

SCOTLAND'S ROMAN HERITAGE

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T.C.Bell

This (Web) book (Less photos & maps. 489KB) is a summary of Roman mainland sites located over a decade of surveying. The surveys are by an engineer following a Roman engineering trail in Scotland, from Drumlanrig Castle, Dumfries, to Ullapool and Sutherland, along the Great Glen to Inverness, to Spey Bay on the Moray Firth and up the Spey to the Cairngorms. From Elgin, Cullen and Portsoy, to Cramond, Edinburgh and Penicuik.

Most of these surveys are over areas which the Historical Establishment claim the Romans never ventured, let alone settled. The surveys include details of the Roman towns located and one lovely amphitheatre at Cullen, Moray Firth, probably the most northern and most complete of any provincial theatre in Britain. Also detailed are many forts and even three enormous fortresses located. Detailed is also the site of the actual battle of Mons Graupius where the Roman killed 10,000 Caledonians, and the locations of two mass burial sites containing c 5,000 inhumations.

The Ullapool site includes traces of the Chinese, also discussed in both Penrith's Roman Heritage and Arran's Roman Heritage. The Chinese traded and transferred technical information with the Romans from 170BC. The Roman engineering trail on the Islands of Skye, Mull and Arran are covered by separate publications.

Tacitus Roman Historian said (of Scotland), “We held it all, then let it go”.

Emperor Severus said (of Scotland) “ We reached the very end”.

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SCOTLAND'S ROMAN HERITAGE.

Including MORAY FIRTH, CAIRNGORMS & LOCH NESS TO SUTHERLAND

Originally Three Roman Harbours on the Moray Firth.

Portsoy, Cullen & Spey Bay

Amateurs talk about tactics, but professionals study logistics.

General R.H.Borrow (Commandant US Marine Corps).

This publication does not claim to be a Roman history of Northern Scotland, the original sources simply do not exist. Nor is this publication a blow by blow account of possible Roman campaigns, nor of excavations. My objective has been to record the previously unrecorded major Roman sites that I have located in many years of surveying in main land Scotland in one publication. The surveys of the Scottish Islands will be left as separate island publications. The large number of unrecorded Roman sites I have located in Scotland is evidence that the accepted Roman history requires revision. I have also endeavoured to highlight the use that the Romans made of the Scottish rivers to form transportation highways, as this does not appear to be understood in most archaeological circles. Even more unbelievable is the virtual absence from the Roman histories of Scotland of the sole reason why the Romans invaded Scotland, ie to exploit the metallic minerals, gold, copper, iron, lead and silver. As in any commercial mining operations, when the easily accessible deposits are exhausted, the locals hostile and other such deposits are available elsewhere, with shorter and easier to guard communication routes, then the loss making expensive operations are closed down. So the Romans left mainland Scotland and concentrated on their other metallic sources in England, eg South of Hadrian's Wall, the Lake District, Pennines, Wales and Cornwall and probably some of the Scottish islands, and as Chinese records tell us, also purchased iron from China.

I certainly do not claim that this publication contains every previously unknown Roman site in Scotland, to locate every Roman site one would require unrestricted access to a huge area which would take several lifetimes, even then it would be inevitable that many sites would be missed. Since my retirement I have spent 17 years following the Roman engineering trail, with the last 7 years combined with researching the Chinese trail in New Zealand and Nova Scotia. Six of the early years were spent in association with the late Ray Selkirk, a brilliant archaeologist, tutor and the UK's expert on the Roman use of water for transportation. We both had a Merchant Navy background, he as a navigator, I as an engineer. My 47 years of engineering from marine, foundry, surveying, works and production have been of great assistance when on the trail of fellow Roman marine and civil engineers. I owe many of the successful surveys in Scotland to the expertise of Dr

Andrew Bell, geologist, tutor and friend. Not being immortal, I decided it was time to record what I had located over the years, before it was too late and leave the rest to others.

To those who wish to read in detail the “Known” Roman sites, access the RCAHMS computerised data base and for the “Best guesses” of the details of Roman military campaigns in Scotland I suggest you read Lawrence Keppie’s “Scotland’s Roman Remains”, Gordon Maxwell’s “The Romans in Scotland”, or Ian Armit’s “Scotland’s Hidden History” whilst this is primarily a record of Scotland’s Pre History sites, it also

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contains one interesting references to the earliest record of Roman trading in the Orkneys. These author’s “Best Guesses” re the Roman campaigns in Scotland are mainly based on the position and size of the many Roman camps, many being reused in successive campaigns and also the coin losses / finds. The details of Governor Gnaeus Julius Agricola’s campaigns are based on the writings of Roman historian Corneliius Tacitus, by chance, Agricola’s son in law. Sadly, it is virtually impossible to reconcile the name places quoted by Tacitus with present day names. For a very detailed examination of the ancient known references to the Romans in Britain, the only book of merit has to be “The Place Names of Roman Britain” by A.L.F.Rivet and C.Smith. Britain was firstly invaded by Julius Caesar in 55Bc and again in the following year 54BC. The next invasion of Britain was by Emperor Claudius in AD43, this occupation was to last until cAD410. Governor Petillius Cerealis (71-74) is reputed to be the first to campaign in the north of Britain, but how far north is not known. Governor Julius Frontinus (74-77) who followed him, appears to have spent most of his time subduing the Welsh. Gnaeus Julius Agricola returned to Britain as governor in cAD 77, having previously commanded the 20th Legion in Britain. It is recorded that from AD 79 – 83 he campaigned in Scotland, reaching the Spey and accordingly to Lawrence Keppie, possibly further north. Interestingly in AD79, Vespasian is also recorded in the Chinese sources (Dr F.Hirth China and the Roman Orient) as having banned the export of iron from Rome, presumably their easily available sources were being worked out. One wonder if the full invasion of Scotland (as opposed to the creation of the Cullen, Portsoy enclave), was a result of Rome’s shortage of iron.

Scotland appears to have been occupied in some form up to the Roman withdrawal under Trajan (AD 98-117). Tacitus stated “We held it all, then lost it”, this infers that all Scotland was occupied for some period. The 70mile long Hadrian’s Wall construction commenced in c AD122. Under emperor Antonius Pius (AD 138-161), governor Lollius Urbicus re-occupied part of Scotland and constructed the 37mile long Antonine Wall in AD142-143, from Glasgow, to near what is now the Firth of Forth Road Bridge. Roman occupation of the Antonine Wall is claimed until c AD156, or even c180AD by coin finds. In AD209 emperor Severus invaded Scotland and waged war very successfully for four years, as the peace lasted for a century. Severus died in 211 at York. Whether parts of Scotland were occupied for the next 100 years and if so, which parts is not known. Or did they retreat to Hadrian’s Wall having arranged treaties with the Caledonians. The late Prof Anne Robertson, a Roman coin expert considered that there was a second century occupation of Scotland and in some places eg Cramond, a third century occupation. Anne Robertson’s exhilarating (her words) exceptions were the first century Roman coins found in the Aberdeenshire and Moray areas, areas which the historians claim were not

occupied by the Romans. Later in this publication I have presented information based on Tacitus's own records which raises doubt on the accepted sequence of Governor Agricola's operations on the Moray Firth. This is coupled with the finding of a Roman enclave on the Moray Firth, in which the Romans exploited iron ore at Cullen and Portsoy. This enclave was in existence long enough for the Romans to have constructed a town and harbour at Portsoy, complete with a theatre and also a town and harbours at Cullen and even constructed a lovely amphitheatre, probably the best remaining provincial one in Britain. The Romans also constructed a town at Elgin and a theatre,

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now partly under the cathedral, Elgin was supplied via a deep sea harbour at Lossiemouth.

SCOTTISH ISLANDS & IRELAND

The first written reference to sea voyages around Britain was by Pytheas a Greek c2,300 years ago (Barry Cunliffe), he also commented on the Cornish Tin trade. (Gold has also recently been reported). Tacitus recorded that the Roman fleet sailed around Scotland. To encircle Scotland, the fleet's navigators must have been aware of the existence of the Scottish islands. Interestingly Dr Ian Armit in his "Scotland's Hidden History", refers to a Roman historian stating that the King of Orkney submitted to Emperor Claudius in AD43, during the invasion of Britain. Recent excavations on Orkney have located Roman amphorae dated to this period. This proves that the Roman navy was operational around the north of Scotland around AD 43. My surveys have located Roman ore exploitation and occupation on the Isles of Arran, Mull, Lewis and Skye. In Ireland, our survey ran from Dublin to the City Of Galway and located several Roman forts and fortlets. In Galway Bay, one Roman fortlet's walls had most of the 2m high stonewalls in place. Another coastal fort by Galway City had visible foundations of a granary compound alongside the platform of a fort, alongside on the shore was a clear outline of a deep sea harbour, a 100m inland was the now reeded harbour for provisioning the fort. British Archaeology No14 1996 reported a Roman fort in Drumanagh, near Dublin. My survey of Ireland's finest coastal fort, Dun Aengus on Inis More, Aran Islands, Galway Bay, possibly built c 800BC by the Phoenicians, showed that it had been modified by the Romans to form one their strongholds. Extensive iron ore exploitation was adjacent.

The surveys commence on the Moray Firth, a beautiful part of Scotland which many visitors to Scotland bypass, then up the Spey, northwards via Loch Ness to Sutherland, then via Argyle to Drumlanrig, Dumfriesshire and eastwards to Penicuik, by Edinburgh.

The ROMAN TOWN OF PORTSOY.

PORTSOY, (Explorer Map 425, NJ59-66) is c21 mile due east of Lossiemouth. The town's origin is lost in time, but we know from Dr Greig's Portsoy Manuscript of c1843, that by 1550, it had grown so large that Queen Mary created it a Burgh of Barony. Sadly, the only known history of the town, titled "Bonnie Portsoy", by James Slater, is no longer in print and unobtainable. Her Majesty's Stationary Office's (HMSO) publication, Aberdeen and N E Scotland, notes that Portsoy was one of the oldest fishing and trading ports in the region. Taylor's Military Roads in Scotland, lists that in the 1750s, Major Caulfeild, General Wade's successor, constructed a military road from Huntly to Portsoy.

This was also the line of a Roman road, presumably the stonework was recycled by the Hanovarian troop. Yet further confirmation of importance Portsoy to the military and for trading over hundreds of years. Finds of iron cannon balls at Cowhythe, (also a Roman fort site), east of the town, on the line of an EW Roman Road, are further confirmation of the strategic importance of the route and it's use during the Jacobite-Hanovarian periods. Name origins are always of interest, soy in Scot's means silk. Portsoy's marble is really serpentine, in geological terms an ultra mafic, an igneous rock, rich in magnesium and iron, sometimes associated with fibrous asbestos. One wonders if in ancient times the port was known for it's silky asbestos fibres?. Asbestos was highly prized both by the

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Romans and the Chinese, it is thought that one use was to contain the ashes during cremations and another for wicks for oil lamps. The Portsoy Manuscript describes a church as being built on Portsoy Hill, alongside the school. The church and present day Portsoy school were constructed on a Roman fort platform, c 130m x 50m, (NJ59005-65762). The platform was probably constructed with spoil ex the excavation of the adjacent Portsoy loch. Originally this loch would have formed the puddle clay lined Roman harbour from which the fort was supplied. Later the loch was used as the head water to drive a waterwheel near Bleach Green. One of the probable five double gateways to the fort, is still visible as a large indented mound at the loch side (north) of the school, at the opposite end to the existing school gate (also site of a fort gateway). The foundations of the gateway towers are still in place. The hill to the west of the playground also contains a Roman fort, the outlines of the ramparts and the raised road (agger) which accessed the fort, are clearly visible.

ROMAN PHAROS, (LIGHTHOUSE).NJ 59225-651045

Adjacent to the cemetery is a man made earth mound c15m high. Access to the upper level is either from the modern upper level road or from the sea front, via an iron gateway and curved path. The upper narrow access to the tower platform was originally walled and gated, the platform contains the foundations of a solid stone platform designed to support a tower and wood fired beacon. One can but presume that this was a Pharos (Lighthouse) constructed to guide the Roman vessels to Portsoy's first stone harbour, sited on the sea shore, north of the present cemetery, by the old rope works. On the landward side of the Pharos and built into the mound, is a small stone lined semicircular room containing a well, called St Combs's Well. A scan was run on both sides of the mound, this located the distinctive Roman aqueducts, one supplying the spill well from the Portsoy burn and one carrying it's spilled water away to the nearby burn. As the aqueducts run under the edge of the man made tower, they had clearly been part of the planned installation. Possibly the well was provided to supply vessels in the harbour.

PORTSOY'S ROMAN TOWN & It's INFRASTRUCTURE..

General Roy's map of the area 1745-55 marked the site of the Roman town in red. The Burn of Durn flows to the east of the town, between the western face of Cowhythe Hill and the cemetery, but, instead of flowing straight into the sea, it swings westward, around the rear of the remains of the rope works buildings, before returning northwards to the sea, under a small bridge. Presumably the burn was diverted by the Romans to form a defence for the 60m x 30m fortlet (NJ59330-66021) and a 70m x 30m compound (NJ59324-

66045) which they sited here. The granary compound contained six of the town's 20m x 10m granaries, their foundations are still in place.. The only buildings now visible on this site are the ruins of houses and the old rope works. The second cottage from the west end, was constructed on the foundations of the fortlet's own granary, identified by the remaining buttresses. The foundations of the fortlet's toilet and washroom each c 6m square, are still by the bridge. (NJ59296-66075) over the Burn of Durn. Standing on the green, (car park) with the sea to the left and the ruins of the old rope works to the right, one can view two prominent tracks angling up the hillside, these were originally paved Roman roads, constructed to access Portsoy's Roman town, (NJ595- 659). The faint

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remains of a third road can also be seen angling up the cliff, north of the green. The town covered c18ha (43acres) c600m x 300m and was constructed on a well drained site sloping westwards, overlooking the bay and the modern cemetery. The best preserved section of the town's defences can be viewed from the Roman road on top of and flanking, the Links Bay cliffs and the western face of the Roman town walls. This cliff top road was constructed to access the adjacent iron ore workings and the west facing small bay, via two ramps. A set of ladder locks enabled small punts to operate between the bay and a cliff top harbour. High tides prevented an examination of the small bay for evidence of a deep sea harbour. The cliff top road, external to the town's western defensive wall, the most vulnerable section of the town's defences, was also walled on the cliff side. The 1.2m wide town's walls were constructed on cobblestone foundations which overlapped (inverted T) the walls. The stonework of this wall now lies at the base of the cliffs, several of these boulders have angled cut outs, evidence of their use for construction. It seems likely that the remainder of the town's defences were formed from a combination of stone and rammed earth dykes (walls). Fortified gateways controlled the movement through the walls. The three roads on the western face, were used by the town's occupants to access the harbour and the public toilets and wash room. The toilets and washroom were sited on the raised narrow platform (NJ59445-66059) alongside the green and car park, by the rope works. The foundations of the 52m x 12m toilet block buildings are still in place. At the bottom of the road, after nearly 2,000 years, are the remains of the defensive dyke which protected the entrance to the toilet blocks. Water was supplied by an aqueduct from the nearby burn, firstly to the wash rooms, then the toilet blocks, finally to the harbour, none was wasted.

The town was divided into sections by walls and internal roads, one of these paved roads, rising eastwards from the green, is still in use as a footpath. The sites internal roads are still being exposed by ploughing. From a point half way up the hill, viewing southwards, approximately two thirds across the field, a whale back shaped mound can be seen, between two electricity poles. This standard whale shaped mound, was the site of the Roman town's forum (shops) and basilica (town offices), nearby would be the temple. The occupants of the town were housed in insulae, each c70m x 10m, with one paved and 10 unpaved rooms, the civilian version of army barracks.

If the walk is continued around the N-S section of the track, it then joins what was the main east –west Roman road, turning westwards to “New” Portsoy, one comes to the bridge, NJ59250-65850, over the Burn of Durn. This burn was canalised, forming a

transportation highway and linked the main harbour to Portsoy Hill fort (school site).

From the bridge over the Burn of Durn, a footpath leads back to the shore. A local resident, Davy Davidson, informed me that immediately south of this bridge, the Romans constructed an externally walled small “D” shaped theatre, NJ59180-65780. A scan over the auditorium showed that the terraced seating had run down to the stage which was constructed alongside the Burn of Durn. Whilst there is little visible evidence left, stonework of one of the terraces has been exposed by an animal’s digging.

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From the bridge over the Burn of Durn, the Roman road, now a track, ran westwards uphill to join Seafeld Rd, Portsoy’s major road, the original Roman road ran on the same line. The Roman road ran along Seafeld Rd, then Durn Rd and past the immaculate bowling greens, heading eastwards, with a spur to the school fort. From a viewpoint by the bridge over the burn, one can also view the raised road (agger) in the adjacent field on it’s route down the hill towards the Roman harbour.

The Romans used the burns as transportation highways, their craft similar to punts were c 4.5m long x 1m beam. Uphill navigation, sadly regarded by some archaeologists as impossible, entailed constructing a series of ladder locks up the burns, similar in design, but a lot smaller than the Neptune Staircase at Fort William. Firstly they constructed a series of dams up the burns, this raised the water levels between the dams, then they constructed a series of locks to by pass the dams. To assist the speedy filling of the locks, aqueduct fed water storage pounds, lined with stone, bedded in puddled clay, were sited alongside the locks. Similar pounds can still be seen along the line of the canals flanking the vallum (earth walls) south of Hadrian’s Wall. These canals linked Newcastle to Carlisle. The navigation of wider rivers was accomplished by cutting a linear island out of the river bank, then constructing a lock between the linear island and the main land bank. A weir was then constructed, inclined down stream, to the nose of the linear island. The weir forced the river into the locks between the island and main bank. These linear islands can be located on large scale maps and used to plot the routes of the Roman operations through Britain. In larger rivers the Romans used craft c10m long x 3m beam.

PORTSOY’S ROMAN HARBOUR

Portsoy’s Roman deep sea harbour (NJ59334-66084) c150m x 50m, was constructed north of the present cemetery, between the camp site bridge and the hillside. The harbour was designed to handle 30m x 6m, deep sea vessels. The harbour cannot be seen, but it’s sand covered stone foundations are still in place and have been located by a magnetic anomaly survey (MAS). Internally it was divided into sections, each capable of being isolated from the adjacent section. Each section could be accessed via 10m wide entrance locks, each with a sill, and one stone arm running out to sea for c 30m. This arm enabled vessels to berth alongside and held against wind and tide, lined up, then hauled into the harbour. It is probable that the harbour was accessed from half to full tide, the sill retaining sufficient water in the harbour to keep the vessels floating at low water. The late Raymond Selkirk’s book “On the Trail of the Legions”, has an illustration of Birkenhead’s Roman harbour with such a tidal sill, discovered when the present docks

were constructed in the 19th century. At Portsoy, and every Roman deep sea harbours I have located, a large aqueduct ran from upstream of a dam across the adjacent burn, flanking the landward side of the harbour, with connections into each section of the harbour, this flow maintained the water level in the harbour and flushed out sand.

PORTSOY'S DEFENCES

The town's natural defences consisted of the cliffs to the north and west, combined with the steep sided valley formed by the Burn of Durn. The harbour was defended by an adjacent fortlet NJ59330-66021, the major fort, now the school site, protected the south

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west, another fortified site (NJ592-649) was situated at the junction of the A98 and the B9022. The outer defences were provided by a pair of rammed earth dykes which ran to Huntly. At Cowhythe, 1km east of the town, a small fort guarded the eastern defences and controlled the gatehouse on the E-W Roman road. (NJ606-655). This fort, within a private estate, is quite unusual, sections of the original ditches and its supply canal fed from a nearby spring, are still visible. The fort was garrisoned by 320 men housed in four barracks. An annexe of six further barracks provided accommodation capable of housing 480 men, a cohort of troops on the move, an ancient hotel. A beautifully made model Roman chariot carved in bone and covered in gold leaf, the only one ever found in Britain and three slingshot balls, two of baked clay and one of polished stone have also been excavated on the site. One wonders if the several 3-4lb iron cannon balls also found on this site, belonged to Bonnie Prince Charlie's gunners bivouacking on their way to Culloden, or the Hanovarian army in hot pursuit. I have lodged two similar balls ex Bonnie Prince Charlie's army, in the Border Regiment's museum at Carlisle Castle. Units of the Jacobite army passed through Sockbridge, Penrith, where my wife and I located the balls on the river bank, on their way south to Derby. They retreated via Clifton, Penrith, the site of the last battle on English soil. The Jacobites held the field, protecting their artillery's escape, before retiring north. Jacobite General, Lord George Murray's, account of paying his soldiers to carry cannon balls up Shap (pass) in their kilts, makes fascinating reading, his gunners appeared a mite careless with their ammunition.

A recent aerial survey of the Cowhythe area by Scotland's Royal Commission for Ancient Monuments highlighted the existence of an eight sided Romano Celtic temple alongside the Cowhythe Roman fort. Possibly this was the temple for Portsoy's Roman town's cemetery. The town is immediately to the west of Cowhythe fort.

THE REASON WHY THE ROMANS BUILT PORTSOY'S FIRST HARBOUR.

Westwards from the Portsoy Marble warehouse and eastwards from the cemetery, one can view many sections of unnatural inroads to the cliff faces, and boat sized cuts through the rocks lining the shore, all indicative of man's operations. There are four distinctive components to the area's geology; Dalradian sediments which have been intensely metamorphosed and an igneous complex of gabbro and granite plutons, overlaid by the Devonian sedimentary succession, which in turn is overlaid by the Permo Triassic succession. The geology includes the presence of iron ore, presumably the Roman's prime objective. Not to be forgotten is Portsoy's attractively coloured and marked green

“marble”, also known as serpentine or soapstone. In Roman times this soft green material would have been very much sought for carving small statues and oil lamps, possibly the visiting sailors provided a tourist trade. Buy your souvenirs of Scotia here..

ROMAN DEFENSIVE LINES (DYKES). FORMING THE MORAY ENCLAVE
My surveys have located a complete Roman defensive line, flanked by the A96, westwards from Huntly, via Keith, Fochabers, Elgin, Forres to Inverness. The defence line possibly also runs eastwards to Aberdeen, this section has yet to be surveyed. The defensive line consist of parallel rammed earthworks (dykes) built on c6m wide cobble stone bases, with an external 6m wide ditch. This design was the standard Roman frontier

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defence and is similar to the “Vallum” which flanks Hadrian’s Wall to the south. The construction of Hadrian’s Wall was a complete change in Roman Frontier design, it is very likely that it’s design is the result of Chinese influence. My overseas surveying experiences on Chinese sites has enabled me to locate and identify a complete Chinese double walled and turreted town near Hadrian’s Wall and Carlisle’s Airport, (and similar on Arran) this suggests that the Chinese certainly had an input to the Wall, needless to say, one not recognised by either the Romans, (ie all our own work !) nor the modern day historians and archaeologists. Interestingly, recent German research (S. Heaensch, Gutenberg University. NY Times Oct 2010) has shown that the Great Plagues which decimated Europe originated in China. Byzantine historian Procopius recorded in 541AD that the Justinian plague originated in the Egyptian port of Pelusium. Further proof of the presence of Chinese ships in the Mediterranean. Even in Pompeii, destroyed in AD79, one wall of a building contained a carving of a Chinese junk. Obviously a known shape.

Whilst rammed earth walls are easily ploughed out and disappear from view, fortuitously their cobble stone foundations are below plough depth and retard settlement, unlike adjacent areas, sometimes a ridged line is formed indicating the line of the dyke, it was such ridge lines which provided me with the initial clues to the dykes. Magnetic anomaly scans over the ridges and confirmation of overlapping stone foundations confirmed their Roman origin. Surveying along the line of the dykes was eventually rewarded by sight of the raised platforms of gatehouses or fortlets, further proof of the defence line’s existence.

From Huntley a further defence line, of the standard double dyke design ran northwards via Glenbarry NJ555-556 to Portsoy, forming a north – south defence line. The route is now flanked by the B9022. From Glenbarry, an inner defence line ran westwards flanking the A95 and south of Knock Hill to link up with the Huntley to Keith defence line. A similar north- south defence line southwards from a point between Portknockie and Findocherty through Baud’s Wood and over the pass between the Bin of Cullen and Hill of Maud. The projection southwards of the defence line would run just south of Deskford to link into the Glenbarry to Keith inner defence line. This system of inner defences created an enclave in which the Romans exploited the iron ores in the cliffs around Portsoy, Cullen, Portknockie and Findochty.

ROMAN DEFENCE LINE. (Dykes) HUNTLY to PORTSOY.
These dykes flanked the western side of the B9022. Each modern side road, west of the

B9022 bisects the route of the dykes. A scan along each of these side roads located the presence of the dyke's cobble stone foundations, the positions were then logged using a ground positioning satellite (gps). The following are the dyke's map references surveying south to north; Explorer Map 425. House and farm names along their routes provide further confirmation of the original dykes being visible within the last few hundred years..

Bin Forest NJ52618-42219,

"Dykeside" NJ52075-46640. A significantly named homestead. The platform of a fort can be seen overlooking and guarding the site of the Roman bridge and the line of the dyke over the R. Isla and possibly another bridge at it's nearby confluence with the R. Deveron. Invariably bridging points are reused though the ages, the latest bridge is an

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oddly designed railway bridge.

Crossing B 9117 NJ53879-49774 line of dykes.

Knockdhu Distillery NJ54630-52823 The now disused railway ran over the western dyke. The eastern dyke NJ54759- 52715 has a prominent mound of a gatehouse alongside the side road to Knock. A road side gatehouse mound can be seen at NJ55360-53769 Glen Barry. See Mons Graupius. (NJ55450-54550) Odiquill Church NJ56511-55625 was constructed on a Roman fort platform. A ramparted area, possibly a fort or settlement, lies immediately to the west, marked Kirkstown on the OS map. The adjacent burn was canalised by the Romans. Some 2km south of Odiquill Church at NJ6750-5385 is Battlefield Farm, somebody else who is positive this was the site of Mons Graupius.

The line of the dykes continued across the side road west of

Brodiesord NJ56686-59965 and flanked the B9022 to the west, passing another "Dykeside" homestead at NJ577-619 and the nearby "Dykehead Smithy", both names indicative of adjacent, but now vanished dykes, but whose foundations are still in place.

Damheads NJ 58143-63353 and 58288-63285. Line of dykes

Immediately south of the junction of the B9022 with the A98, the dykes cut north westerly across the B9022 and the A98. The platform of a fort is visible at this point NJ59200-64900, presumably this fort formed the south-east lock of Portsoy's defences. From this road junction the dykes appear to run north –east to Cowhythe Fort NJ6056-6540. A gatehouse situated on the Roman Road, now the line of the modern road, on the south side of the fort, controlled movement into Portsoy from the east.

ROMAN DEFENCE LINE (Dykes). PORTKNOCKIE SOUTHWARDS.

Surveys between Portknockie and Findocherty located the cliff top foundations of a large Roman settlement protected by a double line of dykes, NJ47804-68502. Whilst the dykes have been ploughed out, their cobble stone foundations are in place and located by a scan. Projecting the defences southwards. A survey of the track leading into Baud's Wood alongside the A98, NJ 47800-66600, located a 100m long section of one of the two dykes flanking the track, it still stands c 2m wide and 1m high. Driving southwards via the Hill of Maud, to access the projected line of the defensive dykes, I was quite surprised to note the rammed earth dykes (NJ 47250-63750) flanking a considerable length of the southern side of the pass. These dykes scanned as having stone foundations projecting past the line of the dyke, ie an inverted T indicating Roman origin. The remains of the external ditches on both sides of the road are still visible. This appears to have also formed a fortified road route southwards, possibly from the Buckie or Gordonsburgh area.

Similar dykes can be seen alongside the road from Caerlaverock, a Roman port on the Solway, north to Dumfries.

A scan along the road between Braidbog Farm and David Bain's Croft Plantation, indicated the foundations of the parallel dykes and the infilled ditches at the edge of the wood OS height 134m (NJ49151-63251). The southwards projection of the defence line is via a point just south of Deskford, linking in to the Knock Hill and Glenbarry (B9022) inner defence line. The eastern end of this inner defence line locks into the Huntly-Portsoy north- south defence line at Glenbarry. The junction was probably controlled by the fort on which Ordiquill church was constructed. The A95 now runs on this East-West,

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superbly defensive position. In 1816 at Lectheston Farm, Deskford, in an old well, a carnyx war trumpet dated to the Roman period of the invasion of Caledonia was found, presumably one lost or captured during the nearby battle of Mons Graupius. This is the oldest surviving musical instrument in Scotland and is now in the National Museum of Scotland. Only five of these trumpets have ever been found in Europe, although widely used against the Romans.

A description of Knock Hill fort follows in the detailed description of the battle site of Mons Graupius. Robert Stuart In his book *The Caledonia Romano, A Descriptive account of the Roman antiquities of Scotland*, (1852) stated that near Deskford was the indistinct remains of a large rectangular encampment and c 400m of a paved road leading to it from the south east. General Roy also noted this construction. Robert Stuart recorded that Roman coins of Empress Faustina (Senior, wife of Antoninus, died AD141) and Antoninus Pius (AD138-161) have been found here. (Same dating as Antonine Wall)

The BATTLE of MONS GRAUPIUS & BOOKENDS, PORTSOY.

Wilma Woodin's "Bookends" in Portsoy, is a must for book lovers. A knowledgeable local historian, Wilma told me that she considered that the Glen Barry hill area NJ5545-5455 at the junction of the A95 – B9022, 11km south of Portsoy, overlooked by Knock Hill, matched Tacitus's description of the site of Mons Graupius. This is also the name of a local farm. This was a major decisive battle between the Caledonians and the Romans, under their Governor Agricola. There is evidence of defensive earth works on the lower slopes of Barry Hill, part of a range of low hills. I ran a series of magnetic anomaly scans at the base of the hill and around the road junctions, these indicated the presence of a large number of inhumations with a north- south orientation. The absence of kerb stones confirmed it was not a cemetery for Romans. The area of the mass grave was roughly 150m x 100m. A buried body, and or, the stain it creates when decomposing, generates an identifiable magnetic anomaly. This can be demonstrated in any church graveyard. It would appear that at the foot of Barry Hill a mass grave had been scraped out and all the bodies laid in lines, side by side and head to toe, as if to count them, then covered. The density of the scans at the foot of Barry Hill indicated that roughly 4,000 had been buried. A further large burial site (not a formal cemetery) (NJ52887-52171) has also been located immediately east of the minor road, Drumnagorrach (A95) to Shiel Farm, alongside a stone circle.

The road to Shiel Farm overlays a small Roman road. The reeded boggy area, west of this road, when scanned, indicated that it was the remains of a large puddled clay harbour. Little wonder that it was not capable of being farmed. The line of harbours would have been constructed to supply the forts on the inner defence line, the harbours connected by the Knock and Shiel burns to the River Isla. The River Isla was in turn connected via a canal through the Ryeriggs Bridge area to the Roman harbour at Spey Bay. Further surveys for burial sites are required to substantiate Agricola's claim of 10,000 of the "enemy" killed. One has to suspect the claim as victor's "Spin", that less than 500 of his own auxiliaries had died in hand to hand combat conditions, especially as Agricola stated his auxiliary troops had started to fall back under the Caledonians fierce onslaught, until

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his cavalry charged. One wonders if his own troops were buried in formal cemeteries. More surveys are required in this area. The author has located and surveyed many formal Roman cemeteries, ranging from those with a few hundred inhumations, to some with several thousand in them. Normal Roman cemeteries consisted of kerbed plots, c20msquare, each holding 40 inhumations in a 10x 4 configuration, not unlike sardines in tins, orientated North South, with each plot separated from the adjacent plot by 1m wide borders. The density and the numbers of the inhumations in both burial sites located confirms that a major battle, ie Mons Graupius, not a clan skirmish, was fought here.

MONS GRAUPIUS, HAS THE BATTLE BEEN CORRECTLY INTERPRETED?

Since Caesar's invasions of Britain in 55 and 54BC, the Romans had 90 years, prior to Claudius's invasion in 43AD to evaluate the country's mineral wealth, the reason why Rome invaded Britain. Rome's shortage of metallic ores was well known. Roman records indicate that Britain was mainly pacified by 60AD. The Normans also only took 20 years from their 1066 invasion to seize 80% of the Saxon Lord's lands. It is very likely that prior to the full invasion of Scotland c78-79AD, that coastal areas such as Cullen and Portsoy, rich in iron ore, already formed Roman mining and trading enclaves. The history of enclaves tells us that the Scots under Paterson constructed one at Darien, South America, the British one at Hong Kong and the New Territories, the Dutch at Cape Town, the Portuguese at Macau. None of these powers had invaded and subdued the complete hinterland of these countries. Historians, inhibited by claims that the Romans had never settled north of the Antonine Line, had not realised the existence of a heavily defended enclave on the Moray Firth. This enclave included initially, towns at Portsoy and Cullen, with settlements at Portknockie (and possibly elsewhere). Later the harbour at Spey Bay linked by the Roman Spey and its flanking canals, defended by dykes and forts, protected their transportation highways to their upstream ore exploitation sites at Newtonmore, Loch Morlich and Loch Garten. The immense infrastructures I have located within these areas, from harbours, towns, forts and defence lines, to even an amphitheatre, indicate that the Romans had been operating on a permanent basis on the Moray Firth for many years.

Dr Ian Armit in his "Scotland's Hidden History", pg 122, noted that Eutropius, a Roman Historian, writing in the 4th cent, recorded that the King of Orkney submitted to the Roman Emperor Claudius during his invasion of England in AD43. Excavations at the Orkney broch village of Gurness, located Roman amphorae of the same date as the

Roman invasion. This is further proof of Roman operations in the North of Scotland well before AD 79, the date it is claimed that the Romans invaded Scotland.

The KNOCK HILL EAST-WEST INNER DEFENCE LINE

The ore exploitation operations were so important to the Romans that they constructed an elaborate system of depth defences around them. An outer defence of double dykes and ditches flanked the now Elgin and Huntly road, with dykes running northwards to the east and west of Portsoy and Portknockie. On the south side of Knock Hill, flanking the now A95, the Romans constructed their inner defence line of parallel earth dykes, with forts at regular intervals. The stone walls of one of these forts, 160m long, Knock Hill Fort,

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(Knock Hill Farm), including the cut stone of the gateways, can still be seen from the roadside of the A95 (NJ53974-53799. Stonework of the fort's temple (NJ53981-53858) and toilets (NJ53971-53848) are visible, immediately to the west of the fort.

With the information generated from my surveys over three years of surveying, possibly we should re evaluate Mons Graupius. Tacitus, Agricola's son in law, recorded that Agricola fought the battle of Mons Graupius, cAD83 with his "Back to the Ramparts" after receiving assistance from the fleet. Historians have ignored the word "ramparts" as it did not fit in with their evaluation of the situation, nor apparently had they appreciated the existence of the huge Roman iron ore exploitation operations in Cullen and Portsoy. The current historian's claim is that Agricola and his army were fighting their way north. But, this does not fit in with the reality of the written, or physical evidence. The existence of the ramparts reported by Tacitus confirms that a permanent fortress existed. This appears to be further confirmation that a Roman enclave existed at Cullen and Portsoy, prior to Agricolas's campaign.

A far more likely scenario is that the Caledonians had assembled in strength, near Barry Hill, their objective being to destroy the towns and settlements of Portsoy, Cullen and Portknockie, which formed the Roman enclave on the Moray Firth. Not to do battle with the Roman army, which they probably had not realised was present in strength. Somewhat akin to the presence of the Panzer Division at Arnhem being unknown, hence the Allied 10,000 strong Airborne Division getting a bloody nose. It was September, the end of the campaigning season, possibly Agricola was already wintering within the enclave at the Oxhill Fortress. Probably the Caledonians had overcome the lightly held outer defences (dykes), on the Elgin – Huntly line, but were held at the superbly sited Knock Hill, inner defensive line, (Now A95). The Roman auxiliaries then advanced, from their Knock Hill defence line, whilst as Tacitus stated, the Legions stood with their backs to the ramparts. Whilst initially the Roman auxiliaries fell back, but then the Roman cavalry were then sent in and the Caledonians were heavily defeated, with 10,000 dead. Confirmation of this is from A.R.Birley's translation of Tacitus Agricola Germany, on page 25, Tacitus stated Agricola when deploying his army, "placed the legions with their backs to the ramparts". The only ramparts in the area were those of Knock Hill defences.

We will never know the true account of the battle, but the now known existence of the Moray Firth Roman sites, the Knock Hill inner defensive lines and the burial sites, puts

an entirely different complexion on the known events leading up to Mons Graupius. For a further account of Romans campaigns in Moray L.Keppie's "Scotland's Roman Remains" and G.Maxwell's "The Romans in Scotland", make interesting reading. Ian Keillar's "Romans in Moray" is also highly recommended, as Ian lives in Elgin, his book reflects a lifetime research into the Roman occupation of the area..

THE ROMAN FORTRESS OF OXHILL.

This site is 4km south of Portgordon and can be viewed and accessed from the B9016. For a closer look at the fort's harbours and ramparts, park in the Oxhill Walk car park. (NJ490-596). Wilma Woodin of Bookends, asked me, what are the strange shaped hills at

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Oxhill?. Whilst the majority of archaeologists will disagree, (they are the ones who also said that there are no permanent Roman settlements in Moray and Aberdeenshire). The hillside has been bulldozed (manually) to shapes similar to half whales, these are early Roman forts. Penrith's 600acre Carleton Fortress contains exactly the same design of fort, I have actually excavated the drainage system of one. The largest fortified sites are c 440m long x 180m wide with a rounded top. The rounded cross section provided excellent defence and drainage. Each modified site was walled and protected with usually, four external ditches, ie normal fort defences, and the complete site had an external wall and ditch. Each ramparted site contains the foundations of barracks, each barrack block is c45m long and contains 10 unpaved rooms c4m sq, plus one paved room for the senior officer. It is possible that they housed auxiliaries, not first line legionaries. The site ran from the car park north to Clochan NJ40157-60915. ie c 1,500m north- south and roughly 300m east- west. The site covers roughly.45ha (108acres). The Burn of Tyne which runs through the site was navigable, I suspect northwards it linked to the east end of the Spey Bay Roman harbour, southwards it linked to the River Isla via the gap in the hills alongside the modern Ryeriggs bridge. In flood or snow melt conditions the R.Spey would be un-navigable, a bye pass canal would be required, the canalised Burn of Tye would perform that function. In Cumbria, the major river the Eden, floods badly in winter, yet the River Petteril which parallels it, is navigable most of the year. So the Romans constructed several canals to link the River Petteril to the R.Eden and their adjacent sites.

The reeded areas alongside the Oxhill Walk mark the site of the fortress's harbours. The small circular reeded ponds, east of the path (NJ39894-59790) were aqueduct fed pounds which stored water for operating the canal locks. Walking from the car park, the path is at a lower level than the adjacent cottage's garden, at the garden's north end, a signal tower platform (NJ 59910-59649) towers over the path. Alongside the highest level of the path, near the modern road, the Romans constructed a cemetery. The foundations of a 12m x 6m temple (NJ39805-59753) for the cemetery, lie on the roadside (western) side of the path and the 20m sq plots of the cemetery lie on the eastern side of the path.

The Romans bridged the canalised Burn of Tyne between Blinkbonny and Tarymount (NJ39975-58357) the remains of the rammed earth dykes flanking the road can be seen just east of the now ford. The canalised Burn of Tyne ladder locked up to the Burn of Ryeriggs, as it passes over the watershed now called Ryeriggs Bridge. The reeded area immediately to the east of the bridge over the B 9016 (NJ 40112-55870) was a puddled

clay lined Roman harbour. The canalised burn eventually connects to the River Isla near Keith, presumably this canal was also used to supply the forts of the Knock Hill inner defence lines.

St NINIAN'S CEMETERY. (nr Chapelford Bridge)

This cemetery (NJ39102-59953) is 4km south of Portgordon and accessible from the B9016, via the Bridge of Tynet Road. From the field approach to the cemetery one can see that the land is raised alongside the NW end of the cemetery wall. Clear indication of a Roman agger (raised road). Inside the cemetery walls, near the chapel, there is a distinct N-S, 300mm high ridge. A none intrusive scan revealed the foundation

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of a dyke, alongside it was the foundations of a 10m wide Roman road running roughly north- south. In the, as yet, unused section of the cemetery, the foundations of a 20m square Roman temple were located. An aqueduct fed the unusually large immersion chamber (7m x 1m), which discharged to the standard 6m sq toilet block, situated adjacent to the northern wall. This was a wayside temple protected by dykes, designed to serve the road users. Presumably this was the route of the major road from Spey Harbour to Keith, via the pass, now the Bridge of Ryeriggs. The Moray authority in Elgin, have been notified of the Roman foundations in the cemetery. One can imagine their thoughts on receipt of my report and A4 colour photographs, first class postage etc, no expense spared. "We were taught that the Romans never got north of the Antonine Wall, Bell must be a nut case". Hence the absence of an acknowledgment. It was ever thus.

HUNTLY (Explorer Map 425)

Huntly is situated at the confluence of the Rivers Deveron and Bogie. Since Roman times and probably before, this site has been the key to the control of the east-west traffic. The Romans built two forts here, one is under Huntly Castle and the other under the Nordic Ski centre NJ5285-4080, on the Hill of Haugh. The site of this Roman Fort's harbour, west of the fort platform, is indicated by the depression alongside the River Deveron.

ROMAN DEFENSIVE LINE (The Keillar Line) HUNTLY to INVERNESS.

Surveys between Huntly, Elgin and Inverness, noted traces of an east- west Roman defensive works. The defence consisted of parallel earth dykes set on cobble stone foundations, flanked on the southern side by a 6m wide ditch. Whilst the dykes have largely been ploughed out, their cobble stone bases are well below plough depth and still in place. A magnetic anomaly scan across the projected route of the defence line, (which largely runs south of the A96 on a ridge), will locate the parallel lines of the cobble stone foundations.

The following OS references record the points where the survey sectioned the route of the defence line.

HUNTLY TO ELGIN (Explorer Sheets 423/4/5 refer).

Linnorie A97	NJ55269-39034SE of junction with A96. Visible platform of Gatehouse / fortlet opposite supermarket.
Cattle Market	NJ52071-39265. Not visible, foundations located by scan.
A96 Inschtammack	NJ49784-42588 Visible gatehouse platform alongside modern

road constructed over Roman road. Dykes run on 192degrees line
The name Tammack (tummock) would appear to refer to the
adjacent very pronounced dyke in a flat area.

Broadlands Farm. NJ48425-41230 Visible Roman fort platform east of farm between
Road and River Deveron.

Mill of Botary NJ46700-45200 Roman platform by Burn of Cairnie.

A96 NJ45458-45956 Dyke foundations located by scan.

A96/B9115 NJ44130-46130 Approach to Keith from east.

A96, East of Keith NJ44360-48332 Visible base of dyke in field west of side road to
“Bear” quarry.

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Explorer Sheet 424 refers.

A96 West of Keith NJ41014-51182 Side road Burnside. Dyke foundations located by
scan..

A96 East of Fochabers NJ39543-53110 Side Road to Bogbain. Superb example of a
visible agger (road base) running up to bungalow from Fochabers
to Elgin Roman to gatehouse controlling route through dykes..
Note original gatehouse stone with cut out alongside bungalow.

A96 West of Fochabers Loch Oire Road.

NJ28610-60486 Visible dykes both sides of road.

Loch Oire side road. NJ29249-60684 Roman fort platform south of road.

Interesting area worthy of further surveys.

Explorer Sheet 423 refers

A96 East of Elgin NJ24324-61895 Barmuckity. Dyke foundations located by scan.

ELGIN TO INVERNESS via FORRES. ROMAN DEFENCE LINES FLANKING A96
(See Forres for description of Roman Governor’s praetorium.) Explorer sheets 422/3
NJ18288-62638. Turn off to Aldrouchy Estate c3km west of Elgin. Fort above and
adjacent to A96 and turn off. The site is under trees so would not be located on an aerial
survey. The Roman Road flanking the A96 and the dyke defences runs thorough the fort.
The depression marking the site of the fort’s western gate is clear from the side road. The
southern dyke is separated form the fort by a large ditch. One link from the fort to a
gateway in the southern dyke, is visible at NJ184236-62564 roughly 200m along the
ridge east of the turn off.. This dyke overlooks the plain to the south, free stone is visible,
possibly the defences were constructed in stone in this region.

NJ14790-62890. 1500m east of Alves. Picnic Spot. Access road runs between the two
Roman dykes. The remains of the southern dyke are still visible.

NJ13755-61521. The dykes run to the south of the A96 and the railway by Easter Cloves.
The two defence dykes ran along the escarpment, the 50m contour line.

NJ09891-59976. Bodieshill. A tortoise shaped Roman fort platform lies between the
dykes and the A96

NJ07409-60179. Tortoise shaped forts visible south of A96. 1km west of Kinloss turn off.

ROMAN LINEAR DEFENCES WEST OF FORRES

NH98823-57128 Pronounced ridges in side road in line of dykes south of A 96 800m east of the Old Mill Inn.

NH84618-55082 The foundations of the two dykes where located crossing the access road from the A96, to the Caravan and Camping Club site.

NH83159-54085 The two dykes crossed the side road south of the A96 to Inverness.

NH81321-52820 The two dykes crossed the access road to the small housing estate, south of the A96 to Inverness. One of the dykes ran on a prominent ridge. This site was in sight of the built up areas of Inverness, through which it is virtually impossible to track the foundations of the Roman defence lines. Therefore I consider that it is reasonable to assume that the defence lines led to the River Ness and connected into the known (from

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previous surveys) Roman fortified sites around Inverness, the eastern opening to the Great Glen, a natural transportation highway via Loch Ness, a Roman lake. Roman forts have been located alongside Loch Ness, at Fort Augustus and Fort William. I have surveyed the route of the c60mile Roman frontier consisting of double dykes and a westward facing 6m wide ditch, from near Inverness via Nairn and Keith to Huntley. The defence loop from Huntley to Portsoy and Cullen and back is c40mile long. From Inverness to Aberdeen is c 106mile, roughly 33mile longer than Hadrian's Wall. From Aberdeen to Edinburgh is 125mile, so it's roughly 231mile from Edinburgh, via Aberdeen to Inverness. We also know that the River Spey was flanked by rammed earth dykes. Work of this vast quantity is indicative of a long term occupation.

ROMAN LINEAR DEFENCES in NORTHERN & WESTERN BRITAIN.

Only three major linear defence lines are ever highlighted in Britain, the Antonine Wall, Hadrian's Wall and Offa's Dyke. Besides the Moray Firth East - West Roman linear defences detailed previously, I have also located many others in North and Western Britain and have listed these for comparison. Hadrian's Wall, c 73mile long ran between the Solway and Newcastle. I consider that this was probably the final route of the four variations of east west defences I have located in this area, plus an extension North-Westerly, from Hadrian's Wall at Newtown, which then flanked the A6071 via Longtown, to a probable North Solway defence line to Dumfries, the section west of Longtown has yet to be surveyed. North of Carlisle Airport is the Chinese town of Laversdale, with the foundations of multi towers, double earth dykes, two with visible stone cores laid in herringbone pattern. The inhabitants lived in three roomed houses, all guarded by a double walled fort with external towers. All standard Chinese construction. Presumably this town housed the Chinese workers engaged on Hadrian's Wall. One would not expect to find records of the slaves or sub contractor's work on the Wall, only records of the work of the Legion's cohorts. I have also located a previously unknown Roman town and small fort at Housesteads, south of the car park, also a small fort west of the museum.

The Antonine Wall c 37mile long, ran between Edinburgh and Glasgow. Offa's / Wat's Dyke ran from Liverpool Bay (Prestatyn) south, to the Severn Estuary (Chepstow). Amusingly J.B.Jones's Offa's Dyke Path says its 149mile long, Keith Carter's Offa's Dyke Path says it's 177mile (285km) long and Blake and Lloyd in The Keys to Avalon, say it's 150mile long, whilst this fascinating book is mainly re King Arthur and his historical connections to Llangollen, North Wales, there is a very interesting Roman

reference. Blake & Lloyds quote many historical references to support their argument that Offa's Dyke is really the 132 mile long, North to South defence line built by Severus. One reference, a fourth cent Roman text, *Scriptores Historia Augustae* stated that besides Hadrians and the Antonine Walls, a third was built, the Wall of Severus, sometimes known as, the Wall of Guaul. Lake and Lloyd also located St Jerome's 4th cent translation of the Greek Chronicle of Eusebius of Caesarea (c320 AD), this stated that Severus built a wall 132 mile long, from sea to sea. Blake and Scott also state that "The Wall of Severus" is also mentioned in the Welsh Brut, ie that Severus built a deep ditch between Deifyr (Deira, Cheshire) and Alban (Powys). Blake and Lloyd's contention is that everyone who has seen the reference to a Wall, had assumed that it referred to Hadrian's

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Wall, and ignored the quoted length of 132mile. None of the many Roman defence lines I have located satisfy both a North-South Sea to Sea route and c132m length, although they have to be placed in the list of possibles. So I can but agree with Messrs Lake and Lloyd that Offa's Dyke is the Roman defence described in many ancient documents and was constructed by Severus.

The short section I examined of Offa's Dyke SJ 24-02 situated on a ridge, just south of Buttington, Welshpool, (an ore exploitation area), was certainly of Roman origin, with an overlapping cobble stone base, adjacent Roman fort and also a standard Roman gatehouse (visible stonework) set away from the dyke with a walled passage to it. I have located other examples of extended gateway passages on both Hadrian's Wall and the Solway vallum. For interest I surveyed along two modern roads which both bisected through this section of Offa's Dyke, c1000m to the east, I located the foundations of double dykes with an internal canal of Roman design. This suggests that the Roman first defence was a standard double dyked canal defence, ie as the Antonine Line, a fortified canal zone, with the dykes ploughed out and the canal infilled, but leaving the dykes foundations and the flanking aqueducts of the canal in place, generating magnetic anomalies. Possibly later a final defence now called Offa's Dyke was constructed further to the west. As Hadrian's Wall, "North" of the River South Tyne is the last of a series of defences, the first being "South" of the River South Tyne and running through Hexham.

Antonine Wall. Many books are available on this construction. Sadly none of the authors of the books I have read, have appreciated that the ditch was constructed as a canal. The water also formed a defensive barrier. This all weather, defended canal, linked the east and west coasts and also supplied all the guarding forts en route. The canal linked and collected water from the bisected burns, these being also canalised and connected into the flanking waterways. Eg At Rough Castle, via the Rowan Tree Burn to Bonny Water then to the River Carron. The Forth and Clyde canal construction could well have destroyed evidence of a Roman flanking canal around Castle Hill (NS71-76) and other areas. My surveys around Rough Castle showed that the wide ditches around the fort, frequently referred to by archaeologists, are actually harbours, even the feeding aqueduct them was located. The canal detail was identified by the flanking aqueducts and even in one section by the visible bottom aqueduct. In discussing the Antonine Wall with archaeologists, I am always faced with their inability to appreciate that Roman forts were supplied by canals and that Roman canals could go uphill, if a higher water source was available..

In my original book “Three Roman Harbours on the Moray Firth”, I recorded that I had located sections of Roman dykes from Loch Garton (Ospey Centre) to the River Spey and also down the River Spey. It appears that the Romans flanked the River Spey, a major transportation highway, vital to their up stream ore exploitation operations, with forts and defensive dykes. By Alvie, a flanking canal was also located. The Spey area requires detailed surveying by someone nearer and younger than I, to ascertain the exact line of the dykes and the length of the canal, unfortunately access is also limited. The most northerly Roman defence line I have located is a series of forts along the Great Glen between Loch Ness and Loch Oich. The Great Glen route was canalised to form a major

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Roman Transportation Highway, The forts along this route are detailed in a later chapter.

In my book “Penrith’s Roman Heritage”, I recorded details of my locating a previously unknown Roman defence line flanking a canal, west from Carlisle via Fingland and Abbey Town to Silloth and it’s northern leg to Bowness on Solway. These canals linked the West Coast deep sea harbour at Skinburness (1,600m x 200m) to Carlisle, by passing the Solway. Also recorded was the real route of Hadrian’s Wall, north of Carlisle, via Rockcliffe, not Carlisle, as normally claimed. The vallum (double dyke) ran via Cargo, also North of Carlisle, to the R.Eden, then from Beamont, on the west bank of the R.Eden, westwards to Bowness on Solway. The Gough Map of 1350 and the George Lily Map of 1546 show this route. (Murus ille famosus, that famous wall by W.D.Shannon).

I also listed two other previously unknown Roman linear defences in the Penrith- Carlisle area, both of the standard parallel double dyke construction and one in Dumfriesshire.

The Angelus Line, a horseshoe shaped double dyke c 13mile long, ran westwards from Penrith, via Tirril to Ullswater and returned eastwards via Clifton Dykes, (Hence their name) to the R.Eden, near Temple Sowerby. This enclosed a number of Roman ore exploitation sites and small towns. A line with a similar function was the Devil’s Dyke (omitted on modern maps) around Drumlanrig which probably returned to Dumfries and the Solway. To fully appreciate the recorded length of these structures you have to view early maps ie 1920’s. The second and longer linear Cumbrian defence construction, The Petteril Line, ran from Boustead (A none listed fort) on the Solway Firth section of Hadrian’s Wall, swinging around Carlisle to the west, via Dalston’s Bishops Dykes, (hence their name), then eastwards via the Carlisle’s Race Course, Junct 40 M6 to A6, flanking the River Petteril (and A6) via Plumpton, originally called Plumpton Wall (quite a clue), to Penrith. Gough’s 14th cent map shows this wall. The Penrith to Solway defence line is c 30mile. The defence line then ran southwards from Penrith via Shap, flanking the A6 to the region of Arnside (R.Kent) 35mile ie a total of c 65mile. This line cut off Cumbria from England, as Offa’s Dyke (Severus’s), did Wales from England.

CULLEN’S CHEQUERED HISTORY.

Cullen is c17mile east of Lossiemouth. Thomas Pennant visited Cullen in 1769 during his tour of Scotland. Pennant described it as “mean, yet has a hundred looms, being a flourishing manufacturer of linen and thread” and having a small fishing port. At that time the population was c 800. Our knowledge of Cullen is from William Cramond’s books, “Reminiscences of the Old Town of Cullen” 1812-1818 (Before it was resited to

the present harbour side position.), published in 1882 and “The Annals of Cullen”, published in 1888, this covers the period from 961-1887. The town is on the major east-west coastal road route, so has frequently suffered from invading forces, Roman, Viking, English or just plain Scottish infighting, King Edward burnt it in 1303, Montrose burnt it in 1645, in 1746 the Jacobites caused havoc during their retreat to Culloden.

CULLEN'S ROMAN HARBOURS & EVIDENCE OF IRON ORE EXPLOITATION.

Wilma Woodin of Bookends, Portsoy, supplied an undated, but probably late 19th century photograph of Cullen's foreshore. This shows the huge railway viaduct, and at each end of the beach, large numbers of beached sailing fishing boats. Presumably the harbour was

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too small to contain all the fleet. Also captured by the photographer, was the steam driven tractor used to haul in the fishing boats, nearby is a long gone breakwater, situated alongside the Three Kings, a group of rocks. Further along the beach, to the west, a large free standing rock, as the Three Kings, originally part of the pre Roman cliff face, towers over the beach. The Three Kings and the single large rock, are all recorded by Thomas Pennant in his “A Tour in Scotland” 1769. All are mainly brechia rock faces containing deep layers of red sand, rich in haematite iron ore. The Roman objective was to exploit this iron, within the cliffs. This enormous operation required large harbour facilities, the buried foundations of two have been identified. One stone walled harbour c250m x 70m was constructed, west of the shore side free standing rock and one c500m x 70m, on it's eastern side. Both harbours were designed to handle 30m x 6m vessels. The c19th century photograph also shows the part diversion of the Burn of Cullen northwards, this diversion, Den Burn and the main flow of the Burn of Cullen, were linked into the aqueducts which flanked the land side of the two harbours and maintained their water levels. These aqueducts are also in place, along the line of the modern beach defences.

The early photograph of Cullen beach (now the 18 hole golf course) clearly shows an extremely large flat area behind the high water mark, surrounded by cliffs, BUT, the cliffs are on the landward side of the golf course. The rest of the coast has cliffs alongside the high water mark, at Cullen they have been removed. It was viewing this obvious result of man's activities, combined with the area's geological survey, which first aroused my interest in Cullen. High magnetic anomaly readings due to remaining residual iron ore deposits over sections of the golf course area, confirmed that the flattened area had been created by quarrying the complete cliffs away to exploit the iron ore. Immediately west of the shore side large outlier rock, which lies between the two Roman harbours, the undulations of the ground are the remains of some of the iron ore smelters (NJ49674-67778). At a very conservative estimate, 1.6 million tonnes of spoil have been removed from the golf course area to extract the iron ore. The caves on this coast line also show sign of man's activities exploiting the iron ore, in many cases the seams are still visible. We are indebted for William Cramond's meticulously researched “Annals of Cullen” which covers over 1,000 years of local history. But, in the “Annals” there is no mention of the construction of the two huge ramps to the shore, east and west of Portknockie, nor of any exploitation of the iron ore, further proof that this immense operation predated 961.

For those that think this size of operation to be impossible in ancient times, read on. One famous example of Roman engineering is the 60m high ramp, constructed to assault the fortress of Massada, Israel, once Herod's Palace. This ramp was built within a year, in a desert environment and contains roughly 200,000 tonnes of rock and sand. It was built solely to wipe out 960 troublesome Jews. By comparison, the operation at Cullen was to obtain a commodity vital to Rome, iron. At that time few alternative sources existed, nothing would be spared, lives or money. The late Raymond Selkirk provided a similar example of man's excavation abilities, in his history of Chester le Street. Mining records show that in 1829, 1,855,000 tons of coal was transported down the River Wear to Sunderland. The vessels used were called "Keels". Using a crew of four, these vessels could be sailed, rowed, poled and towed, exactly as earlier Roman river vessels had been.

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PORTKNOCKIE'S ROMAN SETTLEMENTS.

To date two Roman settlements have been located at Portknockie, a small one at the head of the ramp to Cullen Beach (now a campsite and football pitch) and a larger one between Portknockie and Findochty. I suspect that there is another yet to be found, possibly near Denside (NJ4935-6760) also near the head of the ramp. The inhabitants of the settlements were employed in exploiting the iron ore in the adjacent cliffs.

The old photograph of Cullen shows the huge ramp at the western end of the beach NJ49455-68054 leading to Portknockie. This paved ramp was constructed by the Romans to access their workings and the harbours. Between the ramp and the beach, the Roman cut a gully in the cliff, the entrance now marked by a large red (iron rich) patch of sand, from the shore line to the cliff top. Within the gully the Romans constructed a set of ladder locks NJ49354-68105, these locks enabled small cargo carrying punts to operate between the harbours and the Roman settlement on the cliffs above the harbour. Scans adjacent to the upper section of the locks located the existence of feeder aqueducts set at 190degrees to the canal line, these provided make up water to the locks. Water still flows freely down the original course of the ladder locks. One Roman settlement was situated north of the head of the ladder locks and ramp. The settlement, (c2.5ha, 6acres) now occupied by the camp site, extended from the cliffs above the beach, to the western end of the present football pitch. A scan of the undulations of the ground alongside the southern goal post, NJ49287-68172 indicated the positions of the small forum (shops), basilica (offices) toilet blocks and temple. The workers were housed in insulae c 70m x 10m with c one metre wide rubble foundations, the civilian equivalent of army barracks..

West of Portknockie runs a good track, the route of the disused railway to Findochty, bounded on one side by cliffs and the other by sloping grassland. Walking along the track I noticed that in certain areas the grass growth was very sparse. Suspecting building foundations had inhibited the grass growth, so I commenced a survey. The survey located the foundations of the dykes and ditches of a settlement c327m long, parallel to the cliffs x c147m. Eastern end NJ48135-68398, western end NJ47802-68550, back western corner NJ47808-68400. The site covered 4.7ha, (10.98acres). The toilet blocks c 40m x 12m, were sited, unusually, inside the walls of the settlement at the cliff side, NJ48048-68358, indicative of a high risk area. The forum (shops), basilica (offices) and the temple with its own toilet, were sited at the western end of the site, in a line parallel to the cliff.

The details and dimensions of the buildings are as follows; forum c40m x 20m, (NJ47846-68495) the roof had been supported by four lines of columns, 40 in all. Basilica c16m x 15m, temple (NJ47887-68486) c18m x 15 with a large aqueduct fed immersion bath c 6m x 4m. The overflow from the temple's immersion bath fed the adjacent toilet, 6m square, (NJ47827-68498).

One gatehouse was immediately adjacent to the forum and basilica and another cliff side gateway was located (NJ47930-68746). Every foundation site had inhibited the grass growth, thus simplifying the survey. The inhabitants of the settlement had been housed in insulae. These 70m long x 10m wide buildings were divided into 10 unpaved rooms and

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one paved room, each building was spaced c10 m each way from its adjacent insulae. These buildings have a shallow rubble foundation c 1m wide. They form the civilian equivalent of Roman army barracks. Double dykes set c 30m apart protected by an external c6m wide (infilled) ditch ran southwards from the settlement. These formed the western defences for Portknockie, Cullen and Portsoy (See Roman defences). The three sides of the settlement were protected by double dykes. Between the dykes was a further 6m wide ditch and 6 staggered rows of lilia, man traps, these are only installed in areas of high danger, or around prestige dwellings ie Roman governors. The scale and type of defences indicated the site was in a hostile environment. At the western end of the site, there is an area of grass roughly 80m x 30m which forms a peninsula between the track and the cliff edges called Tronach Head. This is the site of the settlements granary compound (NJ47802-68624). The foundations of a guardhouse with a single barrack block are on the western side of the granary compound. Immediately west of the site is a run down to the beach. The shore side rock faces have been heavily worked. Adjacent to the run down is a channel (NJ47786-68534) this was the site of the ladder locks which enabled loads to be brought up to the cliff top harbour. Immediately east of the peninsula (NJ47878-68528) is another channel which also contained the ladder locks to the beach. From this point, hidden by bushes, there is a gently sloping, paved ramp, eastwards to the shore. The extraction of thousands of tonnes of iron ore rich spoil which originally formed the cliffs, has resulted in the formation of a huge circular void bounded by new cliffs, accessed by the ramp. Two rows of smelter ramps, each with ten smelters (NJ48060-68501) can be seen at the base of the eastern cliffs. The feeder aqueducts which drove the smelter bellows via a waterwheel, ran down a broken down, or purpose cut section of the cliff.

SEAFIELD ESTATE. (A Major Roman site, BUT, little visible).

General Roy's Map of Ancient sites in Scotland..

I am indebted to Davy Davidson, who pointed out to me that General Roy, a Hanoverian army engineer and cartographer (during c1745-55) whose pastime, fortuitously for history, was recording Roman sites in Britain, had recorded a site alongside the Burn of Cullen. The map indicated that the site was laid out in squares, a typical Roman town design. The total site was c1,000 metres square, c100hectares, (c240acres). Recent historical records tell us that the Cullen House site was initially occupied by a religious order. The first house was built in the early 1600s, rebuilt in 1782 and altered and

extended in 1858. The old town of Cullen was originally situated east of Cullen House and ran alongside the Burn of Cullen for c half a mile. This town was razed and rebuilt alongside the harbour. 1821 -1830. The old town is marked in red ink on Roy's map.

I had previously wondered what had I missed during my surveys, as the Roman quarrier's accommodation I had located were inadequate to house the huge number of workers required for the immense undertaking of excavating and flattening Cullin's cliffs to extract the iron ore. Davy Davidson, a local, solved the problem. Further evidence of the Roman presence was provided by the RIAS (Royal Institute of Architects, Scotland) their booklet, the "District of Moray", this contains a map of the Cullen Burn, before it was straightened. Their map shows a Roman tear shaped, linear navigation

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island near the burn's mouth, clear indication of the use as a transportation highway. A survey of the site highlighted by General Roy, was commenced on the drive to the Seafield Estate (Private drive) from the Keith Road, flanking the site of Old Cullen town. Visible from the drive is a flanking 0.5m high rampart. A scan showed it lay over a 3m wide stone base, and had four external infilled ditches, all confirming a Roman fort's presence. The visible ramparts ran from the Seafield Estate main gates NJ509636-65980 to the chapel wall NJ50842-66335. The fortress covered an area roughly 378m x 100m, c3.78ha (9acres). Whilst within the ramparts nothing is visible, a scan located the foundations of standard barrack blocks. The site was capable of housing a Roman Legion (11cohorts= 5280 men in 66 barrack blocks) under field conditions. Scans over the many wet area indicated the presence of the unique shape of Roman aqueducts supplying the sites wells. A dyke originally defended the steep drop down to the Burn of Cullen, which flanked the adjacent Roman road to the now Cullen House, (Private area).

Alongside the east bank of the Burn of Cullen, near the Adam Bridge, a survey over the private gardens of Laundry House noted a raised ridge. Whilst nothing but the raised ground level and differential grass growth were visible, a scan located the foundations of the foundations of a small Romano Celtic temple, with a still running aqueduct which fed the immersion bath and adjacent toilet hence the differential grass growth. Alongside was a site which Historic Scotland has recorded as possibly an ancient chapel. A scan over the area located the foundations of a Roman fortlet with four barrack blocks. The granaries were located in an annexe. The aqueduct feeding the site was traced to the toilet block and wash room, alongside the burn. A tunnel links Laundry House to Cullen House.

CULLEN'S AMPHITHEATRE (Seafield Estate).

This site is only accessible by foot from the Home Farm area, Seafield Estate. The Romans blocked a wooded valley on the west side of the Burn of Cullen, by two embankments to form a c 60m x 40m amphitheatre between them. The total site including the adjacent lion house and jail is roughly 60m square. A modern road now runs over the northerly embankment, en route to the Adam Bridge and the eastern bank of the Burn of Cullen. (Note, The bridge and the eastern bank of the Burn of Cullen are private). This road overlays the original route of the walled and gated Roman road over the c60m long embankment, (dyke). The southern slope of the embankment also formed the amphitheatre's northern terraces (NJ5048—66110), accessed from the walled road.

Presumably this seating with the best view, and security, was reserved for the senior officials. The southern, smaller embankment carried the paved footway which linked the two sides of the valley seating, forming the amphitheatre. The clearly visible, sunken area, south of the smaller embankment housed the lion house, jail and a small store. A scan within the walled depression, c 30m x 20m, located the foundations of the jail, 6mx6m, lion (cat) house, 10m x 10m and probably the lion's food store, 6m x 6m. Presumably for iron rations when the supply of criminals dried up. A tunnel for the cats and the aqueduct ran to the main arena. The sides of the valley were terraced and wooden seats would have been provided. The original stream down the valley floor was enclosed within a Roman aqueduct, two covers have collapsed and the internal stonework can be seen. The area is also very wet.

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The design of a Roman aqueduct is akin to a section through a "Mars Bar", with a hole, (duct), through it. Most folk do not appreciate that the ducts are flanked (backed) by rubble, or in the absence of rubble, puddled clay backings have been noted. This design generates a unique magnetic anomaly, thus when scanned, the Roman origin can be identified. An unusual extra defence of the site, external of the amphitheatre's walls was a double row of lilia, staggered man traps with sharpened stakes at the bottom, settlement in the area clearly indicates the line of these pits. Two gated pay booths, one on each side of the valley, gave access to a connecting, still clearly visible, internal paved terrace. This paved terrace gave access to three sets of steps which accessed the rows of seating, two sets of steps to the west and one to the east. A third gated pay booth at the eastern end of the northern embankment, gave access to another set of steps, their route down the corner of the eastern side of the arena is still visible. Whilst the terraces are now covered by slippage of earth, their positions were easily located by scan. The foundations of a private toilet block 8m square with an adjoining room, presumably also for the senior official, were also located at the eastern end of the embankment.

AMPHITHEATRES, LIONS & TRAPEZIUM SHAPED TURRETED PRAETORIUM. This is the third amphitheatre I have located, the other two are at the City of Ullswater and Penrith Town. At Ullswater I paid for a full geophysical survey (it cost £3,500), to be carried out on the amphitheatre site and the adjacent forum and basilica, by the same geophysics company who work for TV's Time Team. This site was constructed on a sloping hillside, the terraces were formed by importing hundreds of tonnes of earth. A still visible staircase (one of two) accessed this man made terracing. The pronounced visible depression in the centre of the site, denoted the site of the arena. The terraced seating has been identified by magnetic anomaly scans and by computerised sectioning of the geophysical surveys. The geophysical survey also located the tunnel from the lion's cage to the arena. Whilst the Penrith amphitheatre has been overlaid by a football field, one of the raised sides of the amphitheatre and a raised access ramp are still visible. The site is overlooked by the magnificent ramparts of a Roman praetorium and the ramparts of a small guarding fort. A magnetic anomaly scan over the site has located the tiers of seating, the public toilets, access staircases, the jail, cat house and also the tunnel to the arena.

History tells of Christians being fed to the lions in amphitheatres, which no doubt occurred. In reality the standard Roman punishment for criminals was also death "ad

bestias”, (see mosaic) in the amphitheatre arena. They certainly never re-offended, unlike in our present day society. Presumably the spectacle provided a cheap entertainment for the locals, with little danger to the expensive lions. A feature of Roman governor`s formal drives to their trapezium shaped praetorium, were flanking sculptures, six per side. These sculptures were all to the same theme lions / lionesses biting the head off a bound criminal. This signified to any intruder their fate if found within the walled grounds of the Governor`s premises. Examples can be seen at Edinburgh Museum (Cramond Lioness), British Museum (Kirby Thore Lion), Dacre Church (by Penrith) four lions plus criminals.

To date I have located the sites of nine trapezium shaped praetorium, c57m x 54m with turrets at the corners, standard housing for area governors or similar high officials. These

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are situated at; Lowther Castle, Ullswater City, (plus an escape tunnel to a lower point) Johnby Crag, Crescent Site (A 66), Brougham (all by Penrith). Montgomery Castle, (mid Wales), Drumlanrig Castle, (Dumfriesshire), Cramond, (Nr Edinburgh) and Brodick Castle (Isle of Arran) (Also with escape tunnel). Formal drives with plinths for sculptures have been identified on six of these sites, Cramond, (Edinburgh), Brodick, (Isle of Arran), Lowther Castle, Brougham, Crescent site and Johnby. All by Penrith. The formal drive at Johnby Crag was cut out of solid limestone. The close proximity of five praetorium near Penrith, proves that over the c350 years of Roman occupation the seat of Roman government for the North West was in Penrith, not Carlisle, as historians frequently claim.

The large number of ore exploitation sites on the Moray Coast, including Cullen and Portknockie include the largest sites I have ever seen. These sites complete with a large layered defence system, guarding forts, an amphitheatre, plus the Roman towns of Cullen, Portsoy and Portknockie`s settlements and their large populations, would indicate the requirement for a civil governor. Possibly the governor`s trapezium shaped praetorium was the first construction on the Cullen House site, now a private site. The second use was by a religious order, who possibly utilised the Roman buildings, then the series of Cullen Houses. The hallmark of praetorium are triple gates, whilst any gates are long gone, the sills are left and can be located by magnetic anomaly. William Cramond said that a section of the first house had been left to the north of the present house as a monument. Brodick Castle, on the Isle of Aran, was built over the foundations of a Roman governor`s trapezium shaped praetorium, the huge terraces are a Roman legacy, not an impecunious Laird`s. A scan around Brodick Castle, located the foundations of two of the original towers of the praetorium, the rest lay under the present castle. Also located were the triple gate sills of the main gate house accessed by the formal drive and flanked by a line of plinths, the bases for the lion warning sculptures. Brodick also has a legend that there was a tunnel from the castle to the shore. I located the route of the tunnel and it`s internal staircases by scan and reported it to the owners, The Scottish National Trust. In the castle grounds also lie the foundations of a Roman settlement and the raised platform of a Romano Celtic Temple. Sadly and incorrectly, historians claim that the Romans never visited Arran, let alone exploited the metallic ores, with their Chinese sub contractors. See “Arran`s Roman Heritage”. By T.C.Bell.

CULLEN`S ROMAN TOWN. (Seafield Estate)

The survey of the Home Farm site, (Seafield Estate) recorded by General Roy, showed that each of the square fields was bounded by a dyke. Where the dyke had been partially or completely ploughed out, the dyke's overlapping stone foundations indicate their Roman origin. Access to each section of the Roman town was by gatehouses. Between the flanking dykes, ran a ditched road of Roman design, now overlaid by the estate's gravel roads. NNE of Home Farm, one "set aside" section (NJ50029-66091) free of crops, alongside one of the squares, was scanned. The scan located the foundations of lines of Roman insulae, the civilian equivalent of army barracks. Immediately north of this site, lay the man made platform of a small fort. Alongside the fort platform, a large rammed earth dyke, part of the original Roman town's northern defences, is still in place. South of Home Farm, at the corner of the road to the walled gardens, marked on the OS

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map "W", lies a stone well, (NJ50116-65798) it is aqueduct fed, so would appear to be a Roman spill well. In the same field, c 30m west of the stone well, was a very sick looking area of grain (NJ50050-67731). A scan indicated the presence of the foundations of a c30m x 30m bathhouse. Clearly the presence of the foundations has inhibited the crop growth. A similar crop failure led to the locating of the toilets for Cowhythe Fort, Portsoy. West of this Cullen site, the adjacent field contains the corners of the man made platform of a fort (NJ 50045-45780). North of the well, in the next smaller rectangular field (NJ50297-65865) is a man made mound similar to a whale, this is the standard Roman platform for a forum (shops) and basilica (offices), often with a Romano Celtic temple.

CULLEN CASTLE (Motte), Actually a ROMAN PHAROS (LIGHTHOUSE)
This commanding site (NJ509-670) is situated alongside the old railway bridge, it overlooks Seatown, it's harbour and Cullen Bay. A survey of the site showed that far from being originally constructed as a medieval castle or fortified motte, it's original function was to provide a locating beacon to guide Roman vessels into Cullen harbours. The site was a pharos or lighthouse and possibly with Portsoy's pharos and Burgh Head's, (Lossiemouth) formed part of a coastal signal chain. The flat area, immediately east of the stone seat contains the foundations of a Roman barrack block. The stone seat now lies over the foundations of the aqueduct fed toilet block. Within the mortared stonework of the c 2m diam central construction (The original beacon site) are some carved stones. William Cramond records in the Annals of Cullen (pg 64) that in 1690, these probably originated from Patrick Ogilvie's house, Pittinbringand. The sites defences from bottom to top, originally consisted of an external 6m wide ditch, then three more revetted ditches up the slope, (All infilled). Then the still visible, immense ramparts and internal ditch, then three further infilled ditches, then the barracks. William Cramond recorded that the three external ditches were still visible in the 1800s. The unusual multiplicity of the site's defences are indicative of the hostility the Roman invaders were experiencing and the importance of the lighthouse to the Roman fleets to locate the safety of harbour.

TEMPLES., ROMAN & MODERN.

Immediately south of Cullen's railway bridge (c1886), the Ordnance Survey map shows a temple (NJ504 -671). William Cramond states this temple with it's distinctive two levels and half round roof, was constructed for Cullen House in 1821-30. Alongside the Cullen House temple, the Ordnance Survey map also records a roughly square outline (NJ50431-

67159). This is the site of a real Romano Celtic temple, built on a steeply sided mound, originally protected by a 6m wide ditch. Stonework of the defensive wall is visible at the lower face of the mound. Access to the temple platform was via a gated ramp from the west. The foundations of the temple are still in position, complete with its c2m long x 0.5 wide immersion bath, the forerunner of Christian baptism. The temple appears to have been constructed over a spring. At the head of the ramp, at its northern side, a scan located the foundations of a 12m x 10m toilet block. Presumably the congregation firstly cleansed themselves physically, then spiritually. As this temple appeared to be somewhat superior to the normal fort's or wayside temple, I scanned the immediate area and located dozens of the Roman standard 20m square kerbed cemetery plots, each with their 40 inhumations in a 10 x 4 configuration, all with a north-south orientation. Their presence

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confirmed that the temple was designed to provide the last rites to the deceased. Presumably all had perished in the service of Rome, exploiting the local iron ore. Logistics also appeared to have played a part in the selection of the cemetery site "near" their place of work and final excavation.

Viewing the temple mound from the Burn of Cullen (east), to its south, one looks into a narrow valley. South of this valley and overlooking it, is a flat topped, steep sided platform, this originally housed a small Roman fort. Presumably this was the guarding fort for the shore side harbours. The foundations for the fort's toilet block are sited in the narrow valley, the supply aqueduct is still functioning, hence the very wet area. The fort and its toilet were supplied from the spring under the temple site. In connection with Roman forts and towns, one mainly hears of Mithras Temples and the Mithraism religion. But my surveys of over 200 Roman fort sites and several Roman towns, have, as yet, not located one site which could be associated with Mithraism. Whereas on every major site surveyed and within every cemetery temples of the type called Romano Celtic has been located, all with adjacent toilets. These have also been located on ancient Chinese sites on the North and South Islands in New Zealand, including one large temple site near Christchurch. When surveying on Cape Dauphin, Cape Breton Island, Nova Scotia, at the invitation of Paul Chiasson, my wife and I located a Romano Celtic Temple within a large Chinese temple site. We eventually located the rammed earth defences of this amazing 80 sq km site and many harbours and canals. The site was the subject of a Canadian TV documentary in 2010. According to Professor Peter Salway (A History of Roman Britain). Romano Celtic temples appear to owe their origin to ancient Celtic sites and that there was a Celtic concept of a supreme god. In many of the Roman cemetery areas associated with quarrying, I have located large stones, often of glacial origin. These stones have always been protected by an external wall with a single narrow entrance and appear to have been used as a form of altar, so possibly two religions ran in parallel.

Romano Celtic temples are usually constructed inside a defensive ditch, with a single entrance. The construction, usually rectangular, very occasionally with a half round end (apse), consisted of inner and outer rectangular walls, roughly a metre apart, some think that this space was roofed to form a veranda. In every temple I have surveyed, at their centre they had an immersion bath, normally c2m long x 0.5m wide. If excavated on their own they appear to be graves. The temple's immersion bath was always supplied by an

aqueduct, always from a dedicated, never a second hand source. In every case the immersion bath discharged to an adjacent toilet. Presumably one cleansed oneself physically before entering the temple and cleansing oneself spiritually. For many years the immersion bath of a Romano Celtic temple was visible in the garden of Carlisle's Tullie House Museum, sadly, this was the only visible excavated Roman site in the whole of Carlisle after millions of pounds of expenditure by archaeologists. Following a scan of the site, I reported that the foundations of the temple were still in place around the immersion bath, sadly, but not unusually, the report was never acknowledged. In early 2011, the well fenced immersion bath was filled in on Health and Safety grounds. Presumably the famous toilets at Housestead's Fort on Hadrian's Wall will be next.

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In Penrith some while ago, pre emptying a major construction I viewed the normally none accessible rear wall of a 16th cent public house. To my total surprise, built into the sand stone wall where a number of artefacts, obviously by stone masons with a sense of history. These included a pair of Roman toilet chutes, a carving of a white horse in limestone, presumably why the pub was called the White Horse, a Roman niche altar, what appeared to be a full size altar, spilt to form door reveals, an unknown carving possibly of a hare and a sunflower with a tortoise on it's back. I scanned the adjacent area which had been another adjacent 15th cent pub's bowling green. (Penrith used to be a thirsty farmer's market town). I scanned the area and located the foundations of apse ended Romano Celtic temple, with an adjacent toilet, with a pair of the toilet chutes missing. It appeared that the builders of the White Horse had located the temple and fortuitously salvaged the important pieces. I had previously recently read "World trade and Biological Exchanges Before 1492" by Profs John.L.Sorenson and Carl.L.Johannessen which proves ocean trading was fully in operation over 3,500 years ago. Well pre Columbus's claim to have discovered America in 1492. This was proved by tracing the movement of cultivars, from and to, the New World and the ancient worlds of Asia, Egypt and India. In this fascinating book, it stated that sunflowers originated in America and were often found at the entrance to temples, so the sun's first rays would firstly light up the sun flower and then on to light up the altar, or similar holy artefact. Penrith's temple faced east. Sadly, although I notified the local archaeologists of both the artefacts and the temple, they denied the existence of the temple and grudgingly agreed that the niche altar was Roman. .

Cumbria's largest (and to date only) souterrain site which I located on Moor Divock, near my home near Ullswater, is c400m long x 10-20m wide by c2m deep and fitted with drains.. The site was occupied pre and through the Roman period, the inhabitants appear to have been employed in an adjacent Roman iron ore plant. The souterrain with a raised earth and stone wall, had internal round houses and was protected by an external ditch and walls which formed a 420m x100m enclosed area, within this area are the site's food pits and the foundations of a large Romano –Celtic apse ended temple and it's dedicated toilet. There is no way to prove if it was pre Roman, other than the temple's toilet and aqueduct was of Roman design, as was the toilet built into the end of the souterrain. Recently I examined a claimed souterrain on Skye's west coast, it was actually a Roman underground water storage cistern, as were the three identical adjacent cisterns I located.

Neither the existence of the three additional cisterns, nor that the sites contained the foundations of a Roman fortlet had been appreciated. It was even claimed that a small race of folk had existed on the island to explain the small height of the cisterns.

I have also located many Romano Celtic Temples constructed within stone circles, presumably by the Romans to stamp their authority on the area. These ancient stone circles were designed as observatories and invariably located in ore exploitation areas and always sited over springs. I wondered at the association of springs and circles, ie pure water or vestal virgins etc. Then my colleagues Dr Gunnar Thompson (One of America's experts on migration) and Gavin Menzies (Author 1421 and 1434) visited Beijing Observatory, China and gave me a set of photographs of the observatory for interest. One

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photograph showed a bronze table with a graduated water channel, at the end of the table was a gnomon (shadow caster). It then dawned on me why the ancients sited their stone circles and henges on springs. I then visited and scanned three of the best known stone circles in Cumbria, fortuitously all near my home. Long Meg and her Daughters, Castlerigg and The Cockpit. (Moor Divock, Ullswater) To the north and outside the circles, all had triple channels c 25m long and 0.5m wide, these contained small stones at regular intervals (graduations), each channel had a connection to the spring source. The channels, waterproofed with puddled clay, were used for taking star, shots of the moon and stars by reflection. The information was then used for calculating the time to sow and reap, to predict fertility, both for animals and humans and fish and bird migration, both being used for their food supplies. Prior to Thompson and Menzies visit to Beijing nobody in the UK had realised the existence of the reflection channels, or their purpose, most had not even appreciated the existence of springs at every stone circle. A few authors ie Knight & Lomas "Uriel's Machine" and Tudor Parfit "Journey to the Vanished City" had mentioned the use of water reflections for astronomy. Tudor Parfit in his book on Africa, specifically mentions how the African Lemba priests used a bowl of water under a tree shade to catch the first sign of a new moon, this would occur at noon, some two days before it was actually visible. A precise knowledge of the moon's cycle is also of extreme importance to Jews and Muslims for their religious ceremonies.

Chinese star and comet records are the oldest in the world. Their history has it that well over 3,000 years ago their astrologists were sent all over the world to teach people astrology. The Arabs also have a similar history of ambassadors to the world. It cannot be chance that a few Irishmen, St Columba etc straight from the bog, suddenly became both learned men and Christian missionaries. There had to have been external contact.

ELGIN'S ROMAN HERITAGE

Elgin, a lovely small town, with extensive, well maintained gardens, is best known for its cathedral. The town is sited alongside two major crossing of the River Lossie. Previous to my visit, there had been no record of a Roman presence in the town. My own experience is that many ancient ecclesiastic buildings have invariably been constructed on even more ancient defensive sites, invariably in commanding positions, with existing foundations, especially those of Roman granaries, cut stone and aqueduct fed water supplies. So firstly a walk around the cathedral was carried out.

Sadly, as I found from the hostile reaction I received from the museum and cathedral folk when I mentioned the Roman occupation of the area, it proved that the Historical Establishment's brain washing programme designed to implant the denial of the Romans occupation had been successful. This programme has resulted in folk failing to question, who had the ability to oppose probably the finest army in the world occupying any area they wished. Also a failure to query who was responsible for the profuse number of indicators of previous occupants, eg the ramparts of forts, the presence of river linear islands and the very clear evidence of commercial sized ore exploitation operations. .

ELGIN'S FORUM (shops) and INRASTRUCTURE.

A magnetic anomaly scan was run over the regular depressions in the park, west of the
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Bishop's House , NJ22118 – 63051. The scans located the foundations of a complete walled Roman forum, c 40m x 40m, the roofing pier bases are still in place. The site adjacent to the forum conformed to the standard Roman design with an inline bathhouse and toilets. The depressions which attracted me to the site resulted from settlement over the line of the supply aqueducts to the adjacent temple and the bathhouse toilets etc. Adjacent to the bath house was the site's major Romano Celtic temple NJ22057-63082. This was to the standard double walled design with a central immersion bath. The forum and temple site was protected by double walls with lilia man traps between the walls. A further magnetic anomaly survey of the adjacent tree covered area west of the Cathedral and flanking North College Street, located the foundations of c 70m x 10m standard insulae strip houses found in every Roman town and settlement. These houses, the civilian equivalent of army barracks, but much larger, contained ten unpaved rooms and one paved room, possibly they had two stories and that is why they had such substantial foundations, but we cannot prove this. So sadly we do not have any information as to the occupancy of the roughly 9m x 6m rooms of the insulae, with one family per room. Early army barracks were c 40m long and x 4m wide, with ten unpaved rooms, each holding eight men and one paved room for the officer. The Roman housing site covered an area c 150m x 100m and the forum site c 100m x 50m, a total of 2ha (4.8acres).

ROMAN CEMETERY.

Immediately left (west) of the entrance to Grant Lodge from North College Street, is a small depression. NJ 22005-62940. This is the site of small Romano Celtic temple which served the adjacent Roman cemetery for the nearby settlement. The depression is caused by water flow in the temple's immersion bath. The inhumations are contained within standard c 20m sq kerbed plots, each one metre apart. Each plot contained 40 inhumations in a 10 x 4 configuration, orientated North South.

THE CATHEDRAL'S EXTERNAL WALLS & THE ROMAN THEATRE WITHIN.

Pann's Port gateway. This gateway was probably based on the original Roman Wall and gateway, as is suggested by the design of the overlapping foundations. Medieval walls tended not to have spread foundations extending past the outer edge of the walls. The alignment of the wall from this gateway did not follow the river bank, as in the sketch of the Cathedral Guide page 29 suggests, but angled across to flank the footpath which parallels the eastern wall of the cathedral. Between this footpath and the river is a now

open space which contains foundations of buildings. A member of the Cathedral staff informed me that a brewery had operated on this site, certainly there was evidence of a large well within these foundations. Adjacent to the eastern wall of the Cathedral, surmounted by a metal fence, is a large semicircular depression, flanked by the paved footpath. The wall from Pann's Port (gateway) actually ran to this point at the South Eastern corner of the Cathedral, the foundations of a gateway exist at this point. The wall then ran northwards, flanking the East End of the Cathedral and the footpath to a point by the river, then ran back alongside the northern face of the Cathedral grounds to meet the northern wall of the Roman forum situated by the Bishop's House.

The gateway to the South East corner of the cathedral grounds gave access via a pay box,

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to a Roman D shaped theatre, the stage (the flat of the D shape) now supports the two small towers of the Presbytery. The c 60m wide semicircular depression external to the Cathedral eastern wall marks the eastern end of the auditorium, most of the auditorium, c 60m x 55m, lies under the open space alongside the Presbytery. As a provincial theatre, presumably it's construction was cheap and cheerful, the nine tiers of seats located being cut out of the earth and provided with wooden planks as seats. Only the steps down the tiers of seating would have been constructed in stone.

As mentioned previously, a few years ago I arranged for a contractor to run a geophysics survey over a Roman amphitheatre which I had located whilst surveying within the Roman City of Ullswater, Cumbria. This walled city covers c820 acres, (340ha) and was possibly the largest city in Britain, the economy based on metallic ore exploitation. London was only 350 acres. What attracted me to the sloping site was a c 60m diameter depression, flanked by a large man made bank, built up on the down side of the slope and a clearly visible two metre wide set of steps up the bank. I made a magnetic anomaly scan over the site and located the rows of seating, external wall, arena etc, thus confirming it was an amphitheatre. The contractor's survey located another set of stone stairs down the tiers of seats to the arena, the tunnel from the lion house to the arena and an adjacent Roman bathhouse. Whilst I was able to pinpoint the tiers of seating, the contractor's survey only showed the artificial earth banking containing the stepped seating as an area of high resistance. It was only the topographic model which combined the gradiometer and the ground radar data and the areas of high amplitude (magnetic anomalies), which highlighted the man made banking of the amphitheatre. In other words, my method was equally accurate and far more sensitive and of course faster and cheaper than the £3,500 cost of the geophysics contractor. One of the questionable joys of self funding surveys.

ELGIN CATHEDRAL and the ROMAN FOUNDATIONS.

My surveys had already located the foundations of a small walled Roman town the forum (shops) adjacent to the Cathedral and the remains of a Roman theatre under the eastern end of the site. Plus a number of inhumations under the Chapel House floor, apparently all vying for a place nearest the altar and heaven. So it was interesting to note that a survey down the main nave revealed that it had been constructed over the Roman road from the town to the theatre. One can but admire the architect of the cathedral, as he also utilised the metre wide rubble foundations of two flanking 70m x 10m Roman

insula (possibly shops), now under the Aisle's, to provide continuous strip foundations under the piers of the nave, not block foundations as one would if starting with a green field site. The outer foundations of the insulae were used for the external walls of the cathedral. The sub walls of each of the insula's rooms are still in position. An aerial photograph of a Roman D shaped theatre alongside Ullswater, clearly shows a 70m x 10m insulae in this case alongside the theatre, possibly this was also a row of shops for the theatre goers.

Some while ago I carried out the pre survey of a section of Ullswater City, prior to the mole ploughing in of a sewage pipe through the site, our objective was to run the pipe down the main (Roman) street. An end of one of the 70m x 10 insulae (houses) was

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exposed to check the depth of the foundations below the field and it's construction. The foundations of the insula's walls consisted of a metre wide strip of rammed rubble with large rubble retaining stones at the corners. As one of the ground works contractors said "They do not construct foundations like that nowadays. That is why the foundations of the Roman insulae can still support a cathedral. One wonders why the Great Tower of Elgin's Cathedral fell down, as reported in the Heritage Scotland's guide to the cathedral. But, I suppose that even Roman foundations have loading limits.

ELGIN'S LEGIONARY FORTRESS.

The presence of a Roman town at Elgin indicated that there would be both a guarding fort and a customer base for the forum (shops) to augment the demand for goods from travellers along the Roman road to Inverness and southwards. The Romans, wherever possibly, sited their forts within bends of rivers, using the river for a defence. The rivers, not the roads, were also used as transportation highways. The presence of a Roman town at Elgin also meant that there would have to be a harbour at Lossiemouth. The harbour would be designed to handle deep sea vessels, each c 30m x 6m and also to transfer their cargoes to smaller vessels to navigate the River Lossie up to Elgin.

A survey inside the loop of the River Lossie at Cooper Park located the foundations of a distorted trapezium shaped fortress, NJ21812-63254. I have located smaller trapezium shaped Roman forts in Cumbria and the huge one at Drumlanrig, Dumfriesshire. The fortress's major axis ran North – South, from by the skateboard park to near the lovely library. The fort's approximate dimensions are, Western face (boating pool) c164m, Eastern face c375m, Northern face (river) 180m, and the Southern face (Library) c120m. The fortress covered c3.25ha (7.8.acres), plus the harbour and granary compound. Each corner of the fortress contained a protruding c10m square tower (Barbican) of sufficient size to house a missile launcher. The Northern face, the widest of the fortress, contained two gateways, the East and West sides, three major gateways each, and also a toilet single gate to the East, the Southern (Library) side, the narrowest, had one gateway. The fortress design was different than standard Roman design The north, east and south faces and half the western face were flanked by a 6m wide canal, not the usual four ditches. The canal linked into the harbour's north and south ends. The canal both provided defence and transportation. This use of circulating canals is similar to Brougham and Voreda forts, both near Penrith, but on a far larger scale.

The site contained c 66 barracks, each c 44m x 4m, and containing 10 unpaved rooms and one paved room for the officer. The foundations of the barracks in place are sufficient to house a legion (5280 men). Six stables were also located NJ21812-63265, on the eastern side of the fortress, indicating the presence of a small cavalry unit. The princeps (offices) with its sub floor strong room, NJ 21812-63254 measured c 30m x 30m and the praetorium (Senior officer's courtyard type residence) NJ21878-63259, 20m x 20m. The size of these principle buildings, each c four times the size of those in a fort designed to hold a cohort 480 men, is yet a further indication of the size of this fortress. The foundations of the fortress's walled granary compound NJ 21778-63250, are in place by the pavilion, they can be seen on Google Earth. A small raised and walled area between

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the pavilion and the lake contained a c 20m x 20m guard house. NJ21715-63217. Presumably the unit guarded the harbour and granary in the absence of the main unit.

The boat lake is sited on the original Roman harbour, lined with puddled clay. It is not possible from a land based survey to tell if the present lake is the same size as the original Roman harbour. The harbour was kept full via a small spill dam NJ 21684-63274 across the River Lossie and accessed from the river via two flanking c12m wide canals. Three sets of toilet blocks, each containing six units, each c10m square were located in the survey ie 18 toilet blocks. One set alongside the river near the end of the harbour, at the NW side of the fort NJ21694-63307, One set at the NE side of the fort alongside the river NJ21735-63311 and one set NJ21803-63504 on the eastern side of the fort, discharging into the adjacent canal NJ21803-63504 and accessed by a single gate. NJ21798-63481. The provision of 18 toilet blocks (no washhouses) is further proof of the size of the garrison of this fortress. Normally one toilet and a washhouse each c 10m x 6m would be provided for a fort with a garrison of 480men. Presumably the Elgin fortress was provided with extra toilet space to compensate for the absence of washhouses and also to reduce waiting time and hence improve operational efficiency.

The site's c30m x 20m bath house NJ21923-63329, was located half way down the east face of the fortress. I was attracted to this site by the considerable settlement in the area. It was also very noticeable that the presumably modern flood dykes had settled in two areas each roughly one metre wide, over the routes of the fortress's toilet discharge aqueducts, indicating that there was still water flow. Damage to the aqueducts has allowed earth to fall into the aqueduct and be washed away, then the cycle repeated, hence the gaps in the dyke above.

LOSSIEMOUTH'S ROMAN HARBOUR AND FORT.

Driving into Lossiemouth from Elgin, most noticeable is a large flat bottomed depression which now houses the sports field and local school. In Penrith there are two similar large flat and unusual depressions. One is called Frenchfield, which also houses a sports field, the other depression is at Lowther, up to recently this football pitch sized depression was used for horse and carriage competitions. Both Penrith sites contain Roman puddled clay harbours, granary foundations and are overlooked by the ramparts of forts.

Lossiemouth's harbour guarding fort. NJ23143-69920. The fort's is situated at the southern side of the sports ground, the 100m long ramparts tower over the harbour site. A prominent feature of the fort's ramparts is the rounded western end, the hall mark of a Roman fort. Sadly only a c 20 m wide strip of the fort's platform now remains, but fortuitously this still contains the foundations of four barrack blocks and which confirms it's Roman construction. Presumably the rest of the fort was removed (no doubt without a survey) when the gravel quarry, now called Sunbank Park, was excavated, presumably to supply hard core for the nearby airstrips. The area is reminiscent of the gravel pits around Heathrow Airport. I do not know the extent of the excavations for gravel.

The Roman Harbour. Why the harbour was constructed at this position, some 650m from

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the river mouth is not known, I can only presume the land between the present site and the river was deemed unsuitable, this possibly ties in with the reason for the construction of the Spynie canal in 1808 to drain the area. The ramparts of the Roman fort provide a datum as to the original site level. The Romans appear to have excavated the site to a common datum with the river mouth to enable the spill dam across the River Lossie dam to feed the harbour. The harbour appears to be of the standard Roman design, the magnetic anomaly of the site detected the puddled clay lining. (usually 100mm thick), the quays built in dry stone and usually covered in puddled clay. These design details were obtained from an excavation I made into a Roman harbour near Ullswater. The section partly under the fenced running track served inland craft c 10m x 3m, which navigated up the River Lossie to Elgin etc. The section to the south of the running track served sea going vessels c 30m x 6m. The larger quays c 6m wide x 50m long and the water channels c 9m wide, indicate which section was designed for the sea going vessels. One 30m x 6m wreck was noted in the c9m wide channel between two of the 6m wide quays, complete with one anchor out and 10m of cable. A recent excavation of a 11m long sunken Roman craft in a canal by Rome, found the anchor cable in pristine condition. The bow of the vessel lies to the West and the stern to the East and is in line with the pavilion, outside (south) of the fenced running track. The OS ref at the bow is NJ23085-70021, at the stern is NJ23122-70035. Whilst I have located many wrecks in tidal waters, none have been capable of excavation. Wreck excavation in tidal waters is akin to feeding donkeys with strawberries. Very expensive. But, the Lossiemouth wreck is the first deep sea vessel large vessel that I have located in a position where it is feasible to excavate it. The vessel should be in a good condition, free from the ravages of a marine environment and in a damp area maintained by the puddled clay lining of the harbour.

Granary Compound. NJ23049-70011. The foundations of the harbour's walled granary compound is immediately west of the harbour and the fenced running track.

Lossiemouth harbour appears to have been excavated to form the same level as the backed up River Lossie. Access from the River Lossie and the sea was by two 12m wide 650m long canals. A spill dam was constructed across the River Lossie, the foundations are still in place only a few metres upstream from the existing foot bridge. Upstream

navigation was maintained by a set of bypass locks situated on the sand bank side of the dam. The spill dam forced the backed up water from the River Lossie up a channel between the canals and the spilled water surplus to requirements returned down a canal.

Several Roman spill dams have been located in Britain. The best explored view spill dam can be accessed at Piercebridge on the River Tees. The return dyke has not yet been excavated. Sadly English Heritage have signed it as a bridge, But this quaint organisation has always had problems with understanding Roman navigational systems of any kind. At Drumlanrig Castle, Dumfriesshire, just upstream from the Buccleuch Bridge over the River Nith, there is also a superb Roman spill dam and it's flanking dyke, both c 100m long and as high as a double deck bus. The dyke's function was to return the water surplus to the harbour's requirements back to the river. Drumlanrig Castle is probably the finest, unspoilt Roman site I have surveyed in Scotland. A visit is recommended..

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BURGH HEAD. This small town is c 12km west of Lossiemouth. Warning. Always wear a hat when visiting this site, the seagulls are accurate bombers. The base of the lighthouse is used as small museum. The museum has several newspaper clippings devoted to a local metal detectorist who has located around a 100 Roman coins in the area. (The Press & Journal Friday 19th September 2008). The coins date from Commodus AD177 – 192 and minted in Rome. Yet further proof that there was a regular shipping route between the Moray Firth and Rome. This is the period when historians tell us that the Romans were retreating "southwards" from the Antonine Wall to Hadrian's Wall. Further confirmation that the Roman history of Scotland requires revising.

The Burgh Head site has been modified by man to form an upper and a lower platform. A scan over the area between the coastguard station / houses SW of the lighthouse museum located the 6m square foundations of a second light house (Pharos)also a barracks, toilet and well. All of Roman design, presumably for the Roman lighthouse staff. There was no indication that the spring was live. Historically, the claim, not withstanding the large number of Roman coins located, and presence of Roman barracks, toilets and aqueducts, is that the site was occupied by the Picts. The first known historical reference to the Picts is AD 297. (pg 46 Place Names in Britain. Rivet & Smith))

The hillside bears evidence of having been well worked. Probably the lower site was excavated to exploit the local iron ore (still visible on the shore side below the lighthouse) Possibly the workers were locals (Picts?) plying for hire and glad of a job. When the ore was worked out and the springs ran dry, a fort was constructed on the lower slope. Both the lower upper and lower platforms were scanned. Each contained four barracks, a praetorium (Senior officer's house), a princeps (Offices) and granaries. All of Roman design. At this visit, none of the three wells on the site appeared to be active. The final well excavated and used for the lower (later) fort is known as the Burgh Head Well. This well is somewhat oddly signed and accessed by a narrow lane surrounded by houses. If you have gone over 50m from the fort site to find it, you have gone too far. The well is cut into solid sandstone and within a small plot, the locked gate is obtainable from a nearby house, but the well is perfectly visible through the grille of the door. The spring which feeds the well is still active, the well overflows to a Roman aqueduct. The

aqueduct was traced, firstly it fed a Roman spill well, situated on the shore side flat area under the lower fort's rampart. This well spilled to an adjacent standard wash place and toilet, the foundations are still in place. NJ10944-69226.

FORRES.

Forres recreation ground is overlooked by the Clun Hills, the largest hill NJ04458-59154, is surmounted by a tower dedicated to Admiral Lord Nelson. Adjacent to the public toilets, a highly visible ramp leads firstly to a c 40m x 20m flat area, NJ04227-59085, then circles and zig zags up the hill to the flat top (and Nelson's Tower). In my home area near Penrith, I have located two similar hills with paved access ramps which accessed via multi walls very senior official's residences (praetorium). So at Forres I was immediately aware that the hill site was probably designed to house a very senior Roman official. A scan across the platform at the bottom of the ramp confirmed it held the foundations of a

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walled gatehouse with two Roman barrack blocks. The toilet block foundations were located immediately to the north of the gatehouse. The gatehouse contained the sills of triple, inline gates, not the usual double in line gates found in standard forts, triple gates are the hall mark of a Roman governor's residence. South west of the ramp and gatehouse, is a flat area used for a cricket pitch. This flat area is enclosed for most of its perimeter by the ramps to Clun Hill ramparts and also the ramparts of a fort platform. A scan across the cricket pitch area showed that it contained the foundations of 16 rows of Roman barracks each row containing 4 barracks wide ie 64 barracks. Assuming 80 men per barrack = 5,120 infantry men. So then area was capable of accommodating a legion under tight conditions. The adjacent fort platform NJ04078-58963 with highly visible ramparts contained the foundations of eight barrack blocks. The fort was capable of housing 640 men. One wonders if this was one of the winter quarters of Severus's army. The section of the (originally walled) ramp uphill, immediately outside the gatehouse NJ04228-59015 was scanned and as expected, the standard six plinths for sculptures per side ie 12 in total, located.

My previous surveys of six Roman governors's dwellings, showed that they all had formal drives with flanking plinths for sculptures. The sculptures had a common theme, a lion or lioness chewing the head off a captive. This signified death in an amphitheatre "ad bestias" to any who trespass on the governor's property. My surveys at Cramond had shown that the (recumbent) Cramond lioness found in the River Almond, near Edinburgh, was one of six which flanked the formal drive from the harbour to the shore side trapezium shaped praetorium (The plinths are still in place). I notified Edinburgh Museum of the sites where three of the lionesses had been dumped, presumably by the Romans when they left the area in the hope of returning. The four (vertical) sculptures at Dacre Church, near Ullswater and the Kirby Thore Lion (recumbent) (British Museum) are similar in theme. The Dacre sculptures, four of originally twelve, lined the formal drive to the Roman governor's amazing hill fortress, Dunmallard (c500m x 450m), overlooking Ullswater, the finest in Britain, the roads are in place. Its Gaelic name was "The Hill of Fear", understandable with the nearby amphitheatre, an execution site.

The larger Clun Hill was briefly surveyed, the hill contained multi circumferential defensive walls, with triple gate gatehouses at each junction to the upper flat area. The uppermost flat area was also defended by an encircling wall with a final triple gated gatehouse, with external lilia man trap pits. Within the final defences are the foundations of a trapezium shaped turreted praetorium, roughly 60m x 40m with towers at each corner, the standard Roman governor's dwelling. Within the courtyard of the praetorium are the foundations of two courtyard buildings for the governor's staff. Nelson's Tower sits on the site of the governors own core structure, this would have contained his courtyard type villa, toilets, small bathhouse and temple. East of the tower, at a slightly lower level are the foundations of additional courtyard type buildings for the governor's staff. Whilst time prevented me from surveying the two adjacent flat hills NJ 0465-589 and NJ045-587, I would have no doubt that they would have also housed guards.

It is thought that Emperor Severus was based on Cramond when engaged on his invasion

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of northern Scotland c 2008-2011. Nicholas Holmes "Excavations of Roman Sites at Cramond" mentions that none standard Roman army issue luxury items have been found on the site. He stated that "It is not impossible to ignore the presence of the imperial family in this part of Scotland. One can but wonder if Forres was also a base for Severus on his campaigns. One alternative is that Forres was one of the residences of the governor of the area during the period when as Tacitus tells us "Rome held all Scotland, then lost it". In this period of occupation the Romans had constructed the visible line of forts along the Great Glen, as did the English, in the Hanovarian period. Inverness, Fort Augustus and Fort William Possibly Forres was a convenient site, near enough to the frontier to control it, But, far enough away not to be overrun by any local disturbances. This would mirror Penrith, in the final years of the Roman occupation of Britain, Hadrian's Wall was the frontier, but the northern governor and his staff where based 25mile south in Penrith with a personal 1,000 strong guard. (I've counted the barracks).

Surveys around Inverness Castle NH 6665-4509, indicate that the castle was built over a Roman fort site. The distinctive ladder shaped foundations of Roman barracks have been located by scan under the grass forecourt of the castle. Presumably these date from the time when Loch Ness was a Roman lake. As with all dominant sites, it carried on being fortified and used from David Ist in 1141 and presumably being rebuilt after each siege from Mary Queen of Scots, the Royalists, to Bonne Prince Charlie and finally rebuilt in the present form in 1834

Details of the Roman sites located in the Great Glen and northwards are detailed later.

ROMAN TRANSPORTATION HIGHWAYS.

The Rivers Truim, Spey, Feshie and Avon.

One of the best known fortified sites in Scotland alongside the Spey near Kingussie, is the Hanovarian Ruthven Barracks, NN7645-9980, Ruthven and the identical barracks at Benera, Glenelg, the original ferry site to Skye, both part of the English garrisons of the Highlands. Sadly, I'm told that Benera Barracks can now only be viewed from outside

due to structural failings.(2011). But still worth a visit combined with the local brochs. Ruthven Barracks are situated on a natural volcanic plug which provided a virtually impregnable natural fortress. Defensive works, presumably using Roman stonework and the Roman water supply, have been built on this site for centuries. The first English construction on the site was in 1718. The present barracks was constructed in 1746, replacing the one burnt during the 1745 problems. A scan over the site indicated the presence of Roman granaries by the stables. The reeded areas alongside the hill the Roman puddled clay line harbours. The foundations of a second Roman fort have been located immediately east of the access road to Ruthven barracks. NN 77660-9970.

Speybay is c7.5mile due east of Lossiemouth and as the name implies, where the River Spey discharges into the Moray Firth. The River Spey rises in the Monadhliath Mountains, in the area of the Corrieyairack pass. General Wade built a road through this pass, now a walkers delight, to link his Ness side Fort, “Augustus” to Ruthven Barracks.

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This followed the Roman route which linked their fort, Boylum, also overlooking Loch Ness, to one near the Bridge of Truim, (Newtonmore) a classic defensive position for a Roman site, flanked on two sides by the Rivers Spey and Truim. The Truim Roman site covered c15.2ha, (36.5acres) site, plus a guarding stone walled fort 3.6ha (8.64acre) NN6865-9535, a long, narrow, riverside harbour 1,0m x 40m and huge granary compounds. The site was capable of housing the major part of a legion. In an act of poetic justice, during the 1939-45 war, Italian prisoners were used to clear the Roman site, they dumped hundreds of tonnes of stonework down the banks of the nearby R.Truim, where it still lies. The prime purpose of the Truim site, was to support their massive ore exploitation site on Creag Dubh NN68-97, on the north bank of the bridged River Spey. The legacies of the ore exploitation, the man made terraces and scarred faces on Creag Dubh, (Black Crag) are best viewed from the caravan site, on the south bank of the Spey, or from the Ralia Café / Tourist Information Centre, on the A9, near Kingussie.

Near Loch Morlich, Aviemore, at the north side of the Grampians, now more widely know as the Cairngorms, the Romans exploited the metallic ores. Glenmore Lodge, now a tourist centre, was constructed on the platform of a small Roman fortlet, this guarded the northern end of the Lairig Laoigh pass to Braemar and the adjacent small settlement NH 97584-09464 situated in woodland, south of the camping field. At the end of the Pinewood caravan site, a ditch, formally a Roman canal, still curves around the site of the settlement's forum (shops), basilica (offices) temple and toilets. Nearby on the loch shore is the site of the 30m x 30m granary compound NH97310-09414. Several of the Roman canals, identified by their unique design of flanking aqueducts, (An early form of biological oxidation demand water control.) still provide site drainage. The nearby An Lochain Uaine, (NJ001-105), “The Green Loch” and overlooking terracing, are the result of Roman quarrying. Alongside the Green Loch, the Romans constructed a fortlet, with unusually two large strong rooms, their depressions still visible. Standing on the fort's ramparts, one can look one way to the Roman harbour, now reed filled, in the valley below and the other to the adjacent Green Loch. This harbour was connected, via Loch Morlich, to the R.Spey. The scars of ore exploitation are still visible SW of Ryvoan

Bothy NJ006-115. The bothy is situated at the head of the Roman road to Tomintoul and probably its stonework is from the original Roman building which stood on this site.

The northern end of the Lairig Ghru pass to Braemar was guarded by one fortlet, 40m x 40m at Piccadilly, NH93931-07371 and a fortlet c 40m x 40m by the track to the Cairngorm Club Bridge NH93507-07311. One probably provided a motel for marching troops. I recently located a strategically situated Roman fortlet, Alltachlair, ND12030-89935, between Braemar and the Linn of Dee, complete with its own supply canal to the River Dee. This fortlet guarded, not blocked, the southern end of the Cairngorm passes, its annexe contained barracks capable of accommodating a cohort (450) troops on the march. Sadly, all too often historians have negatively regarded Roman forts at the south end of the Highland's Glens, as blocking forts, not as forts guarding the Roman routes through the glens and providing accommodation for marching troops. Hence their claims that the Romans did not occupy the Highlands, nor the area north of them. Discerning users of the Highland passes such as the Lairig Grhu, Lairig an Laoigh, Glen Feshie and

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Corrieyairack, claimed as beyond Roman use and control, know otherwise.

In this respect Pat Southern's "Men and Mountains or geographical determinism and the conquest of Scotland" (Proceedings Society of Scot Antiquities 1996) is well worth reading. Sadly, Pat was refused a PhD, for her brilliant and farsighted thesis, because her Professor considered that the Romans had not occupied the Scottish Highlands. One can only assume that he and his like minded colleagues had never walked the Highland passes or ventured through the Chalamain Gap, (NN9650-0530). This short gap was cut through solid rock by the Romans to provide a short cut from the Lairig Ghru, the major pass through the Cairngorms, to Loch Morlich, a metallic ore exploitation settlement. One also wonders if they were aware of the huge Roman site at Cuill Bay NM97287-55657, north of Oban at the western entrance to the Great Glen. There is a full description of this site, the main Roman supply harbour and base for the Highlands, in a later chapter.

At Loch Garten, best known for its Osprey centre, the Romans constructed two Roman settlements NH97016-18752 and NH97016-18752. One section of the large defensive dyke NH97016-18752 is still visible alongside the modern road. Near the car park of the Osprey Centre, stonework of a Roman temple NH97527-18750 and the depression over its immersion chamber, is still visible alongside the loch. A small cemetery is adjacent, possibly for senior officers and officials. Nearby, still in place is the stonework lining the loch bank originally forming a harbour wall, adjacent is a raised platform which still contains the foundations of the settlement's granaries NH97418-18571. Possibly the newly built Loch Garten Osprey Centre could dual function and in the migratory season for ospreys or shortage of chicks, provide an alternative tourist attraction highlighting the extensive Roman presence in the area. .

There is visible evidence that access to Loch Garten was defended by rammed earth dykes, sections are visible (NH96524-19313) alongside the access road from the R. Spey This defensive system appears to be connected to a major rammed earth double dyke, set

on an overlapping cobble stone base, forming a frontier that flanked the southern shore of the River Spey. At Curr Wood, on the north side of the A95 and the R.Spey, (NH98604-22178) near Broomhill Station (Strathspey Railway) the remains of one of a pair of dykes towers over the road, the second dyke's line can still be located as it's stone base is still in place. This suggests that the Romans constructed a double dyke defence on both sides of the R.Spey, for at least some part of it's course. Further surveys are required.

Westwards on the southern bank of the R.Spey, the dykes from Loch Garton appeared to connect to a similar dyke system to Loch Morlich. Eastwards, the double dyke defences were located on the south side of the A95, at Bridge of Duir (NJ1200-3315), Advie junction (NJ1230-3410) and Tormore Wood near the Tormore Distillery. Four hundred metre east of the Tormore Distillery, on the north side of the road, is a lovely Roman fort platform (NJ1560-3540) c 180m long. The only accessible sections of the line of the frontier defences, west of the River Avon's confluence with the River Spey, the Advie (memorial) junction and Tormore Wood, were scanned. Unusually it showed that four lines of staggered lilia man traps had also been constructed along the line of the double

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dykes, evidence of both a considerable threat from the south and that the transportation highway, provided by the River Spey, was of vital importance to the Romans

The SPEY's FLANKING CANAL.

Whilst surveying for the Roman defensive dykes south of the A95 Road, at the Alvie junction, (Sadly, originally the site of war memorial so damaged by a careless driver it had to be removed). My attention was drawn to the obviously man made narrow platform, immediately north of the A95. (NJ12250-34100). The northern side of this c 20m wide platform had been formed into a defensive rampart and a stone walled, now infilled canal, constructed along the man formed platform. A scan indicated the presence of the canal's flanking aqueducts and their feeder aqueducts, set every 18m at 90degree to the canal line, their presence confirmed the Roman origin. Looking westwards from the road junction (war memorial site) across the road, a section of dyke is still visible. Further evidence of a flanking canal was noted at the Bridge of Duir NJ1200-33315 flanking the A95 to the east, following the 185m contour. A great deal of further survey work is required to locate the complete route of the canal. It is thought that this canal provided an all weather link to, or from, the River Avon, by passing the River Spey, very turbulent in winter. The linear navigation islands in the River Avon testify to the navigation by the Romans. OS Sheet No419, highlights these on the River Avon at NJ 1780-3625,1830-3540,1900-2780,1610-2788,1585-2770,1525-2625,1500-2570. The River Avon rises at Loch Avon, the very heart of the Cairngorms. I remember fording the fast flowing Avon whilst traversing the Lairig an Laoigh from Loch Morlich to Mars Lodge, it was well over my knees in the middle of summer. My long suffering wife Paddy, although a professional swimming instructor, was far from impressed with my choice of route.

The following navigation islands on the Spey, confirm it's navigation by the Romans. NH997-224. NJ022-256,077-299, 118-334,130-3523, 131-352,162-369. The River Spey also accesses the heart of the Cairngorms via it's tributary, the River Feshie. The route Glen Feshie to Braemar was considered as a route for a road for General Wade

and others since, but he did not build through it. Whilst I have skied in the Glen Feshie area and noted the linear navigation islands in the R..Feshie, I have not surveyed the east-west route to where it links to the Lairig Grhu. I do not consider that the Romans would have had a problem in constructing a road through the area. The Romans also navigated the River Dee to past Currou Bothy, on the Lairig Grhu. Not far from Ben Macdui.

As the Romans only used their roads for fast troop movement, they relied on the rivers, converted to transportation highways, to move their heavy and bulky loads, as did Industrial Britain in the 17th and 18th centuries. The nearly 100mile long canalised Spey formed one of the Highland's major transportation highways. The ramparted sites of the numerous forts guarding the course of the Spey are still clearly visible as you drive "The Whisky Trail", possibly as a further tourist attraction it should be renamed, The "Whisky and Roman fort trail". In addition to Tormore Fort, others can be seen from Rothes to Spey Bay, on the B.9015. The first fort is at Crofts Farm NJ28867-50801, to the west and above the road. The second, Kirkhill fort NJ30166-51338 is immediately to the east of the road. The third fort is at Station House NJ31253-52983 on the eastern side of the road.

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The fourth fort and what is probably a workers compound, is at Rosehill Farm NJ31220-55792 west of the road. The fifth is at Orbiston NJ57137-31602, this huge fortified site, west of the road, appears to be a construction workers site. Similar sites c 400m x 180m exist near Penrith, within a 600acre fortress site, akin to a modern day Aldershot. The remaining Roman sites located are north of the A96 Fochabers -Elgin road and are listed under Spey Bay.

SPEY BAY HARBOUR. (NJ 350-654) .

The large number of metallic ore exploitation sites along the banks of the upper Spey and its tributaries generated a huge volume of river traffic. To service these sites and the traffic they generated, the Romans had to construct a deep sea harbour capable of handling their 30m x 6m ships. The harbour was constructed east of the mouth of the Spey, alongside what is now the golf course. The harbour's foundations c1,300m long x 60m wide, located by magnetic anomaly, are still under the beach, buried by 2,000 years of driven sand and man's latest attempt to build up a barrier of rock to emulate Canute's holding back the rising tide (s). For comparison of scale, Hadrian's Wall was served by two harbours, the western one, Skinburness (Cumbria) measured 1,600m x 200m and the eastern one, South Shields, 1,300m x 70m. This comparison of harbour dimensions illustrates the size and value, of the Speyside ore exploitations to the Romans. The Spey harbour's guarding fortlet and the harbour workers encampment are yet to be located.

I am indebted to Francis Thompson author of "Speyside" for the following account. Apparently a boat building yard and hamlet called Kingston, grew up on the west bank of the then, mouth of the Spey, the timber for the vessels being floated down the Spey. Then after a great storm, the river changed direction and ended up on the east bank, the present course, leaving the Kingston's boat yards high and dry. A survey indicated that the Romans dammed the Spey in some form, the gravel banks prevent the original design being exposed. Possibly there was a spill way near Kingston, to cater for

the winter snow melt. The dam was required to raise the upstream level for navigation purposes and to force water via an aqueduct, to keep the (golf course) harbour flooded, a standard Roman design. The storm which isolated Kingston, left the western area a mass of gravel and possibly blasted an opening through the dam and the course of the Spey changed to the present eastern course, by the Spey Bay visitor centre. Flanking the road to the visitor centre, is the depression which carried the Roman harbour feeder aqueduct, a further view of the route of the depression over the aqueduct is eastwards, over the practice green. From the track alongside the golf course, one can also view the harbour's defensive dyke, built on stone foundations and the adjacent depression which still houses the buried feeder aqueduct to the Roman harbour.

BELLIE'S FORT Controlling the R.SPEY CROSSING (A96) & SPEY HARBOUR.
The only "Official" Roman site registered in the Spey Side area, is a temporary marching camp at Bellie, situated by the local cemetery on the road to Spey Bay. General Roy, the Hanovarian army engineer and cartographer also mapped this site. However the outline

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of a Roman double gateway can "clearly be seen" on the green, adjacent to Bellie cemetery walls. The gateways of marching camps were either, Titula, (earth dyke set in front of and across the camp opening), Clavicular (overlapping arms of the camps dyke) or Stracathro (opposing "C" shaped dykes protruding on either side of the camps dykes) (ramparts). NOT, standard Roman double gateways with stone foundations. Scans over the site located the foundations of the walls of a permanent fort NJ35277-61038 roughly 200m x 150m, 3ha (6.42acres) and the foundations of barracks and a praetorium. In the same area, in the wooded area, between the modern road to Spey Bay and the Spey, NJ34983-60882, accessed from the car park, are the clear outlines of a dyked and ditched defence designed for a permanent civilian Roman town or settlement. Within the dykes are two clearly visible Roman canals (identified by their flanking aqueducts). A scan on the Spey side of the canals, confirmed the presence of the foundations of insula, 70m x 10m Roman insulae, these had ten unpaved and one paved rooms. Presumably this settlement and the shops, alongside the Roman Bridge over the Spey, supplied the north-south road traffic and housed workers for the navigational systems, further proof of permanent, not transient, occupation.

SOME OTHER MORAY ROMAN FORTS.

Ian Keiller (Romans in Moray) who also recorded working on the Bellie site with the late Prof Barri Jones, one of the few Roman sites recorded in this part of Scotland, has recorded a Roman fort east of Portsoy, at Boyndie NJ654-636 alongside the A98 near Banff. Ground radar and excavations with Prof Barri Jones indicated that the fort was 120m x 110m 1.3ha (3.1acres). I noted a fort at what is now the RSPB site at Troup Head c3km NE of Gardenstown. NJ822251-67231. Unusually the fort sited on Pole Hill adjacent to the cliff, on a very draughty ridge, but with a superb view, was square c100m x 100m, 1ha (2.4acres). The fort was garrisoned by 480 men, the six barrack block foundations are in place. The footpath to the cliff top sea bird nesting site, passes the

depression of the fort's toilets cut into the cliffs. The supply aqueduct is still functioning. The depression of the high level supply harbour is visible, immediately to the east of the site. The new RSPB car park is sited at the head of the ladder locks down to the sea.

Downie Bay. The fort was supplied via this route. The rocks in this area are high grade metamorphic, therefore iron ore etc deposits are likely and why the fort was built here. Romans. Rivett & Smith's "The Place Names of Roman Britain" pgs 128 & 440 refers to Ptolemy's entry in Ravenna. Pinnata Castra a coastal fort west (?) of the R. Spey, associated with both an unusual number of birds. Troup Head (is east of the Spey).

FURTHER EVIDENCE of ROMAN ACTIVITY NORTHWARDS and AROUND THE GREAT GLEN, LOCH NESS ETC

NORTH OF ULLAPOOL.

A small Roman fortlet platform overlooking the north bank of the River Canaird, is clearly visible at NC1485-01723, adjacent to the A838 road north from Ullapool to Knockan. A small cottage with an outhouse with a bright green roof, has been constructed on the edge of the man made platform.

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INCHNADAMPH NC2510-217 and Area.

Between the Inchnadamph hotel and the River Traligill is a c80m x 30m Roman walled site with faint outlines of ramparts, upstream there is evidence of metallic ore exploitation, with one large mine shaft. At Stronchrubie NC245-187, a Roman linear navigation island in the River Loanan indicated it at one time had formed a transportation highway.

LOCH ASSYNT

Alongside and above of Loch Assynt, just west of the junction of the A837 and A894, NC23-25, there has been considerable surface iron ore exploitation, several smelter ramps are visible. NC22519-24998. A small section of the Roman Road flanking the loch, but at a higher level, is visible. Loch Assynt is connected by the River Inver to Loch Inver.

FORTLET between road and Loch Assynt NC23744—245025. c 80m x 30m. Adjacent enclosed harbour or fish trap.

LOCHINVER. West Coast, ASSYNT

The River Inver was navigated by the Romans to form a transportation highway to supply their ore exploitation operations alongside Lochinver. Linear navigation islands can be seen at NC117-234 and NC128-243. The navigation of River Inver suggests that a deep sea Roman harbour can be found at the mouth of the Inver at Lochinver and possibly also one at Loch Inverkaig.

INVERKAIG.

Inverkaig is south of Lochinver, the main claim to fame is Achin's well stocked book and tea shop. The site was a Roman fortlet, NC 0835-1921. From the bookshop a lovely section of Roman road is visible on the walk in to the Falls of Kinkaig. NC11-18. I think

it more likely that the metallic ore content locally, not the charms of Suilven, formed the attraction for the Romans. The Falls of Kinkaig were by passed by a set of ladder locks.

A tiny fortified site NC1215-1740, c 20m x 15m, at the top of the road from the Falls of Kinkaig is just visible alongside what was the Roman Road passing or accessing Suilven.

LOCH GLENDHU accessed from KYLESCU.

At Glendhu NC 284-337, accessed via a good shore side path, are the foundations of a small Roman fortlet, adjacent are the remains of smelter ramps. Nearby is the remains of a stone quay. Upper left of the photo can be seen the terraced ore working sites. A site worth further exploration.

KYLESCU NC21875-34512.

Fortlet c40m x 30m (Mainly under car park) Ramparts and some stonework visible.

SCOURIE NC1587-4473

Fortlet c 40m 30m mainly under road, one section of rampart visible in road. (alongside road site area map) Stonework of Roman navigational stonework visible in river below.

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ALTANABRADHAN NC 0470-2600. (One kilometre north of Achelmelvitch and one km south of Clachtoll). Remains of Mill House on Roman foundations. The foundations and aqueducts to Roman design suggest that this small mill was of Roman origin, not Norse, although it of course could have been put back into use by the Vikings or locals.

ACHMELVITCH (ASSYNT)

Fortlet NC05750-24859 c60m x 45m Adjacent to car park.

Fortlet NC 05625-24751 c 40m x 20m (By Campsite)

STOER (Assynt)

Broch (NC03688-27853), Clachtoll. The broch has been Romanised to create a quick fit Roman fortlet. (As Broch Dun Aisagain overlooking Loch Tuath, Isle of Mull). A puddled clay lined harbour, now reeded, lies to the Brochs landward side. The adjacent sandstone has been worked for iron ore. One wonders who built the brochs, circular drystone buildings, a truncated cone, with an internal wall and a space between the two walls. Mostly found in North Scotland. In Sardinia, at Su Nuraxi, there are similar constructions called Nuraghi, dated to c1500BC. Copper, lead, iron and zinc ores have been exploited on the island. In China, the Hakkas were unique for constructing circular buildings, also with a space between the internal and external wall, but in rammed earth, instead of stone. There appears to be association of metallic ore exploitation and Brochs.

STOER. Near lighthouse

Roman fort NC01-33 c100m x 80m 0.8ha (1.92acres). The fort walls have been slighted, a large amount of stone is still visible on the site.

Roman fort NC013-335 c 180m x 80. 1.4ha (3.4acres) Overlooking Old Man of Stoer. Possibly this fortified site housed the workers engaged on the iron ore exploitation.

THE ROMAN TOWN OF ULLAPOOL.

Ullapool is situated on Loch Broom, 50 mile NW of Inverness, it is the main ferry port for the Hebridean Isle of Lewis. The history of the town is sparse, folk being too busy fighting for survival to record historic events. There is no record of Roman occupation and certainly none of Chinese. But there is certainly evidence of buildings and harbours of Chinese design. The Chinese and Romans traded and exchanged engineering information from 170BC, the Romans also appear to have received mining expertise. The Chinese had a huge base on Cape Breton Island, Nova Scotia. This combined with their recently found canal from the Pacific to Lake Nicaragua and down the Rio San Juan to the Pacific, combined with the canal from the Red Sea to the Nile gave the Chinese all the advantages of the transportation sort cuts that modern vessels now have. The first impression that a discerning visitor has of Ullapool is the huge platform that the old town sites on. This is described by J.L.Roberts author of the Highland Geology Trail as a wide terrace of superficial deposit, others describe it as a raised sea bed. Whilst I believe nature to be wonderful, it is not renowned for straight lines. A walk down the banks of the River Ullapool provides an explanation for the north side of the platform, ie spoil deposited by the heavy river flow, but does not explain the uniformity and the mathematical squareness of the platform what is now West Terrace, the shore facing

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main road. I consider that the Romans modified the shore side of the platform to form a uniform face on which they constructed their defensive wall, the foundations detectable by magnetic anomaly, are becoming visible with erosion of the steep bank. It is most marked that that the Roman / Chinese fort situated on what is now Broomfield Holiday Park marks the end of the return inland of the platform on which the Romans constructed their town. The town ramparts cover an area c 400m north south and inland for c 200m 8ha (19.2acres). The eastern line of the Roman town's defences have been located and are now marked by Seaforth Lane and just to the west of the Tesco Supermarket.

The foundations of the Roman town's forum (shops), basilica (offices) and a toilet block are in a east west line in the open area in front (north) of the Coast Guard site. The shops were supplied via a short canal with connection to a small harbour at the NE corner of the Broomfield Holiday Park, NH 12565-93942, the adjacent raised platform contains the foundations of granary. A canal linked the inland harbour via West Street to the deep sea, shore side Roman Harbour. The foundations of the Roman town's main toilet are situated in the grassed area adjacent to the town walls at the south end of Shore Street. NH12-94. The foundations of the town's insulae c70m x 10m, with 10 unpaved rooms and one paved room all lie under what is now the car and lorry park.

The ridges and depressions on the Broomfield Holiday Park, indicated that foundations lay under it, these also show on Google Earth. Scans across the site located the foundations of a very unusual double walled fort with external towers at each corner. NH 12540-93885, a typical Chinese design. The fort c 120m x 70m 0.84ha (2.016acres) was divided into two sections with an internal gateway. The north side contained the foundations of six standard Roman barracks, indicating a garrison of 480 men a cohort, a standard praetorium (officer's house) and principaea, (fort's office) and two granaries. The south side contained the foundations of typical Chinese buildings each 30m x 10m

divided into three rooms, the centre paved, the others unpaved. Buildings of this design have been found in every Chinese town in New Zealand and also on Arran and in the Chinese double walled town at Laversdale, just north of Carlisle's Airport..

A further fortlet guards the northern approach to the town, this is situated at The Moss, alongside the River Ullapool, the fortlet's platform NH12792-94554, is still visible alongside a ramp to the area. Two cemeteries were located. The larger is situated between the River Ullapool, Riverside Terrace and Old Moss Road, the area is marked on the map as Moss. One walled area is approx 1m high had held the officers and their families, immediately to the north is a temple site, NH12792-94554. The other folks were buried in the standard kerbed c20m sq plots each with 40 inhumations in a 10 x 4 configuration orientated North- South.. Several sunken sites contained the foundations of Romano Celtic temples, the still, running aqueducts which fed the immersion chambers being responsible for the settlement. Temples were also located at NH12712-94497, c20m sq, 12660-9401, c 12m sq and 12636-94399, c 18m sq. Presumably the number of temples is explained by some being dedicated to families and some to army units stationed there. I have noted similar duplication in a massive cemetery designed to hold c 10,000 near Ullswater.

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A lovely section of agger (raised road) runs northwards across the centre of the cemetery to the river NH 12712-94419. The second cemetery is situated north of Castle Terrace and runs to the River Ullapool, it is bounded by the shore to Loch Broom. It contains the standard 20m sq kerbed plots, with the occupants in a 10 x 4 configuration ie 40 inhumations, with a N-S orientation.

Roman Harbour. This is situated flanking West Shore Street. This site would have provided some protection from winds up Loch Broom. The harbour is c 120m long and contains four fairly equal sized sections. The tide level only enabled the shore side section of the harbour's foundations to be located by magnetic anomaly. They run from NH 12694-93865 to 12577-93760. Between the harbour walls and West Shore Street the Roman ran a large aqueduct with connections to each section, this kept the harbour topped up. The harbour fitted with a water retaining cill, would have been accessed via locks from full to half tide. Near Ullapool Point at the end of West Shore Street is a notice warning of the instability of the bank. The instability is due to the bank is overlying the Roman water feeder aqueduct to the harbour. The drainage from the fort on the Holiday Park fed this aqueduct. See sketch of the design of Roman deep sea harbours.

Chinese Harbours. A scan was run along the shore side below the West Terrace, once used as the town's dump and now an extension to the holiday park. The scan located the unique signatures of three Chinese slot harbours, each 28m wide internally, also identified within the harbours were the keel slots and the pads on which the junks sat. The aqueduct which supplied water to flush debris from the keel slots in the harbour was located and its source traced via the shore side of the town's ramparts of Castle Terrace and West Terrace to a dam across the River Ullapool. En route, the aqueduct also provided the water supply for the crew's barracks and toilets sited on the foreshore. The three harbours ran from NH 12401-94038 to NH123449-94136, roughly 100m. Via

Google satellite, evidence of shoreside underwater constructions can be seen. Each harbour would have been capable of holding a junk probably c 80m long x c 25m beam. Similar harbours have been located on Arran and on both Islands of New Zealand.

Previous surveys of Chinese sites had located on shore barracks for the junk's crews. These contained eight (not 10 as in Roman barracks) 4m x 4m unpaved rooms and one paved 4m x 4m room for an officer, we have to assume that the occupation of each room was the same as the Romans ie 8 per room. Locating these barracks on the Isle of Arran and all around New Zealand, enabled us to estimate the size of the junk's crews and also to confirm the size of junk using the harbours. On the shore under West Terrace are two ramparted platforms. One NH 12401-94038, by the ramp to the beach, is c90m x 48m it contains the foundations of 12 barrack blocks each could hold 64 men, ie 768 men, crew for two junks of the size indicated by the harbour. An adjacent raised platform NH12355-92284 contains the foundations of six more barracks, each holding 64 men, ie 384 men. This indicates the construction of a third harbour for a third junk and crew based at Ullapool. South of the larger platform (and the ramp) are the foundations of a line of six toilet blocks each c 10m x 6m. The most southern toilet position is NH 12382-94146. Again further evidence of the size of the junk's crews stationed at Ullapool.

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The small (c8msq) raised area near the ramp appears to be a temple NH12352-94264. The other small, circular, raised site NH12355-94299 is probably the base for a lighthouse (Pharos) to guide the ships to port, the remains of a similar fortified base is visible, due to settlement, at the corner of West Terrace and Castle Terrace, this gives a clear view down Loch Broom.

ULLAPOOL'S ORE EXTRACTION.

The sites of the ore extraction area terraces, the sole reason for the construction and occupation of Roman Ullapool can be seen overlooking the town from the east. The original Roman road, accessed from Broom Court, by the electricity sub station, is now used as a footpath to access the hill walks. The adjacent burn was canalised and used to transport the spoil / ore to the treatment plants by the River Ullapool. Worked terracing can also be viewed at NH13244-94648 by the seat for the weary walker. It is thought that iron was being exploited, one also wonders at the presence of gold in the narrow quartzite veins in the area. Chinese miner's expertise in mining gold was legendary. On the Isle of Arran one site was exploited by hush mining to access the gold. Hush mining entailed forming large pools of water above the area to be worked. The sudden release of the water removed the ground soil off the bedrock and eased access. On the Isle of Arran several sites have been located with buildings of Chinese design, including one raised platform containing the foundations of double walled turreted small Chinese town, even one cemetery with vertical (foetus position) burials. (Arran's Roman Heritage. T.C.Bell, available in Arran's Library). I hope this publication inspires folk to carry out a detailed survey of the hills above Ullapool to locate further evidence of the ancients work.

SOUTH OF ULLAPOOL. INCHBAE.

In 2003, when returning from the Isle of Lewis, via Ullapool, my wife and I stopped for coffee at the Inchbae Hotel, (NH400-694). Mr Jefferson the owner, allowed us to view

the site. (He was copied the survey) The site is situated on a bend of the Glascarnoch River, this is part of a river system which connects Loch Broom with the Cromarty Firth, near Dingwall. Alongside the hotel, it was fascinating to see that the river contained a lovely example of a Roman linear island and the remains of the weir which forced the river into the locks situated between the main bank and the linear island. A survey of the site revealed the presence of the ramparts of a small Roman fort's ramparts and also the very clear ramparts with visible stone of an adjacent granary compound. The depressions in the field opposite the hotel indicated the presence of further Roman remains. The presence of a Roman site at Inchbae, suggests that the Romans had canalised the river system to link the east coast with the west coast. A survey for a Roman fort and deep sea harbour by Dingwall, may be interesting. The Ullapool – Dingwall canal route would also compliment the Roman Great Glen, Loch Ness canal route.

CUILL BAY. ENTRANCE to LOCH LINNHE and GREAT GLEN

At Cuill Bay NM97287-55657), the Romans constructed a major deep sea harbour utilising the arms of a natural syncline. This harbour was presumably used to both supply the western end of the Great Glen operations and transfer cargoes to smaller ships, ie 10m x 3m for the Great Glen canal route to the east via Inverness. Overlooking the harbour

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they constructed a large platform and built a fort 300m x 200m 6ha (14acres). Alongside are two smaller forts, one by the shore side road NM97955-55112 240m x 70m 1.6ha (4acres) and one, north of the harbour NM95579-56011, roughly 150m x 70m.

DURON, NEAR Cuill Bay on the eastern side of the A828 Oban to Ballachulish the platforms of a small fortlet and signal tower base are visible NM 9991-56037.

LOCH LEVEN ROMAN BRIDGE.

The Roman built a road from Oban to Ballachulish, Loch Leven was bridged at this point. The ramparts of the fortlet's which guarded the bridge are still visible on the north bank, immediately under the modern bridge.

OBAN TO BALLACHULISH Roman Road.

A superb section of Roman Road, roughly 100m long x 5m wide section of the road from Oban to Ballachulish can be seen (NN0120-5830) between the old railway line and the Holly Tree restaurant roughly three mile south of the Ballachulish bridge.

ONICH. (North of Ballachulish)

Fortlet 400m W of service station. Raised platform alongside road in Hotel grounds. NN 16178-51473. 40m x 20m

INVERNESS TO FORT WILLIAM.

The visible evidence shows that the Romans constructed a line of defences flanking the Great Glen to guard their East West canal and the nearby ore exploitation sites, the same route as the later Caledonian Canal from Inverness to Fort William. The Roman forts where situated at Inverness (and area) Loch Ness, Fort Augustus and Fort William. The English defence line along the same route consisted of forts at Inverness, Fort Augustus

and Fort William and later the artillery fort, Fort George by Inverness Airport, this huge fort is in perfect condition and well worth the visit.

INVERNESS

Upstream of the River Ness from the castle there are several Roman navigation islands in the river, now linked by foot bridges. One of these contains a small Roman fortlet NH6639-4400. The banks of the island are dyked.

NH6639-4400 the guard house for the navigation system to Loch Ness. Canal locks remains are on the north bank NH6632-4365, 6639-4400 and spill canal at 6632-4365. A granary compound was noted at NH6632-4370 and a fortlet with a prominent rampart located under the Rugby pitch NH65378-4337. A prominent length of agger was also noted in the children's section of Whin's Park NH6549-43332 alongside the playground lovely Pirate Ship.

LOCH DOCHF0UR

Alongside the south bank of the eastern entrance to Loch Ness a number of fortlets were constructed, this suggests that the River Ness, shallow at this point, was bridged. Possibly

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ABBAN WATER. The mainly enclosed area on the north bank appears to have been the eastern Roman reception harbour for the smelted ores from around Fort Augustus. A site worthy of further surveys.

SOUTH BANK of LOCH DOCHF0UR (River Ness) ROMAN SITES.

Fort NH6047-3786 90m x 50m 0.45ha (1.08acre) . Track north of Aldourie Castle.

Fort NH 6058-3847 90m x 60m 0.54ha (1.3acres) On ridge above track. Track is route of Roman road with visible stonework.

Harbour NH6066-3848, 30m x 15m.

Fort NH6067-3870 60m x 60m .36ha (0.86acres)

Old Wooden ship wrecked in adjacent bay. Signal Tower on point.

LOCH NESS

Fort NH 5873-3313. 270m x 40m 1.08ha (2.3acres) on southern shore of Loch Ness. 25m east of Fort Augustus. The complete south shore was scanned only one fort located.

FORT AUGUSTUS. (Named after George Third's son, The Duke of Cumberland). This area contains several Roman sites.

FORT AUGUSTUS ABBEY, was constructed on a Roman fort. NH 3808-0930 140m x 100m 1.4ha (3.336acres). A carved Roman stone and a coin have been located at the the Abbey. In areas free from the Abbey buildings, scans located Roman foundations. One wonders if the Romans saw the Loch Ness Monster, as the Abbot did from this site..

FORT AUGUSTUS. FORT BORLUM NH38605-03319.

c 200m x 100m 2ha (4.8acres). Borlum in Gaelic means ridge of arable land. This site has the highly visible stonework of the Roman gateways overlooking Loch Ness and the Abbey. This fort controlled the Corrieyairach Pass, one of Scotland's lovely passes, well known to hill walkers. The pass forms the SW approach to Fort Augustus from Ruthven barracks. Hanovarian General Wade later modified the Roman road over the pass, constructing 13 "S" bends to enable the army's horse drawn vehicles to use it..

LOVAT HOTEL FORT NH3785-0905.

The Lovat Hotel is built on the Roman trapezium shaped fort platform c180m x 80m.

FORT AUGUSTUS CAMPSITE. NH3730-0830 (Alongside Golf Club)

Fortlet c 30m x 30m. The variations in the surface of this camp site (one of my favourites over the years) indicate the foundations under. The foundations of a 24m x 24m granary compound are still in place in the depression south of the clubhouse. A Roman signal tower platform is visible opposite the camp site toilet block.

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FORT AUGUSTUS, GOLF COURSE

Fortlet NH3724-0882 50m x 35m. With visible adjacent harbour depression alongside the River Oich. The stonework of the Roman sites and roads is rapidly being removed.

FORT AUGUSTUS. DEFENSIVE LINE OF FORTLETS.

A chain of small forts where constructed along the north bank from Jenkinson's Wood, to Torr Dhuin, including the Romanisation of this hill fort. The small forts have been mainly destroyed by forestry ploughing work, however their foundations can still be located, some stonework is still visible..

JENKINSON'S WOOD.

FORTLET. North Bank River Oich, Forestry Picnic Site NH3669-0898. An interesting walk to Torr Dhuin via the Roman canal.

GREAT GLEN CANAL.(Roman)

The Roman Loch Ness to Fort William canal system commenced at Fort Augustus. They constructed a two metre wide canal on the north bank of the River Oich, in addition to canalizing the River Oich for their Loch Ness to Fort William navigation.

TORR DHUIN. (Romanised Hill fort) (well worth a visit, lovely view from the top.)

A separate canal was constructed to form a transportation highway from Torr Dhuin, a major source of iron ore to Fort Augustus. The stonework of this canal and the weirs designed to divert water into the canal can still be seen.

TORR DHUIN, NH 3480-0680 North of the River Oich. This industrialized site 300m x 100m site is protected from the river by a man made dyke still c 2m high set on a cobble

stone foundation. (Located by magnetic anomaly). The site contains a fortified barrack block compound and a harbour c100m x 50m associated with ore extraction. This Torr was an ancient hill fort extended and Romanised, it overlooks the exploitation site.

FORT AUGUSTUS TO TORR DHUIN CANAL STRUCTURES.

The following lists the visible canal infrastructures from Jenkinson's Wood to Torr Dhuin's ore exploitation site and the sites of the fortlets which formed a defence line along the canal.

Canal Locks NH3670-0826

NH3683-0851 Weir and spill (Topping up canal)

NH3685-0894 Canal

NH3676-0846 Bridge

NM3670-0826 Dam and Spill (Topping up canal)

FORT NH3623-0761. 60m x 50m, Alongside R.Oich, Forested site. Some stone.

HARBOUR NH 3622-0744

FORTLET. NH 3609-0724 50m x 50m

NH 3597-0716 Weir and Spill (For topping up canal)

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NH3578-0717 Canal.

NH3538-0713 Stone quay

FORTLET NH3543-0701 c 50m x 50m. Heavily forested.

NH3514-0712 Riverside harbour.

NH3503-0672 Riverside harbour.

NH3510-0690 Riverside harbour .

BRIDGE OF OICH

Fortlet NH3363-0458 Walls incorporated into farm buildings.

This site is up the track on west bank of River Oich, evidence of iron workings in area..

GAIRLOCHY

Fortlet NH1757-8405, 30m x 30m This site is immediately south of the Caledonian canal bridge and below it.

NH 1781-8441 Remains of Roman Road

NH 1699-8345. Remains of linear navigation island River Oich.

INVERMORISTON. (North of Loch Ness)

Fortlet NH 4180-1660 (Invermoriston Holidays Site)

Fortlet under buildings, rampart runs across entrance to site. Small harbour in depression.

Site part protected by dyke, access to the harbour through stoned gated gap.

Linear navigation island adjacent to camp site for River Moriston..

Fort NH 3133-1384 & Harbour. Alongside River Moriston.

ACHTAIN ESTATE. (Invermoriston)

Extremely Large scale iron ore workings, exposed roasting vessels, smelters etc.
Fortlet NH. 2780- 1250, ACHTAIN (House) sited on Roman fort.
Achtain's Swiss owner also owns the local estate. .

NH 2536-1164 Large Smelter Site alongside River Moriston. Very prominent smelter ramps, adjacent harbours. Adjacent fort mainly under modern road.

The Romans engaged in large scale ore exploitation in Glen Moriston, north from Fort Augustus. At Achtain, a huge Roman smelter plant, with recently exposed smelters, indicates why the complete glen was denuded of trees, they were used to make charcoal, used for the smelters.. The present owner has planted over 100,000 trees to re forest the glen, everywhere he has planted, he has come upon ancient tree roots indicating the pre Roman extent of the forests. The owner was unaware of the Roman connection until my survey of the river navigation and the smelter plant.

GLENCOE.

Fort NN0975-5870 alongside Glencoe Hotel, near Loch Linne.
Roman road down Glencoe, with branch off eastwards, via Devil's Staircase, overlaid by

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Wade's Military road, to Kinlochleven & then to Fort William. Fortlet at Kinlochleven.

GLENCOE, (HOSPITAL AREA) considerable workings (possibly for gold. Gold has been worked at nearby Tyndrum. Plans exist to reopen the workings.

Fortlet NN105-598, north end, overlooking artificial lake, originally Roman harbour.

GLENCOE, From A82 Near King House Hotel take road SW to Glen Etive
Fortlet, by layby. NN 21794-52025 c 40m x 20m, alongside River Etive
Foundation stonework visible. Depression to west of site houses, bathhouse, toilet block..

BALLACHULISH TO KINLOCHIEVEN. PICNIC SITE. B863.

Fortlet. NN16000-61580.60m x 40m. Some stonework of bathhouse visible below fortlet on slope to Loch Leven

ROMAN ROAD, paralleling modern road, kerb edges visible. This road runs eastwards over shoulder from Glencoe Hospital to Loch Leven

KINLOCHIEVEN. LOCH LEVEN.

Fortlet NN19172-61880, 40m x 30m Signal tower at east end.
Bridge. NN19134-6181

ROMAN ROAD, NS paralleling modern road for first 400m.
NN 18887-62441 Canal system presumably for ore extraction operations.
Good example of dam and bye pass locks. Bedrock cut out to hold 150mm sq posts for supporting the navigation locks. View upstream from footbridge over burn.

ARGYLE WAS A MAJOR SOURCE OF SCOTLAND'S COPPER.

See, A Gazetteer to the metal mines of Scotland, G.Ritchie's The Archaeology of Argyll provides lists of carbon dating of sites, it also denies presence of Romans, yet area major source of copper. Kilmartin museum has Roman pottery and glass, some ex Dunadd.

DUNTRUNE.

Roman fort NM7942-9658, The fort's southern gateway complete with residual stone, overlooks Duntrune Castle from its position immediately inside the entrance to the castle grounds. The remainder of the fort occupies the ridge under the formal gardens. These delightful gardens are open to the public. The nearby River Add, which access Dunnadd (Dun) contains Roman linear navigation islands.

KILMARTIN

Fort NM8345-9885. The church is built on a very prominent Roman fort platform.

Fort Dunadd NM8380-9370. An ancient Dun, at one period Romanised, aqueducts and barracks located. Amusingly a mirror site to a Romanised fort I call Georgious (NM5551-

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4238) after my late friend who took me to it north of Killiechronan, on Mull. Having surveyed the Mull fort I was able to go to exactly the same sited barracks at Dunadd.

ACHNABRECK.

Fort NR 85121-90834 c 40m x 36m with visible rampart alongside car park. Take path uphill for a short walk to exposed rock face with what are claimed to be the among the best pre historic ring markings in Scotland. The area was worked by the Romans, smelter ramps and the remains of a Roman canal, plus its integral aqueducts are nearby. Possibly why the markings are the best in Scotland, the Romans were brilliant at stone workings!!

ACHINDRAIN TOWNSHIP NM83579-99142. A83 Loch Fyne 5m south of Inverary. Tourist attraction based on original; Roman industrial site, adjacent ore worked terraces.

CRARAE GARDENS NR9850-9740 (9m South of Inverary on A83)

The main house is built on the Roman fort platform. The ravine was navigated by locks which by passed the falls. The official view is that the site contained chambered cairns. Scans located ten chambers, in two rows of five, each with Roman style paths and ditches with an external ditch. One wonders if these were Roman metal storage chambers for valuable material, prior to shipment, Not chambered cairns. Ie No Romans in Argyle!!

DUNCHRAIG CIRCLE. NM83300-96400.

The Romans constructed a Romano Celtic temple within the site, the temple's immersion bath was fed from the spring over which all circles are constructed. Adjacent burn canalised by Romans, complete with flanking aqueducts.

TEMPLEWOOD CIRCLE. NM8200-9765.

The Romans constructed a c20m x 10 m Romano Celtic temple within the circle. The temple's immersion bath was fed from the spring. Coins have been found within circle.

KILMARTIN CASTLE NM83700-99150.

The beautiful restored small castle was constructed over a Roman fort site.

CAERNASSERIE CASTLE NM 83850-00750

This castle was built over a Roman fort site. The water supply is via a Roman aqueduct. The adjacent site NM8400-0070 was probably the quarrier's fortified compound.

DRUMLANRIG CASTLE, DUMFRIESSHIRE NX 8520-9940

No list of Scottish Roman sites could be complete without a reference to Drumlanrig Castle, to my mind probably Scotland's finest unspoilt Roman site. Following receipt of my first survey of the Estate, I received a letter from the Duke of Buccleuch who had given permission for the survey, he said "All my life I had wondered what those lumps and bumps represented, now I know, thanks to your survey". Two of the still visible "Bumps" down the drive to the castle are the Roman bastions which supported missile batteries, sited one each side of the main gate to the fortress. A full description of my surveys would fill a book itself, this is just a summary. The site is alongside the River

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Nith which was canalised by the Romans to both supply their sites and service their ore exploitation from the nearby Lowther Hills, Wanlockhead and Leadhills, accessed via the Mennoch Pass. Gold and lead were exploited. Drumlanrig (Queensbury Estate) contains a 125ha (300acre) walled fortress, which contains eight forts, two looking like long low hills, can be seen on the right when driving uphill from the river, before swinging left to the main flat entrance road to the castle. One of the normal rectangular shaped forts was partially excavated by the TV Time Team. The ramparts of this fortress still overlook the river, complete with bastions designed for missile launchers, one overlooks the Drumlanrig Bridge.

Just upstream from Drumlanrig bridge, overlooking the access road to the castle, is the finest example in Britain of a complete Roman spill dam and return dyke, both are as high as a double deck bus. This dam forced the river into the adjacent loch, the fortress's inner harbour. Adjacent to this loch is a huge walled area which contains the foundations of 100 barrack blocks, sufficient to house an 8,000 strong army. Possibly this site was the winter quarters for a Roman invading army. There is also evidence upstream of a Roman arch dam, (by Creel Bridge) which diverted water into a still visible canal, it is not known if the two dams were in operation at the same time. Overlapping the edge of 125ha (300acre) fortress is a second, later trapezium shaped fortress c 50ha (120acres). The ramparts of this fortress now form the 620m long main drive to the present Drumlanrig Castle, probably the site of the original governor's praetorium. This 120acre fortress was probably designed for a legion. The sites of the major bathhouse and temple have been located under the main lawn. NX8521799053. The principia (offices) were located by chance, whilst surveying through a wood I noticed a tractor clearing a path when its blade edge sliced through red sandstone, NX84537-99635, it was the fortress's principia (offices) c50m x 36m, the adjacent praetorium (Officers quarters) measured 15m sq. My

colleague Jozien Bloch also located the site's lovely 80m wide D theatre, constructed within a disused quarry, NX8520-9885. The main Roman harbour NX85626-98958 is 800m long and 200m wide 16ha (40acres) and protected by a visible rammed earth dyke.

On the East bank of the River Nith within a bend, the Romans constructed a town NX 860-993 27ha (65acres). The occupants were housed in insulae, the civilian equivalent of military barracks, each 70m x 10m with ten unpaved rooms and one paved one. We do not know if they had two floors or not, certainly the huge strip rubble foundations could have supported them. The Romans followed their standard practice of constructing a whale shaped platform, using spoil from the adjacent harbours and canal to site the forum (shops) and basilica (offices). A canal crossed the platform at right angles to serve the upper harbour, used to supply the shops. The other half of the platform contains the foundations of a small D. shaped theatre.

PENPONT. By Drumlanrig.

NX 85294-94803 Site of large scale Roman (detrital) iron ore excavations alongside river. One side of the bank has been totally flattened.

Fortlet NX8490-9450 50m sq North of the church.

Fortlet NX 8480-9447 Mainly under the church

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Fortlet NX 8520-9475 5m sq. Campsite over.

Fort NX8510-9495 North of camp site To be surveyed.

Smelter ramps NX85294-94803 on Cliff edge above excavated area alongside river .

WANLOCKHEAD

Fortlet NS8740-1290

Fortlet NS8750-1295

Ladder Locks NS87019-12931 Opposite Church and Beam Engine.

These ladder locks are one of the finest examples of Roman marine engineering in Britain. Following a comment by the curator of the Wanlockhead museum that whilst they were sure that the Romans had mined in the area, they had not located any sites. From my base at Drumlanrig I surveyed the area, for free, and gave the survey report to the museum curator. The report also referred to the Roman ladder locks at Wanlockhead NS8709-12931 part of the 170m lift to Drumlanrig. A copy was passed it to the County archaeologist, who stated to the curator that the report is rubbish, as Roman canals could "NOT" go up hill. There was no question of contacting me and asking me to explain the design of Roman canals. Nor stating, "I have no knowledge of Roman or any other canals, so I cannot comment". The oldest canal in the world which connected the Nile to the Red Sea was constructed in c 500BC, it contained a lock, as did all Roman and Chinese canals.

MENNOCK PASS.

This pass connected Wanlockhead and Leadhills, both Roman ore exploitation sites, to the major Roman site at Drumlanrig. Mennock Water which flows through part of the pass was canalised and connected by a canal and ladder locks over the pass to form a transportation highway between the Roman sites. One fort guards the pass NS84742-10438, possibly the unusual platform resulted from metallic ore exploitation and when

the seam was worked out, the site used for a fort. Two additional barracks have been built into the fort, ie six to eight, indicating the site's use as a staging post for mobile patrols.

THE DEVILS DYKE. BELLYBOUGHT HILL NX90784-99203. LOWTHER HILLS.
I was asked my opinion of the Devils Dyke by the late Duke of Buccleuch. Time dictated that I was only able to survey the section by Burn Farm.

The Devil's Dyke consists of the standard Roman defensive parallel double dykes constructed of rammed earth. (As the vallum south of Hadrian's Wall). Each dyke was constructed over a rammed cobble stone base, this overlapped the dyke to provide stability and also where the dykes have been ploughed out enabled the dyke's route to be identified by magnetic anomaly.. External to the dykes a c6m wide ditch was constructed towards the threat ie the hill side. Below a section of the hill side dyke was the remains of a cultivation terrace, complete with irrigation aqueducts. The external ditch had been used as a water collector and piped under the dyke to feed the terraces aqueducts. This was the first Roman cultivated terrace I had found, a brilliant engineering operation. Adjacent to the highest point of the dykes was the remains of a sheep pen, it's first use had been a gatehouse though the dykes, complete with a small guard room. From the hillside a very unusual flat area could be seen alongside the nearby burn. The dykes ran

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alongside this c 60m x 40m area NX90807-98442, accessed by a paved ramp. One remaining smelter ramp c10 m long x 1m high, contained 10 small furnaces, this confirmed that the site had originally housed a smelter operation. Scans showed that the aqueduct system was still in place below the surface. The aqueducts fed from the adjacent burn supplied the water to drive the water wheels which operated the bellows and provided the combustion air for the smelters. The site probably contained around 100 smelters, one of the largest smelter sites I have located in Scotland. Only a careful examination of the contents of one of the remaining furnaces will generate the type of metal being exploited, Lead or gold. Nearby was a very clear canal system and a Roman fort or walled barracks NX 90513-98272, c 170m x 150m, this could have housed the workers engaged in the ore exploitation.

There is evidence that the Devil's Dyke enclosed Drumlanrig and ran back to Dumfries. I have also located a double dyke system from the Solway Roman port of Caelaverock to Dumfries I also suspect this dyke frontier also ran eastwards to form a north bank Solway defence and connected into Hadrian's Wall, or one of the pre Hadrian's Wall frontiers.

PENICUIK ROMAN TOWN. NT24060-63124.

This town c 120ha (336acres) with probable suburbs, is sited alongside the Pentland Hills. It was flanked northerly by a major Roman road which ran along the southern flank of the Pentlands, now the line of the A702 and southerly by the new army housing alongside the Milton Bridge training centre and the A 701. There are known silver and lead mines in the area, confirmed by the names such as Silverburn and Leadburn. Presumably the exploitation of these mineral deposits was the reason for the establishment of this sizable Roman town. In 2008, an excavation for a new water treatment plant on the northern side of the town located the ditches of a Roman fort. My survey of the area in 2006 arose

purely by chance. Walking across a field by Bellwood I noted an unusually large volume of water discharging from the ground, long channels had even been dug to funnel the water off the field. As an ex employee of NW Water in Cumbria, I was familiar with water distribution and leaks and soon located Scottish Water's main feeder to Penicuik from the Pentland Hills and ascertained the water leakage was not from it. Surveys located a large leaking Roman aqueduct, this was traced back to Lawhead Burn NT21809-60912 alongside the A702. Scottish Water were notified as it was a loss of a valuable resource. Surveys were commenced to ascertain the user of such a quantity of water, they located evidence of a Roman town. The town was constructed in modules, each with their own still existing boundary dykes, each with gated access to the adjacent module. The dykes were constructed of rammed earth, set on cobble stone bases, these overlapped the dyke bases, ie forming an inverted T, a hall mark of Roman construction. The dykes surrounded a site from Mauricewood NT23561-61793, in the SW via Bellwood road which bisected the town roughly EW. Bellwood Road is also flanked by visible dykes eg NT24116-62295, the site runs NE to Glencourse House NT24292-62982.

One major gateway was situated by Bellwood House, the gateway was constructed on a raised base with visible stonework NT23421-62173. A large number of the foundations of insulae were located in this area, 70m x 10m civilian equivalent of Roman barracks.

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Three man made platforms akin to whales, were located, each held a forum, basilica toilets etc, two also had adjacent theatres. The most prominent of these is Glencourse forum, accessed from Church Road by Glencourse stables. This forum complex NT24112-62844 was c 45m x 30m, the adjacent basilica c 30m x 30m and the adjacent D shaped theatre c60m x 60m. The forum site has a well defined formal approach bounded by dykes. The forum was guarded by a fortlet NT24392-62921 c 40m x 40m is sited above the adjacent burn, the toilets are situated on the slope down to the burn. Adjacent are the ladder locks which connected the navigable burn to the harbour, from which the forum's shops were supplied. A depression with running water still marks the site of the ladder locks. Presumably the harbour excavation provided the earth for the forum's platform. A toilet block was noted west of this site NT2405-6310 alongside the narrow track NT24-63, an original Roman road route, my attention was brought to the site by the free running water, the Romans certainly built their aqueducts to last. The forum near Mauricewood (Greenlaw Mains) NT43969-61898 was c 80m x 20m, the basilica c20m x 20m and the D shaped theatre c80m x 20m, the platform would be constructed from the spoil excavated from the adjacent harbour. The third forum complex NT24240-62100 is sited on an area south of Bellwood Road and west of Greenlaw Mains, NT24-62. This area is scheduled for housing and has been out of cultivation for several years. This forum site c80m x 40m, including a bathhouse, is adjacent to a very obvious harbour depression, a reeded area, and bounded by the field dyke. It is c150m to the rear of the Bellwood Road housing. A major granary was sited in this area.

A few years after my survey, a pre construction minor archaeological survey was carried out. Copies of my surveys had been previously supplied to Historic Scotland and the County Council. A friend living nearby loaned copies of my survey to the investigating archaeologists. No attempt was made to contact me, nor to supply details or photographs

of the area surveyed. Considerably later the county archaeologist informed that the surveys (including resistivity) at the rear of Bellwood Road property, (G2 on my map), were negative, nor had they located any pottery. So a Roman town did not exist!. I was aware that part of G2 contained little Roman infrastructure. The area had been ploughed for many years, this breaks up near surface pottery into tiny shards. My report stated that I had noticed (and left in place) many examples of Roman shards over the ploughed area. I had actually suggested to the local historical society that an in line field walk may be of interest. Sadly, the archaeologists totally failed to question, Why had the very obvious drainage channels had been cut across the G2 site?. (The channels dispersed water from the leaking Roman aqueduct. Also the effect of free water on the geophysical equipment was not considered). Why had the adjacent huge depression been excavated in an otherwise flat area?.(It was the site of a Roman harbour). To deny the existence of a complete 120ha (336acres) Roman town with prominent platforms, visible dykes, canals and harbours, on the basis that surveys over a tiny area were negative, is akin to digging in Hyde Park, not finding any foundations, so denying that Roman London existed.

Resistivity surveys do not function in the presence of water or iron deposits, magnetic anomaly, which I use, is the only method which does. The contractor who ran geophysics surveys over my Penrith area amphitheatre, ran three surveys using different

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types of equipment, each one has limitations. Recently one of my colleagues in Cheshire located four sections of Roman Road by magnetic anomaly, he hired a contractor who using resistivity, said, "Nothing there". My colleague in total (expensive) disbelief, hired a digger and located at each site sections of Roman road. Similar geophysical problems with sub soil (iron) were experienced by Dr G., Barclay and G. Maxwell in the survey of the Cleaven Dyke and Littleour. Soc of Antiquarians 1998.

Those who wish to view some interesting sections of Penicuik's Roman town, take the footpath NE from Bellwood Road, accessed from opposite the last house. Immediately inside the entrance to the wood you will see earth works to your left. A large canal also can be seen running NW along side the field boundary. The footpath flanks the highly visible double dykes and a ditch (actually a canal) of the SE side of the Roman Town. A return can be made via the man road and a track 24-63, one of the town's internal roads. Roman forts have been located under Mauricewood School, (hence the platform) and Beeslack School's raised rugby pitch. NT2440-6155, c160m 100m. These forts received their supplies by the navigable North River Esk. Roman coins have been located locally..

Sadly the Penicuik survey reminds me of a Penrith survey to find a major Roman road in a cemetery extension. Some while previously I had surveyed this small field in about 20 minutes and supplied a sketch to the local council of the relationship of the known Roman road (marked on the OS map) and a previously unknown road and a canal. The team of archaeologist took two weeks to find the known, very shallow Roman road. They commenced digging in the canal depression, as they had been taught that "hollow ways" are evidence of roads. Canals did not enter their thoughts. The second road was missed completely because the centre of the field had been well ploughed and the road removed. BUT, experienced surveyors go down the walls for evidence, nobody ploughs hard

against a wall, as it would be undermined. When informed of the excavations, I visited the site and explained how buried foundations could be speedily found, without time consuming expensive excavation. The senior archaeologist said "I have never seen that method before". The method is used by the vast majority of farmers and ground workers and is part of the surveying courses in agricultural colleges. But not used by archaeologists. Sadly Eden District Council's ratepayers were given the bill for the two weeks of searching, when one week would have been more than sufficient.

CRAMOND. (6mile NW of Edinburgh).

Cramond's Fort is sited at the mouth of the River Almond. Coin finds on the site indicate a multi period of occupancy ie 2nd and 3rd cent. The site was thought to have been the eastern deep sea port for the Antonine Wall and also the base for Severus's campaigns. The fort and a bathhouse have been excavated, leaving parts of the fort still visible, the bathhouse now lies under the car park, by the sea shore. My interest in Cramond arose because of the Cramond lioness sculpture, found in the River Almond. The theme of this sculpture was a lioness eating the head of a bound captive, the identical theme to that of the four Dacre (Penrith) lions. My surveys had shown that sculptures to this theme invariably lined formal drives to Roman Governor's trapezium shaped turreted praetorium. That meant there had to be an undiscovered praetorium at Cramond. As part

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of my two year long research into ancient deep sea harbours, I was also interested in locating Cramond's harbour. Artist's impressions of Cramond's arrangements for ship handling merely showed wooden piers. As a marine engineer, I was well aware that fellow Roman engineers had the ability to construct stone walled harbours for safe harbourage, the provision of locks enabled ship access between half and full tides.

A survey along the foreshore noted a linear depression angled from the ramped access to the beach. The settlement was scanned, below it lay an aqueduct, total width c12m duct c 6m, the difference is the standard Roman stone backing. The depression was caused by a leaking aqueduct cover, sand falling in, this was also washed away, the repeating cycle created a hollow. I noticed the same problem (and lead to the harbour) at Skinburness, Cumbria. The aqueduct was followed and led to the foundations of the walls of the Roman harbour c 250m x 70m. The tide was out, so it was possible to survey the complete harbour, including the access locks, designed to accept 30m x 6m deep sea craft. The aqueduct was fed from upstream of a dam constructed across the River Almond. A bye pass set of locks around the dam, enabled upstream navigation to operate. The diversion of the River Almond into the harbour maintained it's level and flushed out sand, a standard Roman and Chinese operation. A scan around the shore side of the harbour located two access roads, one c20m wide NT19043-77017, a sorting area, this lined up with Cramond Fort. The second access road 3.4m wide was walled. A standard check between the road and the walls located three plinths per side, each c 2m x 0.7m, the original display position of the six Cramond lionesses (The Cramond Lioness is 1.5m long, the width is not known) Only one very high quality sculpture of a lioness has been excavated to date, the surveys located the sites of three more, presumably dumped when the Romans evacuated the area, hoping to return, two more await to be located. The road's foundations were followed by scan, up the beach through a gateway in an external

defence wall. The gateway had sills for triple gates, a hall mark of praetorium. The road turned west into the entrance to another fortification. This was the missing trapezium shaped turreted praetorium. One stone structure NT19030-76980, c 36m x 20m still stood c 2.5m high, the gateway had triple sills. As this structure was the exact size of the core of the praetorium which contained the official's villa, toilet, temple and basic food storage, it can only be assumed that someone had rebuilt the core structure and used it as a personal dwelling. The original aqueduct was still flowing and flooding the core at this survey. The foundations of the trapezoidal praetorium and its c 7m square towers are still in place, one tower foundation is still visible at the NE corner of the core building. The dimensions are roughly paced, 50m wide at the core end, the parallel wall is 62m and the linking angled walls c 62m. The foundations of two courtyard type structures c 25m x 20m are within the praetorium's walls. Between the praetorium's wall and the shore side walls, a toilet, paved washroom and temple were located. The absence of a bath house implies that the backfilled bathhouse was for the senior official's staff, not for the fort's use as originally thought., it may have been shared. Friday night for the soldiers!!.

THE ROMAN TOWN OF CRAMOND.

The published surveys of the site record a small settlement by the fort. But, my surveys have located a walled town c 560m x 250m, 14ha (33.6acres) flanking the shore.

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Flanking the shore, east of the praetorium and the rebuilt tower, there is a very clear 560m long rampart, to NT1970-76958, at this "T" point, the wall returned to the sea and the town. The alignment of boulders on the shore indicate at one period there was also a quay side and stores. Above the shore, by the end of the main harbour, (east of the rebuilt tower and Cramond House) is a purpose built platform, this contains in a line, a forum (shops) 50m x 30m NT19239-76917, a 30m x 20m basilica (offices) NT1917-96925, a D shaped theatre c50m x 30m NT19161- 76923 and alongside a bathhouse c 40m x 20m NT19219-76879. The depression to the east, alongside the forum platform, contained a small harbour, this was connected to the main harbour by a canal. Flanking the shore side of the fence line and the Roman town, are the foundations of four pairs of toilets and wash houses, ie each pair of buildings covered c 40m x 10m. NT 19334-77014, 19432-76982, 19538-76959, 19626-76952. My surveys in the City of Ulswater have shown that one similar toilet block / washhouse served 24 insulae, each insula (70m x 10m) had 10 unpaved and one paved room. Assume four persons per room = 44 persons x 24 insulae = 1056 per toilet unit x four toilet units gives a possible population of around 4,000. If insulae were double story, then the population would be doubled. In some of the insulae located in my home village, each large (family) room had a small segregated toilet. I have only found come across two references to insulae, one was at talk by Professor David Shotter (Lancaster University) who showed a slide of some excavated near Hadrian's Wall. The other reference was at a talk in Penrith by Dr C. Sebastian Sommer, Head archaeologist for Bavaria, who called them strip houses. Dr Sommer commented on the paucity of information from the UK as large scale excavations and publications are not common.

CULTIVATION (?) TERRACES IN SOUTH EAST SCOTLAND.(and Northumberland)

In 1939 The Society of Antiquaries of Scotland Vol LXX111 Seventh series Vol 1 published a fascinating survey by Mr A.Graham of 136 sites in SE Scotland on which he had located terraced hillsides. Despite exhaustive research he said he could not find any evidence of written, local memory or physical evidence of their use for agricultural and noted that these sites appeared to be confined to certain areas of SE Scotland and Northumberland. Summarising the recorded orientation of the 136 sites, I found only 35 faced south or southwest. A basic requirement for agricultural terraces is that they face from south or up to southwest. Many of these terraces had wide terraces, 15ft is quoted. It would be pointless to dig out the very soil you are attempting to use for cultivation, just to provide a platform to drive a horse and cart along. Normally cultivation terraces are narrow with a water channel of some form along the length. As those I have viewed in France, Spain and New Zealand and also examined photographs of similar Chinese sites.

I consider that most of the sites recorded by Mr Graham appear to be associated with ancient ore exploitation. If anyone reading this has the expertise to scan some of the sites for evidence of irrigation, I would be happy to provide details of the sites Mr Graham located. In Cumbria I have located three terraced ore exploitation sites, one faces east, the others south-west, one has a canal along it, two have canals at their base. Housestead's (also mentioned in Mr Graham's survey) limestone terraces face south, are cut out of solid rock and there is a canal along one. I consider that they were for lime extraction,

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lime was used as a flux in iron manufacture, making mortar and also for neutralising the acid in soils and recovering moorland. The three Roman sites with multi cultivation terraces I have located, Devil's Dyke (Dumfries) and two near Penrith, all face south-west, all when scanned, contained irrigation aqueducts and all had substantial earth cover with stone edging and none are over a metre wide.

Another Roman hillside practice was to construct dwarf walls down a hillside. The purpose was to form water collecting channels, the channels discharged into an aqueduct which fed either a canal or a harbour, sometimes into reservoirs. The reservoirs were excavations lined with stone, bedded in puddled clay. The clay waterproofed the reservoir, were flexible and the stone lining enabled the reservoirs to be cleaned out. Now the hillside "run offs" look like giant sheets of corrugated iron. These constructions can be seen on the south side of Housesteads fort and on the southward slope of the hill north of Housesteads fort and all along Hadrian's Wall. They were vital to catch and deflect water into the canals flanking the Wall. They are often confused with cultivation ploughing.

SUMMARY & PROBLEMS WITH THE HISTORICAL ESTABLISHMENT.

My approach to following the Roman trail in Scotland as an engineer, has been to concentrate on their engineering ie the visible transportation highways, the waterways, not their elusive pottery shards. Following these highways upstream, via the linear navigation islands, leads to the ore exploitation areas and the worker's housing. Following them downstream, leads to the forts and defensive structures guarding the routes and deep sea harbours. As the Romans colonists, were operating in a hostile country they were forced to construct fortifications, these platforms and ramparts are still highly visible, some are in tortoise shaped, some are in the more understood rectangular

shape. Every fort and settlement had a harbour, their depressions can always be seen alongside the sites. Often these depressions are filled with reeds, fed by functioning aqueducts. The Romans also canalised the rivers and burns to form transportation highways to convey the supplies for their workers and the guarding troops. Their linear navigation islands and a few remains of dams or weirs are still visible. In sections of the rivers with many sections of rapids they built bye pass canals, often these canals are still visible as reeded depressions with still functional aqueducts. In some areas linear defensive double dykes were constructed in rammed earth, on cobble stone bases. Frequently these dykes form field boundaries. Even where the dykes have been ploughed out, the land adjacent to the stone foundations can settle leaving the line of the dykes proud. The line of the dykes can be followed by locating the dyke's stone foundations by magnetic anomaly. At this point the reader is entitled to ask, if this evidence exists, why have they not been not been noted previously?.

Prof C.H.Hapgood Author of "Maps of the Ancient Sea Kings" (Evidence of the world being mapped prior to the Ice Age) said "We find what we look for. We usually overlook, neglect and bye pass facts, unless we have a motive to look for them".

The Historical Establishment's mind set is that the Romans did not settle in Scotland and only built a few forts up to just north of Dundee (Firth of Tay) and part built one short

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lived Legionary Fortress at Inchtuthil. One New Zealand academic I had supplied with information, asked his brother, a Cambridge history professor, re my Cullen surveys, including an amphitheatre. He was told to ignore me. Obviously not one with an enquiring mind. Spoon fed to all aspiring historians has been that the Romans did not occupy all of Scotland, nor any of Ireland, that Christopher Columbus discovered America, the Maori entered an empty New Zealand and Cook found Australia. Those who dared to disagree are virtually ostracized by their peer groups (Akin to those who disagree with global warming theories and point out that the NW Passage was ice free 600 years ago, pre carbon emitting industry). So those who display an interest in researching in north Scotland are ridiculed, as I was in Elgin Cathedral when I commented that the Cathedral was built over a Roman site. At Elgin I was told that the Romans never got north of the Antonine Wall, nor had the Elgin site been excavated. It is sad that so few folk realise that a very accurate (to 50mm) none intrusive sub ground survey can be speedily carried out by trained folk, I'm one of them. We (1421) still have the same problem with the closed minds in New Zealand, who insist that New Zealand, with such a desirable climate, with immense food resources, huge forests and gold, iron, coal and jade resources, was unbelievably, the only "unoccupied land" in the World, until the Maori arrived in c 1200AD-1300AD. I was described as a "Cracked Bell" and a "Pyramidiot" when I dared to suggest that the Chinese and others had occupied New Zealand for at least c 1,000 years before the Maori arrived. As one of my colleagues put it, "Your findings contradict conventional wisdom, So they cannot be correct".

Ian Keillar fought for 40years in an attempt to get the true story of Rome's operations in Moray recognised. Ian convinced the late Professor G.D.Barri Jones, a maverick in the

archaeological world, that the accepted Roman history of Moray and Aberdeenshire were deeply suspect. Barri Jones suffered the jibes of his peer group for his beliefs. Professor L. Keppie was one of the few who advised caution in accepting the current view of the Roman occupation, reminding disbelievers that Severus had said, "We reached the far end of Scotland", Tacitus also said (of Scotland), "We held it all and let it go"..

The reader may ask, are there any other examples of failures to understand and refusal to accept newly located Roman sites which change "Conventional Wisdom". The author has found several major errors on the Ordnance Survey mapping of Hadrian's Wall. Mapping of historic sites in England is controlled by English Heritage. Some years ago, following a survey at Housesteads Fort, Hadrian's Wall, I found that the vallum position was marked some 400m north of the actual route, virtually alongside Hadrian's Wall. So a second survey was organised and accompanied by my colleague Dr Bell, a geologist, as I wanted an expert's opinion on the stonework origin of the canal locks which flanked the "real" vallum (Identified both by the raised section and its foundations). Dr Bell confirmed that the stonework of the locks was igneous ex Whin Sill, whilst the country rock on the line of the vallum and adjacent canals was sandstone. The report was sent to the Ordnance Survey who agreed with its contents and complimented me on its content. However they stated that English Heritage had to authorise any new survey. The survey report and letter from Ordnance Survey was sent to English Heritage, we have yet to have the pleasure of a reply. Roman canals do not feature in English Heritage's knowledge.

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Another example of a Ordnance Survey Map major error. Around Carlisle the dedicated Ordnance Survey maps of Hadrian's Wall show it running directly into Carlisle from the east. BUT, there is no evidence to support the claimed presence of an east-west wall or vallum between Wallby and Carlisle. In claiming this route, historians merely "projected" a route to Carlisle from the last known eastern site. In doing so, totally failed to ask themselves what would a Roman engineer have done to protect Carlisle, the major inland Roman port for NE Cumbria and the fort along Hadrian's Wall. A Roman engineer would have constructed depth defences, multi walls around the major site, these enabled a fighting retreat to be made under attack, giving time for the main forces held at the rear to be brought into action. If Hadrian's Wall had been built directly into Carlisle, as claimed by historians, one push by an attacker would have resulted in the harbours being overrun and the town burnt. Besides the historians totally ignoring known Roman depth engineering, they were also misled by an excavating archaeologist who hit a major wall just north of the castle and said, Eureka, I have found the missing Hadrian's Wall. Sadly, he was unaware that he was excavating alongside a Roman harbour and that all Roman harbours had defensive walls. Research show that two ancient maps portray Hadrian's Wall running westwards to the mouth of the River Eden. Another archaeologist claimed to have located the missing Hadrian's Wall by Beamont, west of the River Eden. This was based on the fact that he had found a foundation of a Roman defence structure, so it must be the missing Hadrian's Wall. Until someone mentioned to him that all Roman rammed earth dykes had cobble stone bases. He had excavated one of two dyke bases (vallum) which runs 2.5 mile north of Carlisle, from Cargo on east bank of the R. Eden to Beamont on the west bank and also flank the River Eden.. Hadrian's Wall was built as the outer of the multi depth defences for Carlisle, 3 mile north of Carlisle, at Rockcliffe by

the R. Eden. My surveys for the real route of Hadrian's Wall, "North" of Carlisle were published by Matterdale Historical and Archaeological Society in their 2004 Yearbook. This survey also noted that the floods which created havoc in Carlisle, also flushed off hundreds of years of silt deposits in the River Eden and exposed the Wall's foundations at Rockcliffe. Six months later a section of the Roman "depth" defences were exposed by diggers during excavations for the Carlisle "Northern" bypass. Thus proving the veracity of my surveys. Those who rubbish my surveys failed to apologise. Obviously the Ordnance survey map of the route of Hadrian's Wall at Carlisle is incorrect and always will be. English Heritage who control historical mapping, do not admit to errors. The Carlisle floods also exposed some sections of c10m long wooden boats, buried in the tidal river bed at the mouth of the River Eden, near where it flows into the Solway. My sample was carbon dated by SUERC, the joint research laboratory of the Scottish Universities and found to be 7,740 years old, which was somewhat a disappointment, as they were expected to be Roman, not some of the oldest craft (log boats) ever located.

The very basic ROMAN HISTORY OF SCOTLAND & the LINKS to CHINA
 The written histories of Roman Scotland rarely mention the economic climate which governed the Roman invasion of Scotland, including their shortage of metallic ores. Many historians still view the Roman occupation as an event driven by politics, not economics. The Roman occupation of Scotland, as opposed to the brief passage of their armies in Moray /Aberdeenshire, is normally portrayed as having been south of a line

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running roughly north east, from Glasgow and Perth, to near Montrose on the east coast. The Antonine Wall (work commenced c140AD, supposedly, finally abandoned in cAD160) has always been assumed to be a purely northern frontier, this author considers it to have been most likely, not a frontier, but a fortified E-W canal zone which linked the Firth of Forth to the Firth of Clyde. Whilst the British fortified the route of the Egyptian Suez canal, it was certainly not a frontier. Presumably when the Romans constructed the Great Glen canal from Inverness to Fort William, plus a line of defensive forts, including those at Fort William, Fort Augustus and Inverness, (as did the English, hundreds of years later), the Antonine Wall was no longer required for an extensive period, as the Romans moved "Northwards" not pulled back as assumed. The dates of the coins found in the Old Cullen area, are those of Antonius Pius AD 138-161 and his wife Empress Faustina, who died in AD141. At Burgh Head (by Lossiemouth) among the many coins found were of Commodus 177-192 AD and minted in Rome, proof of direct shipping to Scotland when supposedly the Romans had retired behind the Antonine Wall. Evidence such as this substantiates the thought that the Romans had moved northwards, not retreated, to link to their already established enclave (akin to Britain's Hong Kong) on the Moray Firth. During this period the canalised routes from Newcastle to Carlisle, were protected by series of frontiers built as the standard Roman double parallel dykes, the first, South of the River South Tyne, via Hexham. My colleague the late Raymond Selkirk, a brilliant archaeologist and the pioneer of our knowledge of how the Romans used water. not their roads, for heavy goods transportation, was also firmly convinced that the first Roman defence line was South of the River South Tyne. The final frontier construction, Hadrian's Wall, was constructed North of the River South Tyne c 120AD..

In addition to following the Roman trail, since 2003, I have in association with Gavin Menzies, the author of “1421 The Year China Discovered the World”, and now “1434” which charted the Chinese visits to Italy, surveyed large areas of New Zealand’s North and South Islands, both of which contained many Chinese sites. Carbon dating indicated a Chinese occupation of over 1,700 years, whilst exploiting the metallic minerals, prior to the Europeans arrival. These surveys also located the lost Chinese fleet, destroyed in the 15th century when a meteorite passed over South Island, setting fire to the fleet which was in harbour, and firing all the forests. This meteorite was probably the reason for the major demise of the Moa. The meteorite struck the ocean south of New Zealand creating a huge Tsunami which blasted the remains of the carbonised fleet out of their harbours and flooded all the settlements. I also located the hull of the largest medieval wooden vessel ever found in the world, driven ashore on a cliff. This “Super” junk, c120m long x 50m beam, had a hull stiffened with concrete, bonded to the hull timbers with rice adhesive. An analysis of the concrete showed it was identical to Roman hydraulic cement based on igneous rock. Our surveys have located examples of identical Chinese Roman exchange engineering, eg aqueduct design, smelter design and canal side make up water.

This experience of Chinese fortifications, barrack blocks, harbours and junks has enabled the evidence of Chinese operations in Britain and Ireland to be recognised. The Romans are known to have employed contractors to exploit mineral sites, a practice to be followed by Queen Elizabeth (1st) who used German geologists and miners. Recent

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surveys on the Isle of Inis Mor, Aran, (Galway Bay), Arran, Ullapool and by Hadrian’s Wall near Carlisle Airport, have identified the foundations of buildings, harbours, smelters, even a small double walled town with external turrets, all with clear evidence of Chinese design. Each site was flanked by infrastructure of Roman design. It would appear that the Chinese had been contracting their mining expertise and labour to the Romans. Even the design of Hadrian’s Wall is a complete departure from normal Roman frontier design and this is thought to be due to Chinese influence, hence the town of Chinese design alongside Hadrian’s Wall to accommodate workers. Waldron, Great Wall of China. Chinese records show that from Han times 206BC to 220AD, they constructed planked junks capable of carrying 1,000 tonne and a 1,000 passengers. Gang Deng.

From our surveys on Cape Breton Island, Nova Scotia, with Paul Chiasson, author of An Island with Seven Cities, that the Chinese had occupied an 80q km walled site on Cape Dauphin. By chance we were present when a contractor excavated the quays of a Chinese harbour. Recently Chinese coins and armour dating from around 1400AD has been found on the west coast of Canada. (Alberni Valley Times Calgary Herald, Canada) Presumably the Chinese operating in Britain had their Atlantic base in Nova Scotia.

SEA ROUTES & THE FIRST (CHINESE) PACIFIC – CARIBBEAN CANAL.
In January 2010 An expedition led by Colonel John Blashford Snell on behalf of 1421 and the Scientific Exploration Society, part funded by Gavin Menzies and myself. surveyed between Lake Nicaragua and the Pacific. The purpose was to locate the first canal constructed by the Chinese which linked the Pacific with Lake Nicaragua and then via the Rio San Juan to the Caribbean. The survey was successful and the man made link

between the canalised rivers flowing east and west located. Deep sea ports at the east and western ends would have been used to tranship cargoes from the c10m x 3m vessels using the canal to larger ocean going vessels. The survey results were notified to the Royal Geographical Society at a meeting in June 2010. This canal would have enabled the Chinese to support their Atlantic operations when the NW Passage became iced over

We also know from large pottery finds by the Red Sea – Nile canal that the Chinese used the Red Sea to River Nile canal to access the Mediterranean. Chinese records also confirm that the Chinese accessed the Mediterranean. The Red Sea- Nile Canal was constructed between c 695-595BC, re built by the Romans and widened and deepened several times between 642AD and 1337AD. A fascinating book “China and the Roman Orient” by Dr Hirth, published in Shanghai, 1885, was based on Chinese records. These records show that Rome’s balance of trade was in favour of China, India and Arabia, due to Rome’s high import of luxury goods, just as in today’s Britain. Rome’s first contact with China was in 157BC. In 77AD Pliny stated that the iron from China was of the highest quality. In 166AD Marcus Aurelius sent a mission to China. All confirmation of a Chinese-Roman close relationship. Dr Hirth’s book highlights Rome’s shortage of iron, to the degree that in c 78AD, Emperor Vespasian banned it’s export. One wonders if the “full” invasion of Scotland in c79AD, was to rectify this shortage of iron and other metallic minerals. Tacitus’s evidence that Agricola’s legions stood with their back the ramparts confirms that the Portsoy / Cullen enclave was occupied PRIOR to the official

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invasion of Scotland. It is also logical to consider that the abandoning of Scotland, with Hadrian’s Wall left to form the frontier, was entirely due to Scotland’s easily exploited metallic ores, such as Cullen’s, being worked out and the cost of working the more difficult ores, and defending their operations, over long distances, was totally uneconomic. Especially with other demands being made in the Roman Empire for troops and finance. The Chinese records confirm exporting iron to Rome, presumably cheaper iron than Rome could manufacture. History does tend to repeat itself.

ARCHAEOLOGY and FINANCE.

Due to the high costs of excavation ie roughly a million pounds to completely excavate a Roman fort, most excavations are now financed by developers of building sites etc. Even carbon dating a single artefact costs c£350. A very small excavation at Penrith, prior to a supermarket construction cost £80,000. At Carlisle, the Millennium, part excavation, into a known Roman fort, cost the tax payers c £375,000. As the site was backfilled, and still no Roman insitu evidence is visible in the city, it was a somewhat pointless, expensive exercise. A view underground, without excavation, can be obtained by the use of electronic surveys, resistivity, fluxgate gradiometer and ground penetrating radar, are the most favoured, each have advantages and disadvantages, eg depth limitations and the presence of iron or water. All electronic surveys are slow and expensive, surveying a 100sq m site can take three days and cost c £3,500 .

LOW EXPENDITURE SUCCEFUL SURVEYING..

Following engineering practices, by studying the commonalities of Roman design from excavations and archaeologist’s reports, I have found it is possible to identify any

potential Roman structure, in less than half an hour by using a none destructive method and within a day, the layout of a complete fort site. The method is based on all items buried underground from foundations to pipes, cables and wrecked vessels, create their unique magnetic anomaly. A skilled operator by locating this magnetic anomaly, can then equate it to the shape of a known design and identify the structure, an accuracy of 50mm is possible. Over several years I have run back to back (expensive) geophysics and excavation tests against magnetic anomaly surveying (MAS), always with 100% reproduction. Many folk call the method dowsing, it is used by ground workers and farmers everywhere, it also merited a chapter in Agricola's 16th century German Miner's handbook. Whilst dowsing is always equated with water, actually water dowsing operates in an entirely different mode to magnetic anomaly surveying for archaeology. My booklet on it's use for magnetic anomaly surveying is now into issue nineteen.

HOW TO LOCATE THE ROMAN OCCUPATION OF SCOTLAND FROM HOME.

Those who wish to follow the Roman progress through Scotland can actually do it without leaving their own home. Ideal for a winter's "cheap" and interesting pastime and without leaving any carbon footprint.!! All you need is a magnifying glass and a large scale map of your chosen area. Use the sketch of a linear island layout shown on the Cullen harbour as a guide. I suggest you practice on the linear islands recorded on the River Spey, page 39, OS Map 419, or use Google Earth. The Romans modified every river and sizable burn to enable their vessels or punts to transit them. Their heavy goods

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were transported by water, not by the roads. To achieve this navigation they constructed linear islands out of the river banks, leaving narrow channels between the banks and the islands. In the narrow channels they constructed locks, between the islands and the opposite banks, they constructed weirs. The weirs backed up the water and, increased the river's levels, the locks enabled the craft navigate the upper or lower levels. Many of the weirs have long gone, being an impediment to fish, but the linear islands are still in place and marked on large scale maps, aided by a magnifying glass. The presence of linear islands indicates Roman navigation. My booklet on Roman navigation refers.

T.C.Bell
Tirril
Penrith

Revised July 2011

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and it's Place in History. The author was privileged to have studied for six years with
the late Ray Selkirk, Merchant Navy Navigator, Airline Pilot, Archaeologist, Author &
original thinker. Raymond was solely responsible for highlighting the methods used by

- the Romans to canalise Britain's waterways, forming transportation highways for their goods movement. Sadly, a subject still not understood by many archaeologists.
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ROMAN COINS MORAY FIRTH AREA.

Ex Proc Soc Antiquarians of Scotland (inc1939 -1949-50), (1951-60), (1971 -82)

Ex listing by Anne S Robertson & Sir George Macdonald.

ROMAN OCCUPATION OF BRITAIN c 43AD -410AD

Note Finds NOT Antonine Wall indicate First & Second cent occupation and also 3rd cent in parts of Scotland. (ie Cramond).

Total 160 coins found on Antonine Wall. 42 coins found Aberdeenshire / Moray plus Hoards.

Prof Robertson remarks (pg 153-154) on the "exhilarating" exceptions of the first cent coins from the Moray Firth and Aberdeenshire. Prof Robertson commented that whilst it was not known of any Roman garrisons in Scotland (as far as is known) after Severus's campaign of 209 -211, BUT, throughout the 3rd and the whole of the 4th cent Roman coins did arrive in NE Scotland. eg Constantine 1 (307-337) and Constantine 2 (337-340)

(Banff 1971-82 pg 440	Constans 2	408-411
Burgh Head 1971-82 pg 444	Nero	54-68
Burgh Head 1971-82 pg 444	Gallienus	260-268
Burgh Head 1971-82 pg 444	Magentius	351-353
Burgh Head 19 th Sept 2008 Press & Journal reported	Roman coin finds	
	These date from Commodus (Number not Given)	177-192
Culbin Sands pg 141 Hadrian	(1939-50)	117 -138

Culbin Sands 1971-82, table 3.	Hadrian	117-138
Culbin Sands 1971-82 table 3	Antinius Pius	138-161
(Culbin Sands is between Lossiemouth and Burgh Head)		
Cullen pg 143	Claudius Gothicus	268-270
Cullen 1971—82 pg440	Claudius 2	268-270
Covesea Morayshire Proc pg 154 1960 -61	Hoard Constantus Gallus	351-34
Cummingstown 1971-82 pg 414	Carinus	282-283
Deskford (by Portsoy)	Faustina Wife of Antonius died)	Per 141
Deskford	Antonius Pius)	Stuart 138-161
Elgin 51-60 pg 147	Faustina 1 (deified)	138 -161
Elgin 1971-82 pg 444	Sabina wife Hadrian	100-137
Elgin 1971-82 pg 444	Antonius Pius	138-161
Elgin 1971-82 pg 444	Julia Mamaea (Mother Severus Alexander)	222-235
Elgin 1971-82 pg 444	Galerius	305-311
Elgin 82 pg 444	Titus	79-81
Forres 1971-82 pg 444	Constantinopolis	307-337
Forres 1971-82 pg 444	Honorius	393-423
70		
Keith 1971-82 pg 440	Aurelian	270-275
Mortlach 1971-82 pg 440	Marcus	161-180
Mortlach 1971-82 pg440	Marcus	161-180
Mortlach 1971-82 pg440	Maximinus	235-238
Mortlach 1971-82 pg 440		3 rd cent
(Mortlach is by Dufftown).		
28 coins Sub Total		
HOARDS		
Burgh Head latest find (2008), total number not known		
FORT AUGUSTUS Invernesshire hoard	Diocletion	284-305
Proc pg 154 1960 -61		
Coversea Morayshire hoard	Constantius Gallas	351-354
Pg 154 Proc of Soc 1960-61		
Briglands Hoard Kinrosshire 1846 161 coins found hidden sometime after 186-7		
Pg 149 Proc of society 1949-50		
ABERDEEN AREA		
Aberdeen Hoard (Banks of R.Deer Norman Dykes) c 8m west of Aberdeen.		
Pg 148 Proc of Society 1949-50 No further details.		

Roman Camp alongside River Dee NO82 99. 558m x 497m 43ha (106acres)

Aldford	1948/49	pg 137	Proc 1951-60	Galerius	305-311
Aberdeen	pg 172	1960-1		Domitian	81-96
	Pg 439	1971-82		Licinius	308-324
Aldford	Aberdeen	pg 172	1960-61	Constantine	307-337
				Constans	337-350
Aldford		pg 172	1960-61	Galerius	305-311
Clatt		pg172	1960-61	Valentinian	364-375
Leochel-Cushnie		pg172	1960-61	Constantinius	305-306
Leslie		pg 172	1960-61	Trajan	98-117
Leslie		pg 172	1960-61	Antonius Pius	138-161
Lumsden		pg 172	1960-61	Probus	276-282
Peterhead		pg 172	1960-61	Antonius Pius	138-161
Port Elphinstone		pg 172	1960-61	Vespasian	69-79
Slains		pg 17	1960-61	Honorius	393-423

Sub total Aberdeen area 14

Burgh Head Hoard stated over 100 Roman coins.

Aberdeen Hoard total not known.

Grand Total Roman coin finds Aberdeen to Great Glen, excluding the hoards 42.

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&w>

[dOrigin=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