

Ffos-y-fran Land Reclamation Scheme

Air Quality, Noise and Vibration Strategy

Project Ref: 11992/304
January 2007

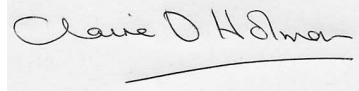
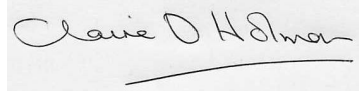
PBA Document Control Sheet

Project Title : Ffos-y-fran Land Reclamation Scheme

Project Ref : 11992/304

Report Title : Air Quality, Noise and Vibration Strategy

Date : 13 March 2007

	Name	Position	Signature	Date
Prepared by	Sarah Radcliffe	Associate		28/04/05
Checked by	Claire Holman	Senior Associate		28/04/05
*Authorised for issue by	Claire Holman	Senior Associate		24/11/06
For and on behalf of Peter Brett Associates				

*Issue	Revision	Description	Date	Signed
1	a	Update	13/10/06	
1	b	Amended tasking into account clients comments	24/11/06	

Peter Brett Associates disclaims any responsibility to the Client and others in respect of any matters outside the scope of this report. This report has been prepared with reasonable skill, care and diligence within the terms of the Contract with the Client and generally in accordance with ACE Short Form Conditions of Engagement and taking account of the manpower, resources, investigations and testing devoted to it by agreement with the Client. This report is confidential to the Client and Peter Brett Associates accepts no responsibility of whatsoever nature to third parties to whom this report or any part thereof is made known. Any such party relies upon the report at their own risk.

© Peter Brett Associates 2005

TABLE OF CONTENTS

1	Introduction.....	1
1.1	Background	1
2	Dust Suppression	2
2.1	Introduction	2
2.2	Management	3
2.3	Training	4
2.4	Haul Roads	4
2.5	2.5 Overburden and Soil Storage	5
2.6	Blasting	5
2.7	Truck Loading and Discharge	6
2.8	Plant	6
3	Dust Monitoring.....	7
3.1	Introduction	7
3.2	Monitoring Locations	8
3.3	Monitoring Technique	8
3.4	Complaints	9
3.5	Data Availability	9
4	Airborne Particles.....	10
4.1	Introduction	10
4.2	Location.....	10
4.3	Monitoring Technique	10
4.4	Reporting	11
4.5	Pollution Events	11
4.6	Data Availability	12
5	Weather Stations.....	13
5.1	Introduction	13
5.2	Weather Forecasts	13
5.3	Site Working	13
5.4	Data Availability	14
6	Noise	15
6.1	Introduction	15
6.2	Direction of Works	15
6.3	Noise Monitoring Locations	16
6.4	Specification of Monitoring Equipment and Procedure	16
6.5	Implementation of Noise Monitoring Strategy	17
6.6	Recording of Data.....	17
7	Vibration	18
7.1	Introduction	18
7.2	Vibration Monitoring Station Locations	18
7.3	Availability of Data.....	18

APPENDICES

Appendix A: Figures	I
---------------------------	---

1 Introduction

1.1 Background

- 1.1.1 This air quality, noise and vibration monitoring strategy provides the details required in the relevant conditions of the Planning Consent for the Ffos-y-fra Land Reclamation Scheme (FLRS) granted on 11 April 2005.
- 1.1.2 The first sections cover the scheme and programme of measures to suppress dust and the monitoring programme for dust and airborne particles (PM_{10} and $PM_{2.5}$), in compliance with Conditions 14, 15 and 16.
- 1.1.3 The noise section covers the scheme for monitoring noise levels as required in condition 17.
- 1.1.4 The vibration section provides the locations of the monitoring as required in condition 25.
- 1.1.5 Finally, odour will not be produced by the principle coaling operations. However, reclamation works to the tips Merthyr, Hoover and 13, may generate odours. Details of how odours will be controlled and monitored will be contained with the Mobile Treatment Licence to be prepared by the remediation contractor, and approved by the Environment Agency, prior to the commencement of tip reclamation works.

2 Dust Suppression

2.1 Introduction

- 2.1.1 Condition 14 requires the Planning Authority to agree the dust suppression measures. These are detailed below and are based, as required, on those set out in the Environmental Statement that accompanied the planning application and listed in Condition 15. The Best Available Technology Not Entailing Excessive Costs have been included.

Condition 14

No development shall take place until a detailed scheme and programme of measures to suppress dust and a programme of air quality monitoring have been submitted to and approved in writing by the Planning Authority. The mitigation measures shall be based upon those set out in the Environmental Statement accompanying the application. Such mitigation/suppression measures shall be implemented in accordance with the approved scheme.

Condition 15

To assist and mitigate any potential effects of dust nuisance, adequate dust suppression measures are to be employed using Best Available Technology Not Entailing Excessive Cost (BATNEEC) for the monitoring and control of dust which may arise directly or indirectly as a result of site activities.

The approved scheme shall ensure that:

- *A sufficient number of spraying units are provided and maintained in efficient working order so as to ensure that haul routes and other areas traversed by vehicles are kept damp during dry weather.*
- *Spraying vehicles have an adequate water supply at all times.*
- *There is regular and effective maintenance of haul roads.*
- *The exhausts and through-body exhaust systems of plant vehicles are such as to prevent exhaust gases being emitted downwards.*
- *Effective dust collection systems are fitted to all blast hole drilling machines before such machines are operated.*

- *Prior to blasting, all arisings from blast hole drilling are bagged and disposed of safely.*
- *Tipping or removal of overburden is to temporarily cease or be relocated within the overburden storage area when the Planning Authority considers that wind strength and direction may result in a significant dust nuisance.*
- *Construction of baffle mounds is to temporarily cease or be relocated when the Planning Authority considers that the wind strength and direction may result in significant dust nuisance.*
- *A sufficient number of vapour masts are to be provided and maintained where necessary, so as to ensure that an effective vapour can be produced at any point in the site.*
- *Baffle bunds are to be sealed and seeded as soon as practicable after they have been constructed in order to minimise wind blown material affecting adjoining properties.*

REASON

To protect the amenities of residents from the potential effects of dust arising from the development approved.

- 2.1.2 The dust suppression measures will be included in the site environmental management plan, which will be submitted for approval by the Planning Authority for each phase of the development in accordance with Condition 42.

Condition 42

Prior to the commencement of each phase of development, an Environmental Management Plan (EMP) shall be submitted for the written approval of the Planning Authority for each phase of the development. The EMP shall be implemented in accordance with the approved scheme, save as otherwise specified in specific conditions.

REASON

To protect the environment.

2.2 Management

- 2.2.1 The operator of the site will designate officers who will oversee operations on site and be responsible amongst other things for ensuring compliance with the planning permission and health and safety requirements. This will ensure that the operation of

the dust suppression measures and the maintenance and quality control of the air quality monitoring programme are carried out.

- 2.2.2 One of the designated officers will also be responsible for ensuring that all relevant personnel receive appropriate training (see 2.3.1).

2.3 Training

- 2.3.1 All site staff will be trained in the recognition of dust annoyance, identifying activities and conditions that may cause potential dust annoyance and the best practices to reduce emissions.

2.4 Haul Roads

- 2.4.1 A sufficient number of dust suppression units will be provided and maintained in efficient working order to ensure that haul routes and other areas traversed by vehicles are kept damp during dry weather.
- 2.4.2 Dust suppression units will have an adequate water supply at all times.
- 2.4.3 Haul roads will be continually graded and delineated so that vehicle movements are kept within the haul routes and water suppression is concentrated in those areas.
- 2.4.4 Where site vehicles are required to cross the Bogey Road, they will first be required to pass through a vehicle washing facility. This vehicle washing facility will be set back from the Bogey Road and vehicles leaving the facility will travel a minimum of 100m over a clean, surfaced, internal haul road before crossing the public highway. In addition to these measures, a road sweeper and/or brushes will be kept available and used to clean and remove any mud or dust that might inadvertently arise on the roads.
- 2.4.5 The vehicle washing facility, situated approximately 100m from crossing point "X", will be a "Double Hurricane" fully automated wheel and chassis washing unit manufactured by "Wickham Autowash" or other vehicle washing system of similar specification. The scheme for wheel cleansing facilities has been submitted separately to the Planning Authority for approval in accordance with Condition 33. The road between the vehicle washing facility and point "X" will be surfaced.

- 2.4.6 Vehicles used to transport waste for off-site disposal will be sheeted and washed at the vehicle washing facility before leaving site. This should ensure that no mud or debris is carried onto surrounding roads.

2.5 Overburden and Soil Storage

- 2.5.1 Tipping or removal of overburden will temporarily cease or be relocated within the overburden storage area when the site management or the Local Planning Authority considers that wind strength and direction may result in a significant dust nuisance in that area.
- 2.5.2 As each tier of each overburden mound is constructed, the outer faces will be erected first to provide a barrier between subsequent tipping operations and local residents. During restoration, removal of the mound will be in reverse sequence.
- 2.5.3 The outward faces of the main overburden mounds and any temporary soil storage mound will be seeded to grass at the earliest growing season following construction.
- 2.5.4 Construction of baffle mounds will temporarily cease or be relocated when the site management or the Local Planning Authority considers that the wind strength and direction may result in significant dust nuisance in that area.
- 2.5.5 Areas that are not seeded should be dampened when appropriate to maintain the surface moisture of the material and minimise dust risk. To assist in the prevention of increased turbulence that may give rise to dust, the storage mounds will be shaped to provide a rounded profile at the juncture of the final level and battered surface of each mound.

2.6 Blasting

- 2.6.1 Effective dust collection systems will be fitted to all blast hole drilling machines before any such drilling machines are put into operation.
- 2.6.2 Prior to blasting, all arisings from blast hole drilling will be bagged and disposed of safely at depth within the excavation.
- 2.6.3 Where necessary blast areas shall be dampened before initiation.

- 2.6.4 The blast holes will be stemmed carefully with inert material using appropriate stemming methods to trap explosive gases and thereby minimise potential dust emissions.

2.7 Truck Loading and Discharge

- 2.7.1 Loading machines will not discharge overburden into dump trucks from an excessive height.
- 2.7.2 In building the overburden mounds, overburden will be built up in layers by spot tipping and dozing. This will avoid tipping over a free face, hence reducing the creation of dust
- 2.7.3 A windsock will be located on the overburden storage mound to indicate the strength and direction of the wind.
- 2.7.4 Overburden tipping operations will temporarily cease or be relocated to a different area when wind strength and direction, coupled with dry weather and surface conditions indicate that there will be a potential for dust nuisance arising from that particular activity.
- 2.7.5 Care will be taken to ensure that vehicles are not overloaded.

2.8 Plant

- 2.8.1 The vehicles and plant used on site will be well maintained and regularly serviced according to the manufacturer's specifications.
- 2.8.2 Engines will be switched off when plant is not in use.
- 2.8.3 Vehicle speeds will be restricted to 35 mph.
- 2.8.4 Exhaust will be directed above the horizontal to avoid the impact of the exhaust raising dust off internal haul roads.
- 2.8.5 Sufficient vapour masts will be provided and maintained to ensure that, where necessary, an effective vapour can be produced at any point in the site.

3 Dust Monitoring

3.1 Introduction

- 3.1.1 Condition 14 also requires a programme of air quality monitoring to be submitted and approved by the Planning Authority. This is based on that outlined in Condition 16.

Condition 16

An air quality monitoring scheme shall be undertaken as approved in writing by the Planning Authority. This shall include:

- *Baseline monitoring to establish background levels of dust and particulates which must be carried out prior to commencement of operations.*
- *Dust monitoring to be carried out at suitably agreed locations within the community using dust deposition gauges or sticky pads to identify nuisance dust.*
- *A weather station shall be set up and operated for the duration of the project at Cwmbargoed DP to measure (a) rainfall; (b) wind speed; (c) wind direction; and (d) temperature. Such information to be made available to the Planning Authority on request.*
- *PM₁₀ and PM_{2.5} monitoring to be undertaken using a methodology agreed in writing by the Planning Authority. Such monitoring to be carried out prior to commencement of works and continue for a minimum period of 12 months after coal winning commences. If it is established such monitoring is not required as a result of site activities after such a period, the monitoring shall then cease, subject to the written agreement of the Planning Authority.*

REASON

To protect the amenities of residents from the potential effects of dust arising from the development approved.

- 3.1.2 The dust monitoring strategy is designed to determine dust soiling rates at six locations around the site.
- 3.1.3 Baseline dust levels will be established before coal winning commences. Monitoring at five locations commenced in January 2006. All monitoring will commence within six weeks of this strategy being approved in writing by the Planning Authority.

- 3.1.4 Monitoring will continue for the duration of the works, until the completion of backfilling and soil-spreading operations.

3.2 Monitoring Locations

- 3.2.1 The dust monitoring locations are detailed below and are shown in Figure 1.

- Opposite the end of Blaen Dowlais Street, on the site boundary
- Mount View
- Incline Side Cottages
- Bryn Caerau Farm
- Primary School, Fochriw
- Twynyrodyn School

- 3.2.2 The aim is to measure dust soiling near to dwellings/schools that represent those parts of the settlements around the site that lie closest to the site boundary.

- 3.2.3 The selection of monitoring locations took account of a number of factors including security of the monitoring device. For the monitoring to be useful as a site management tool it is preferable to have data from a slightly non ideal location than missing data.

3.3 Monitoring Technique

- 3.3.1 The dust deposition monitoring will be undertaken using the DustScan system.

- 3.3.2 Essentially DustScan is a sophisticated sticky pad dust soiling detection system. It offers a number of advantages over conventional techniques. The main advantage of DustScan is that the collected samples can be encapsulated and permanently stored for future reference. The samples can also be analysed to provide further information on the characteristics of the dust and hence likely sources.

- 3.3.3 Deposition gauges, which have been widely used in the UK to measure dust nuisance, provide information on the mass of dust deposited, and the samples collected can be analysed to provide information of the likely sources of dust during periods of high dust deposition. The disadvantage is that it does not take account of the 'soiling' capacity of the dust, and the samples cannot be easily stored for analysis at a later stage. The 'sticky pad' approach is widely used in the mineral industry and

provides a cheap method for obtaining a relative measure of the potential for dust 'annoyance', but provides no further information on sources of the dust.

- 3.3.4 The DustScan sticky pad will be collected and analysed every two weeks. The Local Planning Authority will be informed prior to any change to this monitoring period. Replacement pads will be fitted at the same time.

3.4 Complaints

- 3.4.1 In the event of a complaint about dust annoyance to the site operator, the designated site officer will initiate an investigation of the weather conditions during the event, site activities and locations and dust deposition data. Once the cause has been identified and matters put in hand to remedy the problem, the evidence, conclusions and remedial actions and/or recommendations will be entered into the site log for subsequent report to the Site Liaison Committee. A report summarising any dust complaints received by the operator shall be submitted to the Local Planning Authority two weeks prior to each Site Liaison Committee meeting.
- 3.4.2 The Site Operator will introduce any reasonable changes to management practices recommended as a result of a complaint investigation.

3.5 Data Availability

- 3.5.1 Monitoring data will be made available to the Local Planning Authority on request.

4 Airborne Particles

4.1 Introduction

- 4.1.1 The airborne particle monitoring strategy is designed to determine the ambient concentrations of particles (known as PM_{10} and $PM_{2.5}$)¹ in the local community as required in Condition 16.
- 4.1.2 Baseline monitoring for airborne particles commenced in January 2005 for PM_{10} and September 2006 for $PM_{2.5}$.
- 4.1.3 Monitoring will continue for at least the first year of coaling. At the end of the first year a monitoring report summarising the data will be sent to the Local Planning Authority who will inform the designated site officer within eight weeks of receiving the report, whether further monitoring is required, and the reasons for such a decision.
- 4.1.4 If monitoring is extended beyond the first year of coaling, its need will be reviewed annually on the same basis as above. Monitoring will cease once backfilling and soil-spreading operations are complete..

4.2 Location

- 4.2.1 The airborne particle monitoring will be at Twynyrodyn Primary School (see Figure 1).

4.3 Monitoring Technique

- 4.3.1 Monitoring will be undertaken using a Tapered Element Oscillating Microbalance (TEOM) located in a purpose built enclosure. The TEOM is widely used in the UK for measuring particles, including in the national air quality network.
- 4.3.2 The instrument will be maintained and calibrated in accordance with the quality requirements of the Automatic Urban and Rural Monitoring Network, of DEFRA.

¹ PM_{10} are airborne particles with an aerodynamic diameter of less than 10 μm ; $PM_{2.5}$ are those with an aerodynamic diameter of less than 2.5 μm .

4.4 Reporting

- 4.4.1 The data from the monitoring station will be downloaded to the site operating office on a daily basis, on working days.
- 4.4.2 The designated site officer will be responsible for ensuring that the previous 24-hour data is checked.

4.5 Pollution Events

- 4.5.1 If PM_{10} concentrations exceed $150 \mu g/m^3$, averaged over a one hour period, the designated site officer will be responsible for initiating an immediate pollution event investigation.
- 4.5.2 If PM_{10} concentrations exceed $50 \mu g/m^3$, averaged over a 24-hour period, the designated site officer will be responsible for initiating a pollution event investigation within a reasonable timeframe, and no later than one week after the event.
- 4.5.3 If the TEOM measuring PM_{10} is not operational a $PM_{2.5}$ threshold for initiating a pollution event investigation will be 60% of the PM_{10} thresholds.
- 4.5.4 The designated site officer and the Local Planning Authority will review the trigger levels at the end of the baseline monitoring period.
- 4.5.5 The aim of the pollution event investigation will be to identify the causes and introduce remedial action as soon as possible.
- 4.5.6 A pollution event investigation will comprise of an assessment of the location and activities on site, the distance of site activity to the nearest dwelling, the weather conditions, and concentrations measured at other PM monitoring stations in south Wales, such as in Cardiff and Cwmbran. The contribution from FLRS will be quantified where possible.
- 4.5.7 The designated site officer will be responsible for ensuring that the cause of the pollution event is identified (where possible), which might be due to external factors. Where the cause is found to be within the site recommendations to mitigate future pollution events will be made. Any reasonable measures recommended will be introduced.
- 4.5.8 The Local Planning Authority will be informed of the conclusions of the investigation.

4.6 Data Availability

4.6.1 Monitoring data will be made available to the Local Planning Authority on request.

5 Weather Stations

5.1 Introduction

5.1.1 Condition 16 requires a weather station to be established (see section 3.1.1).

5.1.2 Two weather stations have been established measuring:

- rainfall
- wind speed
- wind direction
- temperature

5.1.3 They are located at:

- Cwmbargoed DP
- Twynyrodyn Primary School

5.1.4 The weather stations will be operated according to the manufacturers specifications.

5.1.5 The Cwmbargoed DP weather station shall be operated for the duration of the project. The one at Twynyrodyn Primary School shall be operated for the duration of the airborne particle monitoring.

5.2 Weather Forecasts

5.2.1 The designated site officer will be responsible for ensuring that 5-day weather forecasts are obtained and assessed every working day.

5.3 Site Working

5.3.1 Where forecast weather conditions or as measured at one of the weather stations shows that conditions are favourable to dust generation, the maximum wind speed, prevailing wind direction and rainfall for the day will be entered into the site log, with appropriate notes.

5.3.2 The weather forecast information will be used to plan the activities on site.

5.3.3 All weather records will be kept electronically and as a hard copy for the duration of the scheme.

5.4 Data Availability

5.4.1 Weather data will be made available to the Local Planning Authority on request.

6 Noise

6.1 Introduction

6.1.1 Conditions regarding the potential for noise impact due to the Ffos-y-fran Land Reclamation Scheme (FLRS) have been imposed to protect the local area. Condition 17 relates to the noise limits which have been set and states that a noise monitoring strategy is to be developed and approved by Merthyr Tydfil County Borough Council before work starts on site. This strategy specifies the method to be used for noise monitoring so that it can be agreed with the Local Planning Authority.

Condition 17

- (a) *With the exception of those activities cited in conditions 18 and 22 below, noise arising from operations shall NOT exceed the following $dB_{L_{Aeq, 1hr}}$ by reference to the following specific noise monitoring locations.*

Ref No	Location	0700-1900 HRS	1900-2300 HRS
1	Blaen Dowlais	55	42
2	Japonica Drive	54	42
3	Mount View	55	42
4	Incline Side	55	42

- (b) *A scheme for monitoring noise levels shall be submitted to and approved in writing by the Planning Authority prior to commencement of works. The monitoring shall be undertaken in accordance with the approved scheme.*

6.2 Direction of Works

6.2.1 The works on the site will commence at the south with the box cut and proceed in a northerly direction. Therefore the areas closest to the first sections of workings will be Incline Side and Mount View. At the end of the work, the closest noise sensitive areas will be Blaen Dowlais and Japonica Drive.

6.3 Noise Monitoring Locations

- 6.3.1 The 4 listed locations in condition 17(a) will be used as the noise monitoring locations, these being properties on Blaen Dowlais, Japonica Drive, Mount View and Incline Side.
- 6.3.2 Given the duration and phasing of the works, the following locations, as illustrated in Figure 2, will be used for fixed monitors during the reclamation:
- Disposition 1 Mount View and Incline Side
 - Disposition 2 Mount View and Japonica Drive
 - Disposition 3 Japonica Drive and Blaen Dowlais
 - Disposition 4 Japonica Drive and Blaen Dowlais
- 6.3.3 Additional short-term measurements will also be undertaken on a weekly basis at the other locations by the designated site officer.

6.4 Specification of Monitoring Equipment and Procedure

- 6.4.1 The short-term monitoring equipment will comprise Type 1 integrating sound level meters. The meters will be set to record hourly ambient noise levels (dBLAeq, 1hr). During measurements the meter should be positioned on a tripod at a height of between 1.2 and 1.5m above ground and more than 3.5m from any façade. Before and after any measurements the meter will be calibrated and any variations in calibration noted. The measured noise level can then be read off the meter and logged.
- 6.4.2 The fixed noise monitoring equipment will comprise Type 1 integrating sound level meters. The meters will be set to record hourly ambient noise levels (dBLAeq, 1hr). Before and after any measurements the meter will be calibrated and any variations in calibration noted. The meter will be located in a weatherproof box with the microphone fixed to the façade of the property at first floor height to prevent interference from intruders. The data will be downloaded from the meter on a weekly basis, with recalibration being undertaken on each visit.
- 6.4.3 Prior to the data from the fixed monitors being used, it will need to be adjusted for height and façade corrections. Consequently, prior to commencement of works, the fixed monitors will be installed and set to run, with short term measurements being carried out simultaneously as specified above at the same property. The difference

between the measured hourly ambient noise levels will be used to give a correction factor which should be subtracted from the fixed noise monitoring results, prior to data assessment.

6.5 Implementation of Noise Monitoring Strategy

- 6.5.1 The noise monitoring equipment will be installed within 6 weeks of approval of the strategy by the Local Planning Authority.

6.6 Recording of Data

- 6.6.1 The hourly data from the fixed and short-term noise monitors will be recorded with the meteorological data from the weather station at the Cwmbargoed disposal point and will be made available to the Local Planning Authority on request.

7 Vibration

7.1 Introduction

7.1.1 Condition 25 requires that vibration monitoring be undertaken.

Condition 25

Vibration monitoring stations are to be placed at locations to be approved in writing by the Planning Authority. All monitoring data is to be made available to the Planning Authority on request.

7.2 Vibration Monitoring Station Locations

7.2.1 The vibration monitoring station will be sited at the following locations, as illustrated in Figure 2;

- Blaen Dowlais
- Japonica Drive
- Mount View
- Incline Side

7.2.2 As the works progress from south to north, one monitoring station will be used at any one time, that station being located at the closest property to the blasting.

7.3 Availability of Data

7.3.1 The data from the vibration monitoring station will be recorded at Cwmbargoed DP and will be made available to the Local Planning Authority on request.

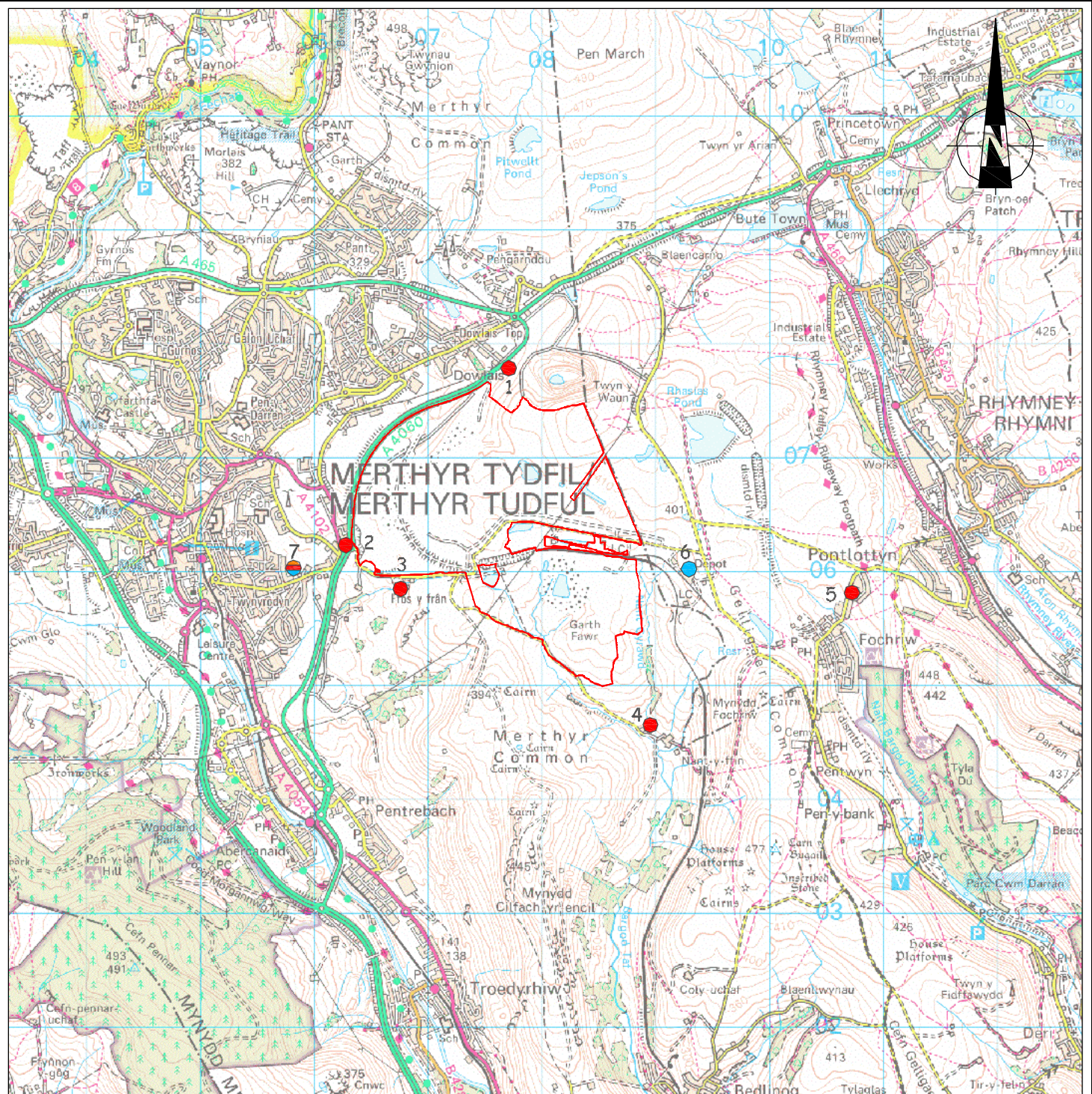
Appendix A: Figures

A
P
P
E
N
D
I
X

Appendix A: Figures

Figure 1 Monitoring Locations – Dust, Airborne Particles and Weather

Figure 2 Monitoring Locations – Noise and Vibration



LOCATIONS :

- | | |
|----------------------------|-----------------------------------|
| 1 - BLAEN DOWLAIS STREET | 5 - PRIMARY SCHOOL FOCHRIW |
| 2 - MOUNT VIEW, | 6 - CWMBARGOED DP WEATHER STATION |
| 3 - INCLINE SIDE COTTAGES, | 7 - TWYNYRODYN SCHOOL |
| 4 - BRYN CAERAU FARM | |

● DUST
 ● WEATHER
 ● PM₁₀ PM_{2.5}

Utilities Note

The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake his own investigation where the presence of any existing sewers, services, plant or apparatus may affect his operations.



Client

miller argent

PETER BRETT ASSOCIATES - CONSULTING ENGINEERS
7 THE CRESCENT TAUNTON SOMERSET TA1 4EA

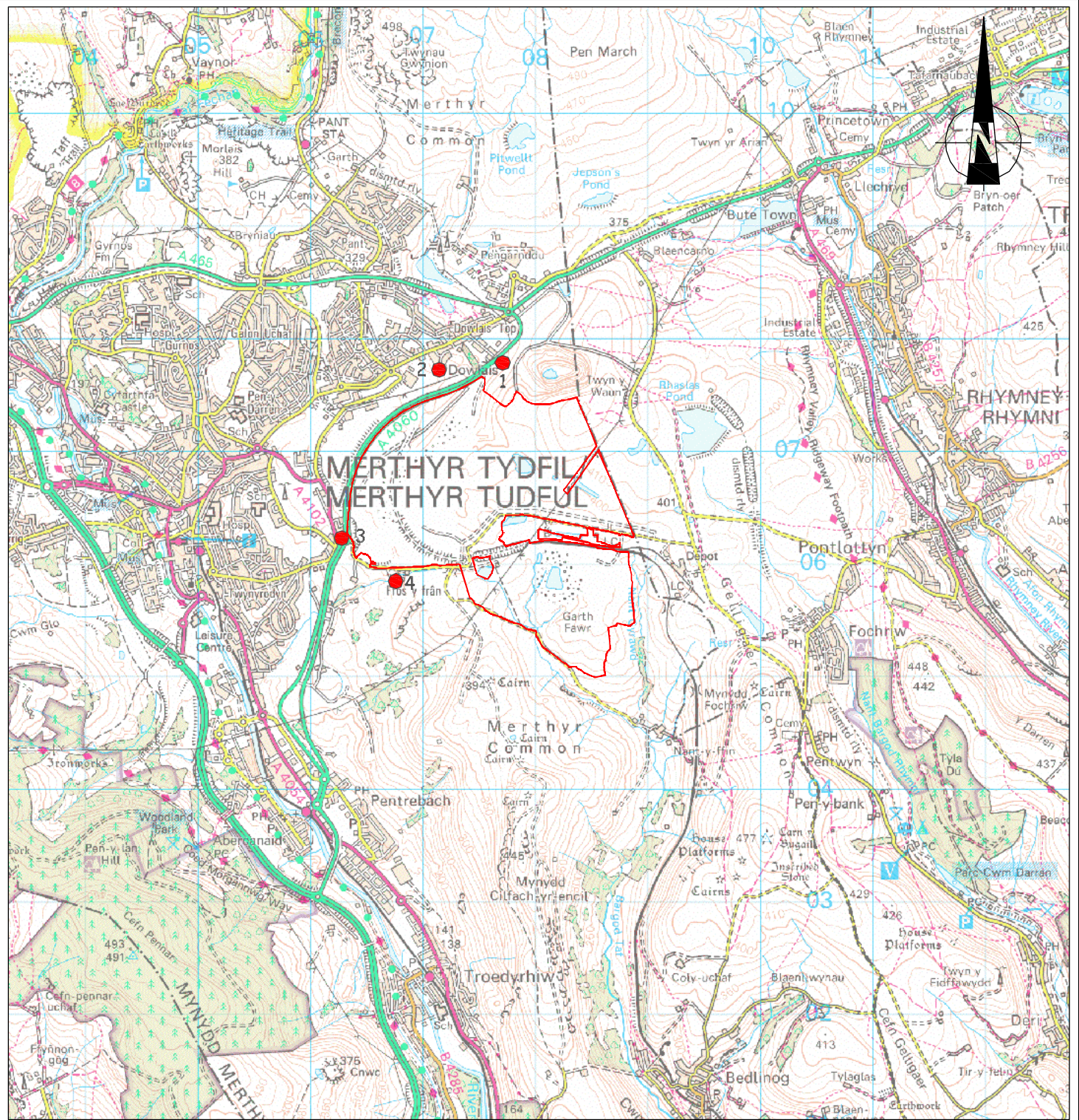
Tel: 01 823 350203 Fax: 01 823 351 203 E-mail: taunton@pba.co.uk Website: www.pba.co.uk © Peter Brett Associates

Mark	Revision	Drawn	Date	Chkd
Drawing Status				
4				

MONITORING LOCATIONS - DUST AIRBORNE PARTICLES AND WEATHER

Date	01.03.05	Drawing Number FIGURE 1	Revision C
A4 Scale	1:50 000		
Drawn	MPD		
Checked	CH		

J:\11992\300\304



LOCATIONS :

- 1 - BLAEN DOWLAIS STREET
- 2 - JAPONICA DRIVE
- 3 - MOUNT VIEW,
- 4 - INCLINE SIDE COTTAGES,

Utilities Note

The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake his own investigation where the presence of any existing sewers, services, plant or apparatus may affect his operations.



Client

miller argent

PETER BRETT ASSOCIATES - CONSULTING ENGINEERS
7 THE CRESCENT TAUNTON SOMERSET TA1 4EA

Tel: 01 823 350203 Fax: 01 823 351 203 E-mail: taunton@pba.co.uk Website: www.pba.co.uk © Peter Brett Associates

Mark	Revision	Drawn	Date	Chkd
Drawing Status				
4				

NOISE AND VIBRATION MONITORING LOCATIONS

Date	21.03.05	Drawing Number FIGURE 2	Revision -
A4 Scale	1:50 000		
Drawn	MPD		
Checked	CH		

J:\11992\300\304