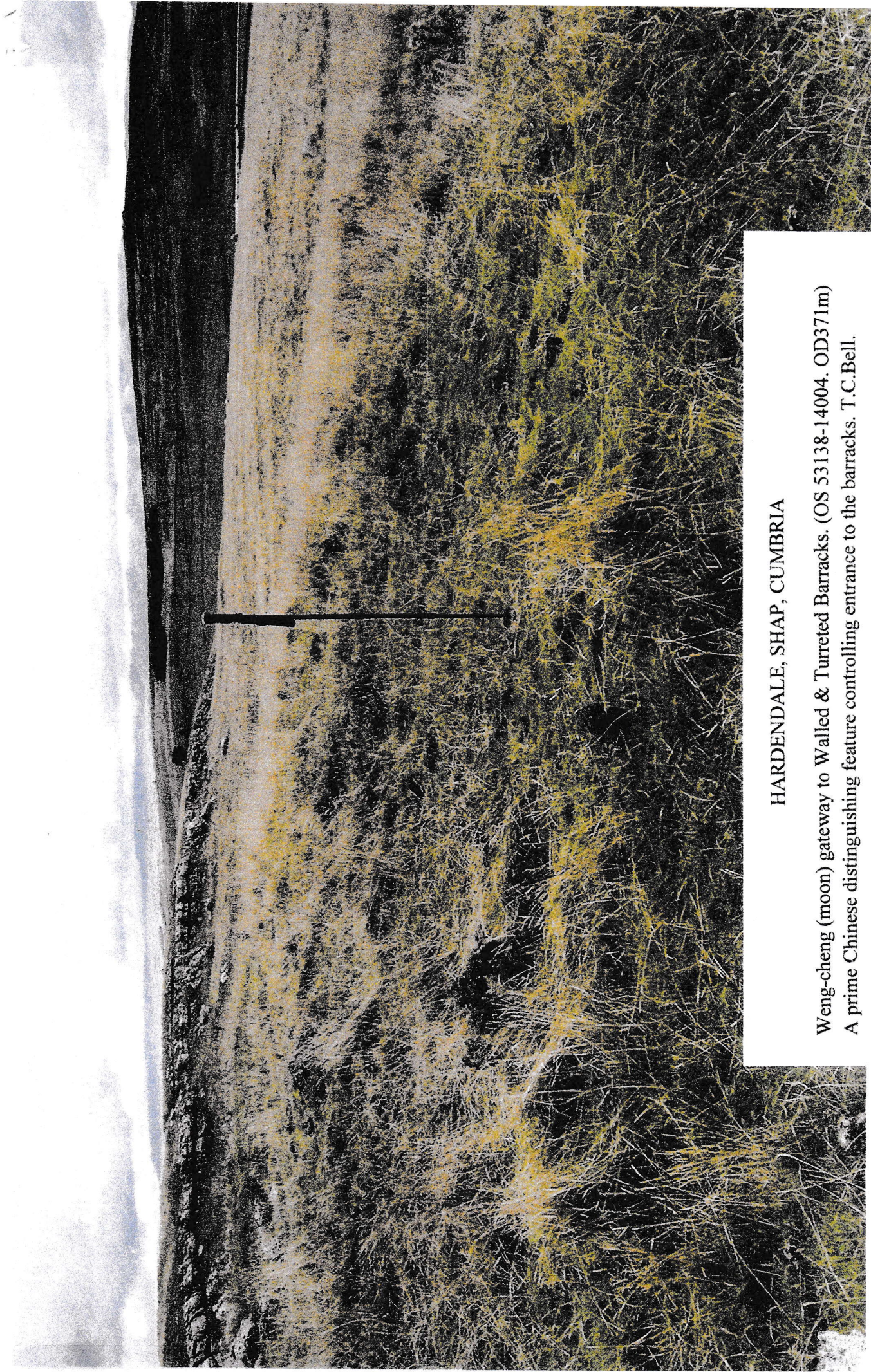
HARDENDALE, SHAP. (OSNY 58229-14232) CHINESE ORE
EXPLOITATION SITE. SUPPLY CANAL. Walled and turreted barrack blocks
to south at top of slope. Pennines to East. T.C.Bell 2015



CHINESE WRECKS IN LUCE BAY, NEAR STAIRHAVEN. East of Rhins of Galloway .

Located by Tim Akers using enhanced satellite surveys. It appears that the Chinese junk was loading or discharging a barge by a Roman harbour, as the Junk c130m x 38m was too large to enter.

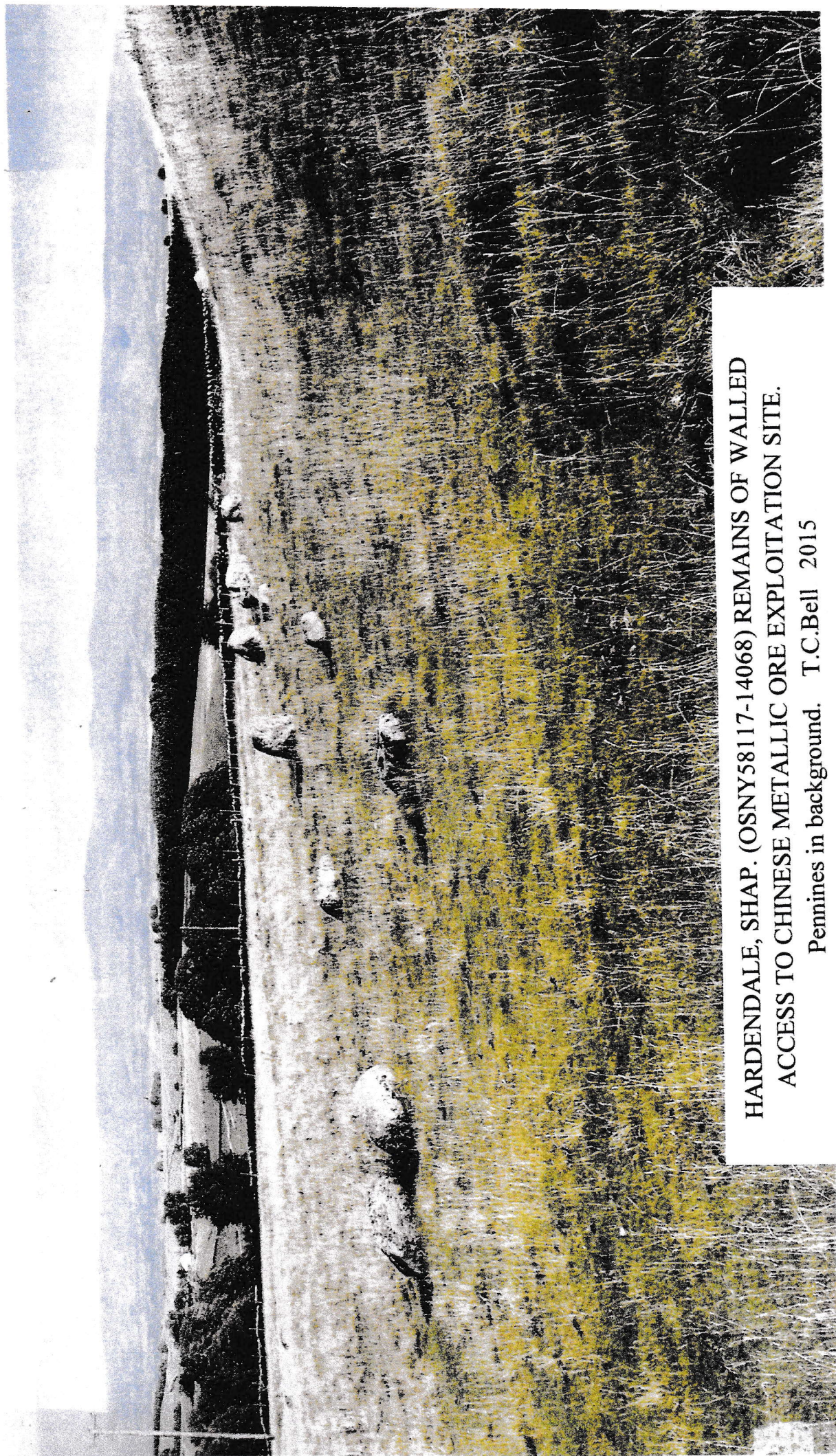
Flanking the larger junk on the shore side (Bay Cottage) was a small junk (40m x 18m). On the Bay side was a small barge (20m x 11m) with an anchor out, the large junk had been hit by a storm and dragged it's two anchors and sank by the cliff. Although 650 wrecks are listed in P.C.Millers Galloway Shipwrecks, this is not one of them, c1,800 years of storms will have removed all the wooden superstructure and covered the hull with sand. For comparison with known wooden vessels. Wyoming, USA, 140m x 15m built with steel frames. Cutty Sark, 84.5m x 10.97m, with steel frames.



HARDENDALE, SHAP, CUMBRIA

Weng-cheng (moon) gateway to Walled & Turreted Barracks. (OS 53138-14004. OD371m)

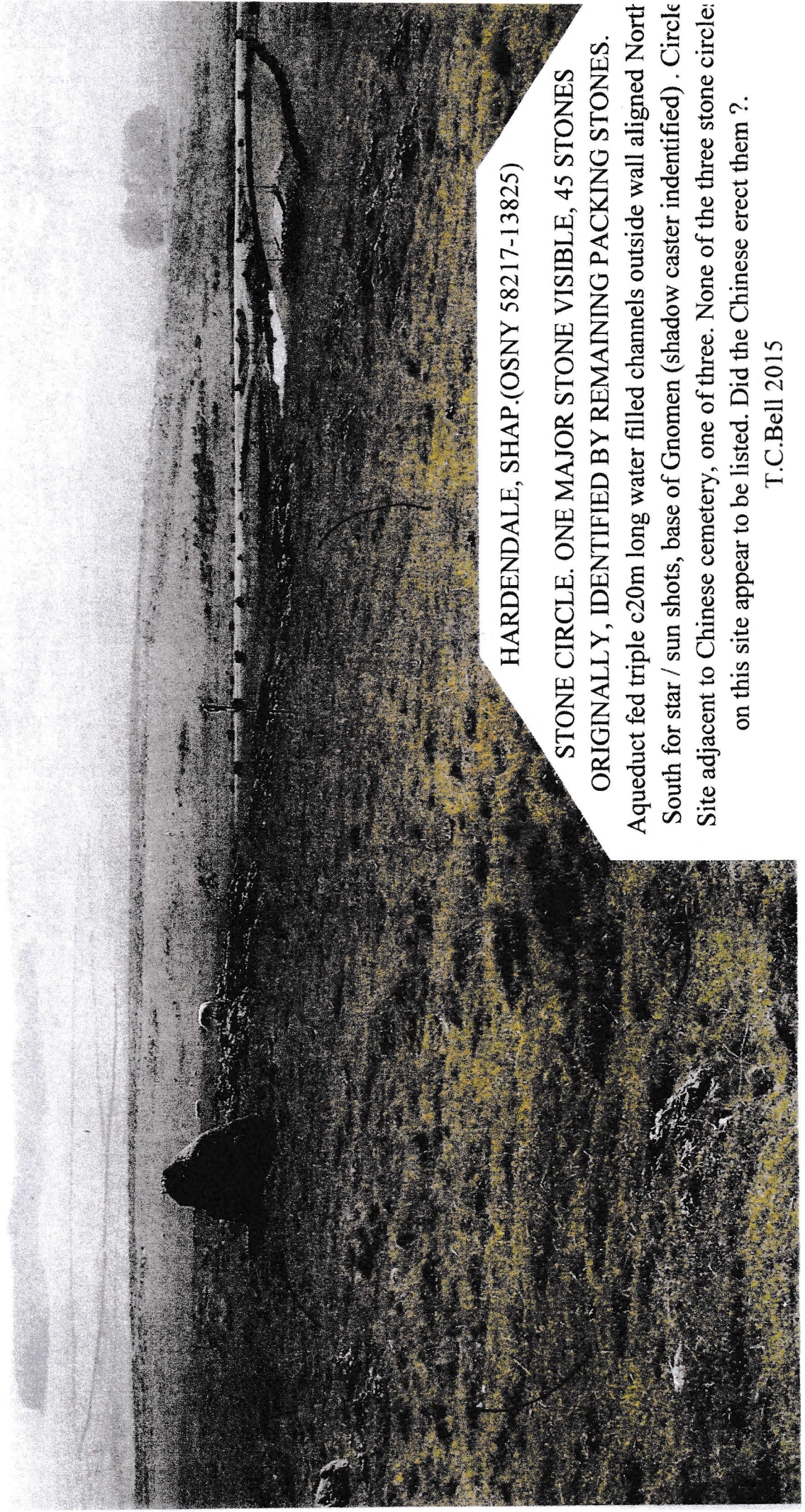
A prime Chinese distinguishing feature controlling entrance to the barracks. T.C.Bell.



HARDENDALE, SHAP. (OSNY58117-14068) REMAINS OF WALLED

ACCESS TO CHINESE METALLIC ORE EXPLOITATION SITE.

Pennines in background. T.C.Bell 2015

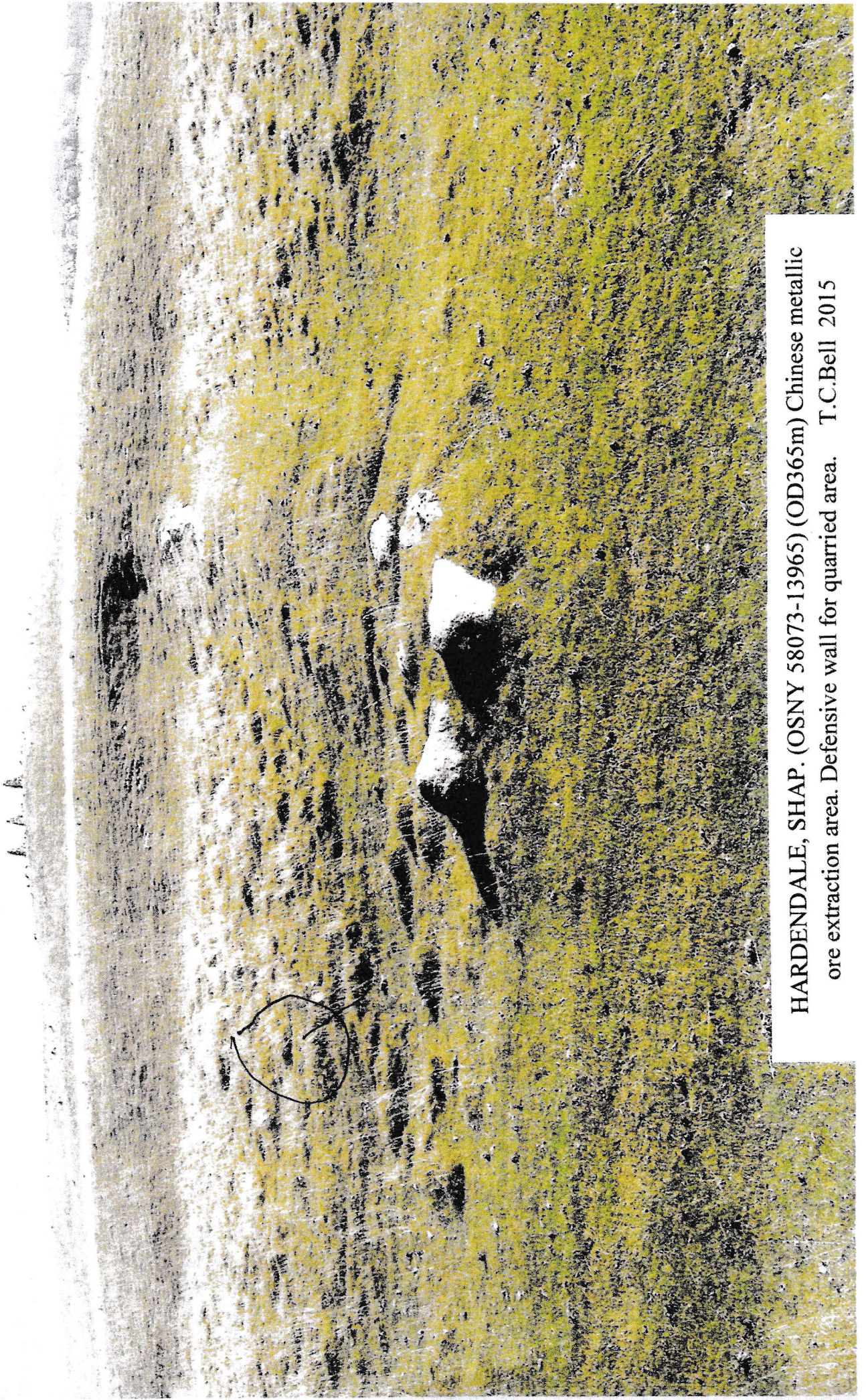


HARDENDALE, SHAP.(OSNY 58217-13825)

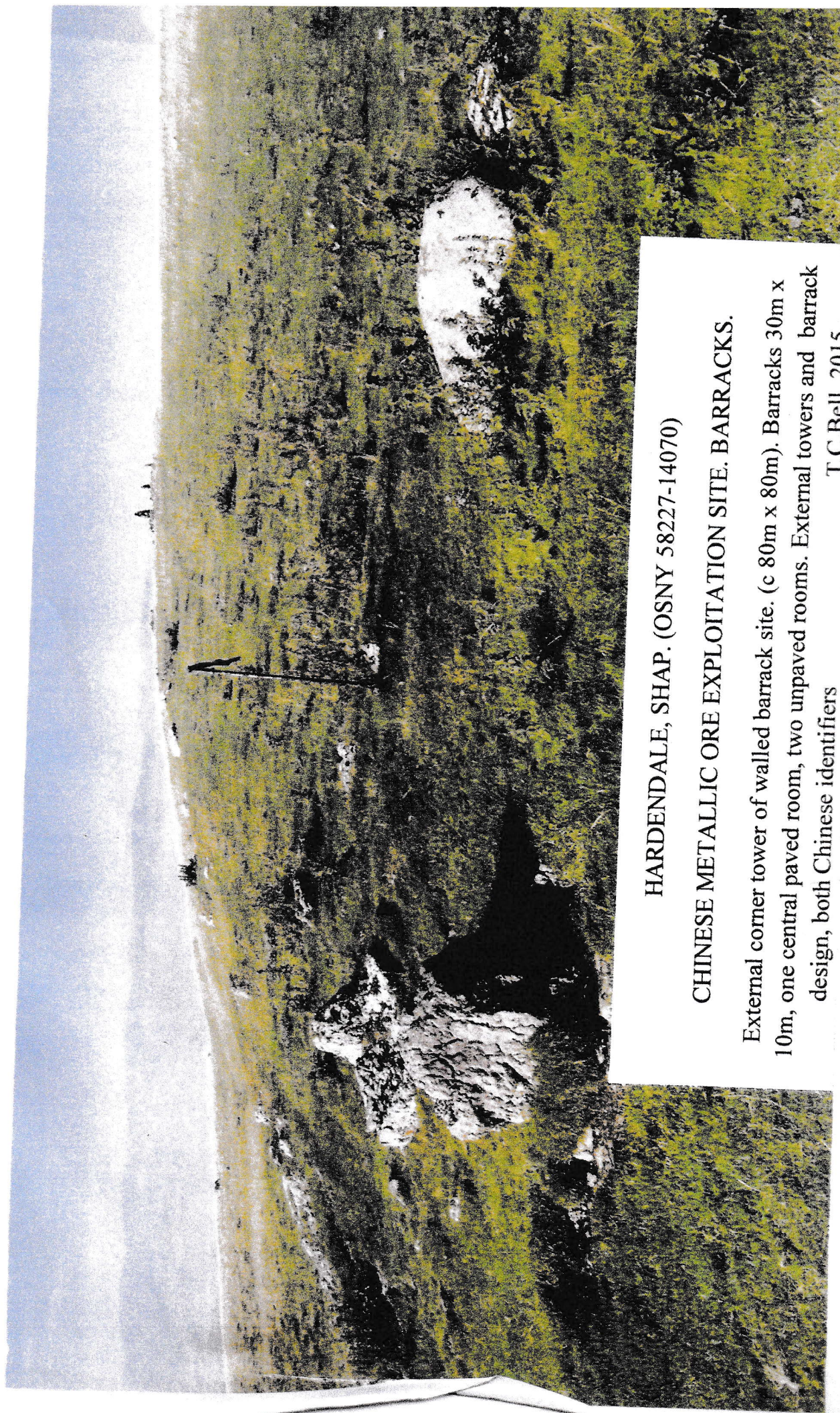
STONE CIRCLE. ONE MAJOR STONE VISIBLE, 45 STONES
ORIGINALLY, IDENTIFIED BY REMAINING PACKING STONES.

Aqueduct fed triple c20m long water filled channels outside wall aligned North
South for star / sun shots, base of Gnomon (shadow caster indentified) . Circle
Site adjacent to Chinese cemetery, one of three. None of the three stone circle:
on this site appear to be listed. Did the Chinese erect them ?.

T.C.Bell 2015



HARDENDALE, SHAP. (OSNY 58073-13965) (OD365m) Chinese metallic
ore extraction area. Defensive wall for quarried area. T.C.Bell 2015



HARDENDALE, SHAP. (OSNY 58227-14070)

CHINESE METALLIC ORE EXPLOITATION SITE. BARRACKS.

External corner tower of walled barrack site. (c 80m x 80m). Barracks 30m x 10m, one central paved room, two unpaved rooms. External towers and barrack design, both Chinese identifiers

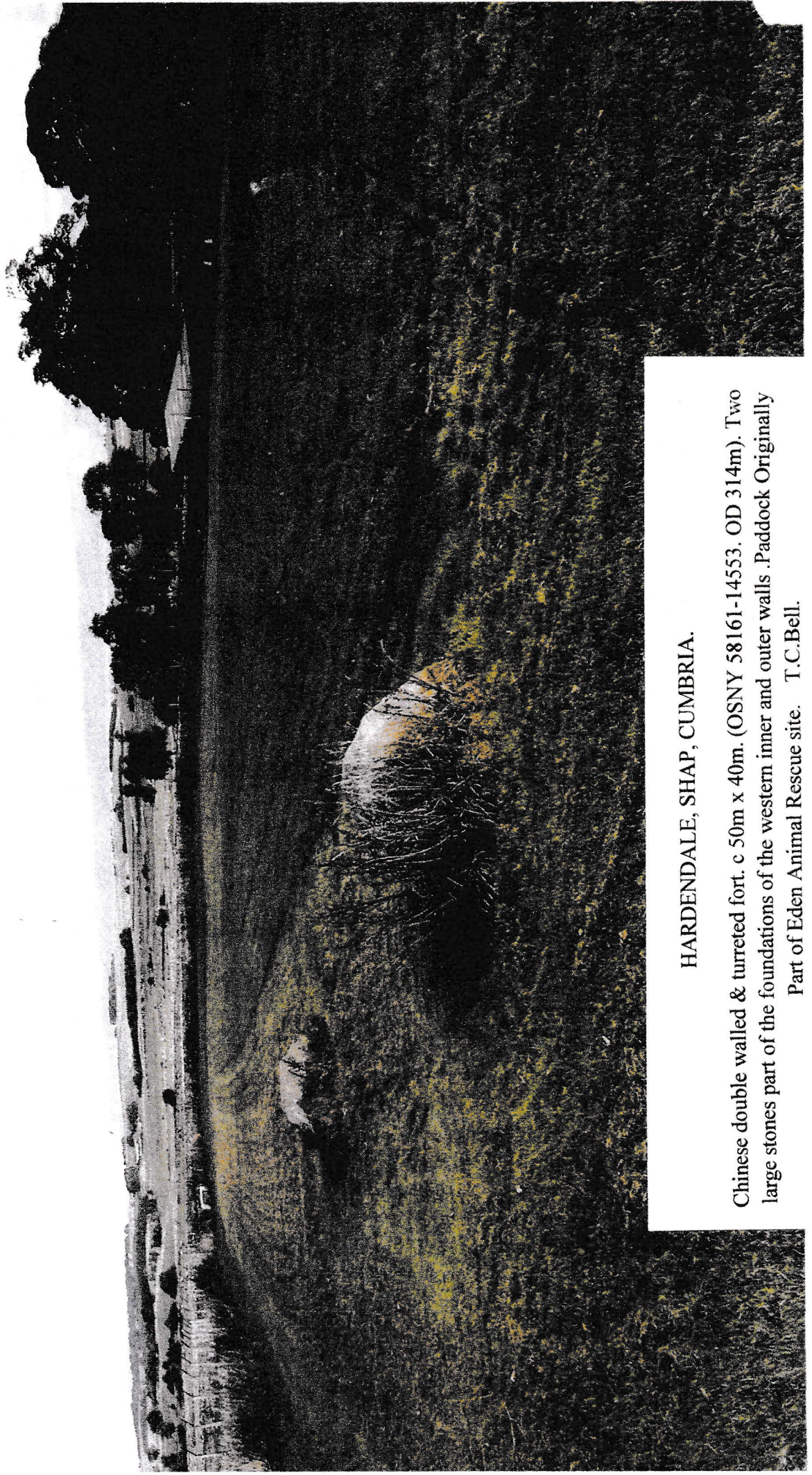
T.C.Bell 2015

HARDENDALE, SHAP, CUMBRIA

Weng-cheng (moon) gateway to Walled & Turreted Barracks. (OS 53138-14004. OD371m)
A prime Chinese distinguishing feature controlling entrance to the barracks. T.C.Bell.

HARDENDALE, SHAP, CUMBRIA. METALLIC ORE EXPLOITATION.

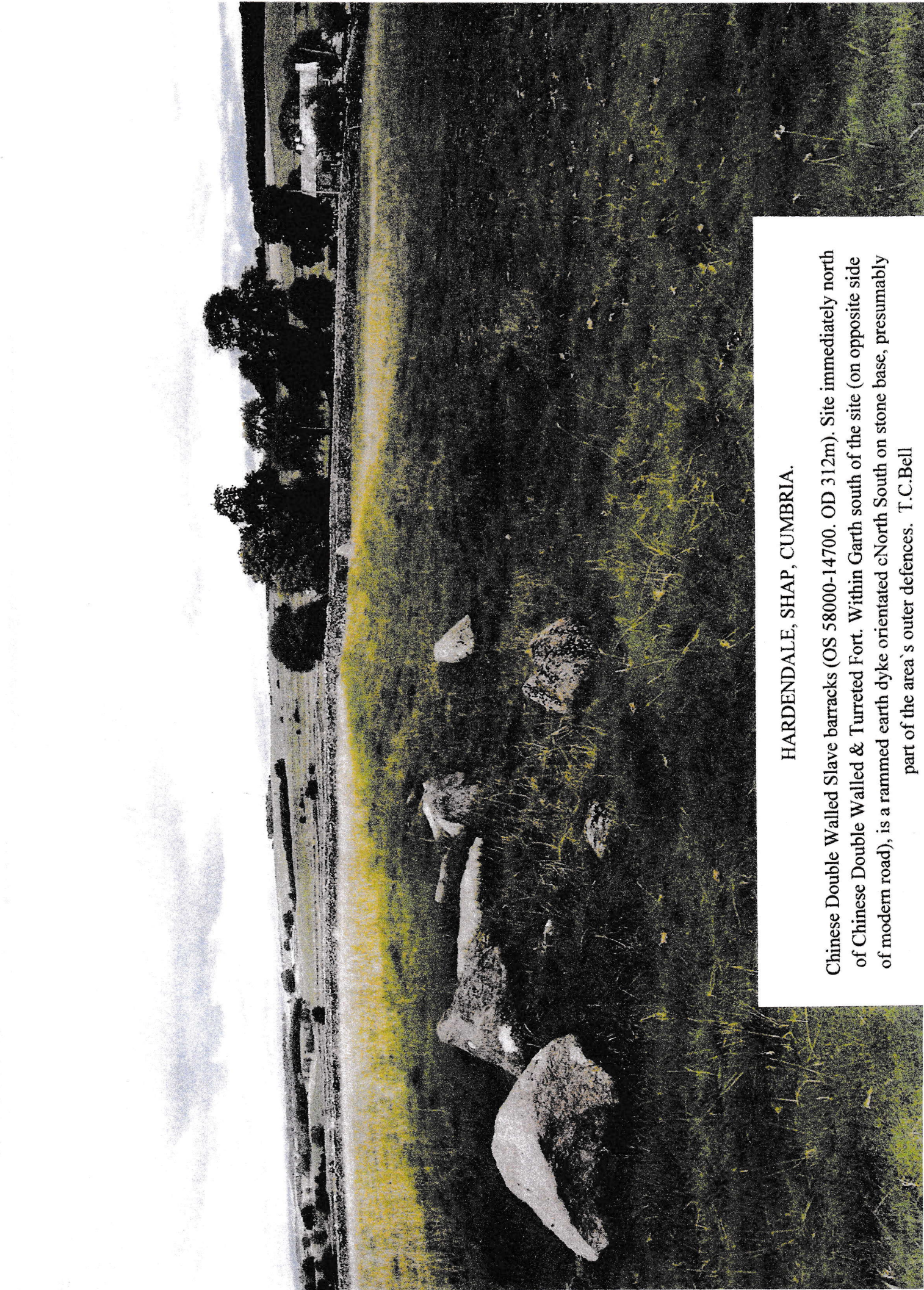
Chinese smelter ramps in line. (10) (OSNY 58150-14400 OD 312m) immediately south of road, west of site of (Ex) Eden Animal Rescue. Each smelter ramp had adjacent cleared area c 4m square with foundations for building, possibly store for charcoal etc. T.C.Bell



HARDENDALE, SHAP, CUMBRIA.

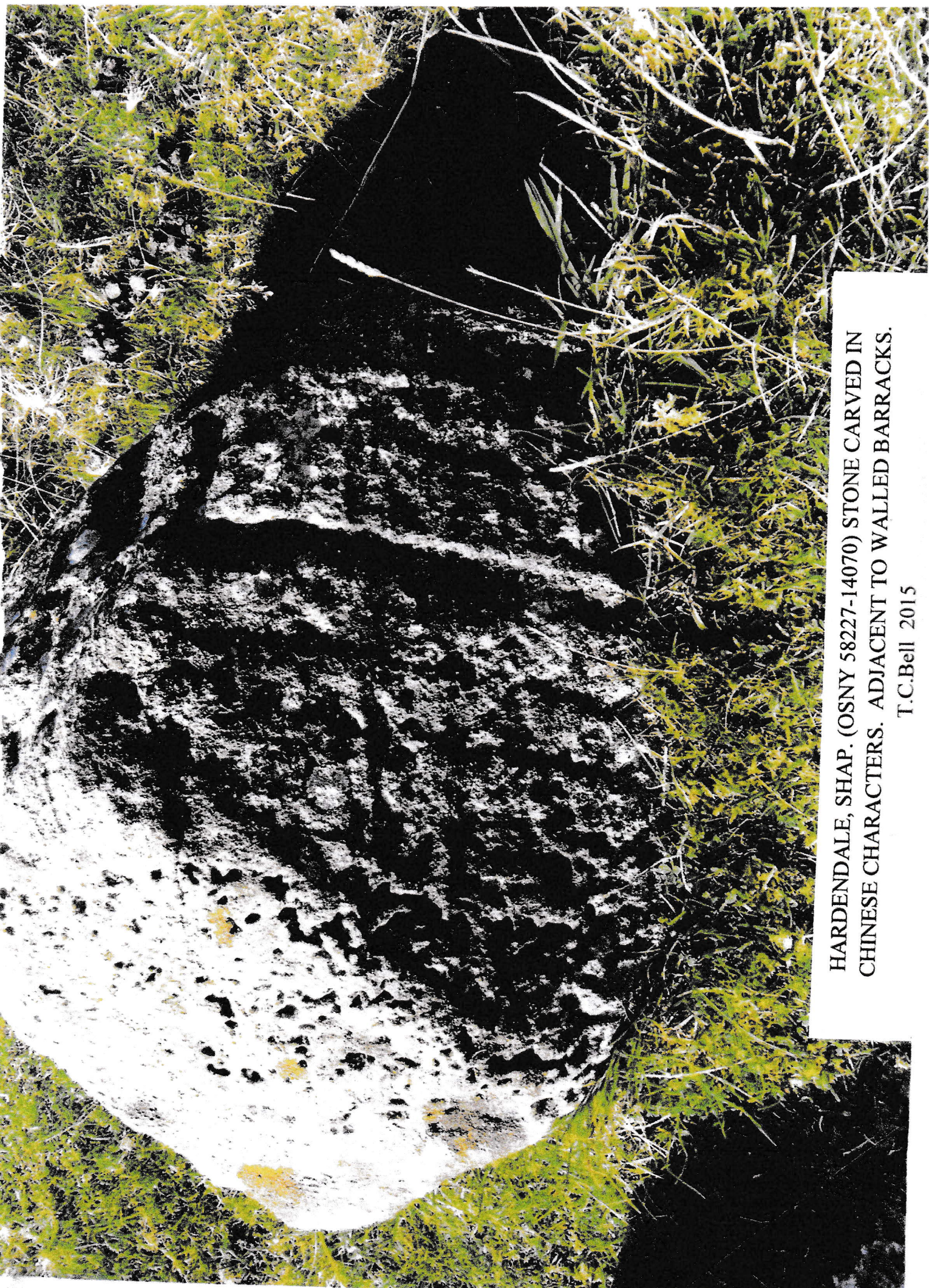
Chinese double walled & turreted fort. c 50m x 40m. (OSNY 58161-14553. OD 314m). Two large stones part of the foundations of the western inner and outer walls .Paddock Originally

Part of Eden Animal Rescue site. T.C.Bell.



HARDENDALE, SHAP, CUMBRIA.

Chinese Double Walled Slave barracks (OS 58000-14700. OD 312m). Site immediately north of Chinese Double Walled & Turreted Fort. Within Garth south of the site (on opposite side of modern road), is a rammed earth dyke orientated cNorth South on stone base, presumably part of the area's outer defences. T.C.Bell



HARDENDALE, SHAP. (OSNY 58227-14070) STONE CARVED IN
CHINESE CHARACTERS. ADJACENT TO WALLED BARRACKS.

T.C.Bell 2015

Write a description for your map.



River Parret, Somerset

Chinese Super Junk c120m x 40m in flooded dock

SUSPECTED ROMAN / CHINESE SHIPYARD.

Alongside River Parret, Somerset.

Comprising Two large (see scale) floodable dry docks.

One floodable Chinese Super Junk dry dock

With sunken super junk, c 120m x 40m in dry/wet dock

One small craft floodable dry dock or harbour.

T.C.Bell 14.1.2020 Email mail@tcbell.plus.com

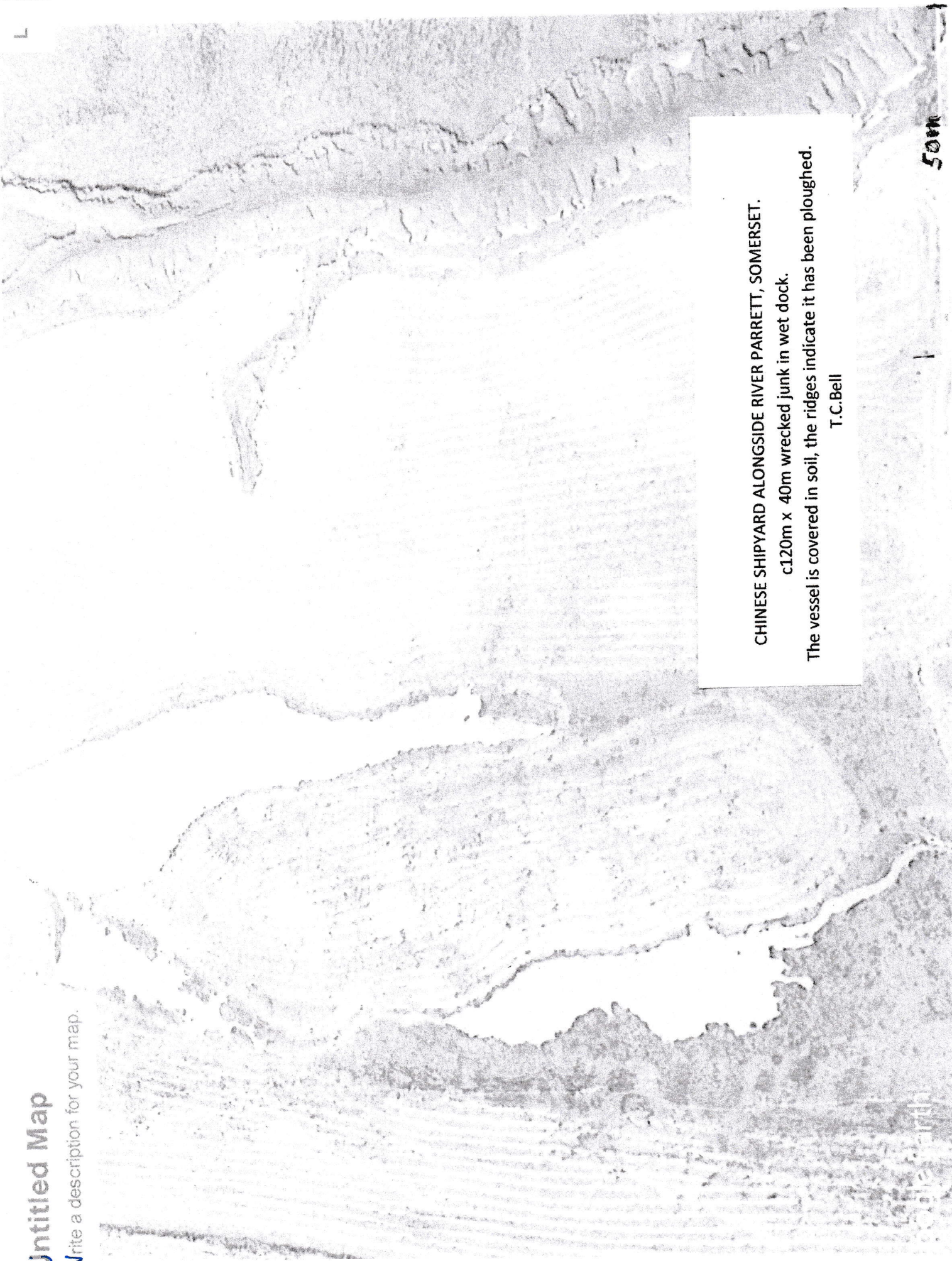
Google Earth

© 2019 Google

200m

Untitled Map

Write a description for your map.



CHINESE SHIPYARD ALONGSIDE RIVER PARRETT, SOMERSET.

c120m x 40m wrecked junk in wet dock.

The vessel is covered in soil, the ridges indicate it has been ploughed.

T.C.Bell

50m

Write a description for your map.

CHINESE SHIP YARD

Steart Marsh Bird Hide



RIVER PARRETT.
300m LONG WRECK, SHAPE
REPRESENTS CHINESE CONSTRUCTION
WRECK ADJACENT TO KNOWN CHINESE
SHIP YARD.

Google Earth

Here

900 m

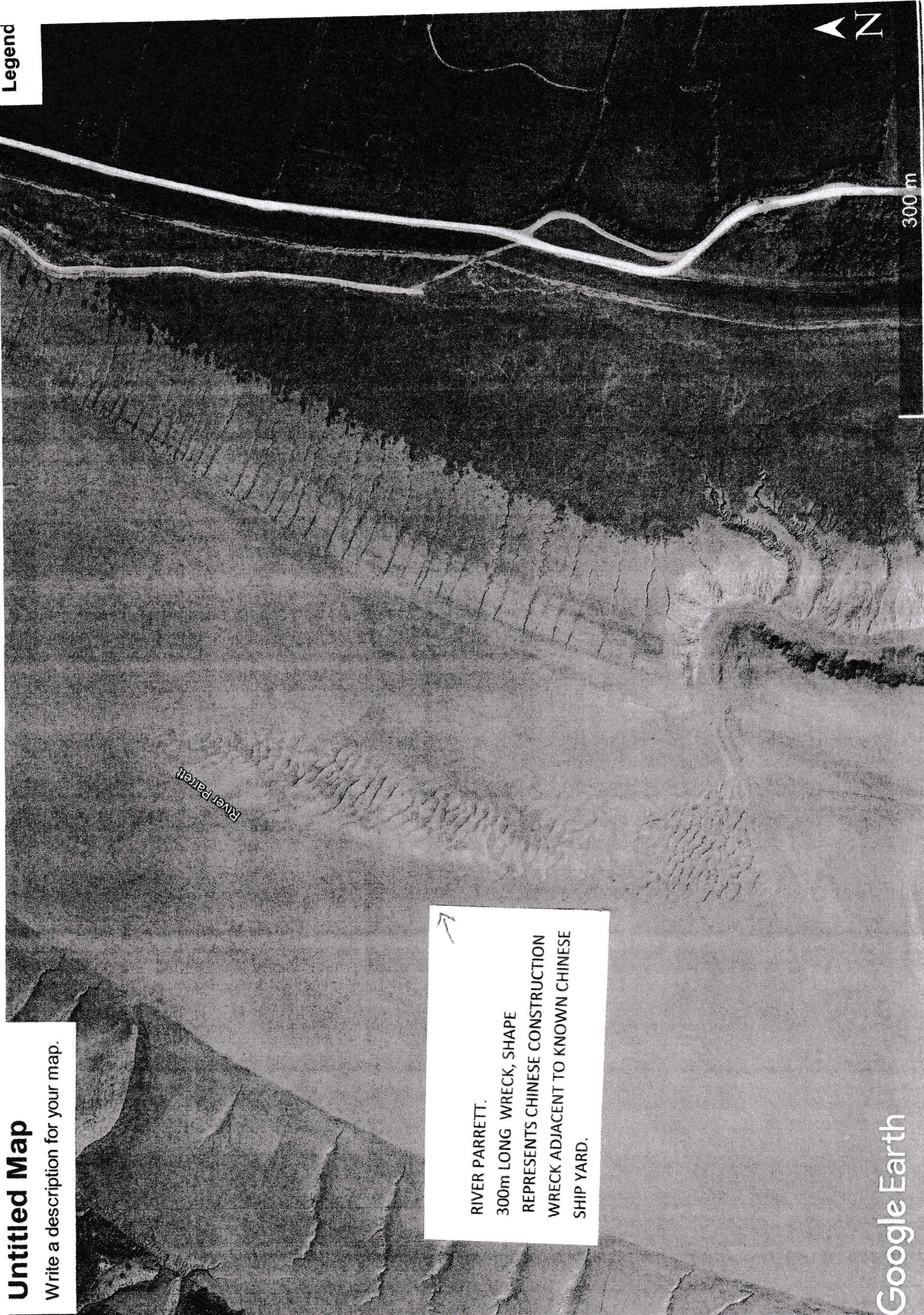
Steart Marsh Bird Hide



Untitled Map

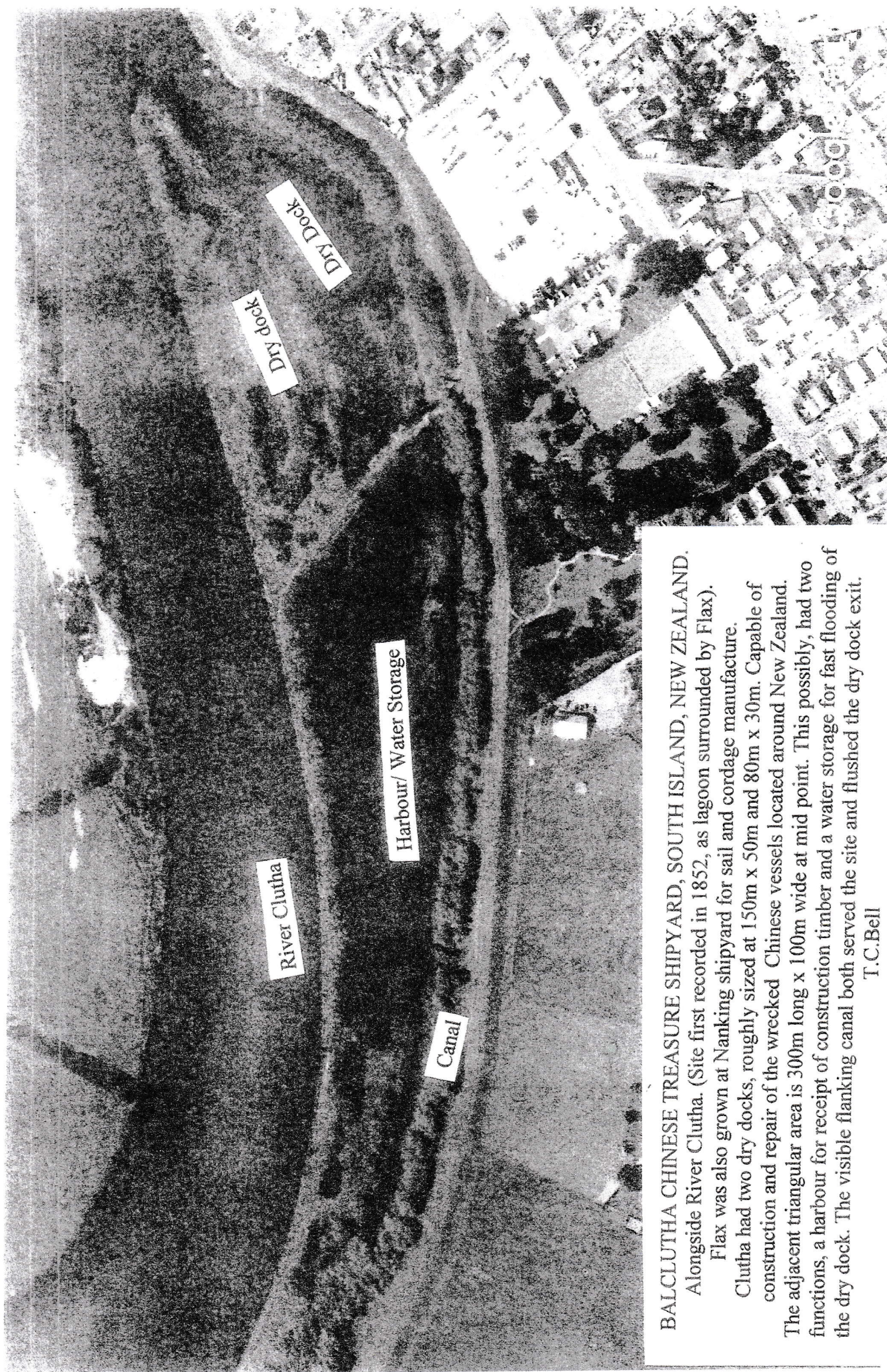
Write a description for your map.

Legend



←

RIVER PARRETT.
300m LONG WRECK, SHAPE
REPRESENTS CHINESE CONSTRUCTION
WRECK ADJACENT TO KNOWN CHINESE
SHIP YARD.



BALCLUTHA CHINESE TREASURE SHIPYARD, SOUTH ISLAND, NEW ZEALAND.

Alongside River Clutha. (Site first recorded in 1852, as lagoon surrounded by Flax).

Flax was also grown at Nanking shipyard for sail and cordage manufacture.

Clutha had two dry docks, roughly sized at 150m x 50m and 80m x 30m. Capable of construction and repair of the wrecked Chinese vessels located around New Zealand.

The adjacent triangular area is 300m long x 100m wide at mid point. This possibly, had two functions, a harbour for receipt of construction timber and a water storage for fast flooding of the dry dock. The visible flanking canal both served the site and flushed the dry dock exit.

T.C.Bell

Google

feet
meters

1000

400



Untitled Map

Write a description for your map.

Legend

Upper Horse



Untitled Map

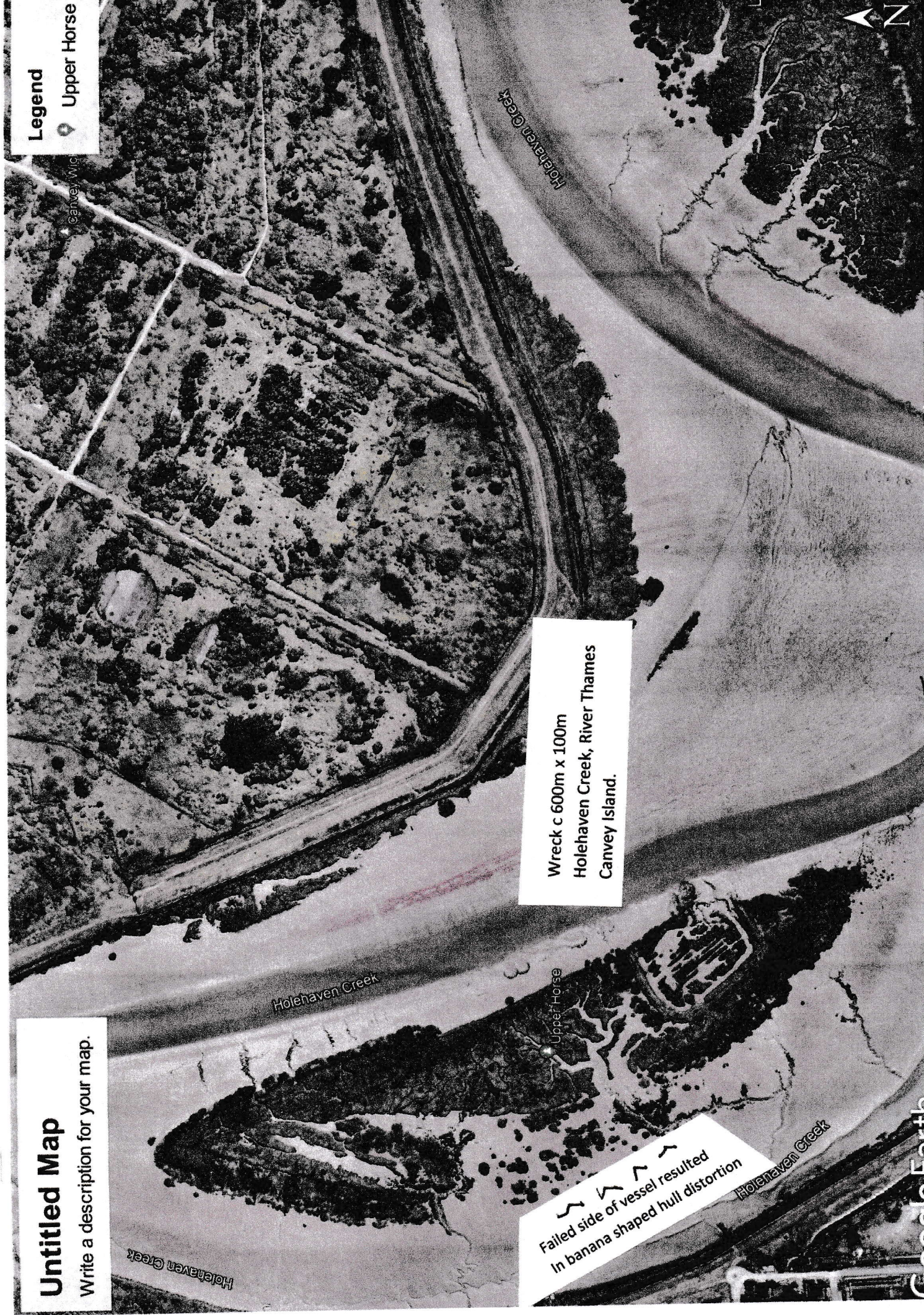
Write a description for your map.

Legend

Upper Horse

Failed side of vessel resulted
In banana shaped hull distortion

Wreck c 600m x 100m
Holehaven Creek, River Thames
Canvey Island.



Untitled Map

Write a description for your map.

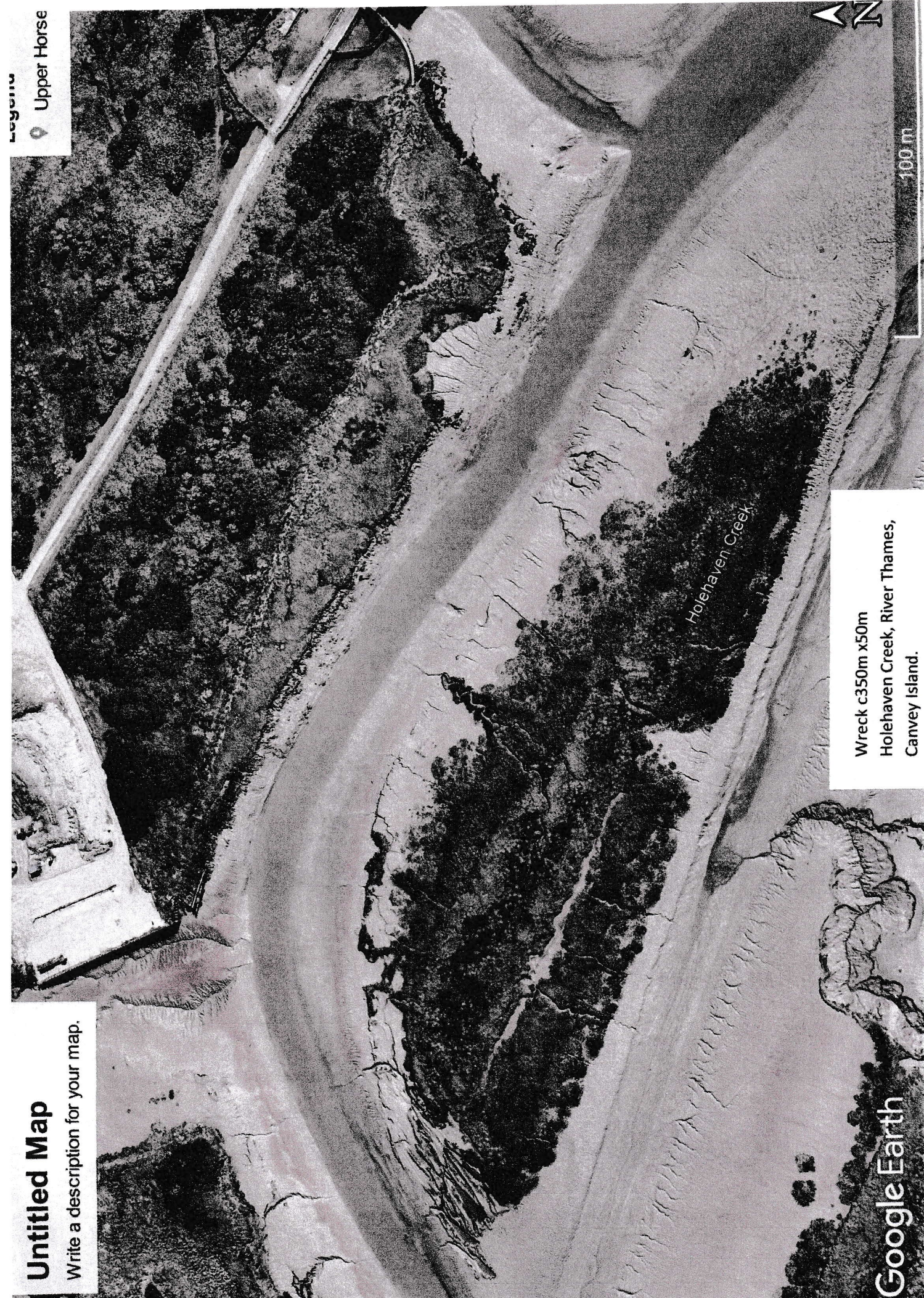
Legend
Upper Horse

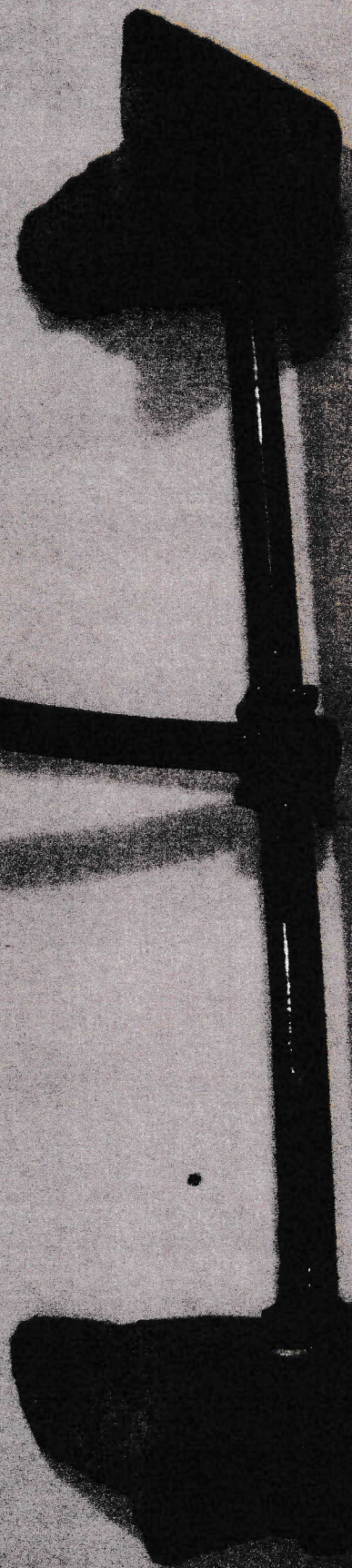
Google Earth

Holehaven Creek

Wreck c350m x50m
Holehaven Creek, River Thames,
Canvey Island.

100 m





(Model) CHINESE ANCHOR FOR JUNKS IN 120m 70m CLASS.

The anchors consist of two blocks of rock c 3m long and 0.5m wide, the blocks are shaped to form a fluke at each end. A square hole was formed at the centre of each block and the blocks connected by an 8m long wooden stock. The anchor cable (rope) was attached to the centre of the stock. The design ensured that two flukes always dug into the sea bed. This design was adopted as the modern ships anchors and far superior to the Admiralty anchor which only engaged one fluke at a time and poor to stow. The sections of worn / broken Chinese anchors were located off the Californian coast. This unique anchor design identifies wrecked junks.

T.C.Bell

Thomas Cedric Bell



Thomas Cedric Bell (who referred to himself usually as “Cedric Bell” and occasionally as “T.C. Bell”) was born on 21 April, 1931, and died on 10 March, 2025, at the age of 93. He lived in Sockbridge, Penrith, UK, but has family around the world, including in New Zealand. He worked as a Chartered Engineer, with eight years at sea from Junior to Second Engineer; he spent seven and a half years as a surveyor, around eighteen years as a Works Engineer, two and a half years with Delta Metal, Birmingham, that employed c. 1,000 employees, and 26 years with Castrol Oil, which employed c. 450 and was the largest Lube Oil Factory in Europe, where he worked around fifteen years as Works Engineer and eleven years as Production Manager and Deputy Works Manager.

Cedric Bell’s hobby was Roman, Chinese, Norse, UK, Irish and New Zealand history. Exploring rammed earth dykes, stone gateways, river navigation, etc., he spent c. 26 years working on Roman sites. He actually lived in an ex-Roman town that is still surrounded by visible Roman sites. He has written two long survey reports on Roman Penrith and its region (“Penrith's Roman Heritage”:

<https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.glenriddingcybercafe.co.uk%2Fdocs%2FTCBell%2FPENRITH%2520ROMAN%2520TOWN%2520EVIDENCE..doc&wdOrigin=BROWSELINK> and “The Route, the Guarding Forts & the Roman Towns and Cities and major highways it linked from Windermere to Ullswater & Penrith”:
<https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.glenriddingcybercafe.co.uk%2Fdocs%2FTCBell%2FHIGH%2520STREET%2520ROMAN%2520ROAD.doc&wdOrigin=BROWSELINK>), and another on Roman Scotland (“Scotland's Roman Heritage”:

<https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.glenriddingcybercafe.co.uk%2Fdocs%2FTCBell%2FPORTSOY%2520-%2520NORTH%2520SCOTLAND%2560S%2520ROMAN%2520HERITAGE..doc&wdOrigin=BROWSELINK>); he has also spent six years

training with the U. K. expert on Roman river navigation; he has given c. 150 site survey reports to U. K. museums and libraries. In addition, he has written a survey report comparing Roman with Chinese engineering and another on Roman and Chinese river and canal engineering. He also researched the ancient Chinese canal in Nicaraguan, which linked the Caribbean Sea to the Pacific Ocean (pre-Panama Canal). The actual survey on site was carried out by Col. John Blashford-Snell, Britain's best-known explorer. Cedric Bell's surveying experience extends to one survey on Cape Breton Island in Canada, five surveys in New Zealand, one in Ireland, and hundreds in Scotland and the Isles, and Northern England over a 30-year period. This includes using magnetic anomaly survey (MAS) and hiring expert geophysics surveyors.

Unfortunately, Cedric Bell was largely ignored by the academia and governments he reached out to. In fact, his notes mentioned which of the sites he found ended up being deliberately destroyed.

Cedric Bell carried out these surveys at his own expense for no monetary gain. He did not seek fame either. His dedication came from the love of finding the truth. He was generous to people who shared the same faith with him by patiently explaining his findings and mailing his survey reports to them. Cedric Bell's discoveries and spirit will live forever in our minds and hearts through his memorable words:

We can but leave our stepping stones for others to follow.

It is hoped that publishing these surveys will attract people with an open mind to view information not publicly available before. It is hoped that this information will not be used to deliberately destroy other sites and instead will further Cedric Bell's theories, whether to confirm or refute findings with more modern methodologies.

Cedric Bell's ORCID ID, for contacting researchers working in this field (and who knew him), is <https://orcid.org/0009-0002-1189-3433> . We will happily answer your enquiries on Cedric Bell's behalf. Cedric Bell and his estate own full copyright to all his works.



Bell's ORCID ID