



O.H. Farm, Cheshire 2003 - 2004

Preliminary Report for O.H. Farm, Cheshire. Censored to protect location and identity.

Report by S. Parsons & A. Winsper

Summary and Introduction

Summary

In 1996 Professor M.A. Persinger along with S. A. Koren and R. P. O'Connor conducted an investigation into a house in the Ontario suburb of Sudbury, during which they noted that the occupants reported various paranormal phenomena in the presence of a fluctuating 60Hz EM field. The case suggested that transient, complex temporal patterns of power frequency magnetic fields generated by poor earthing and telluric currents may be sufficient to evoke experiences in the brains of the sensitive individuals that resided therein (Persinger et al, 2001).

In 2003 Para.Science investigated a case at a remote Cheshire farmhouse, during which they noted that these occupants also reported various paranormal phenomena in the presence of a fluctuating 50Hz EM field. However, a number of differences including the power frequency magnetic fields and the witnesses themselves, indicate that the intensity of the overall EMF may also be a factor in determining which individuals have experiences that they may report as being of paranormal origin.

Introduction

Para.Science were invited to investigate this interesting case in rural Cheshire by the homeowners. The invitation was as a result of a series of unusual events that several family members had experienced, these included the sighting of several apparitions, disembodied voices and objects being moved. Keen to learn and understand more about what her family was experiencing, the homeowner had already begun her own investigation but felt that a little more experience might be needed and that the case might be of interest to others.

Para.Science has made many visits to the house for the purpose of conducting this investigation and over the past year have, with the generous assistance of the family, been able to conduct a series of measurements into many environmental variables including; Temperature, Humidity, ionising radiation and Electro Magnetic Radiation - EMF. We have also taken many still and moving images and tens of hours of audio recordings.

During the investigation it has been necessary to examine the history of the site and its occupants. The eventual final report will contain this data.

Family and Location

The Family

A family of five occupy the house; Father and Mother and 3 children. The eldest daughter now lives

away from home and was apparently anxious to move out as a result of her own unusual experiences at the farm. Two teenage children remain at home - a daughter in her late teens and a son in his mid teens. The son has a long history of chronic illness that has symptoms similar to myalgic encephalomyelitis (M.E.).

The family has reported continuous minor paranormal activity since moving in four years ago, although the level and nature of the phenomena were said to have increased significantly two years ago following the death of a close family member. Many of the events subsequently experienced have been attributed to his spirit being present.

All three children and their Mother have witnessed unusual activity. The Mother believes she is strongly psychic although she is refreshingly open and down to earth about her claimed abilities, warning that messages she gets from the spirits are frequently very difficult to interpret. According to the Mother, all three children share to a greater or lesser degree the same psychic abilities as her. The husband does not share this claimed ability. Furthermore he does not share the belief that the house is haunted in any way. He always strives to rationalize all the unusual events that are reported to him by the rest of the family. It is possible that he is deliberately 'downplaying' his own experiences and we ourselves have seen some evidence that supports this.

There is no desire on the part of the family to have any of the phenomena stopped or changed. Although initially disturbed by the events, they are now curious as to the nature of their experiences. Prior to Para.Science being invited to investigate, the Mother had commenced some limited investigation of her own. She had even gone so far as to firstly borrow, and then buy, a video camera in the hope of documenting some of the activity - initially to convince her Husband of what was being experienced.

The Location

The house is an isolated farmhouse in rural Cheshire. It is adjoined to a neighbour's house, the two forming one building providing the accommodation for the farm employees. The building is surrounded by the usual assortment of farm outbuildings that include a modern electrically powered milking parlour. The house was built in 1954, and although of new construction at that time, the homeowner said the staircase or parts from it were re-used from an earlier building on the same site, although to date we have been unable to find anything that supports or denies this.

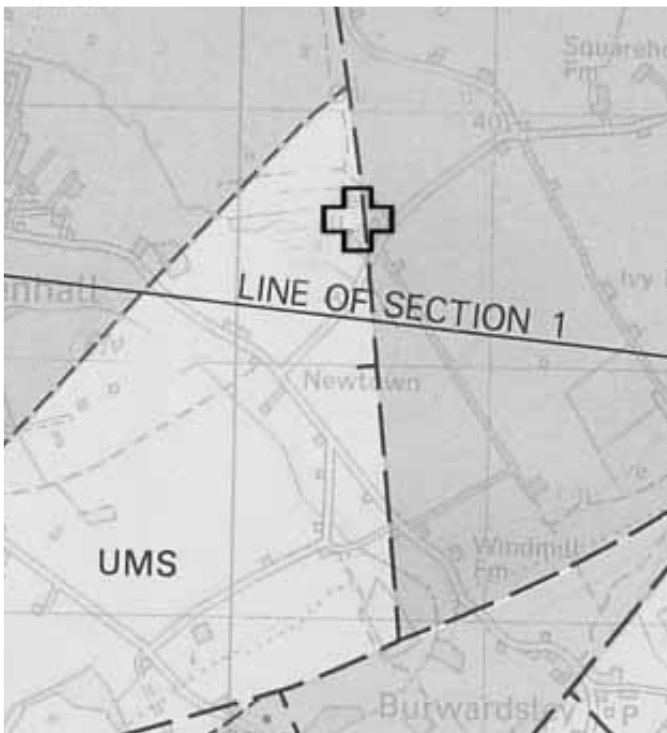
The house is divided into a number of rooms over two levels

On the ground floor (GF) are all the main domestic features but additionally a bedroom - now vacant, located at the front of the house. All the GF rooms have reported paranormal activity, but the main areas of reported activity are the lounge, GF bedroom, stairs and the kitchen.

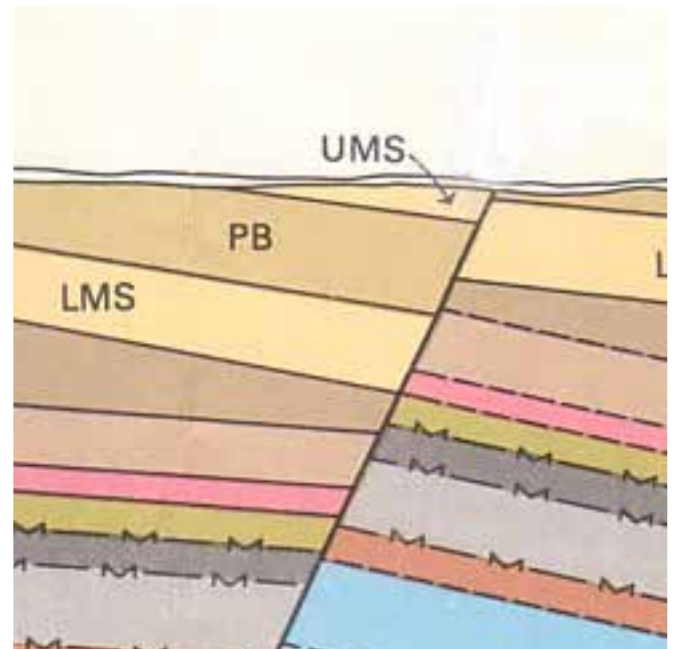
On the first floor (FF) are 3 bedrooms, the landing and a bathroom. Paranormal activity is reported in all the rooms but mainly in the two bedrooms used by the children. The front FF bedroom is the main area of reported paranormal activity.

A couple occupies the adjoining house. They have not been particularly interested in assisting the investigation but we have some anecdotal reports to suggest that they too have experienced unusual activity within their own home.

The building lies directly on top of a known geological fault line in the underlying rock. Extract from Geological map, showing fault, the farmhouse position is marked with the cross (pictured left).



The fault line is estimated to run directly beneath the house and penetrates from the surface to below 1800 metres. Geological section through fault beneath the farmhouse (pictured right).



An extract from the Mother's diary is available as a separate download that describes the activity that individual members of the family have experienced and reported both prior to and during the Para. Science investigation

Unusual Events Witnessed by Team Members

Son's Bedroom

During the various days and evenings spent at the farm, the son's bedroom at the front FF of the house was the location for many of the unusual occurrences reported by the team members. The room featured in every investigation visit conducted by Para.Science.

The most frequently reported unusual event was seeing bright and vivid coloured lights when the eyes were closed and the subject lying quietly upon the bed beneath the window. An attempt to replicate these lights was attempted by several of the team by pressing with varying amounts of pressure upon their closed eyes. Although coloured lights could be produced in this way, they bore no resemblance

to the intensely vivid coloured lights that were observed. Four investigators had this experience of the vivid lights although at the time of their experiences none were previously aware of the reports of their colleagues. All reported that a full spectrum of colours had been seen.

Two other members of Para.Science reported the sensing of a 'presence' in the room with them whilst they too lay on the bed beneath the window.

One member of the team, a female investigator, reported what she believed to be an experience akin to an Out of Body (OBE), describing a feeling of 'leaving her body' and moving toward a round, bright light near the ceiling of the room. The investigator had never previously experienced this effect.

On four separate occasions members of the investigation team reported the onset of a strong headache shortly after entering the bedroom, the headache persisting until several minutes after they left the room.

Two incidents that were reported are more unusual and involve the movement of objects within the room.

The first incident took place when two investigators were lying quietly, one on each of the two beds in the room. In the darkness the sound of a door opening was clearly heard by both. After the session ended a cupboard door in the room was found to be slightly open. Reviewing the footage from a 'Nightshot' camcorder showed the door opening during the session, the door handle also being turned through 10 - 15 degrees before the door itself was moved.

At a later visit an investigator was relaxing on the bed beneath the window, during the session nothing was reported except a slight rustling that was heard part way through the session. She thought the sound could have come from outside the room. When the lights were turned on 40 minutes later, she noticed that a small toy bear was on the floor between the two beds. It had apparently moved around 2.5 metres from an initial position atop a TV set in the corner of the room. The tape from the 'Nightshot' camcorder was reviewed and it was clearly seen that the bear had been positioned on top of the TV at the moment the lights were turned off. The footage was carefully examined and although the bear was clearly present atop the TV when the lights were extinguished, it was not in the same position when the lights were restored. The videotape clearly shows that the investigator did not move from the bed during the session but sadly does not show the bear as it was outside of the area of the picture illuminated by the IR lights on the camcorder. It was not possible for anyone to have approached the part of the room within which the bear was positioned without passing through the cameras' field of vision.

All of the visits made to the farm to date during this investigation have been characterised by unusual experiences being reported by members of the investigation team whilst in the son's bedroom.

Daughter's Bedroom

We have only one event that took place in this rear bedroom during an investigation but it is an unusual event and one that is difficult to offer a satisfactory explanation for.

Two investigators were sitting quietly in this room with the lights dimmed but stray light from the landing outside provided enough illumination to read by. One of the pair was on the bed, whilst the other sat facing him on the floor. The investigator on the bed felt his hand slapped quite hard - the noise of which was clearly heard by the other investigator. As they quietly discussed the event the same investigator got his hand slapped once again. On both occasions the investigator sitting on the floor was directly facing her colleague on the bed and saw nothing at all that would account for the slaps being administered. The victim described the feeling that it was a small hand that had slapped him - rather like that of a child. It hadn't caused any pain or discomfort. The event was recorded by a camcorder that was outside the door on the landing, the two sounds could be distinctly heard along with the quiet surprised

conversation between the two investigators.

Also noteworthy: A female investigator reported feeling nauseous and dizzy after being in this room for less than 10 minutes. She had entered the room immediately subsequent to spending an uneventful 30 minutes in the son's bedroom.

Ground Floor Bedroom

A Para.Science equipment bag was disturbed whilst it lay on the bed in this room. The lid was seen to be slowly closing, moving through 180 degrees from fully open to fully shut. Despite many attempts to replicate this event both on the night and subsequently it has never been possible to make the bag lid move in such a slow manner.

The most unusual and controversial event to date also took place in this room. A recent member of the team claimed to have witnessed the apparition of a young girl for in excess of 5 minutes. There is no supporting evidence for this and testimony from another team member outside the room does directly contradict the claim - however, it is worth noting her account of the event. "I heard a noise by the window and looked across to see a bright light. The light grew larger and formed into the outline of a child and as I watched it turned into a young girl of about 5 years old with blonde hair and wearing a Victorian type long dress. I spoke, asking her name and said that I meant no harm - she did not reply and after a long time she faded away".

The witness was aware of the homeowner's description of a young girl that had been seen previously in the house by the homeowner. Initially, we suspected that the witness to this apparition was either making up the event or was the victim of a strong hallucination.

Other Areas of Interest

There are no Para.Science witnessed reports from anywhere else in the house but the family have reported unusual activity in every room. The Kitchen is noted frequently in the diary, as is the Lounge, both are the sites of varied activity that include disembodied voices, objects being moved and apparitions.

As part of the investigation we spoke to the neighbours whose house adjoins the house under investigation, the two forming one building. They were reluctant to be interviewed but did admit to some incidents of unspecified unusual activity that the two people living there had experienced.

Finding the Fault

During one of the routine visits we were using a new microphone - (Sony ECM-MS957) in conjunction with a Minidisc recorder. During a break the recording was played back to check its performance. To our disappointment there was a pronounced hum evident on the recording. Another recording was commenced using headphones to allow a 'real-time' assessment of the sound quality. A strong hum was again noted on the recording.



An EMF meter - (GaussMaster) calibrated for use with 50Hz fields was used to try and locate the source of the hum. The source was traced to a bundle of cables attached to the gutter board at the front of the house. An area of high reading - off the scale of the meter - was found right outside the son's bedroom window (pictured left).

The owner was made aware of the problem and advised to have a qualified electrician come and inspect the installation.

Later, a more detailed conversation with the homeowners revealed the cables to be the domestic supply cables for the property.

They ran the full length of the front of the house at eaves level before dropping down to the wall to enter the meter / distribution box. A further set of cables continued to supply the farm outbuildings and milking parlour (pictured right).

The owners also informed us that in previous months they had been experiencing problems with the electricity supply and that it frequently became overwhelmed during periods of high demand. This had resulted in a number of small fires and continuous electrical failures. During the winter months the homeowner described how it was impossible to use the electric cooker when the milking parlour was in use and other domestic demands such as lighting and heating were also high.

The farm management and the electricity supply company had been made aware of the fault at the time but to date no repairs had been implemented.



Aware that research carried out by Persinger and others (e.g. Persinger et al, 2001), had suggested that perceptions of paranormal events may be induced by the interactions of Electro magnetic Fields with the human brain, it was decided that a more detailed investigation of the electrical problems should be undertaken.

We also had a major concern for the health and safety of the family, the faulty electrics representing a real hazard.

A team member with suitable electrical qualifications (to HND level), visually inspected the supply wiring outside the house. They were seen to be in poor physical condition, the insulation covering perished in places close to the location of the highest EMF reading. A slight hum could also be heard near the cable. The homeowner said this humming got much louder in damp and wet weather.

Another EMF meter - (Magnetec 60) specifically designed for locating 50Hz fields was used to try and measure the field amplitude more accurately as the GaussMaster had reached Full Scale Deflection - FSD and thus could not give a value for the field. This additional meter also indicated FSD; the upper limit being 100mG for this model and thus the field amplitude was exceeding that value to about 3ft away from the cable. Sweeping the meter around the son's bedroom revealed another region of high EMF (exceeding 50mG), that ran in a line across the ceiling of the bedroom, across the landing and finally across the ceiling of the master bedroom too. This was traced with the help of the homeowner to another pair of supply cables that ran through the loft space before joining the distribution box.

A series of measurements were then taken throughout the house to ascertain the EMF levels in the various parts of the building. One side of the house - the front, showed high readings (in excess of 20mG) on the ground floor, these readings increased to levels above 40mG close to apertures such as doors and windows. Readings on the FF were higher than those on the GF by about 50%.

Extremely high readings - in excess of 100mG - were observed around the son's bedroom window and the bed beneath the window.

From a line through the house parallel to the front wall of the property to a depth of approx. 10ft the EMF levels were consistently above 25mG at the time they were measured - early evening with the milking parlour turned on. Beyond this line the EMF levels dropped back quickly to less than 5mG in the Kitchen.

Our own observations indicate that most domestic and public house EMF levels rarely exceed 10mG and are usually below 2mG unless the readings are taken close to domestic and other appliances, where levels can exceed 30mG at distances of less than 1 or 2 feet. These levels are based on data from our own baseline surveys at other investigation sites and control sites that are used by Para.Science to establish a set of 'normal base line levels' for several environmental variables including EMF.

EMF Survey

A Link?

When we reviewed the information from the EMF survey and looked again at the witness testimony, the witness diary and our own investigation notes, we saw a link emerging: The majority of the reported activity - more than 80% - was found to be in the areas where the EMF levels were consistently high (above 10mG) for large parts of each day. More than half the reports came from those areas where the EMF readings were the highest - frequently above 25mG.

On reading through our notes from an earlier visit, a record of a conversation with the homeowner was noted. The conversation was a review of the witness diary and team investigation notes. An area had been highlighted that seemed more likely for paranormal activity to happen. This area was from the front of the house through to a line about halfway in. This area closely matched those areas where the EMF readings had been unusually high due to the faulty cables.

A return visit was arranged with the specific purpose of measuring the actual amplitude of the EMF within the house. Previously, the meters used had only been able to give us general readings - for the amplitude levels we required more accurate data regarding the EMF levels. Our concerns had also resulted in the homeowner contacting several agencies for further advice regarding any health implications of the high EMF.

This eventually had the result that a team of researchers from a University arrived to undertake their own survey of the EMF within the house.

Para.Science had acquired a pair of environmental EMF meters - (EM-TECH 7744). These give an accurate numeric readout for the EMF values. These are operated whilst linked to a laptop PC to permit continuous monitoring to take place.

Several areas were examined, the priority being given to the son's bedroom and the bed under the window as this was the area where the majority of unusual activity had been reported, also it was made a priority to try and measure the field amplitudes that the son was spending time exposed to.

It was by now late spring, with warm light evenings and a corresponding lower electricity demand both in the house and for the farm. Our arrival was after evening milking. Three simple models were proposed for the measuring the EMF values, these were done with the assistance of the homeowner who helped devise the models designed to simulate 3 differing set-ups of electrical usage and demand.

1. A 'baseline' value for the different locations was obtained by turning off all the electrical appliances - a freezer was left on. The electricity could not be shut off at the main fuse board as a number of farm related timers would have been affected.

2. A 'normal use' profile was set-up for the house, turning on lighting and appliances to simulate an average evening consumption. Our model was based on the homeowner's assessment of which appliances would normally be in use during an evening - this included lighting, TV and a PC.

3. The 3rd model was a 'high demand' set-up, based on an average winter evening, during which we also had the farm outbuildings and milking parlour powered up to simulate electrical demands during milking.

It was felt impractical to simulate any further models - although we realised that not all possible scenarios had been tested, we felt that the ones chosen did give a good general average of consumption levels and their corresponding EMF levels.

The results were taken on two EM-TECH meters, the resulting measured values from the two meters being averaged to obtain the reported value. Readings were taken at 1 second intervals over a 5 minute period, the result of the 300 measurements per meter were then averaged by the meter itself to give a single average measurement for the 5 minutes. We then averaged the two meter readings to give a final single figure for the 5-minute exposure. The meters were positioned with the Y axis orientated Magnetic North for all readings in these and all subsequent surveys using the EM-TECH meters.

Model 1: All electrical appliances in house turned off - except freezer.

Son's bedroom:

Window bed center ~ 6.5mG

Spare bed center ~ 3.0mG

Interior Window sill ~ 16.3mG

Exterior of window 2ft from cable 41.6mG

Master bedroom:

Bed center ~ 8.7mG

Interior Window sill ~ 18.9mG

Landing centre 1.5 metres above floor ~ 11.5mG

Model 2: Average domestic consumption.

As Model 1 but with TV and PC on, 3x 100w lights, 2x 60w lights.

Son's bedroom:

Window bed center ~ 18.3mG

Spare bed center ~ 12.1mG

Interior Window sill ~ 48.7mG

Window exterior ~ 89.5mG

Master bedroom:

Bed ~ 14.9mG

Interior Window Sill ~ 51.8mG

Landing center 1.5 metres above floor ~ 18.5mG

Model 3: High demand, as Model 2 but with kettle and domestic water heater on, 2x additional 100w lights.

Milk parlour also powered - parlour and farm exterior lighting not turned on.

Son's bedroom:

Window bed center ~ 39.7mG

Spare bed center ~ 21.1mG

Interior Window Sill ~ 76.7mG

Window exterior ~ 167.9mG

Master bedroom:

Bed center ~ 41.6mG

Interior Window sill ~ 70.4mG

Landing center 1.5 metres above floor ~ 68.8mG

The results showed EMF values far higher than anyone anticipated. The family were concerned and have arranged, following advice from Environmental Health researchers, to have the cable repaired and relocated as soon as possible.

At the request of the homeowner a researcher from a leading UK University had agreed to carry out a comprehensive 24 hour survey of the EMF levels in the house, this is part of the University's own studies into the health risks associated with long term AC EMF exposure.

Immediately prior to the University survey being carried out and at the request of the homeowner Para. Science were asked to perform an independent shorter duration EMF survey covering the hours 08:00 ~ 17:30. The area requested for us to measure was the son's bed - this was also the area where the University survey was going to concentrate upon. This bed was the main location where Para.Science investigation team members had described having unusual experiences that had included sudden on-set headaches; bright and vivid light effects, dizziness and a near 'Out of Body experience'.

The Para.Science survey was carried out from 08:05 to 17:35 on May 1st, 2004. The EM-TECH meters were used for this linked to a laptop PC to enable the readings to be logged. The meter was placed centrally upon the window bed in the son's room with its Y-axis orientated magnetic North. The automated EMF readings were taken every 120 seconds for direct comparison with the University survey to follow.

A second identical meter was placed in the hallway on the GF. This location was chosen as it was at least 20ft away from any major domestic appliances, to reduce any localised effects from them on the survey. These meter readings were to provide a baseline to compare the bedroom readings against.

The following day the survey was repeated, this time using one of the investigators own homes to try and establish a set of control measurements. The meter was placed in a comparable position in the investigators home, centrally on a bed beneath a window at the front of the house; it's Y-axis orientated magnetic North.

The survey data and results are shown in Appendix 1.

One week later the research scientist from the university conducted the first stage of their own survey - we were invited along to observe. The university survey was carried out using two meters (Multiwave System II - MW2 and Emdex II). The weather was again fine and sunny during the period of the survey with little electrical demand from the house.

The results of this first survey are also shown:

University EMF survey son's bedroom, May 2004

The measurements in both surveys represent the lowest periods of electrical activity at the location and were chosen to demonstrate the lowest levels of EMF that are likely to be present within the house. During the autumn and winter months the amounts of electricity consumed by the house and the farm are a great deal higher.

A high demand scenario was again simulated by having the milking parlour turned on; this gave us an indication of the anticipated EMF levels that might be expected. Many of the farm floodlights and other outside illumination for the farmyard and outbuildings were not turned on for this simulation and would, if used, have given even higher readings for the EMF levels.

Para.Science Hi-Demand EMF survey on son's bed, May 2004

In the son's bedroom in the areas of the highest levels of measured EMF (in excess of 100mG at times) the majority of team members who had spent time (an average of 35 minutes per session) had reported various unexpected events.

The work of Dr. Persinger and others in Canada does show that some of the test subjects in his laboratory experiments reported similar experiences to those reported by our own team members whilst on this bed. During periods spent in the room the measured EMF was frequently above 25mG but as many of the reported events had taken place during the darker autumn / winter / spring months these values can be assumed to have been higher than this although they were not measured at that time.

Of interest too is the report that came from the GF bedroom, which is directly beneath the son's bedroom. The EMF levels measured separately in this room were consistently above 15mG for most of the time we spent at the location.

It was in this room that the new female investigator reported the extended encounter with the apparition of the little girl - perhaps this was the result of a hallucination brought about some environmental factor. Apparitional hallucinations have also been a reported effect of EMF exposure in Persinger's test subjects (Persinger et al, 2000).

It is possible that the family members were also showing some effects of their prolonged exposure to the high EMF levels inside this house.

The father is unique within the family in that he does not acknowledge having any unusual experiences. His farming duties mean that he spends little of each day inside the house and may simply be receiving a lower level of exposure to the EMF over time. He does sleep in the master bedroom each night which is an area of higher EMF but during the night the EMF levels are at their lowest as the house and much of the farm is turned off and thus using little electricity, also resulting in a subsequent lower EMF value.

The initial results of our investigation appear to show a possible link between the unusually high levels of EMF recorded in the front half of the house, and in particular the son's bedroom, and the reported incidences of paranormal type activity in the same region of the house. The faulty cables are the original wires that were placed in position a number of years ago - certainly prior to the family's arrival. It is likely that only in recent years have these cables developed the fault/s that created the resulting high EMF emissions. The fault is also likely to have been progressive in its nature as the insulation deteriorated and the electrical demands placed upon it increased. The resulting EMF emissions will likewise have increased in intensity over time.

A seasonal variation is probable as a direct result of the varying electrical demands of both the house and the farm. A monthly breakdown of the reported paranormal events shows that they increase in the autumn and winter months when compared to the warmer months. This variation in reports may also simply reflect the decreased amount of time the family spend indoors during summer months.

Comparisons

Persinger et al (2001) noted that the Canadian house in their investigation had faults in both the wiring and the grounding (earthing). The house was also described as having an unusually high density of appliances and electronic equipment, and "as a result, the occupants were exposed to the types of temporal complexities of magnetic field patterns that we induce experimentally through the brain".

In the farmhouse there are quite serious faults within the electricity supply cables, which results in frequent supply failures. The milking parlour and farm place a high demand upon the electricity supply. We suggest that some of the same factors that were present in the Canadian house are also operating in the farmhouse and are exposing its occupants to the types of temporal complexities of magnetic field patterns that Persinger and his colleagues have induced experimentally through their test subjects' brains.

In the Canadian house the EMF levels were found to be between 1mG and 10mG except for a region close to the bed, where transient field strengths reached between 10mG and 40mG for short durations of between a few seconds to several tens of seconds with levels falling back to normal for intervals that lasted from a few seconds to several hours. Most of the intense experiences took place within the region of the intense fields or in a room directly above. Some of the transients also coincided with reports of anomalous events.

In the Cheshire farmhouse EMF levels were found to be above 10mG for long periods each day. In the region close to the cable, field strengths could exceed 100mG. The overall EMF levels were highest between 05:00 and 09:30 and 14:00 and 18:30. The EMF exceeded 20mG for over 16 hours in every 24 hour period. Most of the reported experiences took place within the region of the intense fields. Many of the reported paranormal events coincided with times when the overall EMF levels were above 20mG.

As a result of this case, Para.Science have developed a hypothesis that it plans to test by further experimentation.

Hypothesis

"That some people may experience and report 'paranormal like' phenomena resulting from their exposure to a high amplitude domestic Electro Magnetic Field. That prolonged exposure to the high amplitude EMF may increase the amount of reported paranormal activity. Additional factors may be responsible for the actual nature of the reported phenomena including an individuals susceptibility, exposure time and socio-cultural beliefs".

The presence of an EMF of sufficiently high amplitude in combination with weaker complexities within the overall EMF signal may increase the likelihood of otherwise unaffected people reporting experienc-

es which they then interpret as being paranormal in origin. As the overall amplitude of the EMF increases a greater number of people will become susceptible to having such experiences.

This hypothesis is based upon the research conducted by Persinger et al (2001) that indicates a direct link between the domestic EMF's and the incidents of reported paranormal phenomena. They suggested, "that transient, complex temporal patterns of power-frequency magnetic fields generated by less than optimal grounding in dwellings and telluric currents may be sufficient to evoke experiences in the brains of sensitive individuals".

Conclusions

That temporal complexities may be present in many locations

Comparisons with our own control and baseline readings indicate that the normal EMF within a location is not at a constant amplitude, instead it is constantly varying both in amplitude and also frequency, imposing an amplitude and frequency modulation upon the overall EMF level. These small fluctuations are common to every location that we have measured so far, and are mainly in the range of plus/minus 0.5 - 1mG per second. An example of the 2 minute runs showing fluctuations from three different locations are available in Appendix 2.

The minor fluctuations are present regardless of the overall amplitude.

These small and apparently random fluctuations are an indication of a complexity within the overall EMF levels, and were also present in every sample taken at the farmhouse. Persinger et al (2000) have demonstrated that weak, complex frequency modulated magnetic fields, applied transcerebrally in a laboratory setting, can induce feelings of fear and the experience of an apparition.

The measuring system was tested to ensure it was not responding to internally generated noise. The system was noise free, thus the small and apparently random variations in the amplitude are most likely to be as a result of some other EMF source impinging upon the main source. In some recent measurements at other sites we have seen impingement from nearby radio transmitters - a taxi base at half a mile distant from the measuring location. The amplitude modulations in this case were in the order of 0.3mG and gave a square waveform when displayed graphically.

The farm is isolated from neighbouring houses with few other buildings nearby. Electrically it is also isolated - the whole complex of farm and house having a common electrical supply. It is probable that the small fluctuations we are seeing in the EMF measurements at the farm may be a Geo Magnetic impingement from the underground faulting - in the Canadian house study there was reference to geological effects of melt water seeping into the underlying bedrock.

At this stage we cannot rule out Radio Frequency (RF) impingement from a powerful Air Traffic Control VHF / UHF (100MHz - 400MHz) transmitter array located on a hill less than 5 miles away and with direct line of sight to the farm. The internal and external electrical wiring may be of the correct length for it to act as an antenna thus picking up this RF energy. Such RF impingement into domestic wiring is well known by many radio amateurs.

If the small random fluctuations are indeed evidence of a complexity in the amplitude and frequency that is similar to, and behaving like, the weak temporal complexities used in Persinger's experiments then they appear to be present in most modern domestic environments and thus it should be expected that many more locations should provide reports of paranormal phenomena like those reported by the test subjects. Persinger (1983) suggests a temporal lobe continuum model in which transient, focal, electrical displays within the temporal lobe of the brain may occur to a greater or lesser degree, with all people being placed somewhere along this scale. These temporal lobe transients (TLTs) produce a variety of symptoms, many of which may be interpreted as paranormal in nature. The additional EMF

energy may cause people who are normally placed at the less susceptible end of the spectrum to become more susceptible to the disturbances that produce the paranormal reports.

EMF Amplitude is the Trigger

In the published article (Persinger et al, 2001) argue that both adults in the Canadian house had a higher likelihood of complex partial epileptic-like signs and that one of the adults had sustained previous head injuries.

At the farmhouse in addition to the family members, 8 of our investigation team reported unexpected experiences. To the best of our knowledge we are not aware of any previous head injuries within the family or team.

This indicates the overall amplitude of the EMF may also be a key factor in determining if an individual experiences and reports perceived paranormal activity and that everyone is more or less susceptible along a sliding scale. Such a sliding susceptibility may also be used to explain why some people see a ghost whilst others in the same party do not - the temporal complexity is present but it requires different levels of EMF to trigger a response.

The overall EMF amplitude appears to have been a key factor in the Canadian case; Persinger and his colleagues observed variable peak strengths of between 10mG and 40mG, these peaks lasted from a few seconds to several tens of seconds, with most of the anomalous fields occurring during the night. It suggests that the overall level of the EMF was a factor in triggering the experiences in the family members - a transient of 30mG was recorded that was coincident with a report of an anomalous experience and the baby screaming.

At the Cheshire farmhouse we observed the overall amplitude of the EMF to be variable with two periods in each 24 hour cycles when the EMF levels rose significantly. The highest levels were observed between 04:50 and 09:30. A second period of high overall EMF was between about 13:00 and 19:30. These times coincide with many of the reports of anomalous experiences both by family members and also the investigation team.

The Next Steps

The efforts of the homeowner to have the faulty cables repaired and re-located away from the house have not gone un-rewarded and the electricity supply company plan to undertake the work in the next few weeks. We expect that following the completion of the work the number of reports of unusual experiences will diminish markedly; perhaps it may take a time for the effects to be noticed.

It may well be that the number of reports continue more or less unaltered and this would indicate that members of the family are simply more susceptible to the weak temporal complexities that are present all the time and do not require such a high EMF amplitude to trigger their experiences. The nature of the experiences may also be subject to change and careful recording via the diary and interviews will allow us to maintain careful observations of any such changes.

It may be expected that members of the Para.Science will also experience a decrease in their own experiences as the overall EMF levels fall below an individuals 'trigger threshold'. We may in fact already be seeing this - in recent visits the weather has usually been warm and dry, we have also been visiting mainly at times when the milking parlour is not in use. These recent visits have not produced any further reports of unusual experiences despite long periods of time in the son's bedroom. The measured values of EMF during these visits have also been the lowest we have seen - frequently below 5mG. Interestingly, reports of activity made by the family during the same period has continued although at a reduced frequency that is commensurate with the already noted seasonal variations.

We have commenced a detailed EMF survey of the whole farmhouse, which we hope will be completed before the cables are repaired. Using techniques borrowed from Archaeology, we have been taking EMF measurements along a 10cm square grid at 1 metre elevations. The results are plotted using a 3D survey programme (Surfer 7) which will produce a detailed 3D map of the field amplitudes within the farmhouse. These will allow us to see additional details such as the interactions between the EMF produced by the numerous appliances and perhaps suggest additional areas where the EMF levels are unusual and need further investigation.

It is also planned to repeat the survey following the remedial work to see how the EMF patterns and levels have altered.

Further 24 hour EMF surveys are planned before and after the remedial work, using increased sample rates to obtain even more detail in the measurement of the field fluctuations. We hope that this may help us to discover the source of the impinging EMF - Geomagnetism or Radio Frequency Interference. The survey will also focus on other parts of the site including external locations away from the buildings.

Data from the British Geological Survey Geomagnetism Observations will be collected and we have engaged the help of a radio enthusiast to assist our knowledge of the nearby radio transmitter array and the effects of RFI.

As part of the investigation we will also examine other possible explanations -we are about to commission a real time Infrasound measuring system for use at the farmhouse and for all future investigations.

The possibility remains that some of the events that we have observed at the farm - the bear being moved and the hand slaps - will not be explained and for the moment at least they have to remain classified as 'Unexplained' and therefore paranormal in their origin. A paranormal explanation for some events starts to look like an increasing possibility as more of the events do get offered an explanation, leaving a small number of events with no plausible solution.

By showing how EMF can cause some people to experience 'Ghosts' we may reinforce the case that some other events may be truly paranormal!

References

Persinger, M.A., Koren, S.A., & O'Connor, R.P. (2001). Geophysical variables and behaviour: CIV. Power-frequency magnetic field transients (5 microtesla) and reports of haunt experiences within an electronically dense house. *Perceptual and Motor Skills*, 92, 673-674.

Persinger, M.A.(1983). Religious and mystical experiences as artefacts of temporal lobe function: a general hypothesis. *Perceptual and Motor Skills*, 57, 1255-1262.

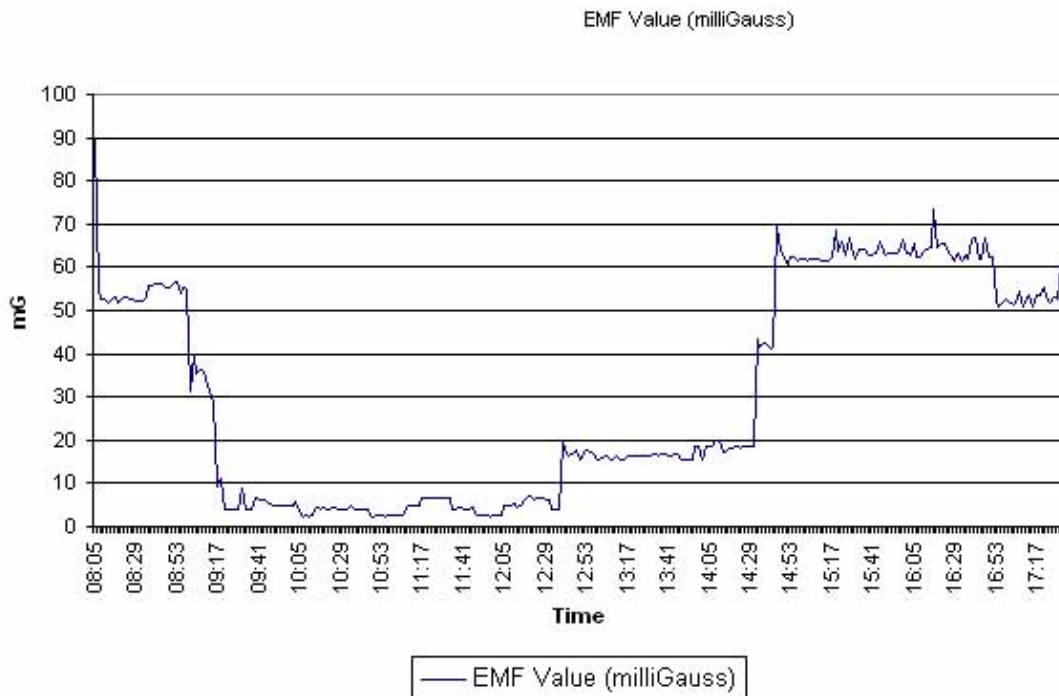
Persinger, M.A., Tiller, S.G., Koren, S.A. (2000). Experimental simulation of a haunt experience and elicitation of paroxysmal electroencephalographic activity by transcerebral complex magnetic fields: Induction of a synthetic "ghost"? *Perceptual and Motor Skills*, 90, 659-674.

Appendix 1

EMF Survey Results Para.Science EMF Survey on Son's Bed May 2004

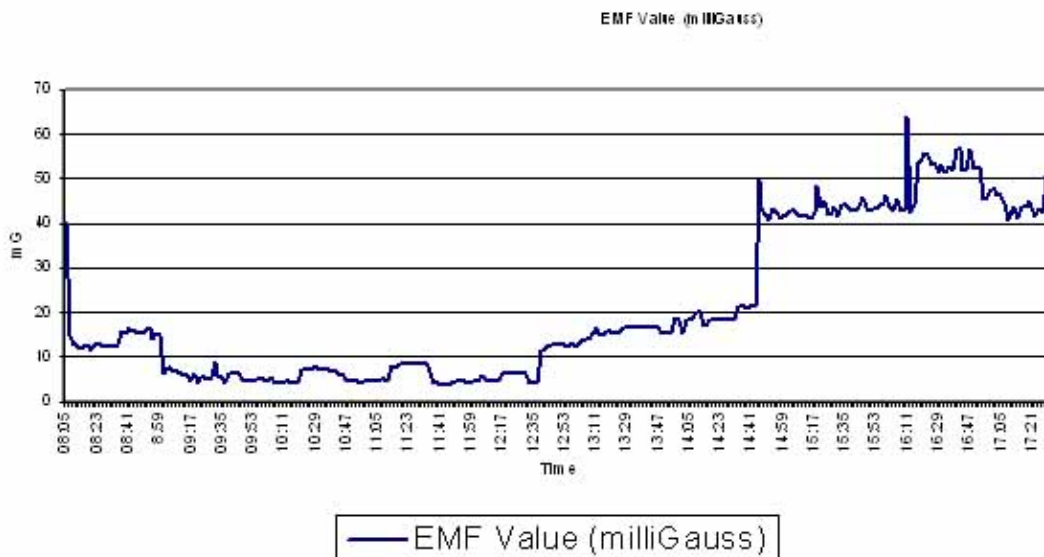
Measurements obtained on warm spring day with minimal electricity demands

Thus indicate the lowest EMF readings obtained.



EMF of son's bed

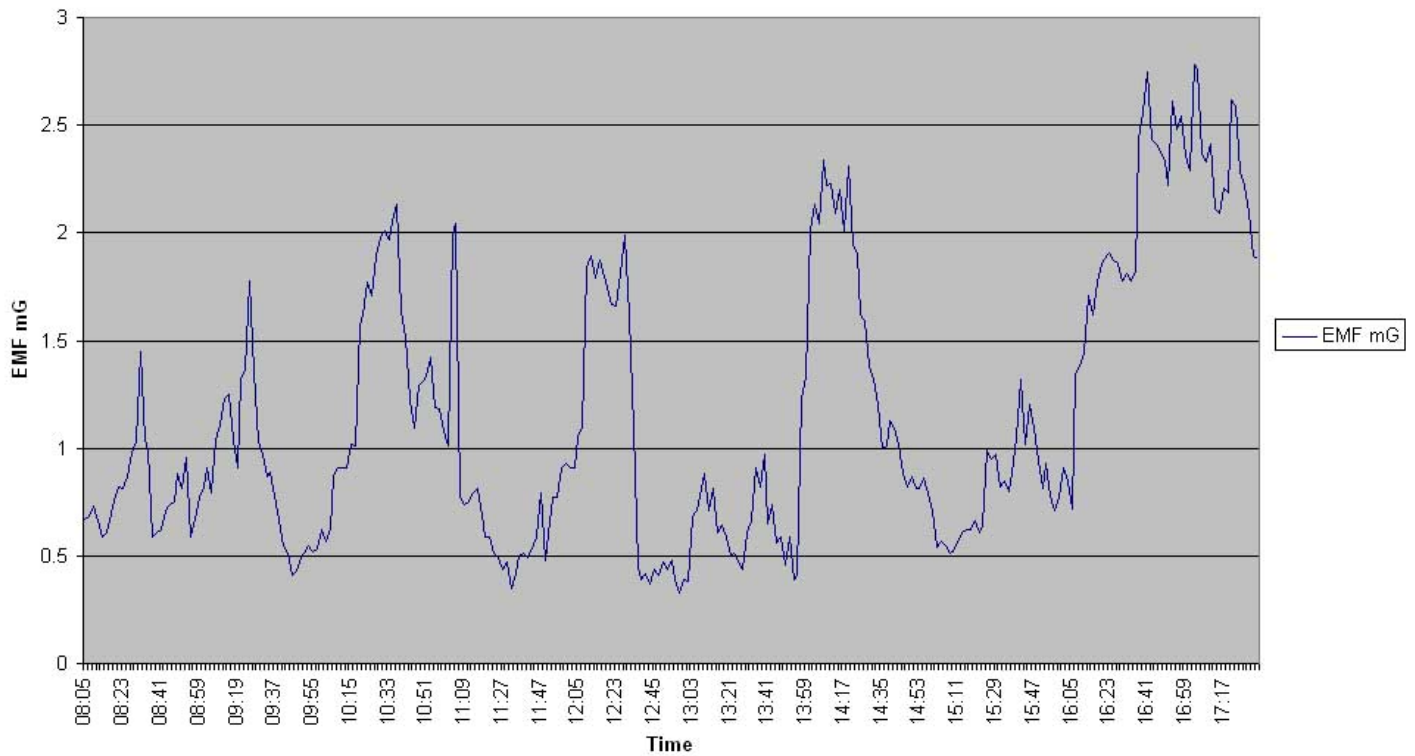
Para.Science Baseline EMF Survey May 2004



Baseline

Para.Science Control Location EMF Survey May 2004

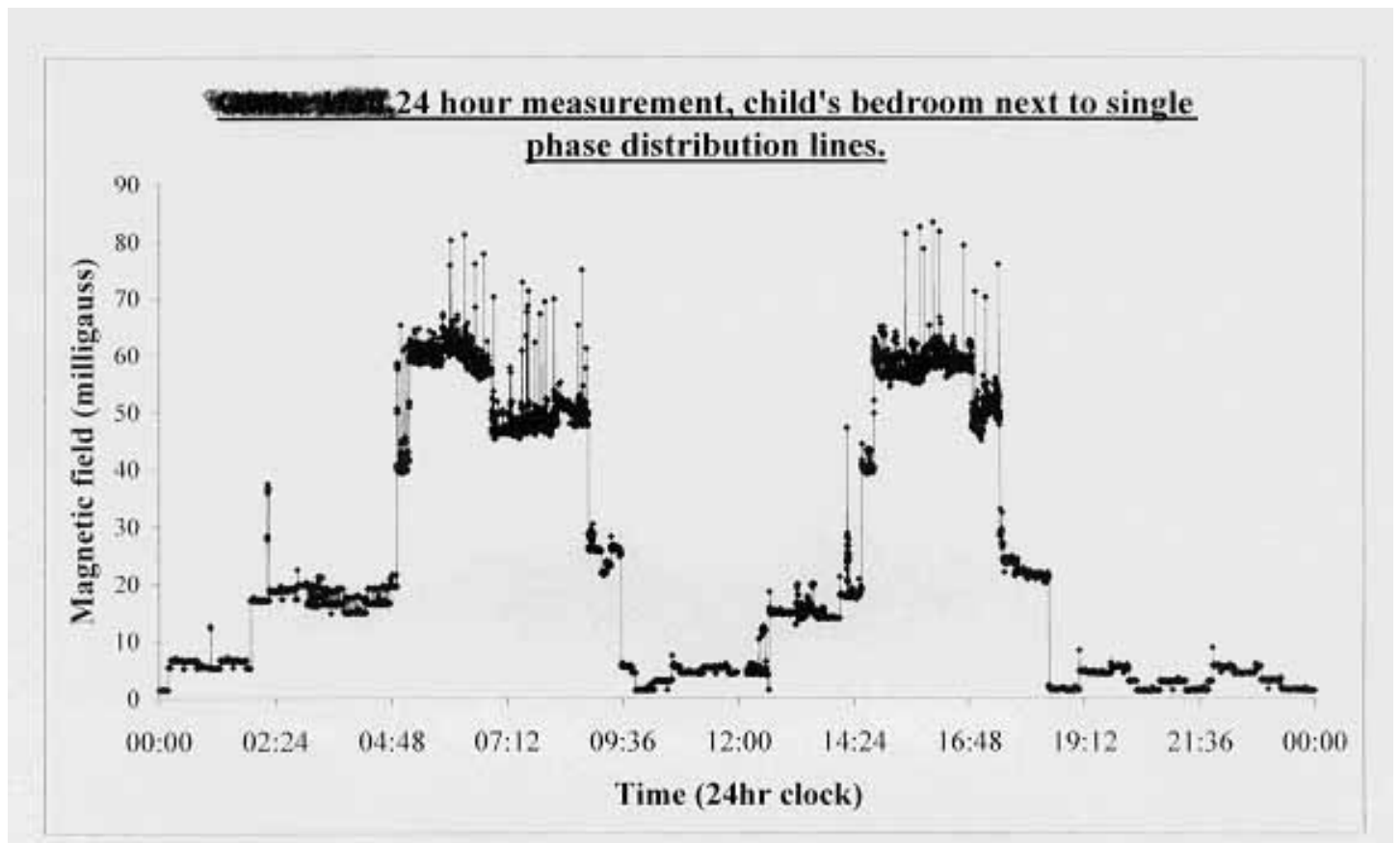
Para.Science Control



Control

University EMF Survey Son's Bedroom May 2004

The name of the farm has been censored out of the graph image.



university survey

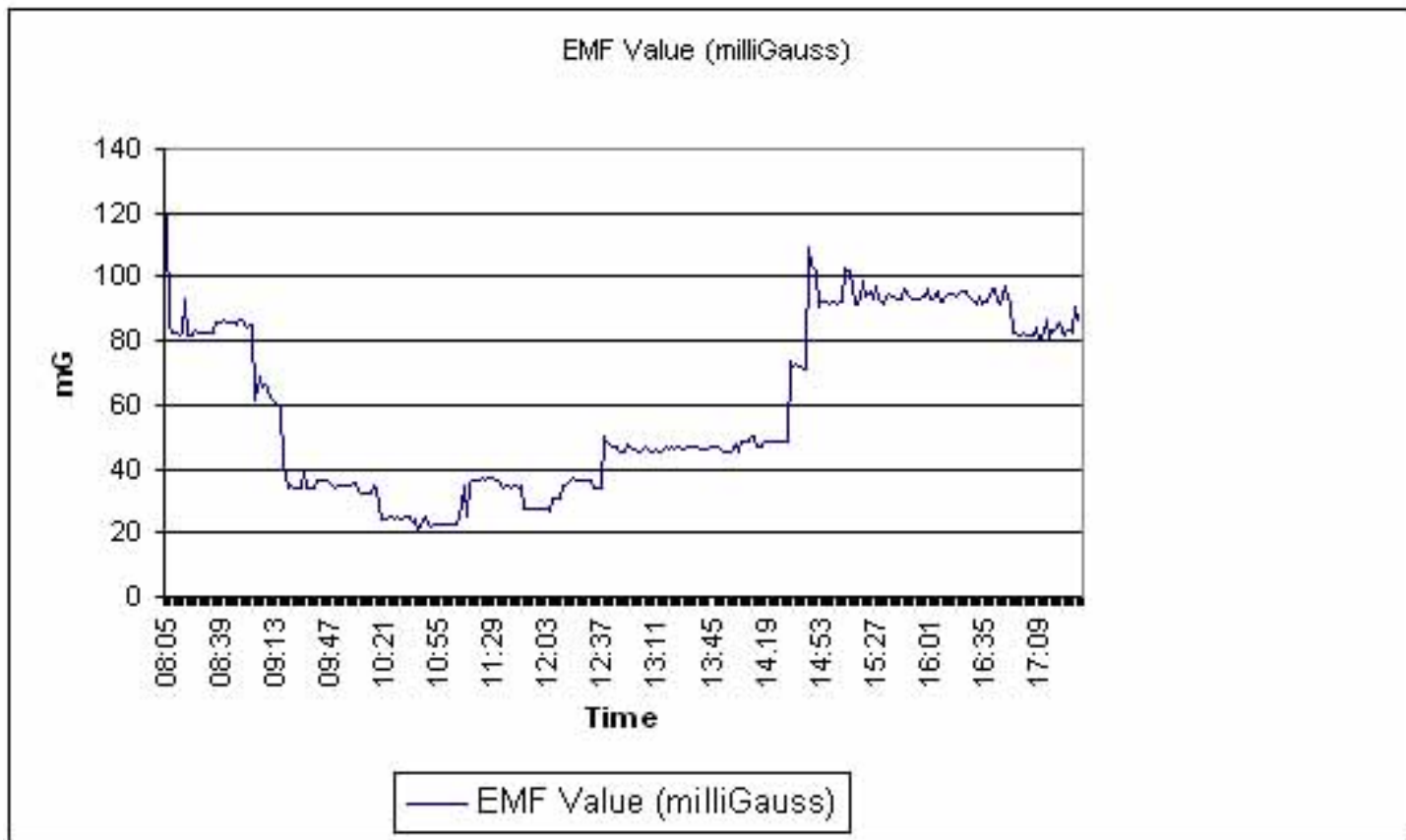
The researcher from the University added the following comments to the survey results:

“The average magnetic field is 22.5 milligauss, the average nighttime (8pm ‘til 8am) is 20 milligauss.

These levels are very high when you consider that there is a doubling of risk of childhood leukaemia above 2 milligauss.

You may decide that it would be best for your son to move rooms, it would certainly be advisable that he spends as much time as possible out of the room”.

Para.Science High Demand EMF Survey on Son’s Bed May 2004

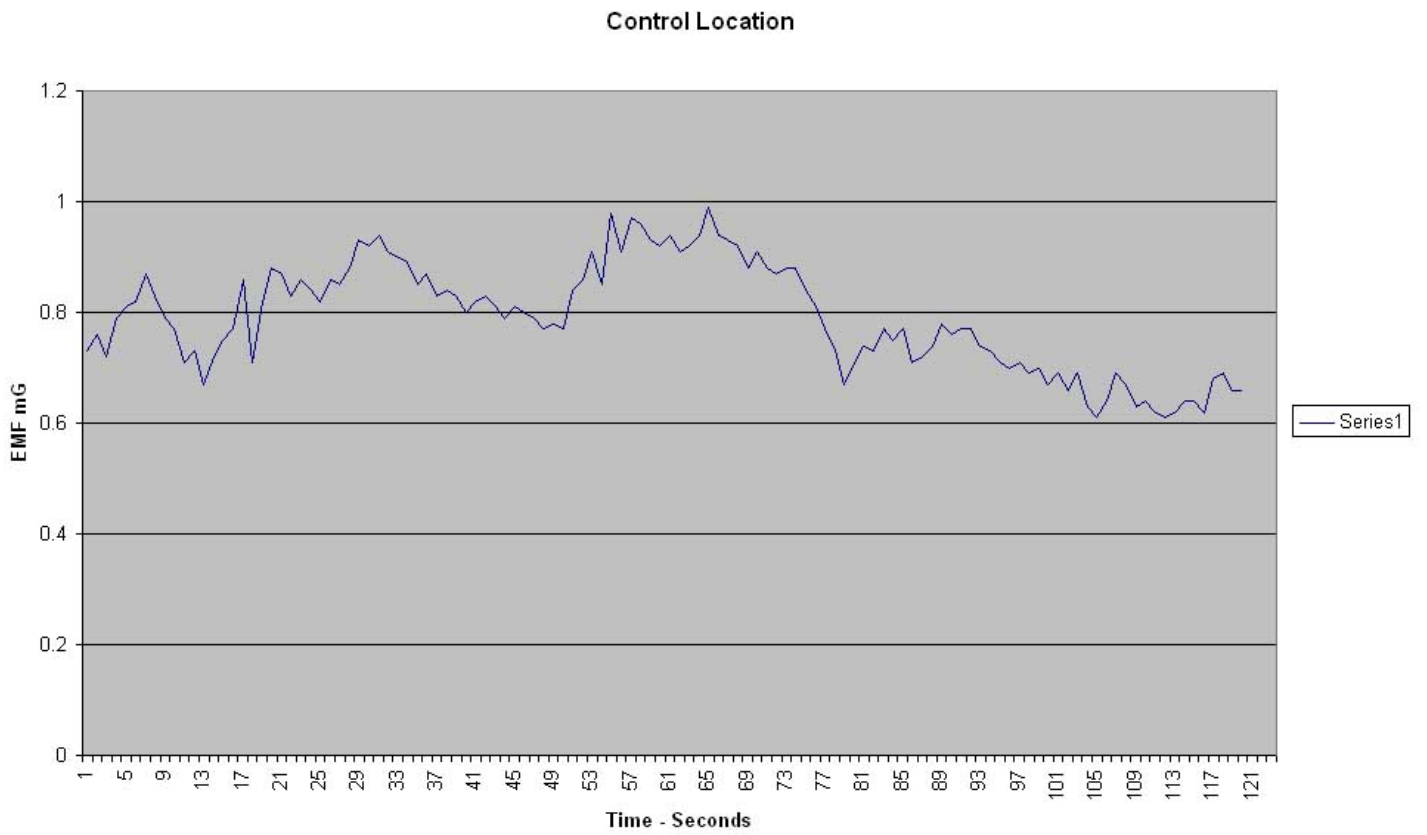


High Demand

Appendix 2

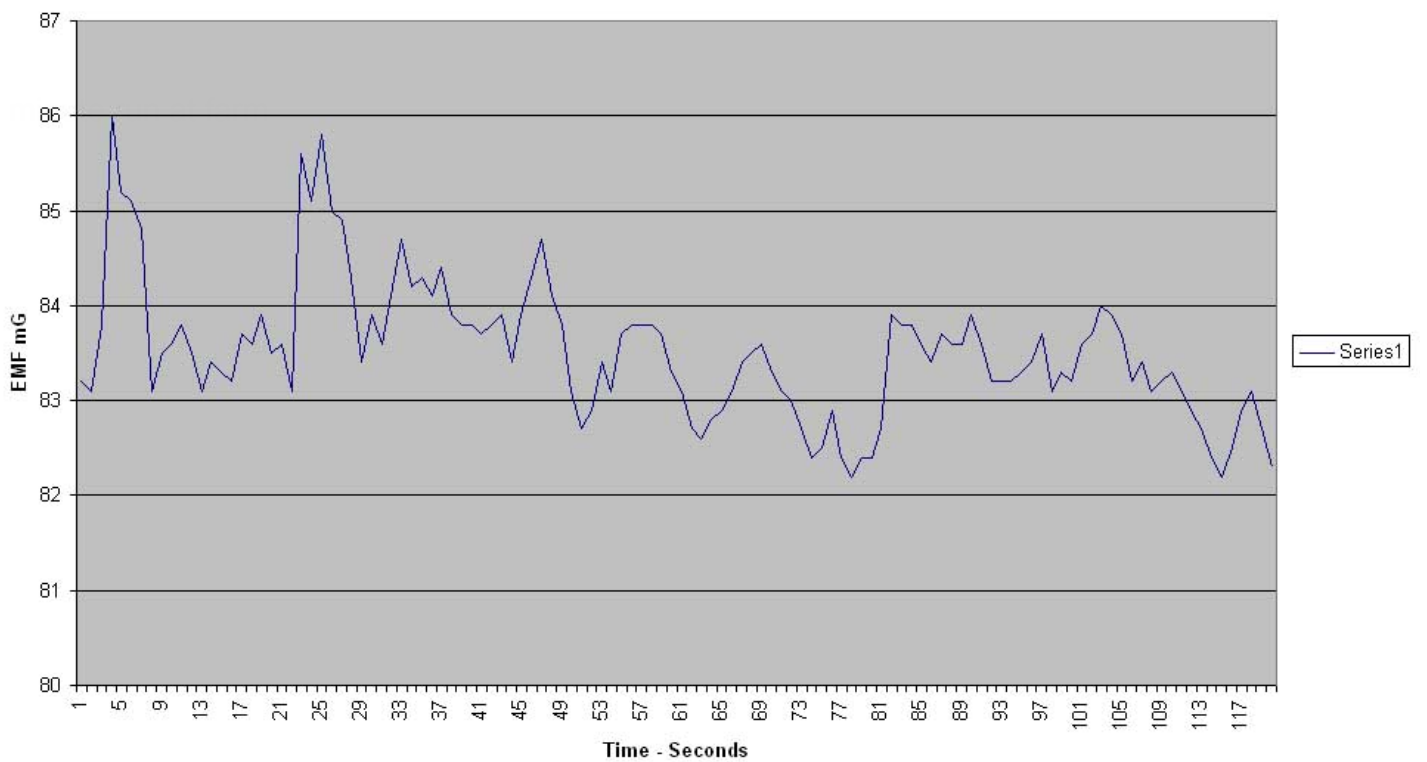
2 minute runs showing complexities

2 minute run at control location



Control complexities

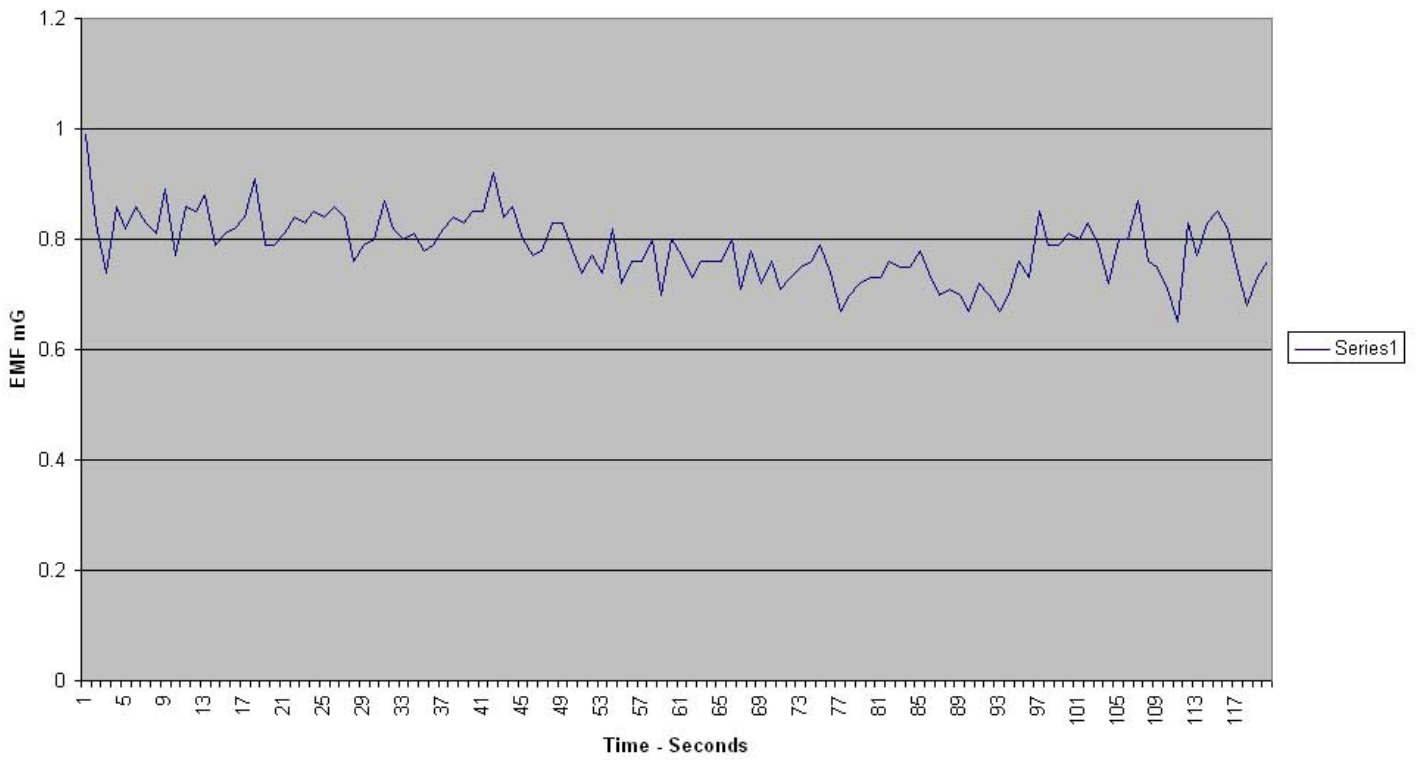
farm peak EMF mG



Farm complexities

2 minute run at public house

public house EMF



Pub complexities