



Cammell Laird Shipyard, Birkenhead

Former Shipyard Offices and Site

During 2004 Para.Science were contacted by members of staff working in an office building inside the former Cammell Laird shipyard in Birkenhead following a series of unusual experiences. These included apparitions, cold spots and sense of presence experiences in a ground floor corridor area.

The shipyard is now closed and awaiting redevelopment but was a major source of employment for more than 150 years and built many famous boats and ships. It is estimated that more than 350,000 men and women worked at this shipyard over the years, perhaps some of them remained?

History and General Site Background

The history of the present site can be traced back to at least the Norman period with the founding around 1150 of the Birkenhead Priory. In those days Birkenhead was little more than a collection of farms around the monastic settlement. The Monks operated a ferry service to an even less populated site across the River Mersey today called Liverpool - this ferry service still runs today by Royal Charter of Edward 1st - The Mersey River Ferry.

The Monks owned most of the land surrounding their Priory church and buried their dead in the burial ground adjacent to the church. later this churchyard became enlarged and was the final resting place for the mortal remains of the monks, sailors washed up on the shores of the river, knights and men at arms from many nearby battles and skirmishes. The Priory was dissolved by Henry VIII in 1534 but the church and its graveyard remained in use.

In the 1820's the industrial revolution came to Birkenhead and Scots entrepreneur William Laird arrived to commence shipbuilding on the bank of the Mersey. The site he eventually selected was right next door to the priory church and its well occupied graveyard.

Laird needed land to construct a large dry dock - the No.1 Graving Dock and this meant that the graveyard had to be removed. Many of the ancient bones were dug up and moved to the new Flaybrick cemetery on the edge of the expanding town. However, many were left behind and for many years workers at the shipyard told lurid tales of bones and skulls being washed from walls above the graving dock by heavy rains.

Cammell Laird shipbuilders became a famous name the World over and were responsible for many great ships and many maritime firsts - the 1st iron ship owned by the British government, the 1st ship with a screw propellor and the 1st all welded ship for example.

The Ma Robert, built for Dr Livingstone, the great Liner Mauritania, the Confederate raider CSS Alabama, the battleship HMS Rodney, the ill-fated submarine HMS Thetis and two aircraft carriers bearing the name of HMS Ark Royal all were built and launched from this site along with over 1400 other ships and vessels.

The most prominent feature of the entire site is the truly massive former shipbuilding hall, this was once

one of the largest buildings in Europe and dominates the site as well as most of the surrounding area of Birkenhead (pictured right).

Built in the 1970's this great grey building is scheduled to remain as part of the new development plans for the shipyard site. Surrounding it was once the many workshops and buildings of this historic shipyard - constructed mostly of sheet iron and painted a dull black they housed all of the ancillary departments - the boilermakers, welders and fitters being only a few examples.



Within the past year many of these buildings have been demolished to make way for the future developments scheduled to take place on the site, although a part of the site is still in use by a busy ship repair facility which is scheduled to remain for several years at least.

Some of the former workers have tales of ghostly figures seen around the site, others who have spent their entire working lives in the shipyard are more dismissive.

Over the period of this investigation we have heard at least 9 accounts of ghostly and paranormal activity at various sites within the shipyard, for this investigation we were asked to concentrate upon the most recently reported.

Investigation Location Layout

The site of the office block we were asked to investigate was constructed in the early 1960's to house the design and engineering staff for ship numbers 1316 and 1317 - respectively two of Britain's Polaris nuclear ballistic missile submarines.

The offices remained in use for many of the later ships including the nuclear attack submarine HMS Conqueror.

The office block layout is unusual as the building has been constructed on a step in the land, from one side they appear to have just two stories but from the opposite side they have a third story. Within this report we will disregard the lower level floor and refer to the floors as they appear from the frontal aspect of the block, i.e. a two floor building Ground and 1 st floor.

The area they occupy was cleared to make way for their construction and it is difficult to be entirely certain what lay on the office site but there is some documentary evidence in the Wirral archives to suggest that the Admiralty had offices close by that dealt with Naval vessels being built at the yard. Some of the metal fabrication sheds also lay close to the present site - our historical investigations are still ongoing and may reveal more detail which will be appended to this report.

The present building is a fairly typical example of 1960's industrial architecture, a concrete shell with large areas of glass forming the walls. The glass is particularly evident on the upper floor much of which was used as a drawing office and thus required plenty of illumination. The drawing office itself is over 90 metres in length and is now empty and unused, in parts it is starting to show signs of disrepair - ceiling panels have fallen allowing the rain to leak in, some of the windows are broken and all around lie old and unwanted office equipment and furniture. Also on this floor are two additional large rooms although they are much smaller than the drawing office. Separating these three large rooms are a number of now abandoned offices, kitchens and toilets, all showing obvious signs of decay and disrepair. Apart from an occasional visitor, few people venture up to this level any more.

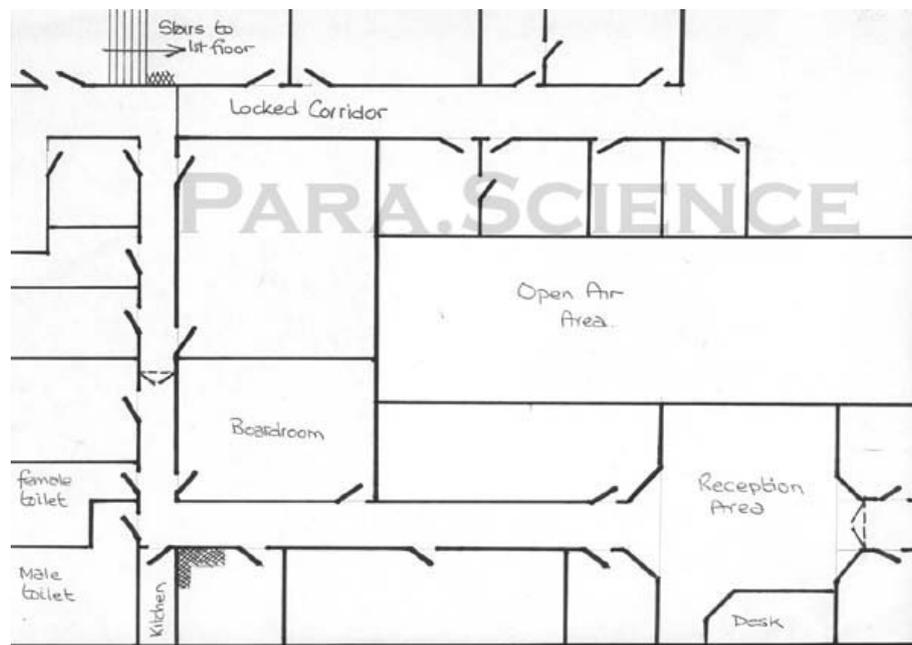
The ground floor [in reality, the middle of the three floors] houses the current small staff who are overseeing the redevelopment plans for the whole shipyard. A large comfortable reception area leads to a corridor off which are a number of individual rooms and offices. On this floor are also the Boardroom, a small kitchen and toilets. This is a pleasant environment and entirely in keeping with its role as a busy working office complex.

Also on the ground floor separated by internal walls and directly beneath the large drawing office space is a commercial canteen that is still in daily use and provides hot food and snacks for the remaining staff.

On the lower ground floor are a series of empty former offices and other rooms some of which are used by local businesses for temporary storage and other similar uses - this level is not in regular use and is deserted most of the time. This floor has only half the floor space of the other two floors and due to problems accessing this level it played no part in this investigation.

Reports of unusual Experiences

Several of the staff working in the office complex reported having unusual experiences in the ground floor corridor - particularly around the kitchen and the boardroom area. These had ranged from a simple sense of unease to in at least one case the sighting of a full apparition. The small staff had obviously discussed their individual experiences between themselves, this was clear when talking to them that they each knew all about the others experience. However, we were impressed by the sincerity of accounts. There was no desire by the staff members to have anything done about the ghostly activity - apart from some of them being a little unnerved by the occasional unexpected personal experience all seemed to happy for us to simply investigate the location and report any subsequent findings.



Plan of GF Offices

Talking to the staff members we learned that the majority of the reported unusual activity was confined to a quite small area of the ground floor corridor, around a corner location and directly outside the kitchen and toilets. Within this area staff reported they had felt the temperature suddenly drop and also varying degrees of unease and sense of presence, these feelings also sometimes extended into the kitchen too. Staff also described seeing moving shadows in this part of the corridor, there was also a report of a possible figure glimpsed just outside the kitchen doorway by one member of staff. Other reports were the sounds of doors being slammed from somewhere within the building although no locations were pinpointed.

Close to this part of the corridor, separated by a plasterboard wall is the boardroom. This room also had reports of uneasy feelings although they seemed to be concentrated at one end of the boardroom - interestingly the end closest to the kitchen and the corridor corner. The sole report of an apparition was witnessed moving along the ground floor corridor from the kitchen area toward the reception. The male witness was further down the corridor - beyond the reception at the time of the sighting approximately 20 metres from the apparition. The description is of a female wearing green overalls or clothing, perhaps similar to that which a cleaner might wear for example. Together with these personal experiences many of the staff reported what they believed to be the sound of doors closing and other similar sounds of activity within the building at times when they knew this was not possible.

We also became aware of other reports of people having unusual experiences in other parts of this building quite early in the investigation process, although sketchy these other areas included the first floor - the location was not specified, and also the canteen.

The anecdotal information received regarding the first floor concerned a female who was apparently engaged in cataloguing or archiving some of the material that still remained from the shipyard past. She complained that she did not feel alone at times although she knew that nobody else was upstairs on the first floor at the time.

Another employee, also engaged in work on the unused 1 st floor was reported to have made an additional cup of coffee as she so strongly believed that a male employee was on that floor with her - she had seen someone walk past her earlier. It was only as she made the coffee that she was informed she had been alone and the particular male employee was not in work that day.

The adjacent staff canteen also seemed to have a history of unusual activity associated with it - condiment cellars and items of furniture were seemingly found to have moved overnight and at times there was a strong sense of presence within this room too.

The Investigation Procedure

The first stage of any investigation is normally a series of visits that we use to familiarise ourselves with the location, the Cammell Laird investigation followed this well tried procedure. It is an important phase that permits the investigators to acclimatise themselves to the building. Most buildings make noises and have draughts and shadows. It is important that these ordinary events are understood and documented to ensure they do not get erroneously reported later. The initial visits also allow us to establish other baselines too - many environmental variables need to be assessed and measured during an investigation and it is important to know what constitutes the 'norms' for a new investigation location. Baseline measurements are continued throughout the investigation process as they can and do change over time, but this initial assessment stage is important as it can highlight areas where perhaps temperature fluctuations are more likely - such as close to air vents for example.

The location is also mapped in some detail, this is also an important baseline step - noting on the plans the location of air vents, broken windows, access routes and lighting are just some of the things that are noted on the location plan. Normally, this plan is also to scale allowing us to make later measurement comparisons and when positioning investigation equipment accurately. Plans are also used during each subsequent investigation by team members to accurately note the locations where they may have unusual experiences.

One final aspect of these initial visits is that they allow us to partially test the veracity of the witness claims by positioning investigators in the same locations and comparing the individual experiences. We refer to these early visits as 'Fishing Trips' as the name is a fair description of the what we are doing.

Several such 'fishing trips' were carried out at Cammell Laird - by both day and by night. These were concentrated only on the ground floor level initially, this was for two reasons: The sheer size of the

building meant that we could only look at part of it at any one time and also the abandoned state of the upper floors posed some safety issues to team members.

Baseline measurements for several environmental variables were made, including temperature, electromagnetic radiation and humidity, in addition to a number of video and audio recordings being made from several locations on the ground floor.

In most cases the environmental variables were measured using computer based systems that automatically record the data many times every minute for later analysis and interpretation.

Investigation team members also complete detailed psychological assessment questionnaires during each investigation so that a detailed picture of their personal experience can be obtained, this is supplemented by an 'audio diary' and their investigation notes. Such information allows us to hopefully discover more about the way in which we interact with a location or perhaps the way it interacts with us.

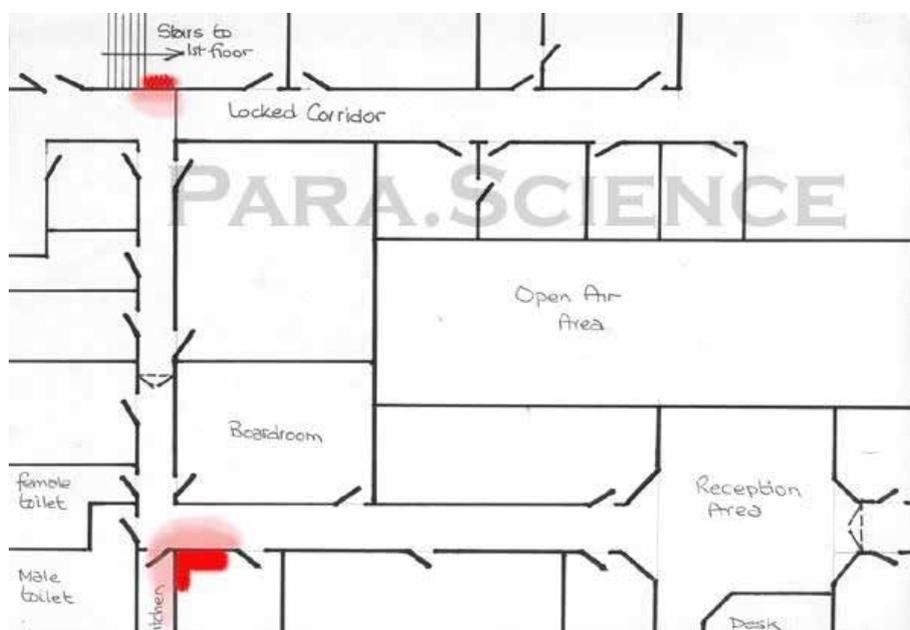
The results of the 'fishing trips' were examined to determine if there were any particular areas of interest, did team experiences relate to those of the staff? Are there any environmental clues in the data that may suggest normal explanations for some or all of the various reports?

Environmental Anomalies

One of the early visits did show an unusual temperature variation in the ground floor corridor close to the area where many of the staff reports had been centred.

A temperature datalogger experiment recorded an unexpected drop in the ambient air temperature 2 metres from the kitchen doorway and further along the corridor. The total temperature drop was of 7.2 degrees Celsius in less than 3 minutes, before a slightly slower rise to pre-drop values. Other observations ruled out doors or windows being opened at the time or strong draughts being a plausible cause. The part of the corridor in which this temperature fall was recorded was directly adjacent to the location of the majority of the reported activity. Instrument error was ruled out as the temperature drop was recorded on more than one temperature datalogger - a pair of devices separated by 2ft both showing an almost identical drop. The temperature anomaly was only recorded on one occasion and despite many repeat observations it remains a single spontaneous event.

Electromagnetic field studies also showed a consistent elevated level - up to 50mG in the ground floor corridor close to the kitchen and at one end of the boardroom, this was again close to the part where many of the reports originate. The cause of the elevated electromagnetic emissions was quickly traced to a large electrical distribution panel on the wall of an adjacent office (below) .



Measured levels within this office and close to the equipment showed levels of in excess of 300mG. The equipment cabinets were also responsible for elevated electromagnetic emissions in the kitchen, here values of up to 35mG were measured in the region around the doorway.

The measured EMF in another part of the ground floor corridor was also observed to fluctuate much more than in any other part of the ground floor - beyond the mid corridor fire doors, close the junction with the rear corridor. The measured EM values could change rapidly at times, at times varying rapidly between 1mG and 9mG this was observed at all times of the day and night and was probably a function of the operation of the equipment within nearby wall cabinets. Whilst such fluctuations in the ambient EMF is often linked to reports of paranormal activity in this case we have no reports of any unexpected or unusual activity in this part of the ground floor, so this remains simply an isolated electrical anomaly.

In the boardroom, ionising radiation levels were measured that were also slightly elevated although well within normal safety limits. It is well known that most Geiger counters can be affected by exposure to non-ionising radiation, such as the electromagnetic emissions already encountered and it is considered that the slight elevation in the measured background ionising radiation levels is in reality a measurement error caused by the high and fluctuating electromagnetic fields within this part of the building. Slight elevations in the ambient ionising radiation levels are sometimes traced to the smoke detectors as some types use a small ionising radiation source within them which is detectable by sensitive Geiger counters. In this case a visual search of the boardroom failed to locate any source for the elevated radiation levels. It should be stressed that the levels were well inside levels considered safe for long term exposure and pose no threat to any person spending even extended time periods in the boardroom.

[As a footnote to the above radiation measurements it is perhaps worth mentioning that the buildings were built and served as the main project offices for the construction of 2 Polaris nuclear powered submarines in the 1960's. It was suggested that minute amounts of radioactive material used in the non-destructive-testing (NDT) of components and welds may have got into the structure of the building and be affecting the measured values slightly.]

On the first floor the building contains several large rooms, one of which is of considerable length and its walls are effectively fully glazed on all 4 sides (*pictured below left*). Previously, it housed the main drawing office and so required maximum ambient lighting at all times, hence all the windows.



These windows were to lead to a large number of reports of unexpected lights and shadows seen by members of the investigation team in the initial series of after dark visits. On the first floor this room lined up almost perfectly with the exit ramps from the nearby Mersey road tunnel (*pictured above right*) and it was soon realised that the vehicles using the tunnel would frequently shine their headlights directly through this room, the light then being reflected and refracted from the multiple glass surfaces in and surrounding the room, creating the reported lights and shadows. We soon became used to this effect but despite that known cause there continued to be a small number of reports of unusual shadows in this room that we were unable to satisfactorily explain. Perhaps the most intriguing of these was the reported appearance of dark moving figures that had a similar appearance in size and shape to a person. They also appeared to block the ambient light coming in through the windows as they passed

in front of them. On one occasion the appearance of these figures was preceded by the sound of one of the entrance doors being opened, the observer being convinced that another member of the group had arrived in the room, a radio check confirmed this was not the case. A second occurrence of a 'figure' was observed by one member of the team who then asked another member to go to that part of the room without mentioning why. The second investigator reported that he thought he had seen a dark figure momentarily as he walked into that part of the room.

Although we are still not certain as to the cause of these unusual visual events it must be noted that this room contains a large amount of glazing and it is most likely that such figures represent an unusual manifestation of the investigators' own reflections moving about - however, on at least one occasion the dark figure was seen when all investigators were seated and not moving around.

Infrasound

Infrasound was also measured as part of this investigation process. Infrasound is normally considered to be those sound vibrations that are below the range of normal human hearing - typically 20Hz. Infrasound has been suggested as being a key environmental trigger for some classes of reported paranormal phenomena - particularly visual disturbances, a sense of presence, chills and non-specific feelings of discomfort and unease. Other associated physiological perceptions can also include that of sounds being heard. Infrasound also has the ability to cause vibrations within structures and this may result in them moving or even breaking.

It was interesting to discover that Infrasound was present throughout the location at increased levels. This was found to be particularly strong between 5Hz and 17Hz within the first floor drawing office. The overall levels of Infrasound within the Drawing Office was found to be up to 100x (20dB) higher than that measured at a control location several miles from Cammell Lairds. The building design is also likely to be a key factor in determining the amounts and the frequencies of infrasound that was measured. The building is metal framed with the majority of the external walls being made of sheet glass. Internal walls too, are either glass or single thickness metal panels. The windows and walls will vibrate in sympathy with the Infrasound and act as secondary resonators of the low frequency vibrations and thus amplifying the overall levels within these areas. Vibrations from the primary and secondary sources will set up interference patterns within the building and rather like waves on the surface of a pond this interference and interaction between the sound waves will create regions within the location of higher amplitude and low amplitude Infrasound. It is not currently technically possible for us to measure these effects directly.

The reported experiences of the team members and staff within the parts of the building where Infrasound measurements showed the highest levels was very much in keeping with the sort of reported experiences we would expect from exposure to such covert Infrasonic stimulation.

It was also interesting to compare the locations of team members within the Drawing Office with the range of experiences noted. There was an increased number of team members reporting anomalous experiences and unusual physiological effects within defined regions of the Drawing Office again suggesting that we may be dealing with a series of Infrasonic standing waves producing areas of higher Infrasound exposure.

The primary source/s of the Infrasound was not traceable due to technological limitations but the building is adjacent to a number of heavy engineering works including a large operational tanker loading / unloading dock. At the times this was operating we could hear a distinct low frequency vibration, the sound being produced by the pumps and associated machinery. This was not Infrasound but the heavy machinery was almost certainly also producing infrasonic vibrations that our Infrasound equipment was detecting.

Perhaps the key source of the Infrasound at this particular location is the Mersey Tunnel, the Birken-

head entrance of which is located about half a mile from the investigation location with the exit facing directly toward the building.

The tunnel opened in the 1930's is just over 2 ½ miles in length with an internal diameter of 44 ft. Located within it are a series of enormous fans used to draw out the exhaust gases from vehicles using the tunnel. Huge quantities of air are moved through the tunnel by these fans. In the Sydney Town Hall in Australia and also at the Atlantic City Convention Hall in the USA are extremely rare 64ft organ pipes that produce an 8.2Hz note. In effect, the Mersey tunnel is nothing more than a truly massive organ pipe and is undoubtedly a major producer of Infrasound. Such sound would be extremely low frequency but due to their nature and construction they would not produce a single resonant frequency but instead a series of harmonics, resulting in Infrasound being produced across a range of frequencies including some within the audible range too. For technical and logistical reasons it would not be possible to measure the actual frequencies produced by the tunnel but we feel that it must be a strong contender in the search for a suitable primary infrasonic sound source.

What makes this suggestion even more credible comes from another ongoing investigation at the Hex Nightclub in Birkenhead town centre. This building is located less than 100 metres from the Mersey Tunnel exit, although around 50 degrees off the tunnel exit centreline. At this other location Infrasound levels were also found to be high - again by a factor of up to 100x that of the control. What was most interesting is that the graphic data taken from a 6 hour measurement at Hex bore a remarkable similarity to the graphic data taken from the Drawing Office within Cammell Lairds. Perhaps, this indicates that both locations share a common primary Infrasound source and the small variations between the two sets of data are the result of local differences of construction and geographical location.

Another unusual set of experience reports from the investigation team may also be linked with an aspect of Infrasound and also perhaps demonstrates the way in which subtle sound vibrations may affect some individuals.

One overnight investigation resulted in a number of the investigation team reporting within their notes a desire to sing. The investigators are trained not to give away information about their experiences during investigation sessions but the notes are read by a coordinator during the investigation to get an early determination of anything that may be of potential interest. Out of a team strength of 8 that night, 6 had written down a note about a desire to sing or a song coming into their head during the earlier session. It was also noted from baseline measurements that the weather conditions during the same session had changed with the wind increasing in strength noticeably. Going outside to make another series of weather observations the coordinator observed that he could hear what sounded like a musical instrument being played - described as most like a horn or similar woodwind instrument, it was not distinct and faded in and out and was at times very difficult to hear properly. He realised after some minutes that the cause was the wind blowing through one of the nearby derelict buildings, the fading being due to fluctuations in the wind strength and the low frequency of the note to begin with - not unlike the tones obtained by blowing air across the top of a bottle of tube. It occurred to him that possibly the wind was creating subtle low frequency audio and possibly also Infrasound events that were triggering a subconscious response in the other investigators - they then interpreted this as a desire to sing or as a song idea. It was hoped to examine this notion further at later investigation visits but sadly they never coincided with winds of suitable strength before the derelict building in question was finally demolished. It would be interesting to explore this possibility at future investigation locations, especially ones where witnesses may have reported the hearing of music being played or sung.

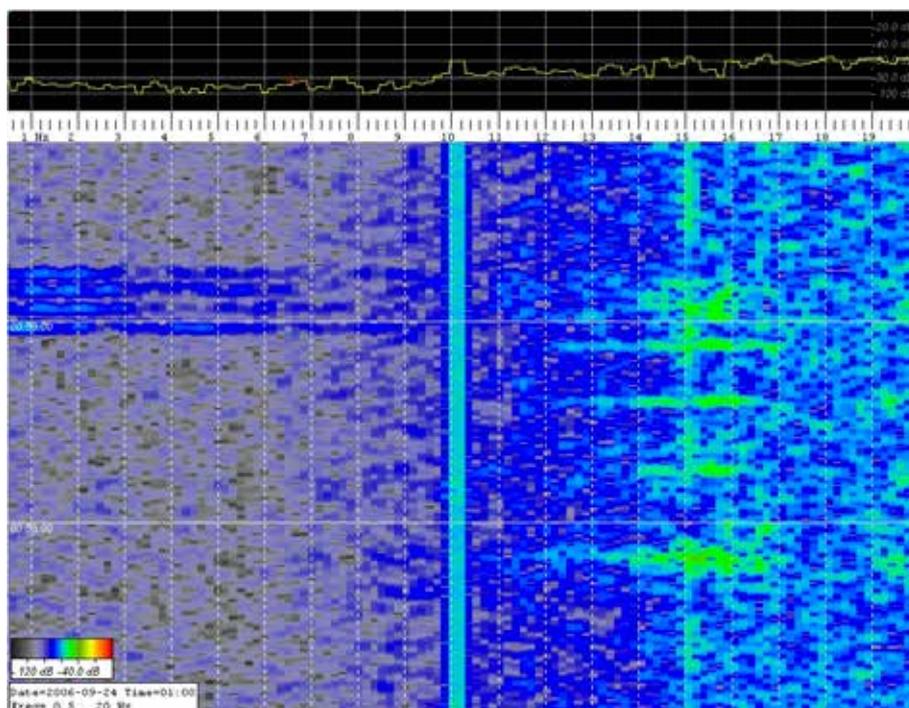
Infrasound - new equipment and interesting results

During 2006, more advanced Infrasound measuring equipment was developed by the group. Known by the acronym ARID - Acoustic research Infrasound Detector this advanced measuring system uses a pair of high sensitivity dynamic microphones linked to real-time spectrum analysis monitoring and recording. ARID permits measurements of infrasound and very low frequency sound within the region of

1Hz - 150Hz to be made. The system allows us to examine and compare infrasound and low frequency audible sound directly and in real-time. This unique ability permits us to better determine some of the causes of the environmental infrasound at this and other locations. ARID can additionally be used in 'stereo-mode' or 'dual-mono' modes, allowing us to examine and measure infrasound standing wave formations within a single location or directly compare in real-time two adjacent locations. A more detailed technical description of ARID is being prepared and will be published in due course.

The initial field trials of the new system took place during the 3rd quarter of 2006 and almost immediately presented some intriguing results. Although further work remains to confirm these results it would seem that our initial supposition that the Mersey Tunnel may have been the most likely candidate for a suitable infrasound source is perhaps wrong and the real source lies much closer to the location under investigation - within the shipyard itself.

During the field trials we were presented with series of powerful infrasound events of up to 80dBA and normally constant frequency within the range of 7Hz to 15Hz.



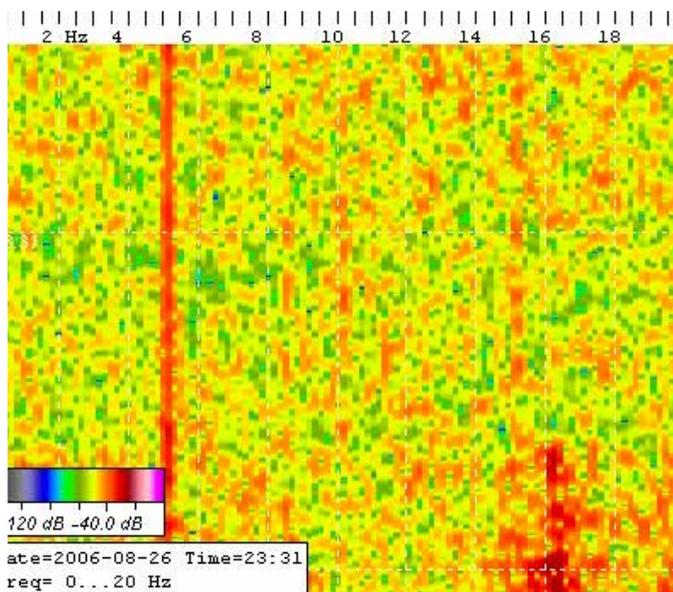
An early ARID screen capture showing infrasound at close to 10Hz and peaking at 60dBA.

Initially, this discovery puzzled us as it did not seem to be linked to the Mersey Tunnels. The extractor fans of which we had learned were selectively used in response to traffic levels. The infrasound we were detecting with ARID was primarily at peak levels from late evening and sometimes overnight, this corresponded to low traffic volume in the tunnels and thus reduced fan use. It was apparent that there was another more powerful source of the infrasound that needed to be considered.

It soon became apparent that the cause of the powerful infrasound was a car ferry lying in the ship repair yard basin less than 100 metres from the building we were in.

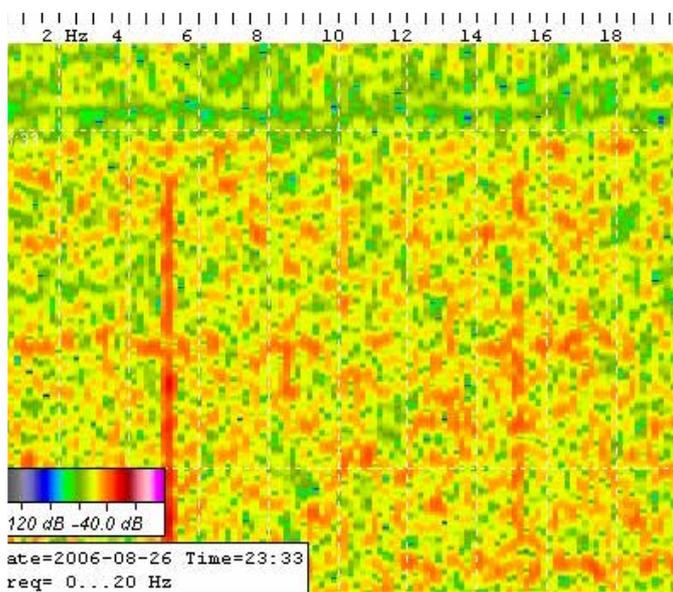
The intermittent nature of the infrasound during the investigation lay in the fact that there was not always a vessel in the dock or that a vessel was docked and 'powered down' during periods of either storage or work not being in progress.

This can be illustrated in the following sequence of ARID data captures from August 26th, 2006. The sequence at 1 minute intervals coincides with work on the ship finishing and the lighting and generators being turned off for the night.



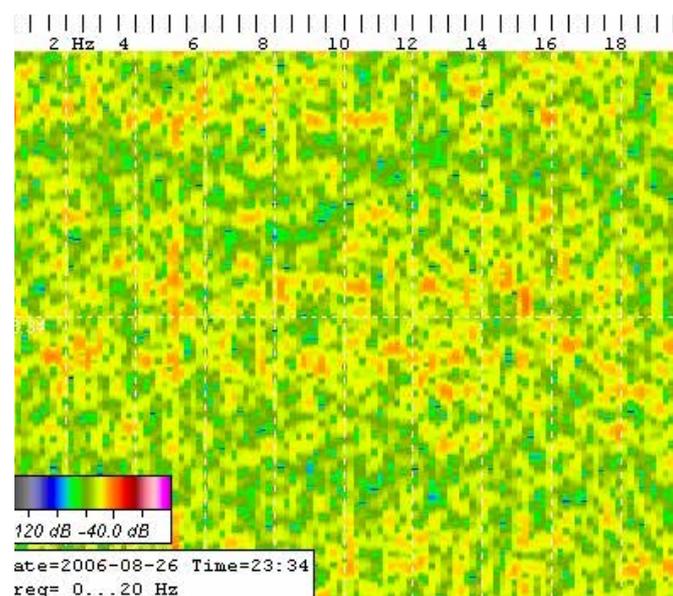
In the first partial screen shot the infrasound being created by the vessel (in this case a medium size passenger ferry) can clearly be seen at 5Hz at an amplitude of almost 80dBA.

Infrasound harmonics from the generator may also be seen as fainter traces at 10 and 15 Hz.



A minute later in the 2nd capture) it can clearly be seen that the infrasound suddenly ceases.

This coincides with a note in the investigation report that the ships lighting was turned off.



In the final capture of the sequence the powerful infrasound has completely stopped to be replaced by broad frequency general infrasound that we were more used to seeing at the site and which we still believe is most likely a combination of the Mersey tunnels and general environmental infrasound.

Interestingly the general background levels at the location are still around 40 - 50dB which may still be enough to cause some individuals to have experiences that they may interpret as being paranormal. In his pioneering studies Vic Tandy found levels of infrasound at around 38dB in locations associated with

increased incidences of paranormal reporting. Later experiments were carried out by placing members of the investigation team into parts of the location where we knew from measurements that infrasound was at high levels or low levels. Team members were not aware of which area they were placed. These tests revealed that those members positioned in regions of high amplitude infrasound generated by the vessels docked nearby reported increased instances of headaches, anxiety, nausea, palpitations, lack of energy and feelings of oppression. Those members in regions of low infrasound did not report these effects. Perhaps the most interesting finding came during a return visit to the location by a Psychic medium, who was also unaware of the infrasound measurement results. He reported that "The energies in the building had changed" and had indicated these regions that he called "Dense / Heavy energies", and "concentrated swirls of energy". He had marked these regions of dense energy onto his site plan and we were surprised to discover that they corresponded almost exactly to the regions in which we had measured the infrasound to be at peak intensity within the building. This may indicate for the 1st time in any investigation a link between individuals experiencing high intensity infrasound and then going on to report a paranormal like experience. However, the experience of the Psychic may be more intriguing as it suggests that there may be a possible link also between an environmental trigger and a perceived psychic impression. The full results of the infrasound measurements at the shipyard are still being evaluated and will be updated in due course.

The Doors

From the earliest investigation visits we had numerous reports of sounds described as being like a door closing. These fell into two categories; the loud slamming of a door or more frequently the more quiet sounds of a 'closing door'. Sometimes these sounds were clearly heard and recorded by several team members at the same time. The staff had also reported very similar experiences previously.

Some of these sounds, particularly those of a door closing were very convincing and so we conducted an experiment to record the sounds of every door within that part of the building to try and determine the culprit/s. This revealed that two doors in particular were very strong candidates for the sounds being heard. One of the most frequently reported events was a very close match for the recorded sounds of the double fire doors at the head of the main stairs up to the 1st floor. Another door of similar construction i.e. double fully glazed fire door at the top of rear access stairs was found to be a close match for the other door closure sounds heard. We did notice that several of the doors had a delayed closure - they would take around 8-10 seconds to close after use, this would lead to the delayed sound of the door closing and did initially cause some of these events to be noted in the investigation team reports as anomalous. Thereafter, we put into place procedural safeguards to prevent this situation from continuing. All doors were either wedged open if they were in regular use or were observed to be fully closed after use in situations of intermittent use. The possibility of air movement and pressure changes caused by using other doors were also considered. Using highly sensitive digital hot-wire anemometers and digital data-logging barometers this was also ruled out for many of the anomalous door events. On 3 visits, when the wind was strong - measured at Beaufort 5 we did not observe any unexpected door movement, on a 4th visit when the wind was gusting to Force 8 and above the front entrance doors were seen to be moved a number of times in response to the strongest gusts, the internal doors did not move.

Perhaps two unusual events involving 3rd parties provide an intriguing insight into the nature of these door sounds.

The first, took place during early 2005 when the location and the investigation was featured on a BBC regional current affairs programme - 'Inside Out' (<http://news.bbc.co.uk/1/hi/england/merseyside/4220979.stm>).

A BBC crew comprising a reporter and cameraman had spent an entire night with the investigation team and members of the staff. After an all night location visit we were preparing to leave. As part of the locking up process two people carried out a walk around the building turning off lights and making

sure all fire doors are properly closed. The final step is to lock the main doors of the building. The BBC crew were putting their equipment into their vehicle as this took place, the remaining two investigation team members having completed the walk around they locked the main doors and noticed that a light in one of the upstairs rooms was on. As they commented upon this they observed a second light to turn itself on in another room. They believed they had the only key to the building but the initial reaction was that perhaps a security guard had entered the building by another entrance and was playing a prank, or perhaps an intruder has got into the building. Immediately, they unlocked the front door and went back inside the foyer. They could hear the sounds of doors slamming and what seemed to be footsteps coming from the 1st floor above. Joined by the BBC reporter and cameraman (with camera) they hastened to the 1st floor to 'catch the culprit'.

As they ascended the stairs to the 1st floor the sounds of doors shutting and footsteps continued, they were convinced that someone was moving about on the 1st floor. Arriving at the top of the stairs they noticed that several sets of lights were switched on and those seen from outside were now off. They also heard sounds of movement within the building - footsteps, doors and other sounds. A search of the building revealed no culprit and no visible means of access. Examining the lights turned on they were in a large room where every ceiling panel was operated by means of a single cord pull - there was no master switch that could be used to turn them on by any other means, therefore the changing sequence of lights that was observed could seemingly only be by means of these individual pull switches. We later checked the electrical plans for the building and confirmed that no automatic switches or other mechanisms existed for operating the lights. Security staff also confirmed that we had the only access key to the building and that no other person had to their knowledge gained access to the building or surrounding site. Much of this intriguing event was recorded by the BBC cameraman and formed part of the broadcast programme. To date however, we have not been able to obtain the original unedited footage of the event although it is promised in the future.



The 2nd event took place during early 2006 and was during a night time investigation visit. Dr. Ciaran O'Keeffe a Parapsychologist from Liverpool Hope University College together with TV presenter Yvette Fielding were visiting the location as part of a series of investigations being carried out for their book.

They were accompanied by two investigators from Para.Science. During a very quiet evening it was decided to attempt a séance session to see what might transpire. Dr. O'Keeffe and one investigator were drawn to the rear access stairway (pictured left) after hearing some unusual noises therein.

The noises were ultimately located to a vehicle loading yard nearby but whilst they were still on the staircase they both clearly heard the sounds of what closely resembled the shutting of one of the doors leading from the stairwell. At the top of the flight was a set of doors that had been implicated in earlier door sound events. These were held open with a brick and so were fully held open. The other similarly constructed doors on the other two floors were locked shut. Despite the best attempts of the two, no plausible easy explanation could be found for the sounds heard and recorded.

Readers may be tempted by the idea of the activity in the foregoing accounts being created to impress the media visitors either by the visitors, the Para.Science team members or perhaps a 3rd party prankster. To the best of our knowledge we are content that the events that were experienced represent activity that was the result of causes as yet unknown. We are also happy that all reasonable steps had been taken to prevent such fraudulent activity and that the two incidents were extremely unlikely to be the result of hoax or fraud.

Not All Is What It Seems

Although the sounds of doors closing were amongst the commonly reported of all unusual phenomena during this investigation our decision to record the actual sounds of them being closed and slammed proved to be key in discovering another event that was perhaps responsible for many of these reports. We had previously shut and slammed many of the doors within the building and recorded these staged events.

When we later compared this library of staged event sounds to the anomalous sounds we did find that that two doors were the most likely candidates for some of the anomalies, these were more specifically those events where the sound seemed to be of a door closing normally rather than being slammed or shut with force.



A different set of sounds, often reported as a door slamming was also reported although less frequently. We noticed from visit to visit that portions of the suspended plaster board ceiling on the first floor (pictured left) had become detached and were on the floor. This gave us the idea that perhaps these plaster tiles about a metre square were perhaps the cause of some of the sound events attributed by both staff and investigators to door slams.

The ceiling on the 1st floor (pictured right) was in poor condition and parts of it were clearly compromised and allowing rain water to seep through to the room below. The tiles were also distorted and clearly becoming saturated with the rain water.

We conducted an experiment by taking a previously fallen tile and re-dropping from just below ceiling height. The recorded sound was a convincing replication for the door slamming sounds that had been heard. Accordingly, we adopted an additional safety policy when working on the 1st floor of ensuring investigation team members used hard hats at all future visits.



As the investigation continued we observed that from time to time tiles continued to fall on a regular basis, most often after periods of strong winds and or heavy rain.

Although, the sounds of doors being closed have continued throughout the investigation, sometimes coincident with other activity including lights being switched on and with accompanying footsteps too. However, the quantity of unknown events have appreciably fallen as we are able to determine those events that correspond to ceiling tiles falling.

The building is located within an industrial area and on several occasions we have been aware of noises from work being carried in the surrounding area, sometimes these sounds can be initially very intriguing but after so many visits to the site we are nowadays adept at quickly locating these external sound sources. One such event does however warrant a mention and serves to illustrate the pitfalls

that face the unwary paranormal investigator.

During an evening visit by two investigators almost on the spur of the moment they were confronted by some loud bangs and crashes seemingly coming from inside the building, after some time spent searching the building for a source for the continuing sounds it was proving difficult to pinpoint where the sounds were emanating from, the sounds seeming to come from all around the building. As the noises continued it was decided to open one of the windows on a stairwell to see if the sounds could be heard outside too. They were clearly audible and we then quickly realised that what we were hearing was some heavy industrial sounds from a nearby building. On closing the windows they sounds once again made an excellent impression of coming from inside our building. The reasons became apparent, the heavy bangs and crashes were causing almost every window in the building we were in to vibrate, acting as a secondary sound source and fooling us into thinking the sounds were coming from inside the building rather than from an external source. We later learned that on that particular night some heavy work was being carried out in a large building approx 50 metres from the building under investigation site.

Infrasound, which was measured and found to be much higher than at a control location and which is discussed in greater detail elsewhere in this report, may also be responsible for some, perhaps the majority of the anomalous acoustic events reported.

Infrasound would certainly have the ability for example to cause stresses to build up within the structure of the building leading to failure of components such as ceiling panels already weakened by the weather. The low frequency vibrations may also cause parts of the structure or objects within the location to move, making them unstable and eventually falling.

Footsteps

Although already briefly mentioned in this report another commonly reported phenomena at this location is the sounds of what might best be described as footsteps. These were a feature of some of the staff members experiences and it was several months into the investigation before our own investigation team heard these unusual sounds.

Perhaps two incidents (apart from the already discussed BBC visit) might illustrate this phenomenon. During one overnight investigation a member of the team asked on his radio if anyone had entered the large room that is directly above the foyer. It was soon realised that nobody had been there and that in fact nobody was walking around on the 1st floor at that time. Immediately, two investigators were dispatched to the room but found nothing to suggest any cause. They then asked the original reportee on the ground floor to compare the sounds they made as they walked about in the room. They were informed that their own footfall sounds closely resembled the sounds heard previously both in volume and direction - crossing the ceiling above the foyer.

The 2nd and most recent event took place in the area of the rear (disused) foyer, one of the team had gone to the 1st floor some minutes previously to talk to team members already on that floor and located in the large drawing office room. The lights within the building were all turned off except two stand lamps in the main foyer at the time. However, as the investigator together with another member set off to return to the ground floor they noticed that lights were on in a 1st floor corridor that runs between the large drawing office and room above the foyer. A radio check was in the process of being made to check if anyone had turned them on when one of the ground floor team members located in the rear foyer also called up but was asked to wait till the lights had been checked.

This done and the lights turned off the pair of investigators returned to the ground floor and spoke with the two members located in the rear foyer to enquire as to the reason for the radio call. They were informed that footsteps had been heard from the corridor above (the corridor in which the lights were found to be turned on) followed by more footsteps from the ground floor at the base of the stairs. It was suggested that what they had in fact heard was the two other teams members crossing into the corridor

to check the lights but were told that the sounds they had heard and attempted to enquire about on the radio were a couple of minutes before that and besides they had both clearly heard the two investigators walking across the corridor and discussing the lights, so were sure that the other sounds were a separate event although similar in nature i.e. footstep like sounds but slightly quieter than those of the known source. They were also both visibly a little shaken by the experience particularly of hearing the footsteps at the base of the stairs close to where they were sitting. A tape recorder located close to their position did record the event and indeed it does seem to bear out their experience. Sadly, the overall recording quality did not permit any detailed analysis of the audio to be performed and so any indication as to cause cannot be made conclusively at this time.

One possibility may exist for both of the above classes of as yet unexplained audio phenomena. Infrasound was found to be above expected levels in some areas of the building (the 1st floor) and was found to be strongest in the range between 5Hz and 17Hz. Low frequency vibrations are known to be able to cause movement of objects - as an example place a small object on top of a loudspeaker and turn up the volume, you will see that it moves in response to the Bass frequency vibrations.

The waves involved at Infrasound frequencies are of very low frequency and corresponding long wavelength. Like all waves they are able to transfer energy within the wave, energy that may be sufficient to cause movement within objects nearby. If the Infrasound continues for an extended period of time it may cause objects to move suddenly or in series of smaller movements in response to the wave stimulation or for portions of the structure to 'Pop' and distort - rather like the ground during an earthquake but on a much smaller scale. Movements may be a single event or a sequence of smaller events in rapid succession within the object or structural components and may result in sounds that then could be interpreted by some as the sound of a door being opened or a series of footsteps. Much more work needs to be carried out in the future both at this location and at future investigation sites to more fully understand the ways in which Infrasound may be an explanation for certain classes of reported paranormal activity but it points to an interesting area of continuing and future research.

Apparitions

The dark figures have already been discussed but there remain a number of apparent apparition reports noted from both the staff (the lady in green) and also from team members during investigation visits.



The majority of apparitional experiences appear to take place during daylight visits and are centred on an area of the ground floor corridor close to the kitchen and toilets (pictured left).

The sightings to date have all been of short duration i.e. <5seconds with the majority being only fleeting glimpses of figures. When a description has been obtained they all are reported as being of a male figure, solid and 3 dimensional. In fact, they are often almost written-off as being members of the investigation team using the kitchen or the toilet, however checking always reveals that no team member was the culprit.

We have observations on record where the sighting was made by more than one witness simultaneously. Such apparitions have been reported in the same location during the after-dark investigations too but less often. One recent account is of a sighting of a male figure walking from the area of the kitchen along the corridor before vanishing behind a doorframe, seen by two witnesses at the same time. Sadly, to date despite many camcorders being positioned close to this area we have failed to capture any image of anything resembling a figure at this location.

Apparitions have also been reported in the 1st floor rooms, although these are almost exclusively of the dark solid forms described earlier. One unsubstantiated account describes how a visitor to the site cataloguing equipment and items on the 1st floor during the daytime was taken a cup of coffee by a staff member and stated how relieved she was that this time the person coming into the room was 'real' as the visitor had seen others who disappeared as she looked at them! It has not been possible to locate this witness but our account comes from the staff member who brought the coffee to her so is close to the original source and to whom the statement was made.

Psychic Impressions

We were offered the assistance of two psychic mediums during this investigation, the 1st to visit was a female amateur medium from East Yorkshire. Some steps had been taken to prevent her obtaining prior knowledge of the location i.e. she was not given the name of the location in advance other than to be told it was in Merseyside, also no mention had been made before her walk-around about the areas of interest within the building or the nature of any activity that had been reported therein. It does need to be noted that she is related to a member of the investigation team so we are unable to absolutely exclude the possibility that some information may have been given inadvertently in conversations.

Upon her arrival we sent her to walk freely around the building escorted by two investigators who were not related to the lady. The walk-around was both video taped and recorded to audio tape to provide a record of any comments and impressions she obtained. Other team members present were excluded from the body of the building during this time and were held in the foyer area until the walk around was completed. Feedback to the medium was restricted both during the tour and immediately afterwards as it was planned to attempt a séance later the same night.

The séance provided no further information that was specific to the location and will not be further discussed herein.

During a later walk-around in the large shipbuilding hall the amateur did however, make some further claims that are worth noting. Specifically one that related to an 'explosion' and men 'trapped by fire' and linked to the site of the shipbuilding hall. The hall is built directly over main slipways from where many ships were launched over the past 80 years. Returning to the office block, she mentioned a strong impression of salt and pepper cellars being 'moved' or disturbed continuously although this was well away from the Cafeteria on the ground floor.

Several months later we were generously offered the services of respected Medium Carl Fletcher. We were again interested to see if there would be any correlations between his psychic impressions and those of our team and the staff witnesses.

Once again we took considerable steps to avoid Carl obtaining information about the location or the prior experiences. He was not informed about the location and we arranged to meet him at a location off site before going to the shipyard.

It has to be noted that locally Cammell Laird is a well known landmark and has played an important part in the history of this region accordingly most people hereabouts do have some knowledge of site and the work done there. It cannot be ruled out that Carl did not have some prior general or even specific knowledge of the site but he stated that this was not the case.

As before we arranged for Carl to conduct a self guided walkabout escorted by two investigators to record his impressions. The rest of the team were again held in the reception to await his return. Several areas of interest were noted during this session. The boardroom was described as being a site of an 'energy-source' in particular a spot opposite the lower corridor door and adjacent to the TV and a large scale ship model.

The name 'John S.' was also provided and was said to be closely associated with this area. The boardroom was to be the only location that was noteworthy on the ground floor. On the 1st floor the large drawing office space was the location for several impressions that should be recorded. He mentioned an energy point about one third of the way into the room in the middle of the floor space and also that a man was present in this room, described as short, stocky and wearing dark blue overall or boilersuit. No name was given unfortunately so further checking is not possible. Carl also mentioned a large scale accident that he felt had happened in 1938.

In the shipbuilding hall Carl talked about picking up impressions that related to an explosion, resulting from either an accident or poor working practises that resulted in several deaths. The year 1938 was given in relation to this event, he describes this as being the same event he picked up on whilst in the 1st floor drawing office. To date it has not been possible to link this information to any specific event, research is ongoing although we are aware of several incidents of a similar nature to that talked about.

Several figures were also mentioned, again wearing overalls some blue and others orange in colour. Both overall colours are known to have been used over the years by shipyard workers.

What was perhaps more intriguing was the fact that both the psychics independently seemed to highlight the same specific locations within the building and at other parts of the site where we had previously recorded the majority of unusual experiences reported both by the staff and also the investigation team members. The boardroom was the main location on the ground floor - the end closest to the kitchen . Up on the 1st floor the drawing office at the end furthest from the main access door together with a region close to the centre of the room. Both also indicated the room directly above the main foyer was associated with spirit or residual energy. In the shipbuilding hall it was interesting that both of the psychics apparently were able to gain impressions of an explosion and both highlighted a set of offices on the 1st floor of this building as being an 'active' site. In the details, there were major differences between the information that was given - except for the previously mentioned reference to an explosion.

We took all reasonable precautions in attempting to prevent either of the psychics obtaining prior information about the location, as previously mentioned we are unable to absolutely rule out such possibilities but it is initially striking that with almost free rein of this large site, both the psychics highlighted the same specific locations that closely matched those places where we had previously recorded the highest number of reported unusual incidents.

Whilst these descriptions and accounts may be a demonstration of some genuine psychic ability and that possibility has to be acknowledged here, what was perhaps even more interesting was that many of the staff and the investigation team had also reported experiences - sensing of a presence, sighting of figures or unusual moving shadows, feeling uneasy etc at almost identical sites within the two buildings. To the best of our knowledge none of the investigators claim to be 'sensitive' so this may be an indication of something within the environment that is acting as a trigger, causing individuals to have unexpected feelings and experiences that they subsequently may interpret as being of paranormal origin.

Acute and chronic exposure to abnormal electromagnetic fields (amplitude and / or frequency), electric fields and infrasound are all documented to cause such reported effects in previous studies. Another factor that may be responsible for the 'clustering' of reported anomalous experiences and psychic impressions may be the physical surroundings themselves. With the exception of the boardroom, the highlighted areas are mostly in a dilapidated state. Remnants of the former office or industrial use lie all about creating an overall impression of abandonment and dereliction. The 1st floor and the shipbuilding hall are also poorly lit, large spaces that have few welcoming features.

Research (Wiseman et al, 2003) has indicated that the light levels, physical dimensions and the overall state of a location may be directly implicated with an increase in reports of perceived paranormal activity within a location. This may well be a factor in this case - the years of neglect are perhaps leading

to some people having sensations, feelings and experiences. Compounded by the low light levels and cold draughts from broken windows and the damaged roof panels also adding to the overall impressions of 'spookiness' for some people.

It should be stated that currently we have no reliable method of truly validating or denying the information provided by the psychics. Research into the day to day history of the site is still ongoing and may reveal information that could potentially support some of the information supplied by the 2 psychics, should that research reveal anything of note then it will be appended to this report at a future date. We are also planning further psychological and environmental work in support of the view that members of staff and the investigation team may be being influenced by visual and environmental triggers, perhaps subliminally, and subsequently interpreting the induced experiences and feelings as being of a paranormal origin.

Discussion

Para.Science were initially asked to consider and examine reports of unusual experiences reported by the staff working in the building. It became apparent that we needed to broaden the area covered by this investigation in order to try and gain a better understanding of the reported events. Later, in response to further information we also commenced a series of investigation visits to the adjacent shipbuilding hall.

During the period of this investigation we were able to make observations and measurements that showed that in key areas of the ground floor unexpectedly high electromagnetic field densities closely associated with those areas where members of staff reported the highest incidence of assorted anomalous experiences. The nature of these personal experiences was highly suggestive of an 'induced experience' - exposure to high electromagnetic fields are known to cause very similar experiences from previous lab studies most notably the work of Professor M.A. Persinger.

High ambient electromagnetic field densities and fluctuations within the field strength were found within regions of the ground floor corridor and we believe that regions within the brains of some members of staff may have been susceptible to this subtle stimulation leading to the perception and reporting of a paranormal origin for their individual experiences. The electric field strength was also high in the same parts of the ground floor - in some places exceeding 500 Volts/metre, exposure to this type of environmental field causes many similar physiological and psychological effects to those induced by electromagnetic field exposure, in addition to effects more often associated with electric field exposure - the feelings of being touched or stroked and also for sudden feelings of being hot or cold for example.

Following a initial small number of incidents - perhaps restricted to one or two staff members the news of the location being 'haunted' would no doubt quickly become common knowledge within such a small group of people. As others became aware of the locations growing reputation then expectations levels would generally increase and the likelihood of events that would previously have been disregarded now taking on an increased significance - perhaps as further evidence of the haunting may take place. An involuntary shiver along the spine as they walk past the area of the corridor said to be haunted becomes a sudden temperature drop or maybe a cold hand touching the percipient. Tiles falling from an unsafe ceiling become the slamming of doors and at times the noise from nearby industry now become sounds of footsteps or movement. This increased expectation and alteration in the perception of witnesses has been a feature of a number of other cases we have investigated.

We have been able to demonstrate this possibility to a high degree of probability at this location, notably the tiles falling from the ceiling of the 1st floor drawing office being mistaken for the slamming of doors and the external industrial noises sounding like it was originating inside the building being two examples.

We have also been able to document higher than expected electromagnetic and electric field intensities in areas closely linked to reports of anomalous experiences, the nature of which also closely corre-

sponded to those one would have expected to be being reported by those subjected to such fields and field strengths. Sightings of fleeting apparitions, moving shadows and perceived temperature changes along with feelings of unease or a sense of presence for example.

On the 1st floor and especially in the large drawing office many of the previously mentioned environmental triggers - the overall neglected state, the large physical size and the low light level would all contribute to the general experience of the witness - this would increase the expectation levels even for experienced investigators one would expect to be well used to such conditions and therefore immune to such effects.

This room had large areas of windows on all 4 walls with many internal glazed walls. These were frequently seen to create unusual patterns of reflected and refracted light from external sources such as car headlights and external security lighting. The shadows and reflections of the investigators also adding to this effect, adding a further layer to the overall expectation by the witness.

From the investigation results so far we are content that a large proportion of the reported anomalous experiences are the result of established environmental cues and triggers - some of them acting to fool our senses whilst others may more directly interact with the brain and be externalised by the percipient.

BUT!!!!!!

There are a small number of highly significant events that have been recorded during this investigation that seem to be extremely difficult to find a satisfactory explanation for.

It is important that one is careful before making such a statement. It would be easy for a non-believer to simply dismiss all the events as simply cases of misperception of the normal, the effects of environmental trigger and cues or simply wishful thinking and an overactive imagination. Believers on the other hand would say that many of the reported anomalies are being dismissed by the investigation process as having a normal cause and that we are actually 'seeing' real paranormal activity here. The reality is that the process of investigation is designed to eliminate as many of the explainable phenomena as is possible with the tools and capabilities we have available. Explanations need to be reasonable and supported by both properly obtained data and also be based upon sound scientific principles or hypothesis.

Many investigators for example refer to the idea of a 'stone tape' whereby event or emotions from the past are recorded within the structure or fabric of a building or location - of course this maybe possible but to date there is only anecdotal evidence to support this notion, science has yet to demonstrate how this may even be possible.

If one is highly sceptical it is also usually possible to find some means of 'explaining away' the anomalous experiences, this is poor practise. Hallucination or an over-active imagination and direct fraud are often favourite fallback positions that are adopted here. In reality one may be faced with the situation whereby, having exhausted all the available possibilities one is faced with phenomena that one is unable to explain satisfactorily.

During this investigation we have been faced with anomalies that are extremely difficult to explain, these mainly relate to 2 types of phenomena - the sounds of doors being closed and the lights being turned on and off. The sounds of footsteps also leave a high degree of uncertainty. The series of comparative recordings that we made of many of the doors within the building allowed us to state with a high degree of certainty that the anomalous sounds obtained were a very close match to the sounds of two particular doors. Procedural safeguards were also used to ensure that the doors were either properly closed or held open at all times to ensure that we were not getting confused by such effects as delayed closure of the doors after use. Weather effects or local air pressure was also eliminated as a likely cause. Despite these experimental observations and procedural safeguards we still recorded

21 anomalous audio events that very closely match the sounds produced by two sets of fire doors. The doors at the head of the main access stair being a strong audio match in 16 events, the rear stairwell doors making up the remainder. So far we are unable to offer any satisfactory explanation as to what the cause of these events may be. Infrasound may be one possible explanation in these cases. It is known that certain structural components can be vibrated by the low frequency sub-audible sonic waves. It is possible also that these vibrations may set-up internal stresses that may lead to sudden movement of the component, especially if the component starts to resonate with the source vibrations - this can quickly cause the stresses to be amplified. One unexplored possibility is that either the doors (highly unlikely) or their frames may be resonating with the measured Infrasound waves, leading to movement within the frame and then secondary movement by the doors or directly acting upon the doors and causing movements. A similar possibility exists for the footsteps that were heard, Infrasound may be causing stress within the structure that are released in the form of a series of small movements that are then interpreted as being footsteps by the percipient. However, we are unable to explore these ideas further as to do so is currently outside our technical ability, we hope to address this shortfall in the future and perhaps return to explore this hypothesis.

The possibility that the events relating to the doors may indeed be paranormal in their origin but that too is currently beyond our ability to prove or disprove. Carl, one of the visiting psychics made a further suggestion that is also beyond our means to explore but is mentioned herein for reasons of completeness. He said that he was able to 'detect' the presence of two underground water courses (streams) running directly under the building and close those parts nearest the suspect doors. He offered the idea that energy, similar to that found in Ley-lines was responsible in some way for the door closing phenomena.

The turning on and off the lights on the 1st floor on two separate occasions also remains unexplained to date. Of course some electrical surge or malfunction cannot be ruled out but the nature of the 1st event seems to make this unlikely. The lights (neon tubes) are connected to a common power supply but are individually switched by use of a pull-cord for each of the light units. No alternative method of operating the lights exists and it is necessary to physically operate each switch in turn to operate the lights. The common electrical supply makes it highly unusual for surges to selectively operate some of the lights turning only some of the lights on and off in sequence, leaving others un-touched. We discussed the wiring and the operation of the lights with the original Electrical engineer responsible for designing the lighting and electrical supply of the building who also said it was 'almost impossible' for the lights to behave in such a fashion as had been observed. Human error and misperception of the events can be largely mitigated by the procedures used and the multiple witnesses to both events. These two events remain unexplained to date and therefore the possibility that they represent genuine paranormal activity cannot be excluded.

With respect to the multiple visual anomalies including those involving the sighting of apparitions we have no doubt to question the honesty of any witness - those in the large 1st floor drawing office are most likely the result of the psychological and physiological effects caused by the room's large expanses of glass and the fashion in which light was reflected and refracted in this space. This explanation can equally apply to the reports of 'other people' made by the daytime visiting archivist.

On the ground floor we have to find a different explanation however particularly for the sighting of apparitions close to the kitchen. Witnesses may have been affected by the high electromagnetic fields but in every case no witness was positioned in areas where this was measured to be abnormal. Transient high electromagnetic fields affecting those areas where witnesses were located cannot be excluded but no instance of such transient fields was ever recorded during our visits and particularly at those times when apparitions were reported. There was also an interesting consistency in the nature of the 5 apparitions reported by the investigation team - procedures ensure that knowledge of others sightings is minimised too. All sightings were described as being either 'male' or 'of a man', the locations of the sightings were also highly consistent. One sighting was within the kitchen close to its door, the remaining 4 took place in the corridor immediately outside the kitchen door. Only one of the sightings

took place at night, this involving two witnesses who although sitting together did not offer prompts about the nature of what each was seeing. This can be confirmed by audio recordings made at the time. Team members are trained to mitigate such problems, whilst still bringing an area to the attention of their colleague - in this case the audio records one asking "Can you see anything behind the door?" Both independently made written notes about their sighting without consulting the other. The apparition was described by both as a man of around average height who appeared outside the kitchen door and who then apparently walked toward them before being lost from view behind a closed intra-corridor fire door partition. Afterwards, using a 3rd investigator we spent some time re-creating this sighting and determined that the figure was close to 6ft high and moved toward the two investigators from outside the kitchen door (immediately adjacent to the Gent's toilet) at a slight angle toward the middle of the corridor. Their viewpoint was obscured by a pair of closed glass-panelled fire doors behind which the figure was lost from view albeit in a unusual fashion (as the surrogate apparition investigator remained in view and only partially obscured by the wooden partitions of the door). The glass panels did suggest the possibility for the sighting being a reflection - perhaps of another team member coming into the corridor from the 1st floor stairs. Further experiments quickly rule out this possibility - the 'created' apparition did not appear in the glass panels at all as the rear portion of the corridor was not lit and a check at the time proved that all team members were in their allocated positions at the time of the sighting.

One daytime sighting took place as an investigator who was leaving the adjacent toilet was looking down the corridor toward the reception when he glimpsed someone he thought to be another team member in the kitchen to his right. As he fully turned his head to speak to them the figure seemed to move and disappear, he thought they must have gone behind the door and out of his sight - and immediately realised that this was impossible as there was no space behind the door, it directly touches a worktop as it opens to 90 degrees. Checking further he entered the kitchen to confirm it was empty. This sighting may be described as taking place in the peripheral area of the witnesses vision - the angle off the centre of the vision field being around 20 degrees initially and reducing quickly as the witness turned his head. The action of the witness was repeated several times immediately afterwards to try and determine if some optical illusion was the cause, but it could not be replicated and no obvious cause was found.

In all 5 sightings, the descriptions of the apparition are lacking any substantial detail - all were of extremely short duration - around a second or less. All were described as being seemingly solid and 3-dimensional and are consistent in the belief that it was a male figure wearing dark trousers and a white or light shirt. No age, facial or distinguishing features are described. This may be as a result of the short duration of the sighting or it may be that some optical aberration caused the witnesses to believe they had seen a figure. It is not possible to determine the true nature of these sightings any further beyond noting that there was an interesting consistency in the location of the apparition/s and the perceived direction of movement of the apparent figure.

There are also several additional reports that we may wish to consider in this context - 3 reports of moving 'figures' within the same part of the corridor, these reports (2 daytime and 1 night) were each peripheral in nature and lack any detail other than an impression of a figure being seen outside the kitchen / toilets that moved quickly out of sight as the witness turned toward to face it. These reports offer support to opposing points of view - they support the idea of some lighting or optical effect creating the impression of a moving figure and they may also be taken as further evidence to support the view of an apparition being sighted. The diversity of the witness positions do seem to diminish the possibilities of some electro-magnetically induced visual hallucination as in every case all were at least 3 metres from areas where EMF was known to be high or subject to fluctuations.

One remaining sighting of an apparition needs to be mentioned here, that of the one sighting by a member of the staff. This too occurred in daytime and the location of the figure is in the same part of the ground floor corridor. However, there are some significant differences, the figure is described as being that of a female wearing green clothing or overalls. The direction of the apparent movement of the apparition was also different - it moved toward the reception the opposite to the other recorded sightings.

The witness (male) was located well away from known environmental anomalies and describes himself as being 'sensitive'.

Many of the investigation team reported instances of feelings of unease or unexpected emotional responses, also headaches, during the investigation process, these were reported in 3 main sites within the building; the ground floor corridor and boardroom, the 1st floor drawing office and the room directly above the main reception. These are consistent from what we might expect from the physical conditions of the 1st floor, abandoned and in a neglected state. The ground floor is however a generally warm and comfortable place as one might expect from a busy office environment. Here, we have compared the locations of those making reports of unusual feelings and emotions and found that they closely correspond with the portion of the corridor where we have determined that EMF levels are high or subject to fluctuations. This correlation cannot be overlooked and it points strongly toward an electro-magnetically induced response within the brain of the percipient being the most likely explanation for these experiences.



The one recorded temperature drop also is currently unexplained - it took place during an overnight investigation during which a line of 12 temperature data-loggers were positioned at regular intervals along the ground floor corridor from a position before the kitchen around the corner and ending close to the intra-corridor fire doors (pictured left).

An unexpected temperature drop of 7.2 and 6.9 Celsius respectively, was recorded on two adjacent sensors, the drop took place in under 3 minutes. After reaching a low of 11.6 / 11.7 Celsius the temperature was recorded to rise before reaching to within 0.1 Cel-

sus (both) of the pre-drop temperature - 18.9 Celsius, after 5 minutes. Equipment error can be excluded as the temperature anomaly was recorded by two independent sensors, no unusual temperature changes were observed on the remaining 10 sensors in the same part of the corridor. This also essentially rules out draughts created by the opening of any doors or windows too as we could reasonably expect temperature changes from such causes to have been recorded on the other sensors too.

The magnitude of the temperature change also ruled out stray draughts as we tried to repeat the effect by opening various internal and external doors and windows - temperature drops were of a much lower magnitude < 3 Celsius and required a longer time period - up to 10 minutes to be apparent. We are left with a substantial and highly localised temperature anomaly. Such temperature drops are a frequently reported feature of many paranormal investigations and often precede other reported phenomena taking place including apparitions and the movement of objects. In this case, the event was isolated and did not relate to any other anomaly or sensation being reported. No person was in the corridor during the time the anomalous measurements were made. The event was a single occurrence although during the period of the total investigation a lot of smaller temperature fluctuations were observed, none was outside the range that we would have expected to record.

This may represent some unusual environmental effect such as a manifestation of the Peltier effect, which is a temperature drop caused by electrical differentials within the structure. The idea that this may be a cause of some 'paranormal' temperature drops by Prof. M. Persinger, but so far has not been shown to be an actual cause in any investigation to date.

We cannot exclude the possibility that this too may represent either a paranormal event either as a solitary event in its own right or as the precursor for some unobserved or perhaps failed paranormal manifestation of another kind.

Initial Conclusions

To date we have found no reasons to doubt that many members of the staff believed that they have experienced some unusual phenomena within the building, particularly within an area of the ground floor corridor close the kitchen, the kitchen and boardroom. They had also reported anomalous sounds that they have interpreted as coming from other parts of the building including the empty 1st floor. Many of their experiences were confirmed by members of the investigation team - feelings of unease or unexpected temperature drops and coldness. The area in which the majority of these experiences and reports are centred upon is small - less than 3 metres in any direction, this area incorporates the Ground floor corridor (around a corner), the kitchen and one end of the boardroom. Within this small area we have recorded a broad range of unusual or unexpected feelings and sensations, the sense of presence and cold spots / sensations. Also, visual apparitions have been exclusively within this area although the witnesses have with a single exception been outside of it.

Staff members do not routinely access the 1st floor and so apart from a single anecdotal account of an unusual experience we have only the investigation team reports of activity on this floor, which include the two incidents involving switching of the lights and the doors being heard. With these exceptions, it is highly likely that majority, if not all of the reports are the result of psychological and physiological responses to the environmental conditions on this floor.

It is our view that the building has demonstrated several instances of genuinely anomalous activity - specifically the switching of lights and the sounds of doors being closed. Some events are currently difficult to offer a satisfactory explanation for, these being some of the instances when footsteps have been heard and also some of the apparition sightings.

As we have previously noted at other investigations there is often a change in the perception of people when they believe a location to be haunted. Events that would normally be given little consideration become elevated in significance and provided as evidence of the location's haunted nature.

We offer the following hypothesis in this case:

Staff members experienced a small number of unusual events that lead to them reaching the conclusion that the building was haunted. Some of these experiences may have been induced by the effects of the higher than normal electromagnetic fields in the ground floor corridor, the kitchen and part of the boardroom, leading them to experience feelings of unease, a sense of presence and sudden temperature drops. Other experiences may potentially be truly anomalous in their origin.

As they shared their experiences with colleagues so the overall level of belief in the building being haunted inevitably increased along with a heightened expectation and the misperceiving of events that would normally have been dismissed as 'just normal site noises' or perhaps a 'passing shadow'.

People using the corridor in the affected area became acutely aware of the unusual sensations that the high electromagnetic and electro-static fields were inducing and creating but increasingly these were considered to be further evidence of paranormal activity.

The reputation of the building being a haunted place grew with each new unexpected experience that took place. It is also likely that some of the activity associated with the investigation process also contributed to the growing reputation of the building.

As in the majority of cases investigated we have to make distinctions between the those events that are extremely difficult to explain satisfactorily which make up only a small percentage of the total number of events that are reported and those for which a reasonable explanation can be shown, which is the largest majority of the total. It is often difficult to see those few 'unknowns' as they quickly become masked by the quantity of initially equally unusual events.

Many people are completely unaware of the ways in which their surroundings can influence their sensory systems - and so they are likely to interpret unexpected and strange experiences as being of a paranormal origin as it often seems to be the only explanation left to them. Another factor that needs to be considered, particularly in recent years is the general increase in people's awareness of ghosts and the paranormal. The paranormal has been strongly featured in the media since the late 1990's. Books, magazines and TV programmes abound and this is reflected in the increased awareness that we have noticed within people involved as witnesses in many investigations we conduct. Whereas it used to be the case that many people were generally reluctant to discuss their experiences even with close friends and family, nowadays people do not seem to have the same degree of reservation. This may lead to a greater increase in the number of personal experiences that are notified that otherwise would go unreported increasing the number of apparent anomalous experiences at locations including Cammell Laird.

Within the media cases are often presented in a slightly sensationalised fashion, language is often dramatic and we have seen a change in the expectations of those whose homes and places of work we investigate. They have heard that paranormal activity manifests with large temperature changes and believe that previously insignificant noises may actually be evidence of spirit communications. This is possibly a factor in recent investigations including this one. Witnesses attribute special significance to events that otherwise would have gone un-remarked upon.

Is The Building Haunted?

The office block at Cammell Laird is certainly a location where a number of unusual events have taken place - events that despite many experiments over the course of a long investigation cannot be explained with any degree of certainty or satisfaction. The very extensive and detailed investigation may even lead credence to the likelihood that they have a paranormal origin. There is also a series of events that we can offer an explanation for. Like so many other locations we have investigated the unexplained events make up a small minority of the total number of reported anomalous experiences but that does not diminish their significance, it may even add weight to the idea that the building is haunted in some eyes. The investigation continues and with improved technology and methods being applied we may answer more of the many questions that still remain.

The location certainly has all the aspects that are associated with a haunted site - apparitions, noises and temperature drops and whilst some of these remain without an explanation then it is fair to describe this building as 'Haunted'

The Future

A large area of the former shipyard is set for redevelopment providing housing, retail and leisure facilities for Birkenhead and beyond. Some ship repair and associated work will also continue on part of the site. As this investigation has progressed we have witnessed large scale demolition of derelict former shipyard buildings to make way for the planned development. In time, the offices will also be demolished giving us a finite time in which to continue the investigation process. The technology and methodology we employ is constantly evolving and we hope to make use of this increased capability to conduct new and more extensive experiments. It is hoped to set-up long term environmental and CCTV monitoring at some sites within the building for example. We still have to locate much of the historical information for the site as it seems to have been widely dispersed after closure of the shipyard in the 1990's. This may reveal additional information that could assist with the investigation - hopefully answering the questions about what was on the site of the office prior to it's construction in 1962/3?

The massive shipbuilding hall will remain and we have a number of anomalous experiences on file for this location - including several apparition sightings.

We hope to commence a thorough investigation of this building before work starts on further develop-

ment of it.

On an adjacent part of the site, ship related work continues, this is the oldest part of the site and has a number of anomalous reports of its own - in fact the majority of our recorded incidents obtained from interviews with former and contemporary shipyard workers relate to this part of the site, it is hoped that in time we may get the opportunity to commence an investigation in this part of the shipyard.

December 2006

During the latter part of December 2006 we were informed that following the sale of the site to new owners all investigations must cease. This is unfortunate as we still feel that there are a number of unanswered questions relating to the site. We are monitoring the situation and hope that an opportunity will arise in the future to return and recommence this highly interesting investigation.