

Addendum to
Planning
Statement

Nant Llesg Surface Mine

Incorporating Land Remediation



Addendum to Planning Statement

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Chapter 1

Introduction

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Applicant's Response to Post-Application Representations

Chapter 1 – Introduction

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1 Introduction

- 1.1 On the 10th October 2013, Miller Argent (South Wales) Limited ('Miller Argent') of Cwmbargoed Disposal Point, Fochriw Road, Cwmbargoed, Merthyr Tydfil CF48 4AE ("the Applicant") applied for full planning permission for the 'Nant Llesg Surface Mine, Incorporating Land Remediation' on land west of Rhymney in the County Borough of Caerphilly. The application was accompanied by an Environmental Statement.
- 1.2 An addendum to the Environmental Statement and Errata were submitted to the Planning Authority on 9th January 2014.
- 1.3 In response to the statutory and non-statutory post-application consultations carried out by Caerphilly County Borough Council ("the Planning Authority"), a large number of representations have been submitted to the Planning Authority. These have been copied to the Applicant upon request.
- 1.4 At the time of preparing this response, the Planning Authority's consideration of the application is on-going. As part of the determination process, the Planning Authority has raised certain queries and requests for additional information from the Applicant to clarify the proposal. Other representations have been submitted to the Planning Authority by statutory and non-statutory consultees, other bodies, other organisations and individuals.
- 1.5 This document, its appendices and attached drawings constitute the Applicant's composite response to those queries and representations. Should subsequent queries and/or representations arise, they will be responded to separately, if required.

Publication of the Applicant's Response

- 1.6 Submission of this composite response to the Planning Authority as an Addendum to the Planning Statement, together with the related Second Addendum to the Environmental Statement and Second Errata, has been publicised by the Applicant under the provisions of the Town and Country Planning (Development Management Procedure) (Wales) Order 2012 and the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999, as amended in Wales ("the EIA Regulations"). Publications have been placed in the Western Mail, Rhymney Express and Merthyr Express to coincide with their submission to the local planning authority. These publications by the Applicant are separate to those to be subsequently made by Caerphilly County Borough Council on receipt of the addenda.

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Chapter 2

Consultant Experts Acting for the Applicant

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Chapter 2 – Consultant Experts acting for the Applicant

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2 Consultant Experts Acting for the Applicant

1.1 The response on behalf of the Applicant incorporates input from its consultant experts. Where appropriate, responses on the topics listed in the following Table PSA1.1 have been largely prepared by, or incorporate input and advice from, the expert consultant indicated:

Table PSA1.1 List of Consultant Experts

Topic	Consultant	Address
Socio Economics	Russell Porter	Peter Brett Associates LLP 10 Queen Square Bristol BS1 4NT
	Tom Dearing	RPS 6-7 Lovers Walk Brighton East Sussex BN1 6AH
	Gavin C. Wright	GW Regulatory Affairs Services Limited
	Adam M. Slater	Quality Options Limited
Recreation and Tourism	Eunice Stephenson	RPS 20 Western Avenue Milton Park Abington Oxfordshire OX14 4SH
Traffic and Transport	Paul Goodenough	Mott MacDonald Group Integrated Transport Division Fitzalan House Fitzalan Road Cardiff CF24 0EL
Ecology and Nature Conservation	Dr Keith Jones	RPS 20 Western Avenue Milton Park Abington Oxfordshire OX14 4SH
Agricultural Land Use and Soils	Julia Tindale	RPS 20 Western Avenue Milton Park Abington Oxfordshire OX14 4SH

Topic	Consultant	Address
Hydrogeology	Dr Shaun Salmon	AMEC Environment & Infrastructure UK Ltd Partnership House Regents Farm Road Gosforth Newcastle Upon Tyne NE3 3AF
Hydrology and Drainage	Dr Richard Breakspear	AMEC Environment & Infrastructure UK Ltd 155 Aztec West Park Avenue Almondsbury Bristol BS32 4UB
Air Quality and Dust	Dr Claire Holman	Brook Cottage Consultants Brook Cottage Elberton Bristol BS35 4AQ
Noise	Colin English	Sustainable Acoustics 5 Charlecote Mews Staple Gardens Winchester Hampshire SO23 8SR
Blasting and Vibration	Bill Birch	Blastlog Ltd Upton House Market Street Charlbury Oxford OX7 3PJ
Cultural Heritage	Richard Hughes	IHCM, 45 Crescent Lane London SW4 9PT
Landscape and Visual Impact	Mary O'Connor	White Young Green 5th Floor Longcross Court 47 Newport Road Cardiff CF24 0AD
Waste	Andrew Lawrance	Mott MacDonald Group Prince House 43-51 Prince Street Bristol BS1 4PS

Topic	Consultant	Address
Health Impact Assessment	Dr Andrew Buroni	RPS 6-7 Lovers Walk Brighton East Sussex BN1 6AH
Sustainability and Carbon	Charlotte Brewin	RPS 20 Western Avenue Milton Park Abington Oxfordshire OX14 4SH
Need Case	John Rhodes	QUOD QUOD Ingeni Building 17 Broadwick Street London W1F 0AX
Planning Policy	Graham Jenkins	SLR Consulting Fulmar House Beignon Close Ocean Way Cardiff CF24 5PB

**Nant Llesg
Surface Mine**
Incorporating Land Remediation

Chapter 3

Structure of Applicant's Response to Post Application Representations

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Chapter 3 Structure of Applicant's Response to Post Application Representations

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3 Structure of Applicant's Response to Post Application Representations

- 1.1 To assist the planning authority in considering the large number of post-application representations, the Applicant provides within this addendum its formal written response on certain individual representations. These have been numbered in the order they were received from the planning authority (not chronologically) and are listed in Table PSA4.1 of the following chapter.
- 1.2 Where appropriate, reference has been made to chapters, paragraphs or drawings of the original application documents and the Environmental Statement to assist the local planning authority, and those who made the representations, to source the relevant information within the original application.
- 1.3 The Applicant has collectively responded to individual representations under topic headings that correspond to those used in the original application documents and Environmental Statement, although there are responses to generic representations in chapter 4. This will hopefully help the local planning authority, and those who made representations with the logistics of considering the issues raised. Individual representations are identified and referred to under each topic heading so that the planning authority and others can interpret the Applicant's Response in context.
- 1.4 In responding to representations, the Applicant has provided some information beyond what was included with the original application and assessed in the Environmental Statement. Some instances have called for changes to the proposal, or further mitigation or compensation for the effects of the proposal that have not been previously included in the application. Other instances have resulted in further information being provided. Such matters have largely arisen from the Applicant's post-application discussions with local planning authority officers and statutory consultees. These submissions form part of the Nant Llesg development proposal for which planning permission is sought and should therefore be considered in conjunction with the information previously provided in the planning application and its related submissions.
- 1.5 Where appropriate, the accompanying Second Addendum to the Environmental Statement assesses the likely significant environmental effects of such changes, mitigation or compensation or further information.

Post-Application Representations to Caerphilly County Borough Council

- 1.6 The representations submitted to Caerphilly County Borough Council following submission of the planning application on 10th October 2013 are listed in the order they were received by the Applicant in Table PSA3.1 below. Where appropriate, some of the representations have also been appended to this response and referred to in the text. All representations are available for public inspection on the Planning Authority's files.
- 1.7 In addition to the individual representations listed in Table PSA3.1 below, a number of petitions and standard letters have been received by the Planning Authority.
- 1.8 Some representations, including the petitions and standard letters referred to above, are adequately covered by the Applicant's response to other representations and have therefore

not been individually responded to or further elaborated upon. However, their respective comments have been duly noted by the Applicant as identified in Table PSA3.1 by the words 'Comments Noted' in the right hand column.

- 1.9 A spot in the right hand column of Table PSA3.1 signifies that the Applicant has provided a written response to that representation.

Table PSA3.1 Post Application Representations to Caerphilly County Borough Council

No.	Body / Organisation / Individual	Applicant Responded ●
1	Caerphilly County Borough Council (1) - Relating to the initial representation made by the United Valleys Action Group	●
2	Caerphilly County Borough Council (2)	●
3	Caerphilly County Borough Council (3)	●
4	Network Rail	●
5	Natural Resources Wales (NRW) (1)	●
6	Wales Health Impact Assessment Support Unit (WHIASU)	●
7	United Valleys Action Group – Initial Objection (UVAG) (1)	●
8	Fochriw & Pentwyn Residents Association (FPRA)	●
9	Aneurin Bevan Health Board	●
10	Caerphilly County Borough Council - Engineering (4)	●
11	Darren Valley Community Council	Comments Noted
12	Cllr Carl Cuss	●
13	Gelligaer & Merthyr Commoners Association	●
14	Friends of the Earth Cymru (FoE)	●
15	Friends of the Earth Caerphilly (FoE)	●
16	Rhymney Area Residents Group (RARG)	●
17	Bedlinog & Trelewis Environment Group (BTEG)	●
18	Ian Jenkins	●

No.	Body / Organisation / Individual	Applicant Responded ●
19	David B Walters	●
20	Green Valleys Alliance (GVA) (1)	●
21	Richards & Appleby (1)	●
22	Welsh Economy Research Unit (Cardiff University)	●
23	Environment Pollution Management Ltd – Dust	●
24	Groundwater Solutions - Hydrology/Hydrogeology	●
25	Terra Consult - Waste	●
26	United Valleys Action Group (UVAG)	●
27	Jim Davies (UVAG) - Hydrogeology and Biodiversity	●
28	Jim Davies (UVAG) - Noise	●
29	Jim Davies (UVAG) - Restoration	●
30	Jim Davies (UVAG) - Tourism	●
31	Jim Davies (UVAG) - Train Traffic	●
32	Merthyr Tydfil County Borough Council	●
33	Gwent Police	Comments Noted
34	Deborah Price	Comments Noted
35	Occupier, The Gate, Yglwyd Llechrydd, Tredegar (1)	Comments Noted
36	Patrick Myall	Comments Noted
37	Michael Cullen	Comments Noted
3B	Mr & Mrs Austin	Comments Noted
39	E L Morgan	Comments Noted
40	Mr & Mrs Mobley	Comments Noted
41	D R Smart	Comments Noted
42	A & K Williams	Comments Noted
43	Occupier, 25 Beulah Street, Rhymney	Comments Noted

No.	Body / Organisation / Individual	Applicant Responded ●
44	Iris Davies	Comments Noted
45	Leanne Davies	Comments Noted
46	Occupier, 8 Hill Road, Pontlottyn	Comments Noted
47	Occupier, 18 Garth Street, Pontlottyn	Comments Noted
48	Avril Lloyd (1)	Comments Noted
49	Rev. Philip Gummett	Comments Noted
50	Avril Lloyd (2)	Comments Noted
51	Occupier, The Gate, Yglwyd Llechrydd, Tredegar (2)	Comments Noted
52	Occupier, Abertysswg Farmhouse, Tysswg Lane, Abertysswg	Comments Noted
53	S Hopkins	Comments Noted
54	E & G Davies	Comments Noted
55	Nicola Jones	Comments Noted
56	G Thomas (Telephone Conversation with CCBC officer)	Comments Noted
57	Andrew King (1)	●
58	Mike Hogan	Comments Noted
59	Mrs M Hogan	Comments Noted
60	Mr & Mrs L Bridges	Comments Noted
61	C Davies	Comments Noted
62	P E Morris (Commoner)	●
63	R Prosser	Comments Noted
64	Ann Bell Williams (1)	Comments Noted
66	E D Jones	Comments Noted
67	R Borstal	Comments Noted
68	E Smith	Comments Noted
69	Andrew King (2) (Duplicate of 57)	●
70	Elizabeth Gibb	Comments Noted

No.	Body / Organisation / Individual	Applicant Responded ●
71	Eira Gross	Comments Noted
72	John Hughes	Comments Noted
73	Resident of Hill Street, Ystrad Mynach	Comments Noted
74	Occupier, 133 Pantycerdin, Cwmbach, Aberdare	Comments Noted
75	D Lloyd	Comments Noted
76	M Adams	Comments Noted
77	D Payne	Comments Noted
78	R Pearson	Comments Noted
79	S Rodaway	Comments Noted
80	N Greenway	Comments Noted
81	Alan Williams	Comments Noted
82	Mr & Mrs D Pinch	Comments Noted
83	Patricia Moseley	Comments Noted
84	D Williams	Comments Noted
85	PA & J Williams	Comments Noted
86	The Williams Family	Comments Noted
87	HG & CT Williams	Comments Noted
88	G Lerwill	Comments Noted
89	E Pearson	Comments Noted
90	Elizabeth Barrett	Comments Noted
91	Dr Kelvin Mason	Comments Noted
92	Sharon Williams	Comments Noted
93	Anita Williams (1)	Comments Noted
94	Mr & Mrs P Jenkins (1)	Comments Noted
95	Christine Jones (1)	Comments Noted
96	Brian Jarrett	Comments Noted

No.	Body / Organisation / Individual	Applicant Responded ●
97	Dr John Evans and Mrs Jenny Evans	Comments Noted
98	Jamie & Amanda Trapp	Comments Noted
99	A M Dyles	Comments Noted
100	J H Williams	Comments Noted
101	Ian Jenkins	Comments Noted
102	Michael Griffiths	Comments Noted
103	Margaret Iles	Comments Noted
104	Deborah Price	Comments Noted
105	Phil Duggan	Comments Noted
106	Occupier, 6 Coronation Terrace, Rhymney	Comments Noted
107	Alan Williams	Comments Noted
108	Ann Bell Williams (2) (first page only)	Comments Noted
109	Anita Williams (2)	Comments Noted
110	Marc Thomas (Support)	Comments Noted
111	Diane Williams	Comments Noted
112	J P Holley	Comments Noted
113	G Burr	Comments Noted
114	Richard Goss	Comments Noted
115	Gaynor Williams	Comments Noted
116	M Holley	Comments Noted
117	Mr P & Mrs J Jenkins (2)	Comments Noted
118	Dylan Powell (Support)	Comments Noted
119	Tyler Morris (Support)	Comments Noted
120	Nelson Community Council	●
121	Llanbradach and Pwll-y-pant Community Council	●
122	Gelligaer Community and Risca Town Councils	Comments Noted

No.	Body / Organisation / Individual	Applicant Responded ●
123	GGAT (Curatorial Division)	Comments Noted
124	National Grid	Comments Noted
125	Coal Authority	Comments Noted
126	NERL (NATS En Route plc)	Comments Noted
127	Ministry of Defence	Comments Noted
128	Ofcom	Comments Noted
129	South Wales Fire and Rescue Service	Comments Noted
130	Wales and West Utilities	Comments Noted
131	Welsh Water	Comments Noted
132	Gwent Wildlife Trust	Comments Noted
133	Christine Jones (2)	Comments Noted
134	Welsh Government - Transport Division	●
135	Cadw	●
136	Natural Environment and Agriculture Team, Land, Nature and Forestry Division, Department for Natural Resources and Food, Welsh Government	●
137	Royal Society for the Protection of Birds (RSPB)	●
138	Natural Resources Wales (2)	●
139	Caerphilly County Borough Council - Neil Daniels (Lighting) (5)	●
140	Caerphilly County Borough Council - Mark Noakes (Highways) (6)	●
141	Caerphilly Local Access Forum	●
142	Blaenau Gwent County Borough Council	●
143	Green Valleys Alliance (2)	●
144	Richards & Appleby (2)	●
145	Fochriw & Pentwyn Residents Association (FPRA) (2) Addendum - Overburden Mounds	●

No.	Body / Organisation / Individual	Applicant Responded
146	Green Valleys Alliance (GVA) (3) – Simply Ecology Report	●
147	United Valleys Action Group (UVAG) (3)	●
N/A	Petitions and Standard Letters submitted to Caerphilly County Borough Council during the post-application consultation period	Comments Noted

- 1.10 Where the Applicant's response to the above representations involves a change to the Nant Llesg proposal; further mitigation or compensation for the effects of the proposal; or additional information for clarification of the proposal, the assessment set out in the Environmental Statement (ES) submitted with the planning application has been revisited and the findings set out in the accompanying Second Addendum to the Environmental Statement ("the ES Addendum").
- 1.11 Tables PSA3.2 to Table PSA3.4 below set out the changes to the Nant Llesg proposal; further mitigation or compensation for the effects of the proposal; and additional information for clarification of the proposal, that have arisen out of the Applicant's response to post-application representations.
- 1.12 The changes to the proposal listed in Table PSA3.2 are of a relatively minor nature and the overall design of the scheme remains unchanged.

Table PSA3.2 Changes to the Nant Llesg proposal

Changes to the Proposal
Proposed Method Statement (Draft) for Great Crested Newt Licence Application, incorporating additional receptor ponds and revision of their locations on site.
Further proposals for reptile receptor sites.
Further consideration of the availability of ponds on site for Odonata.
Detailed proposals for peat handling, storage, water supply and monitoring and restoration with examples of other sites.
Revision of proposed areas for restoration habitats and the production of a Habitats Restoration Strategy Drawing to supplement the existing Restoration Strategy Drawing.

Changes to the Proposal
Proposed changes to the noise fence at Halfway House and the provision of a new noise screening bund on north west corner of the working area.
Introduction of potential for coal exports to Europe and implications for the claimed lower carbon footprint of delivering Nant Llesg coal when compared to imported coal.
Given the passage of time since the planning application was submitted on 10 th October 2013, the anticipated start date for the Nant Llesg Scheme has changed from 2014 to 2016.

Table PSA3.3 Further Mitigation/Compensation

Proposed Further Mitigation or Compensation
Review of the mitigation and compensation proposals for the impact of the Nant Llesg scheme on the biodiversity of the area, including the provision of a 'Wet Heath National Vegetation Classification and Condition Assessment' and a 'Biodiversity Offsetting Report', additional ponds forming part of the restoration proposals and offsetting or compensation by way of funding for the Pumlumon Project in Mid-Wales or the offer of an equivalent sum to CCBC for local deliverable nature conservation or biodiversity enhancement within the county borough.
Introduction of further noise modelling demonstrating the mitigating effect of building the outer face of the overburden mound first to act as a screening bund during construction of each level of the overburden mound. This was not previously built into the original noise modelling, which only considered the worst case scenario when all plant on the overburden mound would be unscreened.

Table PSA3.4 Additional Information for Clarification

Additional Information Provided for Clarification of Proposal
Consideration of Bute Town as a Tourist Resource and further consideration of both direct and indirect effects on tourist resources outside the site, incorporating consideration of the effects on air quality and dust, noise, cultural heritage, and landscape and visual impact.
Capacity considerations of the Bogey Road/Fochriw Road junction with further modelling of hypothetical traffic levels using PICADY software to demonstrate the theoretical capacity of the junction and the ability of the junction to accommodate any bunching of coal delivery traffic.

Additional Information Provided for Clarification of Proposal

Clarification of areas of vegetation and habitat disturbance.

Location of Terrestrial Invertebrate 'hotspots' and trapping points referred to in survey data with provision of revised Appendix 1 to Terrestrial Invertebrate Report.

Consideration of effects on SACS, SPA and Ramsar sites with provision of a Habitats Regulations Assessment Report as additional information to assist the County Borough Council in preparing a Habitats Regulations Assessment.

Revision of data for migrant waders and other waterfowl with desk study providing additional ornithological data.

Provision of Cliff Bat Survey Report (2014) and clarification that there are no open old mine shafts and adits on the Nant Llesg site.

Provision of Auger Boring Data and Von Post Data used for the ES soils analysis.

Clarification of depth of clay beneath peaty topsoils.

Assessment of potential carbon loss associated with peat handling.

Information about source, quantity and storage of Soil Forming Materials with confirmation of commitment by the Applicant to recover sufficient quantity of such materials to secure restoration of the site.

Review and clarification of soil resources for Land Use Units A and B.

Clarification of soil type and resource in Soil Unit 2.

Clarification of quality and suitability of materials for building peat storage cells.

Submission of revised drawing showing corrected detail of drainage channels associated with proposed drainage works north of Fochriw to address the silting of Cwm Darran Park Lake.

Provision of Water Framework Directive Assessment, extending the baseline environment dataset by presenting additional information on Water Framework Directive aspects of the surface and groundwater bodies at the site.

Further modelling and assessment of predicted dust deposition at residential receptor sites using a hypothetical lower mitigation factor as requested by Caerphilly County Borough Council.

Correction of average dust deposition data in ES.

Additional Information Provided for Clarification of Proposal

Consideration of new guidance on assessment of construction impacts published since the ES was prepared.

Clarification of current dust events above 80mg/m²/day dust deposition at Heads of the Valleys Industrial Estate.

Consideration of potential dust impacts along mineral railway to the south of Cwmbargoed Disposal Point.

Consideration of train pass-by noise levels to the south of Cwmbargoed Disposal Point.

Consideration of the possible deflection of noise towards Fochriw by the Nant Llesg overburden mounds.

Provision of contemporaneous notes of noise surveys and train pass-by surveys along the Mineral Railway Line south of Cwmbargoed Disposal Point with plans showing survey locations.

Information on manufacturer's further research on plant noise to justify sound power levels used in the ES Noise Assessment.

Provision of the rendered images used to compile photomontages from Viewpoints 1A, 2, 3A, 3B and 23 as part of the ES Landscape and Visual Impact Assessment.

Provision of Cross Sections through overburden mound from Viewpoints 1A, 2, 3A, 3B and 23 of the ES Landscape and Visual Impact Assessment.

Provision of enhanced Disposition Drawings 1 to 5 showing additional ground contour information both within and outside the site. The site layout, plant list and all other information on the dispositions remaining the same.

Provision of sight lines through overburden mound during construction from highest and lowest points in Rhymney and Fochriw.

Provision of drawing showing lighting lux level contour plots for lighting columns to be used on site with further consideration of potential night-time lighting effects on surrounding residential properties.

Further information and assessment relating to the effect of the Nant Llesg scheme on designated landscapes.

Further consideration of the artificial lighting to be used at Cwmbargoed Disposal Point.

Consideration of cumulative landscape and visual effects relating to the proposed 'Circuit of Wales' motorsport complex in the neighbouring county borough of Blaenau Gwent and dualling of the Heads of the Valleys Road.

Additional Information Provided for Clarification of Proposal

Clarification on the Health Impact Assessment and its compliance with Wales Health Impact assessment guidance.

Provision of further information about water usage on-site for dust suppression, coal preparation peat storage and other needs and the availability of water resources for such uses, particularly during a dry year.

Review of WERU report and provision of further information in respect of Richards and Appleby's operations

- 1.13 The above changes and considerations represent a further stage in the iterative site design that results from the Applicant's willingness to respond to extensive pre and post-planning consultation as an integral part of the design process.
- 1.14 All other aspects of the development proposals, as set out in the planning application and assessed in the Environmental Statement remain unchanged.

Nant Llesg Surface Mine

Incorporating Land Remediation

Chapter 4

Representations Relating to the Nant Llesg scheme in general

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Applicant's Response to Post-Application Representations

Chapter 4 – Representations relating to the Nant Llesg in scheme in general

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4 Representations Relating to the Nant Llesg scheme in General

- 4.1 The following is the Applicant's Response to representations that relate to the Nant Llesg scheme in general, where the response does not fit any of the specific chapter/topic headings used in this addendum to the Planning Statement.

Representation 1 - Caerphilly County Borough Council – Relating to the initial representation made by the United Valleys Action Group

1. It hasn't been mentioned anywhere that we can find that the remediation area could very well end up as an extension of the opencast coal mining operations at Nant Llesg. Can CCBC clarify this situation and state categorically that no coal would be extracted from anywhere within the remediation zone?

- 4.2 The proposal does not involve the excavation of coal within the Areas of Early Land Remediation as shown on Planning Application Drawing MA/NL/PA/003. The proposal is to work approximately 6m tonnes of coal from within specific areas identified in the Nant Llesg planning application and further coal recovery outside the permitted areas will not be possible without further planning permission. Any extension to the proposal would be a matter for a separate planning application, to be considered on its own merits at the appropriate time.

2. Can CCBC also verify that the Coal Authority cannot, and will not, demand the extraction of any shallow coal within the remediation area to avoid sterilising the coal resource and override any planning constraints?

- 4.3 It is not within the powers of the Coal Authority to demand the extraction of such coals.

3. Can CCBC obtain accurate figures of coal remaining on the Nant Llesg site as a whole, and in particular the remediation area? The depth the coal is at, and the quality of that coal? The local community deserves to be made aware of whether this coal is still reserved for future extraction and the area could be revisited in the future and opencast mined yet again.

- 4.4 Coal resources extend throughout the County Borough, as identified in the Caerphilly Local Development Plan. Detail of the quality and quantity of such resources lying within the Areas of Early Land Remediation as shown on Planning Application Drawing MA/NL/PA/003 is unknown. The proposal is to work approximately 6m tonnes of coal from within the area identified in the Nant Llesg planning application and further coal recovery outside this is not possible without further planning permission. Any extension to the proposal would be a matter for a separate planning application, to be considered on its own merits at the appropriate time.

4. There are concerns about the applicant gaining planning permission to mine at Nant Llesg now, when it's most convenient for them, but not start the work until the financial situation is more favourable for them (e.g. sit on it for 5 years, or so). Can CCBC confirm whether the applicant will, or will not be allowed to do this?

- 4.5 Generally, planning permissions last for a period of 5 years from being granted. This allows for a period to discharge conditions and make pre commencement arrangements. There is no current reason why Nant Llesg should be subject to any extended time period. Generally speaking, given the need for coal, which is identified in the planning application, there is no reason why the Applicant would not progress the scheme promptly.

8. How do CCBC propose to ensure that the restoration work is completed if the company (Miller-Argent South Wales Ltd.) 'goes bust'?

- 4.6 A draft agreement with Caerphilly County Borough Council has been prepared under Section 106 of the Town and Country Planning Act 1990 and is being discussed. An agreement will be completed before planning permission is granted. A fundamental part of this agreement will be the provision of financial security for restoration of the Nant Llesg site, which will ensure that the restoration and aftercare aspects of the proposal can be completed.

9. If it's a 'bond' on the parent companies as guarantor/s, would it be real costs projected over 14 years of work, even if the project is 'back loaded' with the majority of the restoration work? (e.g. restoring maximum void ... as it appears to be at Ffos-y-fran).

- 4.7 Details of the form and structure of the proposed financial security are set out in the draft Section 106 agreement referred to above and these are being discussed with Caerphilly County Borough Council. In general terms an escrow account is proposed and the funding of the escrow account will take account of estimated restoration costs, with regular updates of such costs ensuring that changes in cost estimates over time are provided for. The draft section 106 agreement also includes a mechanism to account for changes in restoration costs between any grant of permission and the implementation of the scheme.

10. Are there safeguards in place to cover CCBC and hence the public purse if one of the parent companies 'goes bust' too?

- 4.8 See paragraphs 4.6 and 4.7 above.

13. Would the applicant be granted self-regulation?

- 4.9 The site would be subject to various planning conditions, permits and licences, all of which would be regulated by the appropriate authorities, including Caerphilly County Borough Council, Natural Resources Wales and the Coal Authority.

14. If they are self-regulating, who would police the operation on behalf of the local residents? In Merthyr the LA and EAW have little input to the process.

- 4.10 The reference to Merthyr and EAW refers to operations on the Ffos-y-fran Land Reclamation Scheme (FLRS) and is an incorrect statement. The existing operations on Ffos-y-fran are heavily monitored by Merthyr Tydfil County Borough Council, Natural Resources Wales and the Coal Authority in respect of all issues relating to the planning permission, permits and

- licences for the scheme, while operations that affect Scheduled Monuments require the prior consent of Cadw who control and monitor such works on behalf of the Welsh Government.
- 4.11 Regular monitoring and reviews are carried out at FLRS by officers of the local planning authority and representatives of the Authority also attend regular Site Liaison Committee meetings to discuss related issues. The Authority also oversees matters relating to Listed Building Consent, the Section 106 Agreement and those relating to the Integrated Pollution Prevention and Control Certificate (IPPC) for the site under the Environmental Permitting and Control Regulations 2010.
- 4.12 It is worthy of note that the IPPC Certificate considers the emission and control of coal dust in particular from both the FLRS site and the Cwmbargoed Disposal Point. Due to the methodology and measures put in place at these sites, Merthyr and Caerphilly environmental health officers categorize these operations as low risk.
- 4.13 In addition to the above, Natural Resources Wales carry out further regular monitoring and control of the discharge of water from the FLRS site.
- 4.14 The Coal Authority carry out annual audits and monitor coal production and site progress pursuant to the Production Licence they have issued and ensure that the terms of the licence have not been breached. In addition, any treatment of a shaft or adit has to be reported to the Coal Authority, who will satisfy itself that the treatment is adequate before recording it within their mining records and registers. At Nant Llesg, the treatment of shafts and adits will be carried out in liaison with the Coal Authority and the level and type of treatment of each shaft or adit will be agreed with the Authority in every case.
- 4.15 Miller Argent is also answerable to Cadw in respect of the planning and stringent control of any work that might impact on a Scheduled Monument.
- 4.16 At Nant Llesg, the Applicant will be similarly monitored and controlled by the same authorities, albeit that the local authority that will monitor the Nant Llesg site will be Caerphilly County Borough Council and not Merthyr Tydfil County Borough Council.

15. Would CCBC be carrying out continuous monitoring of noise and dust pollution from the proposed operation; coal mine and remediation works? MTCBC have continuously refused to monitor the site despite regular representation by local residents.

- 4.17 As far as the continuous monitoring of noise and dust at Nant Llesg by the local authority is concerned, that is a matter for Caerphilly County Borough Council. However, in addition to any monitoring carried out by Caerphilly County Borough Council, Miller Argent will be carrying out substantial noise and dust monitoring, the results of which would be made available to the local planning authority for audit, monitoring and control purposes. This would be appropriately required by Caerphilly County Borough Council by way of planning condition.

18. How long will the remediation work take in reality? The applicant is saying 2 years 'after coaling starts'. How long is that in actuality? Is it a fixed term, or is it open-ended? i.e. is it an 'it takes as long as it takes' scenario. Is this just the early remediation work, if so how long will remediation take in total?

- 4.18 These works would be completed within 2 years of the commencement of coaling. The commencement of coaling would be when the first lorry load of coal passes over a

weighbridge at the site, which is an identifiable point in time, approximately 3 years after commencement of the development.

19. How many tenders did CCBC seek for the cost of remediating the land around Nant Llesg under its remit? How close in price were they? Were the solutions the similar or even the same? Were they affordable?

- 4.19 This is for Caerphilly County Borough Council to answer. However it is understood by Miller Argent that CCBC does not have access to sufficient resources and does not currently propose to carry out the land remediation works itself, without the Nant Llesg proposal progressing. Notwithstanding this, the need for remediation is acknowledged by CCBC's application for the works to be included in the Welsh Development Agency's Land Remediation Programme (See Appendix MA/NL/PA/04/001). The application stated:

"The works seek to address and prevent the impact that silts originating from the disused tips and transported by the Nant Bargoed are having on 28Ha lake at Parc Cwm Darran (PCD) located approx. 1.5Km downstream. The slopes of the tips have been identified as the principal source of sediments entering PCD with materials arising from under-cut bends on the Nant Bargoed identified as a secondary source. (Ref. proposals for the remediation of Ogilvie Lake in the Parc Cwm Darran - Blackdown Consultants Ltd for CCBC). The proposals include for treatment of historic mine entries, recontouring oversteep tip slopes, providing a formal drainage system over the tip surface and slopes, treatment of reprofiled surfaces to mitigate erosion, armouring of the Nant Bargoed particularly at bends. The dismantled railway area to supplement the existing cycleway network and be part of an extended network."

- 4.20 Without the need to re-contour oversteep tip slopes, this closely reflects the works now being proposed by Miller Argent as part of the Nant Llesg scheme.
- 4.21 The functions of the Welsh Development Agency transferred to the Welsh Government in 2006 and the cost of the works was estimated at £2.281m at the time of CCBC's application in April 2007. It is understood by Miller Argent that funding is still unavailable for the scheme. However, even if funding was available, Miller Argent's carrying out of the proposed remediation works would still be a very significant saving to the public purse.
- 4.22 In relation to the remediation of the shafts and adits on its land and to assist the Mineral Planning Authority in responding to this question, the Applicant has asked the Coal Authority to provide further information.
- 4.23 The Applicant's letter to the Coal Authority can be found at Appendix MA/NL/PA/A04/002 and the Coal Authority's response is provided at Appendix MA/NL/PA/A04/003. The response to this question can be found at paragraphs 2 and 6 of that letter.

20. Does CBC know if the Coal Authority sought any tenders for the cost of remediating the land around Nant Llesg under its remit? How close in price were they? Were the solutions the similar or even the same? Were they affordable?

- 4.24 To assist the Mineral Planning Authority in responding to this question, the Applicant has requested the Coal Authority to provide the required information.
- 4.25 The Applicant's letter to the Coal Authority dated 14 March 2014 can be found at Appendix MA/NL/PA/A04/002 and the Coal Authority's response dated 17 March 2014 is provided at Appendix MA/NL/PA/A04/003. Paragraph 2 of that letter sets out that the Coal Authority has

not sought any tenders for remediating its abandoned coal workings or mine entries in the area and paragraph 6 confirms that it has no budgeted programme for investigative or pre-emptive remediation works in the area.

21. Did CCBC cost the road works at Bogey Road junction? The costs bandied about by the applicant appear exorbitant. Do CCBC Highways Department agree these costs and the need for the work?

4.26 This is for Caerphilly County Borough Council to answer. However, in support of the presentation to CCBC on 3rd April 2013 where a figure of £500,000 was quoted, an assessment by Mott MacDonald estimated the following costs:

- Earthworks - £25,000
- Traffic Management - £10,000
- New Road and surfacing (including temporary route) - £310,000
- Reinstatement of route for temporary diversion - £15,000
- Service diversions (BT and Welsh Water) - £100,000
- Contingency at 5% - £23,000

4.27 This provides an overall estimated cost of £483,000 at today's prices, which is in line with the round figure of £500,000 presented to CCBC. (See Appendix MA/NL/PA/A04/004)

29. Could CCBC confirm whether or not the Nant Llesg mine would become the next Trecatti landfill site? There has been a lot of concern about this from local residents who can see that Trecatti is coming to the end of its lifespan during the lifetime of the Nant Llesg opencast coal mine.

4.28 The Nant Llesg proposal does not include any plans for landfill, which would require planning permission in any event. Were landfill to be proposed, it would require an application for planning permission to be made, which would need to be considered on its own merits.

31. In a similar vein, the applicant has employed many experts and expert organisations to compose this very large, complex and technically demanding planning application and we are struggling to understand many of the statements. Does CCBC have the expertise to fully understand and evaluate such an application? Or will CCBC be bringing in experts, as the applicant has done?

4.29 This is for Caerphilly County Borough Council to answer. The Applicant is more than happy to assist the local planning authority in understanding any of the complex issues if required, and would request that CCBC requests such assistance if there is any technical aspect of the proposal that is not fully understood.

Representation 2 - Caerphilly County Borough Council

The maximum height of the overburden mound is stated as 50 metres. However, the ground contours upon which it is to be constructed are not level. Cross sections

through the overburden mound should be submitted to illustrate the lateral and vertical dimensions of the mound. The sections should also illustrate the 'disposition stages' as illustrated in the submission, including the construction of the outward facing elevations as proposed.

- 4.30 The construction of the overburden mound was briefly described in the ES at Chapter 3 - 'The Nant Llesg Project', paragraph 3.165. To elaborate on that description, the following sets out the process in more detail, making reference to drawings that help illustrate the lateral and vertical extent of the overburden mound at the various disposition stages and the sequence and duration of the facets of the construction process.
- 4.31 The attached drawings numbered MA/NL/PA/053 to MA/NL/PA/055 show the extent of the overburden mound and the 'disposition stages'. Also attached are further drawings MA/NL/PA/050 to MA/NL/PA/052, which depict the sequence and duration of construction of the overburden mound up to its maximum extent at Disposition 2 (Maximum Void). The sections, one from the direction of Rhymney and one from the direction of Fochriw, show how the overburden mound will be built in a series of separate phases. The First Phase would involve the tipping of the outside edge first to form a screening bund (Bund No. 1), which will be a minimum of 10 metres in height. The lateral extent of this and subsequent bunds is depicted on drawing MA/NL/PA/050.
- 4.32 The second phase of the overburden tipping operation would be to fill the area behind this initial outer bund (Fill No. 1A on Drawings MA/NL/PA/051 & 052), with the bund acting as a screen to the tipping works behind. This sequence would be repeated a further 3 times with 3 more bunds tipped on the outside edge of the overburden mound, each between 10 and 15m in height, given a scenario of 4 outer bunds being constructed. Each time, the space behind would be filled before the formation of the outer screening bund on the next layer would be started.
- 4.33 The formation of the bund and the body of the tip would be created in layers of no higher than the height of a tipped load (4-5m). The first layer would be formed by the dump trucks tipping short of the edge of the tipping area and dozers would then be used to level the tipped material out and advance the tip forwards. The maximum height the material would roll down the advancing face of the tip would be no more than the 4-5m tipped by the trucks. When this layer is complete the dozer would not then be needed on this section of the tip because the trucks will run to the furthest point on the tipping bench and "block tip" their way back out. At no point during this phase of the works is the dozer employed to push material over the edge. The dozer will only work on the outside edges as part of the final grading works. When this "block tipped" layer is completed the trucks will then tip over this layer with a dozer in attendance repeating the method as described for the first layer. The layer thickness would, again, be about 4-5m with material dropping at most 5m onto the previously tipped layer. This process would be repeated until the desired bund height was achieved.
- 4.34 For more detail on timescales see answer to the question below that relates to the sequence of construction.

The sequence of construction of the visual and acoustic barrier and the overburden mound is described and illustrated in the 'Disposition stages' included in the submission. However, whilst a period of 4 months is given for the construction of the visual and acoustic bund, no timescales are given for the construction of the overburden mound. Estimates of the timescales for the construction of the mound should be submitted.

- 4.35 The tables on Drawings MA/NL/PA/051 & 052 indicate the timescale of each separate phase of the construction of the overburden mound. As shown, the screening bunds will each take between 7 - 10 weeks to construct and the tipping operation behind each of these bunds will take between 26 -30 weeks. All of the material required to build the 4 outer screening bunds will come from the Box-Cut and will be completed about 122 weeks from the start of tipping material in the overburden mound (Bund Nos. 1-4 plus Fill Nos. 1-3). The final fill stage (Fill No. 4A) will take 26 weeks in total, but this material will only be taken to the overburden dump if in pit tipping space is not available. The 26 weeks tipping will be within a 126 week period up to Disposition 2 (Maximum Void). All of the material tipped at this stage will be screened by Bund No 4.

It is proposed to grass seed the side slopes and surface of the overburden mound at the earliest opportunity following the completion of any section of the mound. With reference to the sections and timescales requested above, details of the timescales for grass seeding of the slopes and surface should be provided.

- 4.36 The grass seeding of the side slopes and upper surface of the Visual and Acoustic Screening Bund would take place on the completion of construction of this bund. The hydro-seeding of the entire mound would take less than a week. Given that the exact start date and season of the site is unknown, it is difficult to say how long the grass cover will take to establish. Experience on the FLRS has shown that, with favourable conditions, the bund could have grass growing on it within a matter of weeks. One benefit of hydro-seeding is that, once down, the mulch used to hold the grass seed mixture is a very effective dust suppressant.
- 4.37 The seeding of the overburden mound would be a similar but phased operation. On completion of the initial outer screening bund (Bund No. 1), hydro-seeding would immediately be carried out on its outer face. On completion of each stage or layer of the tip construction hydro-seeding would immediately be carried out on the remaining outer faces. The top of the mound would be hydro-seeded on completion of the final phase of infilling (Fill No 4A). As before, the time taken for each phase of the hydro-seeding to be completed would be less than a week. The same comments as above apply regarding the time for a grass sward to appear and the suppressing effects of the hydro-seeding.

A member of the public has suggested that MA has advised during one of its consultation exercises that the maximum depth of the excavation would be 182 metres, not the 165 metres stated in the submitted application. Please confirm the proposed maximum depth.

- 4.38 The maximum depth of 182m refers to an earlier iteration of the scheme that would have recovered 9 million tonnes of coal. The revised scheme, as set out in the application for planning permission, would recover 6 million tonnes and has a maximum depth of 165m. Exceeding the maximum depth of 165 metres would require a further planning permission.

Representation 3 - Caerphilly County Borough Council

7. Chapter 13 of the ES states that Working hours for the surface mine will be restricted to 0800 - 1200 on Saturdays, however in the non technical summary it still states 0700 1400, please confirm what work times are proposed on Saturdays?

- 4.39 It is confirmed that the working hours stated in the Non-Technical Summary are correct. The error was identified after submission of the planning application and the following erratum was submitted to the local planning authority on 9th January 2014:

'7. Environmental Statement Volume 1 - Technical Assessments Part 2

Chapter 13 – Noise

The wording of paragraph 13.45 on page 13 of Chapter 13 should read “Working hours for the surface mine will be restricted to 07.00 – 19.00 Mondays to Fridays and 07.00 to 14.00 on Saturdays”.

Representation 26 - United Valleys Action Group (UVAG)

- 4.40 This is the second representation of the United Valleys Action Group, which encompasses the issues raised in their original submission (Representation 7), which was also referred to in the questions raised by CCBC at Representation 2 above.
- 4.41 Representation 26 can be found at Appendix MA/NL/PA/A020.
- 4.42 It is noted that Representations 23 by Environment Pollution Management Ltd and 27, 28, 29, 30 and 31 by Jim Davies form part of this representation. The Applicant's response to each is provided individually under the respective headings.

Functions of the Coal Authority

- 4.43 The United Valleys Action Group raised the following questions that relate to functions of the Coal Authority:
- ***Can Caerphilly County Borough Council verify that the Coal Authority cannot, and will not, demand the extraction of any shallow coal within the remediation area to avoid sterilising the coal resource and override any planning constraints?***
 - ***Does Caerphilly County Borough Council know if the Coal Authority sought any tenders for the cost of remediating the land around Nant Llesg under its remit?***
 - ***How close in price were they?***
 - ***Were the solutions similar or even the same?***
 - ***Were they affordable?***
- 4.44 We would refer to paragraphs 1.19 to 1.23 above.

- 4.45 To assist the Mineral Planning Authority in responding to these questions, the Applicant has asked the Coal Authority to provide the necessary information. The Coal Authority was also asked to provide further information on their functions to clarify the position at Nant Llesg.
- 4.46 The Applicant's letter to the Coal Authority can be found at Appendix MA/NL/PA/A04/002 and the Coal Authority's response is provided at Appendix MA/NL/PA/A04/003.

Representation 121 - Llanbradach and Pwll-y-Pant Community Council

- 4.47 The Community Council confirmed that:
- "...councillors are ... concerned that the railway bridges might not be strong enough to take the anticipated amount of traffic."**
- 4.48 In relation the strength of railway bridges outside of the Applicant's control, this is a matter for Network Rail and is not a matter for the Applicant. However, the Applicant is not aware that any such concern has been expressed by Network Rail.

Representation 145 – Fochriw & Pentwyn Residents Association Addendum - Overburden Mounds

Ffos-y-fran

- 4.49 An addendum to the original objection on behalf of the Fochriw & Pentwyn Residents Association (FPRA) was submitted to Caerphilly County Borough Council on 12th May 2014 and can be found at Appendix MA/NL/PA/A031. The addendum referred to the methodology used to calculate the proposed amount of overburden material to be temporarily stored above ground on the Nant Llesg site.
- 4.50 FPRA have made a number of statements related to the Ffos-y-fran scheme but whilst Miller Argent do not believe they are relevant to the Nant Llesg planning application, in order to assist in the planning process, we have clarified some of the points raised in the FPRA's letter regarding Ffos-y-fran, please see below:

Paragraph 3

- 4.51 The "cut-and-fill" mining technique referred to by the FPRA relates to the progressive restoration common to most, if not all, surface mining projects in the UK. On FLRS the amount of progressive restoration carried out to date and material taken to the ex-pit mounds is in line with that indicated within the planning application. Miller Argent are currently in the second phase of the works, which is detailed as "Development of Maximum Void". During this phase of the works, material will continue to be taken to the ex-pit overburden mounds as well as to the general backfill of the worked-out void behind the working face;

Paragraph 5

- 4.52 There have always been 3 overburden mounds shown on all documents and drawings related to the FLRS. These are OB1 to the west of the 400kV power line and just to the south of Trecatti, OB2 to the east of the 400kV power line and OB3 to the south of the Bogey Road;

Question 1 Paragraph 12

- 4.53 FPRA requested confirmation of the current height above ground level and above Ordnance Datum of FLRS overburden mounds OB1 and OB2. There are 3 overburden mounds on FLRS, OB1, OB2 and OB3, all of which are individually limited in height by planning condition. The overburden mounds are within these limits and all have been checked for level by MTCBC officers. All three are at or are close to their maximum height as set out in the planning permission for FLRS.

Question 2 Paragraph 12

- 4.54 FPRA queried the reasoning for using the soil storage areas at FLRS for storing overburden. Miller Argent believes that FPRA have assumed, incorrectly, that one of the overburden mounds on Ffos-y-fran was to be used originally for the storage of soils. OB1, OB2 and OB3 are for the storage of overburden and soil forming material.

Question 4 Paragraph 12

- 4.55 FPRA requested confirmation of the original planned heights of the FLRS overburden mounds. The FLRS overburden mounds have been constructed with the benefit of planning permission and the maximum heights stipulated in the planning permission are those that were originally proposed in the planning application.
- 4.56 Officers from MTCBC regularly carry out inspections to audit compliance with the planning permission, as they are obliged to do, and no enforcement action has been necessary.

Nant Llesg

- 4.57 We believe that most if not all of the answers to the questions asked by the FPRA that are related to the Nant Llesg site are contained within the following planning application documents.
- 4.58 A full description of Mining Methodology and the movement of material is contained within
- Planning Statement
 1. Paragraphs 4.96 - 4.133:
 2. **Figure 4.2 (Programme of Works), within the Planning Statement**, indicates the sequence of works on a bar chart (including progressive restoration);
 3. **Figure 4.3 (Schematic Sequence of Surface Mine Working Methodology), also within the Planning Statement**, illustrates the sequence of works and progressive restoration that will take place.
 - **Environmental Statement Volume III - Drawings** contains 5 disposition drawings (MA/NL/PA/004-008) that show visually the sequence of works on the Nant Llesg site including the movement of material within the site.
 - **NTS and Environmental Statement Volume I Chapter 9 – Agricultural use and Soils** details soil and peat resources on the Nant Llesg site that will be stripped and stored.

- 4.59 Commenting directly on the points raised by FPRA that relate to Nant Llesg;

Paragraph 6

- 4.60 FPRA are correct in quoting that a total of 70 million m³ of overburden will be excavated at Nant Llesg. However the FPRA suggest that all of this quantity would be placed in the area of the overburden mounds. This is incorrect in that it takes no account of the volume of excavated overburden that will be placed in the worked-out void behind the advancing face during progressive restoration or the quantity stored in the visual and acoustic screening mound and therefore the volume stored in the overburden mound will be significantly less than FPRA assert. The amount to be stored in the overburden mound is 29.65 million m³.

Paragraphs 7 & 8

- 4.61 The combined capacity of the visual and acoustic screening mound and overburden mound is approximately 32.5 million m³ which is more than adequate to accommodate the material generated from the maximum void on Nant Llesg.

Paragraphs 9 – 11

- 4.62 FPRA have attempted to use figures obtained for FLRS and incorrectly applied those to the Nant Llesg site to arrive at a volume of overburden that requires storage above ground. FPRA take no recognition of pit geometry, depth of excavation, plant fleet to be employed, coal to be extracted, bulkage and many other factors which combine to make each site unique. Based on the significant investigative work carried out to date and Miller Argent's and its expert consultants' extensive experience in surface mining, an assessment of the maximum void and overburden storage requirements has been carried out using the known parameters for the Nant Llesg site. The combined capacity of the visual and acoustic screening mound and the overburden mound is more than adequate to accommodate the volume of material to be temporarily stored above ground.

Question 3 Paragraph 12

- 4.63 FPRA request confirmation of 'The height of the proposed Nant Llesg overburden (above ground and AOD)'. The overburden mound at Nant Llesg will average 42 metres vertically above the existing ground level. The highest point of the overburden mound is at 435 metres AOD.

Question 5 Paragraph 12

- 4.64 FPRA request confirmation of: 'The volume of Nant Llesg overburden planned for storage'. The combined capacity of the visual and acoustic screening mound and overburden mound is approximately 32.5 million m³.

Question 6 Paragraph 12

- 4.65 FPRA request confirmation of: 'The volume of the Nant Llesg overburden to be used in the acoustic bunds/restoration work'. The capacity of the visual and acoustic screening mound is approximately 2.85 million m³.

Question 7 Paragraph 12

- 4.66 FPRA request confirmation of: 'Whether Bulking Factors has been taking into account when quoting the figure for overburden'. Miller Argent can confirm that bulkage has been taken in to

account when assessing overburden storage requirements. FPRA's unsupported assessment of bulkage is novel and bears no relation to that used on any UK coal mining project.

Paragraph 13

- 4.67 FPRA have again assumed figures for the thickness and volumes of soil stripped and stored. This information is contained within the Environmental Statement at Chapter 9 – Agricultural Land Use and Soils. Table PSA9.10 within this chapter details the quantity of peat and soil stripped on the site. As detailed in this table the total volume of peat, topsoil and subsoil stripped on the Nant Llesg site is 335,110 m³, given a storage area of 6.8Ha this equates to an average soil storage mound height of approximately 5m.

Paragraph 14

- 4.68 The average height of the overburden mound is approximately 42m vertically above existing ground level across the site and this rises to approximately 45m in the south east corner adjacent to Fochriw. The maximum height vertically above existing ground levels is approximately 50m. All assessments for dust, noise and visual impact have been based on the disposition drawings contained within the planning application (drawing numbers MA/NL/PA/004-008).

Nant Llesg Surface Mine

Incorporating Land Remediation

Chapter 5

Social Impact Assessment

Nant Llesg Surface Mine

Incorporating Land Remediation

Addendum to Planning Statement

Applicant's Response to Post-Application Representations

Chapter 5 – Social Impact

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5 Social Impact

- 5.1 The following is the Applicant's Response to representations that relate to the social impact of the Nant Llesg scheme.

Representation 8 - Fochriw and Pentwyn Residents Association (FPRA)

- 5.2 The written objection of the FPRA can be found at Appendix MA/NL/PA/A010. The following responses refer to social impact issues raised in that submission.

Jobs

- 5.3 The issues referred to by the FPRA that relate to jobs and local business investment in the local community have been adequately dealt with in the critiques of the report of the Welsh Economic Research Unit that have been prepared on Miller Argent's behalf by RPS and Peter Brett Associates. It is unnecessary to reiterate the points here as they are already provided in Appendices MA/NL/PA/A05/002 and MA/NL/PA/A05/003, which are commented upon further below. In addition, on the basis of the Sheffield Hallam report referred to at Appendix MA/NL/PA/A05/005 it can be concluded that the area suffers from the legacy of disinvestment in the coal fields nationally. Furthermore, following a report by Wright and Slater at Appendix MA/NL/PA/A05/004, it is reasonable to assume that even without the Nant Llesg scheme going ahead, there is a risk of the Richards & Appleby operation either closing or relocating. Again these matters are commented upon further below.

Representation 14 - Friends of the Earth Cymru (FoE)

- 5.4 The representation from Friends of the Earth Cymru (FoE) can be found at Appendix MA/NL/PA/A013. The following points are made regarding social impact issues raised within their representation.
- 5.5 FoE express their concern that amenity issues (access to open land with associated physical, mental and social health benefits) are not addressed in the HIA Executive Summary. This health pathway is addressed within Section 5 under the heading of Socio-Cultural and Lifestyle within the full HIA appended to the ES (Environmental Statement Volume II: Appendices Part 3, A18 HEALTH AND WELFARE: MA/NL/ES/A18/001 Health Impact Assessment).
- 5.6 An extract of the section is provided below:

"Socio-Cultural and Lifestyle

5.90 Potential adverse socio-cultural and lifestyle impacts reflect the disruption caused from the closure of public rights of way and to areas of common land, potentially limiting areas of physical exercise and recreation. However (as noted in Section 2 [of HIA]), following consultation, over 191ha of public access land (including 81ha of grazing land) has been included in the

scheme to address concerns raised regarding potential impacts upon access to common land.

- 5.91 *The proposed provision of public access land replaces approximately 76% of the public access temporarily suspended for the duration of the site, and will be provided from the onset of the project. On completion of the early reclamation areas this will increase to 95%, all of this land is currently outside but adjacent to the existing common.*
- 5.92 *On this basis, initial impacts upon areas of recreation and physical activity would be negligible, as they are mitigated through the provision of alternative areas.*
- 5.93 *The emerging restoration plan, however, represents a significant opportunity to not only provide a final landform that helps address local circumstance and existing physical health burdens, but may also support removing existing social barriers (in particular within north, mid and south Rhymney) through the provision of informal recreational uses, incorporating open access land, footpaths, bridleways and cycle paths to act as links between communities and the already established Cwm Darran and Bryn Bach Country Parks.*
- 5.94 *The final restoration strategy therefore has the potential to deliver both local and regional health objectives, whilst supporting the growth and diversification of local tourism, and improving east west community travel opportunities across the site."*

(Environmental Statement Volume II: Appendices Part 3, A18 HEALTH AND WELFARE: MA/NL/ES/A18/001 Health Impact Assessment, Pages 68-69)

- 5.7 Quite rightly, the figures referred to in Section 5 of the HIA are arrived at by taking the area of early remediation works in the north-east of the site that is not currently common land, which measures approximately 38ha, and on completion of the remediation works making it available for public access. This is over and above what has been provided for in the Common Land Strategy of the planning application in making available additional areas of land off-site for public access and/or common grazing to mitigate/compensate for the occupation of common land. It provides an additional 38ha to add to the 153.28ha of additional land that will be available for public access for the duration of the Nant Llesg scheme. Hence, from two years after the commencement of coaling, approximately 191ha or 95% of the 201ha to be occupied for the duration of site operations will be available for public access for the remainder of the scheme. This concept was explained to the Members and Officers of Caerphilly County Borough Council in a presentation given by the Applicant on 3rd April 2013 (see presentation slide at Appendix MA/NL/PA/A05/001).
- 5.8 On completion of the early remediation works, within two years of the commencement of coaling, the remediation areas, which measure 111.66ha, would be opened up for public access, although relatively small areas would remain fenced off while aftercare of the remediated land is being undertaken. Furthermore, while the early remediation works are being carried out on these relatively small areas, public access would be maintained around them. The 153.28ha of additional land that will be available for public access for the duration of the Nant Llesg scheme will be in addition to the access maintained over the major part of the 111.66ha of early remediation land throughout the life of the site.
- 5.9 On the above basis, all health concerns raised by FoE are addressed through design and assessed within the HIA appended to the ES.

Representation 15 - Friends of the Earth Caerphilly (FoE)

- 5.10 Friends of the Earth Caerphilly (FoE) endorsed the representations made by Friends of the Earth Cymru, expressing particular concern that the proposal is likely to negatively impact on the health, wellbeing and safety of local residents and making further comment expressing a preference for 'Green Jobs' in their area and that they don't need or want 'a hugely damaging open cast mine' in their area.
- 5.11 See the above response to Representation 14 'Friends of the Earth Cymru (FoE)'. Given the long term decline in economic activity in the area because of disinvestment in the coal fields, it seems logical that any jobs in the area should be valued. But Friends of the Earth appear to draw a distinction between the jobs that would result from the proposal and Green Jobs, reflecting perhaps their status as a special interest group.

Representation 21 - Richards and Appleby

- 5.12 There are numerous points made in the Richard & Appleby Objection based on statements without evidence. Some comments are also potentially contradictory.
- 5.13 Richards & Appleby suggest that their business, which they say employs 124 people at their Heads of the Valley's Industrial Estate site, with up to a further 12 agency staff on a fluctuating, seasonal basis and plans to take on the agency staff and increase the number of permanent employees to 140, is even more sensitive to dust than local residents. They believe that their clients will seek alternative suppliers in the event that Nant Llesg proceeds and that it would be cheaper for them to relocate than to make the improvements required to bring their facility up to supplier standards. They suggest that a move to a less polluting atmosphere would be the result of Nant Llesg proceeding and that the proposal will jeopardise the retention of existing jobs in the area and curtail further inward investment. They conclude that the number of employment opportunities created by Nant Llesg will be unlikely to make up for jobs lost from existing businesses.
- 5.14 Richards and Appleby do not limit their objection to their own premises, and they repeat the contentions of the WERU report, referred to further below, of which they are the main sponsor. Those contentions are largely dealt with in the critique of the WERU report by PBA and RPS, as set out below. However, they do make a number of suggestions about the impact of Nant Llesg on their own business. To put the position of Richards & Appleby as a cosmetic business into context, an independent expert opinion by Wright and Slater on behalf of Miller Argent has been provided (found at Appendix MW/NL/PA/A05/004) and this concludes:
- 5.15 *"The dust modelling carried out by Miller Argent has demonstrated that the mine will be compliant with all local and national environmental legislation and standards. Any cosmetic manufacturing operation operating to Good Manufacturing Practice does not require more stringent air quality standards."*
- 5.16 *There is a requirement to carry out changes to the Richards and Appleby manufacturing facility in order for it to comply with the Good Manufacturing Practice (GMP) principles as required by EC 1223/2009 and ISO 22716:2007. This would be required regardless of whether the proposed surface mine proceeds.*
- 5.17 *On this basis it is our professional expert opinion that with the necessary controls which should already be in place there is negligible risk to the Richards and Appleby cosmetic factory to dust from the Nant Llesg Surface Mine. Richards and Appleby should not be concerned about*

- product contamination (due to airborne dust) if they are GMP compliant, which they are obliged to be regardless of whether Nant Llesg proceeds.*
- 5.18 *We in our professional judgement see no real reason why, in respect of the impact of dust on a cosmetics manufacturing process, permission should not be granted to Miller Argent to operate the Nant Llesg surface mine and there is no real reason (related to the operation of the Nant Llesg Surface Mine) as to why Richards and Appleby need to move their business elsewhere.”*
- 5.19 The Wright and Slater report comments that the EC controls for cosmetic producers are becoming more stringent and manufacturers must have a mind-set for "continuous improvement". This includes inward investment and upgrade to factory facilities including maintaining and replacing surfaces, replacing and maintaining equipment and facilities. This tightening of the controls and standards is expected to increase over time. These greater expectations of a modern cosmetic manufacturer to achieve may prove challenging and too difficult to attain by older manufacturing facilities without a firm commitment to an upgrade to existing facilities. However, it would be wrong to attribute the need for such upgrade on the Nant Llesg proposal.
- 5.20 The Wright & Slater expert opinion report is a material consideration when answering the 'what if' question - deadweight assessment - in the economic impact assessment that was undertaken as part of the social impact chapter of the Environmental Statement. That is, would the loss of Richards & Appleby from the Heads of the Valley's area be a likely significant consequence of the Nant Llesg scheme's impact on the Richards & Appleby operation?
- 5.21 The expert opinion of Wright & Slater suggests that the opening of the Nant Llesg scheme would not impact on the Richards & Appleby business operation if they were working to GMP principles, as required by EC 1223/2009 and ISO 22716:2007. If they do not currently comply with GMP then that will need to be addressed regardless of the Nant Llesg proposal. On the basis of the statements made by Richards and Appleby, and the joint expert opinion expressed by Wright & Slater, it is reasonable to assume that even without the Nant Llesg scheme going ahead, there is a risk of the Richards & Appleby operation either closing or relocating.
- 5.22 The suggestion made by Richard & Appleby that they would relocate outside the HoV if the Nant Llesg proposal is successful also assumes that the whole of the HoV would be affected, and affected significantly enough that the company would relocate outside it despite alternative sites within it. Aligned to this, is the objector's concern for the health and well-being of its workers, when they have stated that they would move outside of the HoV. The statement might suggest that the objector is over-reacting. This would also apply to the objector's suggestion that their outsourced jobs in Italy would be brought back if the Nant Llesg scheme is refused. It is unclear what the rationale for this move would be, and no evidence to evaluate this position is provided.

Representation 22 - Welsh Economy Research Unit (WERU) (Cardiff University)

- 5.23 The WERU report forms part of Representations 20 and 21 by the Green Valleys Alliance and Richards & Appleby. An independent critique by the Applicant's health impact consultant, RPS, can be found at Appendix MA/NL/PA/A05/003 - 'RPS Critique of WERU Study - April 2014'. Comments on the report were also made on behalf of the Applicant by its socio-economic consultant, Peter Brett Associates (PBA), and can be found at Appendix MA/NL/PA/A05/002 - 'PBA Comments on WERU Study - April 2014'. Both documents were submitted to the planning authority on 17th April 2014 and are summarised below, together

with some comments on additional material that has come available since they were submitted to the planning authority:

Summary of RPS Critique of WERU Study - April 2014

- 5.24 The Welsh Economy Research Unit (WERU) of Cardiff University has undertaken a study of the economic contribution of businesses described as inward investors to the Upper Rhymney Valley area that are close to the proposed Nant Llesg surface mine development, and has considered how the proposed development would affect employment and investment in the area. The RPS report provides a brief critique of the WERU study and the GVA planning objections that reference it. Following that, it provides a suggested framework for how a balanced and objective study of employment, investment and consequent socio-economic/health impacts could be undertaken. A more detailed critique of the methodology adopted by the WERU study is provided by the PBA report.
- 5.25 In summary, the WERU study correctly identifies socio-economic problems in the local area, links these to the significant opportunities to benefit health by providing inward investment and good-quality employment, and accepts that the Nant Llesg development would generate significant employment both directly and indirectly via local spending.
- 5.26 In "consultations" with unspecified local manufacturing businesses, the study suggests that the Nant Llesg development could cause a loss of employment by harming these businesses, their employees, or by forcing relocation. No evidence is offered to support this claim. There is no analysis provided of the businesses' current and expected future performance. There is no attempt to examine actual effects on businesses in similar situations elsewhere, or indeed the local example of the Ffos-y-fran Land Reclamation Scheme (FLRS) development. The evidence of the Environmental Statement and Health Impact Assessment for the development regarding environmental impacts and health, and the mitigation measures that will be in place, is ignored.
- 5.27 The WERU study is cited as evidence of harm to businesses and employment displacement in objections to the Nant Llesg planning application. Fundamentally, both the WERU study and the planning objections rely on unsubstantiated claims. In RPS's view, there is no basis for relating air quality and dust in the area with a justification for relocation of a manufacturing facility.

Since the RPS critique of the WERU report was prepared, the independent expert report by Wright and Slater has been provided in respect of Richards and Appleby's facility in the Rhymney Industrial Estate. As set out above, Richards and Appleby make some comments about potential relocation specific to their business. The Wright and Slater report put those comments into a proper context and it is reasonable to assume that the Richards and Appleby facility may close or relocate absent the Nant Llesg proposal proceeding. As such, the Richards and Appleby example does not provide any evidence of harm or displacement.

As such, RPS comments on the lack of evidence of harm to businesses and employment displacement are robust. Without this evidence, it is very hard to substantiate or evaluate statements made that there will be harm or displacement.

- 5.28 It is understood that the Authority is seeking an independent assessment of the economic impacts of the proposed Nant Llesg Surface Mine including land remediation in order to further inform the decision-making process.

- 5.29 Given the significance of this study and its intended purpose, Miller Argent welcome the intent that the study will review the evidence-based health, social and socio-economic outputs of the ES, and that the study is intended to investigate factual information regarding direct, indirect and induced income and employment outcomes.

Summary of PBA Comments on WERU Study - April 2014'

- 5.30 The Welsh Economy Research Unit (WERU) study pre-dates the planning application for the Nant Llesg scheme and fails to properly consider the full scheme, its benefits and its proposed mitigations and enhancements aimed at the local area.
- 5.31 PBA agree with the WERU study commentary that the Heads of the Valleys (HoV) has suffered a legacy of employment decline, out migration of young working residents and high deprivation. However, the WERU study fails to reflect that such trends and current conditions are symptomatic of the long term national declines in the manufacturing sector and also the recent national downturn in the economy more generally.
- 5.32 PBA therefore disagree with the WERU study inference that that mining activity at the Ffos-y-fran Land Reclamation Scheme is causing and that proposed mining activity would cause an overall detriment to the HoV area. Importantly, the information on recent local area economic performance in the WERU report, when compared with other parts of the HoV, presents a relatively healthier performance in the local economy in recent years and this has largely arisen during the time the Ffos-y-fran Land Reclamation Scheme has been operating. This trend casts doubt on WERU's assertion that the Nant Llesg scheme would have an overall detrimental effect on the local economy and suggests that the conclusions in the ES are more likely.
- 5.33 Furthermore, this long term national decline is reflected in a recent study by the centre for Regional Economic Research at Sheffield Hallam University entitled "The State of the Coalfields" completed in July 2014 (after the PBA report was prepared). The study investigated how the high profile contraction of the British coal industry throughout the 1980s has impacted on the current state of the coalfields. It presents statistics on a sample of 16 coalfields across Great Britain, which includes South Wales, and analyses wards that have been mapped to the sample of coalfields to find that thirty years on from the miner's strike, the legacy of the decline in this industry is still very evident across a number of social and economic determinants. An important finding was that the decline in the South Wales coalfield is greater across a number of social and economic factors than the sample average.
- 5.34 In terms of health, the share of the residents in the South Wales coalfield area reporting bad or very bad general health and the proportion of the total population claiming Disability Living Allowance (DLA) was the highest of the 16 coalfields in the Sheffield Hallam sample. The study also finds that job density, measured as the number of jobs per 100 residents of working age, is lower in the South Wales coalfield area than both the coalfield sample and Great Britain averages. The South Wales coalfield demonstrated notably higher out-of-work benefit claimant rates than for the coalfield sample average, with 1 in 6 of adults collecting out of work benefits.
- 5.35 The Sheffield Hallam report runs contrary to WERU's inference that present-day surface mining activity causes overall detriment to the HoV area. The Sheffield Hallam research suggests that such problems are the legacy of disinvestment in the coalfields nationally.
- 5.36 PBA concur with WERU's deductions and recommendations about the need for jobs. Given the long term decline of the HoV economy, it seems logical that any job should be valued. Yet,

WERU ignore the impacts of Miller Argent's investments which are likely to have positive influences on the vibrancy in the area by creating new jobs, expanding supply chain links, supporting more skills development and more local spending. This probably reflects WERU's omission of Miller Argent in their consultation with major employers in the local area, and its failure to consider how well the Nant Llesg proposal fits in with their conclusions about the need for better paid jobs. The Nant Llesg scheme is likely to contribute to providing more of these better paid jobs.

- 5.37 The WERU study appears to consider the views presented by a few local businesses opposing the Nant Llesg scheme and appears to draw its findings and conclusions from opinion. It is likely to reflect Richards and Appleby's concerns, since they are a main sponsor of the report. It does not properly evidence the perception it presents and as set out above, the Richards and Appleby example does not provide such evidence. However, the case of the Shotton Appeal does provide evidence which counters that reported by WERU. The similar proposal for a surface mine at Shotton, Northumberland was objected to by five local businesses and refused by the local planning authority, partly because of negative perceptions associated with surface mining jeopardising the role given to the nearby settlement. The Shotton Appeal was successful and later evidence showed that after operating for some two years, there were no significant complaints from nearby land users, including none from the original five opposing companies. Evidence also showed that there had been no negative impact on the development or prices of housing or employment land.
- 5.38 The WERU research provides no indication of being objectively assessed or of using tangible evidence. The planning authority should consider the quality of evidence and research presented in the WERU study when attaching any weight to its findings in informing the decision over the Nant Llesg proposal.

Representation 143 - Green Valleys Alliance Objection

- 5.39 The objection from the Green Valleys Alliance (GVA), which includes Richard & Appleby, who are identified as the sponsors of the WERU report, reflects largely the same points put forward separately by Richard & Appleby and WERU. Again, this objection regarding economic impacts lacks any tangible evidence other than conjecture to back its statements. Miller Argent therefore do not repeat their response to them here.

Other Objections

- 5.40 There are numerous other objections on economic grounds, most of which mirror the FPRA, Friends of the Earth (Cymru and Caerphilly), Richards and Appleby, WERU and GVA objections. The same comments as above can be made in respect of these and Miller Argent do not repeat the response to them.

Nant Llesg Surface Mine

Incorporating Land Remediation

Chapter 6

Recreation and Tourism

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Chapter 6 – Recreation and Tourism

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6 Recreation and Tourism

- 6.1 The following is the Applicant's Response to representations that relate to recreation and tourism.

Representation 8 - Fochriw and Pentwyn Residents Association (FPRA)

- 6.2 The written objection of the Fochriw & Pentwyn Residents Association can be found at Appendix MA/NL/PA/A010. The following responses refer to issues raised in that submission.

Leisure Impacts

- 6.3 The FPRA comment on the use of the common land within the site by local residents for walking, cycling, photography, fishing, exercising dogs, landscape painting and general leisure activities, in addition to the grazing of livestock.
- 6.4 The ES acknowledges that the public have a right of access over the urban common for air and exercise on foot and on horseback and that the urban common is also used as 'Access Land'. In addition, it is acknowledged that Rhaslas Pond is a popular location for walkers, predominantly from the local area. Fishing isn't permitted on Rhaslas Pond, although it is on nearby water bodies outside the site (e.g. Bute Town Reservoir; Pond Feeder and Bryn Brith Pond) (paragraphs 7.2; 6.1; 6.38-6.44; 6.58; and 6.73-6.76 of the Nant Llesg ES).
- 6.5 However, additional areas of land would be made available, outside the site, for temporary public access for the duration of the scheme (paragraphs 7.3; 6.2; and 6.83-6.94 of the ES) in order to address the temporary interruption to the common.
- 6.6 The FPRA also comment on the public funding of the nearby Parc Cwm Darren, Parc Taf Bargoed and Bryn Bach Parc. The recreation and tourism assessment within the Nant Llesg ES acknowledges the presence of such recreational facilities that lie outside the site (paragraphs 6.58; 6.66-6.72; and 6.82).
- 6.7 The proposal will have a positive impact on Parc Cwm Darran as a result of the improvement in water quality and in particular will address issues of sedimentation in the lake within Parc Cwm Darran, through the improvement of drainage to the south of the site. Details of these proposals can be found at Chapter 7 of the Planning Statement 'Land Remediation Works to address silting of Darren Valley Country Park Lake'; and the environmental effects of the works are set out in Chapter 11 'Hydrology and Drainage' of the ES.

Representation 16 – Rhymney Area Residents Group (RARG)

- 6.8 The representation from Rhymney Area Residents Group can be found at Appendix MA/NL/PA/A014. The following points are made regarding the recreation and tourism issues raised.

Loss of amenity

- 6.9 In relation to the comment *“Many people use our hills for sport and exercise”* – the results of the recreation user survey are set out in Chapter 6 of the Nant Llesg ES, paragraphs 6.50 to 6.57 inclusive. On all four survey days, no users were recorded using the urban common or the public right of way across the common from the survey location at Bute Town. However, it must be appreciated that areas are to be made available to provide suitable alternative resources during the lifetime of the project, as described in Chapter 6 of the Nant Llesg ES at paragraphs 6.83 to 6.94 inclusive.
- 6.10 In relation to the comment *“There is a new cycle route to the north of the site and the visual impact, noise and dust will obviously have an impact on the number of cyclists who will want to use this path”* – the cycle route referred to is assumed to be National Cycle Route 46 (NCR46), which, when complete, will connect Bromsgrove to Neath, a distance of some 80 miles. The length between Brynmawr and Neath is commonly referred to as the ‘Heads of the Valleys Route’. Along its length, it passes a number of industrialised areas and twists its way along major and minor roads as well as traffic-free paths. The length north of Nant Llesg closely follows the busy A465 ‘Heads of the Valleys’ trunk road, which is a dual-carriageway in this location. Cyclists are therefore in closer proximity to cars and lorries using this busy part of the trunk road network than to the northern extent of the extraction area at Nant Llesg, which is approximately 750 metres to the south. Dust and Air Quality predictions at residential receptors 2, 12 and 13 to the north of the site are within acceptable limits (see Chapter 12 of the Nant Llesg ES). Similarly, noise predictions at the same locations generally fall below 55dB L_{Aeq,1hr} (see Chapter 13 of the Nant Llesg ES). The cycle route lies adjacent to the A465 trunk road and is further to the north than these receptors. The Landscape and Visual Impact Assessment also considered users of this route and found that there would be varying visual effects, being ‘none to moderate, medium to long term adverse’ (see Chapter 16 of the Nant Llesg ES).
- 6.11 It is therefore unlikely that the Nant Llesg scheme would deter users from using the NCR46 cycle route.

Tourism

- 6.12 In relation to the comment *“If this open cast development is allowed to take place the beautiful setting of this village [Bute Town] could be completely destroyed”*, Bute Town is acknowledged as a tourist resource outside the site in Chapter 6 of the Nant Llesg ES, at paragraphs 6.79 to 6.80 inclusive, which state:

“6.79 Butetown is part of a “model village” built in the early 19th century to provide quality housing for workers in the local ironworks. It was the brainchild of Richard Johnson, a local industrialist and manager of the Union Ironworks. The development is located at the top of the Rhymney Valley, and consists of three rows of 2/3 storey cottages. When it was built it also had community facilities such as a church (St Aidans), a post office and the former board school, currently used as a community centre. The village is designated as a Conservation Area. Johnson’s original plan was for a larger development but this was not forthcoming following his death, leaving the small hamlet that remains today.

6.80 The Drenwydd Museum operated at the village until 2008 when it was closed due to comparatively low visitor numbers and the development of the

County Borough museum at New Tredegar. The museum building has since been marketed by CCBC for residential use and there are no current plans to develop the tourism element at the site."

- 6.13 The direct environmental effects on the recreation and tourism resources outside the site have been assessed as Negligible (Chapter 6, paragraphs 6.176 – 6.178 and 6.206 of the Nant Llesg ES). In response to the representation of RARG, the potential for indirect effects for Bute Town and other resources outside the operational area, these are clarified in Chapter 6 the accompanying Second Addendum to the Nant Llesg ES.

Representation 20 - Green Valleys Alliance (GVA)

- 6.14 The Green Valleys Alliance representation can be found at Appendix MA/NL/PA/A018.
- 6.15 GVA paras 15.1 to 15.5 - Local Planning Policy: As set out in Chapter 6 of the ES (paragraphs 6.30 to 6.37 inclusive) extensive consultation was undertaken with Caerphilly CBC and other stakeholders in relation to the effects on recreational and leisure resources during the mining operations and as a result of the restoration of the land. In relation to the temporary loss of urban common it was identified that the provision of temporary areas for public access would be required to provide suitable alternative resources during the lifetime of the project and that proposals for linear routes, walkers and horse riders would be required to provide appropriate resources. These discussions were undertaken against the background of extant policies in the Local Development Plan adopted in November 2010. The consultations with CCBC are set out in more detail in paragraphs 6.30 to 6.34 of Chapter 6 of the ES, and resulted in the inclusion of appropriate temporary areas for public access and linear routes for walkers and horse riders in the application, so as to accord with policy.
- 6.16 The effect on the surrounding area in relation to visual impact and noise, together with any mitigation adopted as part of the project, is set out in Chapters 13 and 16 of the ES.
- 6.17 GVA para 15.6: The GVA contend that the impact on tourist resources over the 19 years, (a generation), while the site is working, will be Major Adverse, Long Term. To reiterate paragraph 6.176 in Chapter 6 of the ES *'No tourist resources are located within the Nant Llesg operational area and there would be no direct effects on those resources outside the area during the operational phase of the Project'* – these include Parc Cwm Darran and Winding House, New Tredegar listed in the baseline sections of the chapter. Taking into consideration the temporary removal/re-location of the Bent Iron, a well-known landmark, *'the significance of the temporary, long-term effect on tourist resources during the operational mining phase of the Project is therefore assessed as Negligible'*.
- 6.18 GVA para 15.7 –recreational surveys in relating to Rhaslas Pond: The GVA contends that it is inconceivable that the total loss of Rhaslas Pond for 19 years could be described as *"Moderate Adverse"*. It is acknowledged in Chapter 6 (para 6.169) that Rhaslas Pond is an important local resource and the magnitude of the impact on it is high. However, there are alternatives facilities in the immediate area (e.g. Pond Feeder and Bryn Brith Pond) and therefore the significance of the temporary long-term effect is assessed as *"Moderate Adverse"*.
- 6.19 GVA para 15.8 – Brecon Beacons National Park: The GVA contends that the Brecon Beacons National Park (BBNP) is only 2.5 km from the site and the site will have a detrimental impact on the visual enjoyment from that direction. The impacts on views from the BBNP are set out

in Chapter 16. For example, it states at para 16.199 *“For people using access land on the more distant uplands of the Brecon Beacons National Park to the north, the visual effects would be reduced by the distance from the site and the greater elevation, which affords wide ranging panoramic views, in which the site and the features of the development would be relatively small elements.”*

- 6.20 GVA para 15.9 – The GVA note that Miller Argent use *“Temporary”* to describe any impact within the 14 year life of the project, as opposed to the *“Long Term”* used to assess jobs over the same period. The terms ‘temporary’ and ‘long-term’ are both used in relation to effects on recreational facilities (para 6.169) and tourist resources (para 6.176).
- 6.21 GVA para 15.10: The GVA rejects the Applicant’s assertion that *“there would be no direct effects on the local area during the operational phase of the project”*. This relates to a statement made in Chapter 5 ‘Social Impact Assessment’. Chapter 5 is not saying that there would be no direct effects on the local area during the operational phase of the project. In relation to tourist resources there would be no direct effects but there would be effects on urban common as a recreational resource, public rights of way and Rhaslas Pond.

Representation 29 - Jim Davies (UVAG) - Restoration

- 6.22 This report can be found at Appendix MA/NL/PA/A023 and forms part of Representation 26 by the United Valleys Action Group. The Applicant’s response to recreation and tourism issues raised in the report is set out below.
- 6.23 On a general note, ecological matters have been taken into account in identifying areas for temporary and permanent public access and/or grazing. These generally comprise improved or less improved grassland.
- 6.24 Point 2.12 – public access: UVAG advocate the declaration of the entire ‘Cwm Bargod’ site as far as Bedlinog Village (South) as a Nature Reserve. As part of the Nant Llesg scheme, it is proposed that managed permissive public access is provided in relation to the area identified for the implementation of ecological enhancements at Cwm Golau (Chapter 6 ‘Recreation and Tourism’, para 6.129 of the ES).
- 6.25 Point 6.2 – public access: UVAG contend that public access is not appropriate in an ecologically sensitive area. As per the above, ecological matters have been taken into account and no adverse effects from public access to these areas has been identified (Chapter 8 ‘Ecology and Nature Conservation’, paras 8.392 - 8.420 of the ES).

Representation 30 - Jim Davies (UVAG) - Tourism

- 6.26 This report can be found at Appendix MA/NL/PA/A024 and forms part of Representation 26 by the United Valleys Action Group. The representation is simply a photocopy of the UVAG objection to the Brig-y-Cwm incinerator proposal at Cwmbargoed by Covanta Energy Ltd. The objection lists the outdoor visitor locations near the proposed incinerator. The submission is not directly relevant to the Nant Llesg proposal.
- 6.27 On a general note, however, the representation mentions aspects of ecological and nature conservation interest associated with the listed visitor locations. As far as Nant Llesg is concerned, Chapter 8 ‘Ecology and Nature Conservation’ of the Nant Llesg ES makes a full assessment of ecological matters relating to the Nant Llesg proposal.

- 6.28 Ecological matters were also taken into account in identifying areas for temporary and permanent public access and/or grazing land to be used by members of the public during Nant Llesg site operations, and generally comprise improved or less improved grassland that will be made available for public enjoyment. No adverse effects on nature conservation interests were identified from public access to the areas identified.
- 6.29 Managed permissive public access is also proposed in relation to the area identified for the implementation of ecological enhancements at Cwm Golau (Chapter 6, para 6.129 of the Nant Llesg ES).

Representation 141 - Caerphilly Local Access Forum

- 6.30 The Local Access Forum requested clarification on the following:
- Is the site boundary (marked red) on the plans MA/NL/PA/037, 038 and 039 going to be fenced?
 - If so, is it proposed that said fencing will be sufficiently set back off the Highway providing a verge to a minimum width of 2m to allow users safe access off the Highway whilst following the suggested alternative routes?
- 6.31 The red line shown on the plans is the planning application site boundary, within which planning permission is sought for the development. However, it is not proposed that the boundary fence be erected along that line. The operational boundary for the site, as shown by a blue line on Planning Application Drawing MA/NL/PA/003, will be fenced. The resultant enclosure will encompass all surface mining operations for the scheme. The fencing will be set back from any adjoining public road a distance of at least 2m to provide room for pedestrians and stock to safely leave the highway.
- 6.32 For the avoidance of doubt, the term 'public road' is used in the Applicant's response to distinguish between public roads and other 'highways' such as bridleways and footpaths. The operational fencing will, of course, need to cross or lie adjacent to such public rights of way as indicated on Planning Application Drawings MA/NL/PA/037, 038 and 039. All effects on such rights of way will be the subject of a separate application to Caerphilly County Borough Council for an Order to stop up and divert the public rights of way.
- 6.33 Outside this operational fencing, there will be small isolated areas that may be temporarily fenced out while any necessary remediation works are carried out to shafts, adits or other dereliction that is required, or on any areas that are to be fenced out for tree planting or other ecological works where protection is temporarily required. None of these would involve fenced closer than 2m to any public road. Permissive access would be retained around these remediation areas while the localised remediation works are carried out. The remediation works will be carried out on a phased basis and completed within two years of the commencement of coaling. Such fencing is not anticipated to cause disruption.
- 6.34 On restoring the site, Public Path Creation Agreements will be entered into under Section 25 of the Highways Act 1980 for the creation of a replacement network of the rights of way to be created as part of the finally approved restoration design for the site.

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Chapter 7

Traffic and Transport

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7 Traffic and Transport

7.1 The following is the Applicant's Response to representations that relate to traffic and transport.

7.2 On a general note:

- the Highway and Engineering Manager for Merthyr Tydfil County Borough Council agrees with the conclusions of the Environmental Statement, that the transport impact of the development would not be significant following mitigation, nor would there be significant cumulative impacts on sensitive parts of the highway network;
- and
- the Welsh Government Transport Division has no objection to the proposal and notes that the operational transport impacts on the surrounding trunk road network would be insignificant against existing background traffic levels.

Representation 1 - Caerphilly County Borough Council Issues Raised by the United Valleys Action Group

11. How does CCBC highways department plan to manage the considerable number of extra HGV lorries on the unclassified road between Nant Llesg and the CDP? Statistically, an extra 284 lorry journeys, but in actuality, a significant opportunity for 'bunching' and the creation of 'convoys' of lorries in both directions. Water, dirt, and congestion issues. Will there be some form of traffic management in place on the junction / entrances / exits from the site. Will this give priority to passing traffic or site traffic?

7.3 Miller Argent does not believe bunching will take place as stated at paragraph 4.101 of the Planning Statement, *"excavated coal would be transported to the site access point via the internal transfer pad"*. The transfer pad would have one or two front-end loading shovels to load HGVs prior to dispatch to Cwmbargoed Disposal Point. A maximum of 2 vehicles could therefore be simultaneously loaded, although they are more likely to be staggered. As the loading cycle can take up to five minutes, no more than 2 HGVs are likely to follow each other when leaving the loading pad. The process of washing each vehicle at the automatic vehicle washing facility immediately before entering the highway tends to introduce a further delay between vehicles. In the Applicant's view, the logistics involved in the loading and dispatch of coal to the disposal point means that any significant *"bunching"* of HGVs or creation of *"convoys"* is extremely unlikely.

7.4 However, even if some bunching did occur, it must be remembered that the junction has considerable available capacity. The HGV movements arising from the Nant Llesg project equate to approximately 24 movements per hour (based on a 12 hour working day), or one HGV in either direction every five minutes. The junction will however support movements far in excess of this, at levels similar to those that would involve *"bunching"*. In order to illustrate this hypothetical coal import scenarios have been considered in the accompanying Addendum to the ES:

- Scenario 1 – 2.0 million tonnes per annum, equating to an additional 32 HGV deliveries per hour relative to the scenario tested in the ES;
- Scenario 2 – 8.0 million tonnes per annum, equating to an additional 126 HGV deliveries per hour;
- Scenario 3 – 9.0 million tonnes per annum, equating to an additional 142 HGV deliveries per hour.

- 7.5 It must be reiterated that these are illustrative of the junction capacity only – Miller Argent is not proposing to import coals at these levels via the Nant Llesg planning application.
- 7.6 The scenarios include the assumptions that all other traffic flows (including the 750,000 tonnes per annum between the coal extraction area and CDP) are unchanged from the scenario outlined in para. 7.105 of the ES; coal import deliveries by HGV would be distributed evenly through the 12 hour working day; and that HGVs would return empty to their origin location.
- 7.7 The results of the hypothetical capacity assessments, using PICADY junction modelling software and set out in the 'Traffic & Transport' chapter of the ES Addendum, suggest that, with the highway improvements volunteered by the Applicant, the junction would continue to operate adequately even with an additional 142 HGV deliveries per hour to the CDP over and above those that would be generated by the Nant Llesg scheme (See Chapter 7 of the accompanying Second Addendum to the ES). As such the junction has enough capacity to deal with any bunching of traffic, should it occur, even though that is extremely unlikely for the reasons set out above.
- 7.8 Para. 7.118 of Chapter 7 of the Nant Llesg ES outlines the Site Environmental Management Plan which will be adopted and in particular the vehicle washing facilities to ensure that mud is not transferred to public roads.
- 7.9 The site access/egress junctions to Fochriw Road and Bogey Road would be simple priority junctions, where site HGVs would give way to general through traffic. Access to Fochriw Road from the Nant Llesg site will be taken via a new priority T-junction approximately 130m north of the existing junction with South Tunnel Road, as identified in para. 7.95 of the ES. Access to the Bogey Road from the CDP would be via existing priority T-junction, where site HGVs similarly give way to general through traffic and returning HGVs make use of an existing filter lane.
- 7.10 The review of Personal Injury Accident data presented in para. 7.53 to 7.67 of the ES did not identify any statistically significant accident clusters in the study area, and no incidents involving vulnerable road users took place on either Bogey Road or Fochriw Road. HGVs were not instrumental in the cause of the accidents recorded. The Applicant has however proposed improvements to the Fochriw Road south of the Bogey Road junction that will reduce the vertical alignment and increase visibility to and from the junction.

12. How does CCBC plan to manage the significant danger to bicycle and motorcycle/motor scooter users of this unclassified, unlit road with the high chance of them being overtaken whilst HGV lorries are two abreast? It has happened to me with two bulk lorries delivering to Biffa and I 'luckily' ended up in a ditch over the verge.

- 7.11 A review of Personal Injury Accident (PIA) data covering a three-year period is presented in paras. 7.53 to 7.67 of Chapter 7 of the Nant Llesg ES. This indicates that no incidents involving vulnerable road users were reported on either the Bogey Road or Fochriw Road.

- 7.12 The Applicant has however proposed improvements to the Fochriw Road south of the Bogey Road junction that will reduce the vertical alignment and increase visibility to and from the junction. This would enable cyclists to be better seen and for vehicle drivers to take appropriate action sooner.
- 7.13 There will be no unacceptable risk to bicycle or motorcycle/scooter users as a result of the proposal.

16. How do CCBC propose to limit the tonnage of coal leaving the CDP by road? The 50,000 Tonne limit is currently imposed on coal sourced from Ffos-y-fran only, but once Nant Llesg coal is thrown into the mix, no restriction will apply. Does CCBC intend to vary the original planning permission?

- 7.14 The existing mechanisms to ensure compliance with the current planning permission will continue to apply across both the Nant Llesg and Ffos-y-fran sites.

17. How would CCBC propose to police the tonnage of coal moved by road?

- 7.15 All records of coal movements between the Ffos-y-fran and Nant Llesg Site and Cwmbargoed Disposal Point and for the limited dispatch of coal by road would be made available for Caerphilly County Borough Council to inspect and audit, as is currently the case with Merthyr Tydfil County Borough Council.

Representation 2 - Caerphilly County Borough Council

Network Rail

Will the usage of the footpath level crossing in the area increase due to the proposal? Needs to be demonstrated in a Transport Assessment.

- 7.16 See the Applicant's response to Representation 4 'Network Rail' below.

Representation 4 - Network Rail

Whilst Network Rail are not objecting to the principle of this proposal, our Level Crossing Manager has raised concerns regarding any increased usage of the footpath level crossing in the area; we therefore request details from the applicant as to whether the usage of this crossing is likely to increase due to this proposal which needs to be demonstrated in a Transport Assessment.

Notwithstanding the above, we would also advise that this application will provide a welcome boost to the Welsh coal industry and offers regeneration and employment opportunities for the Merthyr region. Furthermore, it will enable a continued local supply of coal to Aberthaw power station, ensuring energy security for the area.

- 7.17 It is not anticipated that the development will have any material impact on the usage of any level crossing. This has been discussed with Network Rail who has subsequently informed the Applicant as follows:

“After further consultation with our Level Crossing Manager, I can confirm that Network Rail has no objections to this proposal as the development appears to be far enough away from our asset to have no discernible impact upon the crossing.”

7.18 The corresponding email exchange can be found at Appendix MA/NL/PA/A07/001.

Representation 8 - Fochriw and Pentwyn Residents Association (FPRA)

7.19 The written objection of the Fochriw & Pentwyn Residents Association can be found at Appendix MA/NL/PA/A010. The following responses refer to issues raised in that submission.

7.20 Page 29 - The FPRA contend that local roads are heavily congested with HGVs associated with Trecatti, Ffos-y-fran, the Hanson quarry and a local haulier. These HGV movements are included in the baseline flows presented in Table 7.3 of the Nant Llesg ES. Para. 7.52 of the ES indicates that these flows are lower than road design capacities as set out in the Design Manual for Roads and Bridges (DMRB) and, as such, no congestion issue currently exists on the roads leading from Nant Llesg and Cwmbargoed Disposal Point to the strategic highway network. Furthermore, as explained earlier in this chapter in response to Question 11 of Representation 1 above, the junction of Fochriw and Bogey Roads is capable of taking considerably more traffic than is being proposed.

7.21 They cite traffic flow and road safety concerns at the Bogey Road/Fochriw Road junction, associated with the additional HGV movements. A very worst case capacity assessment has been undertaken at this junction, with assumptions set out in para. 7.105 of the ES and the results presented in ES Table 7.9. These demonstrate that the junction will operate satisfactorily in all future conditions with no adverse queuing predicted. This is the case with or without the highway improvements being offered by the applicant. Again, the capacity of the junction of Fochriw and Bogey Roads is such that it is capable of taking considerably more traffic than is being proposed.

7.22 A review of Personal Injury Accident (PIA) data covering a three-year period is presented in paras. 7.53 to 7.67 of the ES. No statistically significant accident clusters were identified in the study area, and no incidents involving vulnerable road users were recorded on either Bogey Road or Fochriw Road. HGVs were not instrumental in the cause of the accidents recorded.

7.23 Concerns are expressed about highway contamination by site vehicles. Para. 7.118 of the Nant Llesg ES outlines the Site Environmental Management Plan which will be adopted and, in particular, the vehicle washing facilities to ensure that mud is not transferred to public roads.

7.24 Winter road conditions are not specifically referred to in the ES Traffic and Transport chapter. Maintenance of the roads is the responsibility of Caerphilly County Borough Council, but the Applicant has a duty of care to all employees on the site and will not use the roads if they are not safe because of prevailing winter conditions.

7.25 Page 30 - Shift Changes - The Bogey Road/Fochriw Road junction capacity assessment has assumed that all staff car/LGV movements will enter/exit the Nant Llesg site between 0800 and 0900, as a very worst case scenario (ES para. 7.105).

7.26 Flow Changes - The HGV movements between the coal extraction area and Cwmbargoed Disposal Point equate to (based on a 12 hour working day) approximately 24 one-way movements per hour, or one HGV in either direction every five minutes. Although the time interval between HGVs may vary due to operating conditions at the loading/unloading points, the operational methods used on site are unlikely to result in “clustering” of HGVs and, in

turn, delays at the Bogey Road/Fochriw Road and Fochriw Road/South Tunnel Road junctions. The capacity assessment at the former junction (presented in Table 7.9 of the Nant Llesg ES) demonstrates that the junction operates well within capacity and has a low sensitivity to traffic flow changes. Furthermore the junction has capacity to take a significant amount of further traffic. The matters raised here were also dealt with in response to Question 11 of Representation 1 above.

- 7.27 Page 31 - No additional traffic signal installations are proposed on the public highway network as a result of the development. The Bogey Road/Fochriw Road junction will remain as a priority junction, but with improvements as outlined in para. 7.120 of the Nant Llesg ES.

Representation 17 - Bedlinog & Trelewis Environment Group (BTEG)

- 7.28 The representation from Bedlinog & Trelewis Environment Group can be found at Appendix MA/NL/PA/A015. The following points are made regarding issues raised in relation to traffic and transport.
- 7.29 BTEG's reference to traffic congestion relates mainly to the increase in coal lorry traffic around the road junctions of Fochriw Road, Bogey Road and South Tunnel Road. It also refers to the narrowness of the roads, the hazards of fog and ice and the current use of the roads by HGVs, cars and cyclists. These matters have been raised by the Fochriw and Pentwyn Residents Association, the United Valleys Action Group and Caerphilly County Borough Council Engineers. The Applicant has therefore responded to these issues in this chapter under Question 11 of Representation 1 'Caerphilly County Borough Council'; Representation 8 'Fochriw and Pentwyn Residents Association (FPRA)'; Representation 26 'United Valleys Action Group (UVAG)'; and at Representation 140 'Caerphilly County Borough Council - (Highways)'.

Representation 26 - United Valleys Action Group (UVAG)

- 7.30 This is the second representation of the United Valleys Action Group, which encompasses the issues raised in their original submission (Representation 7), which was also referred to in the questions raised by CCBC at Representation 2 above.
- 7.31 Representation 26 can be found at Appendix MA/NL/PA/A020.
- 7.32 It is noted that Representations 23 by Environment Pollution Management Ltd and 27, 28, 29, 30 and 31 by Jim Davies form part of this representation. The Applicant's response to each is provided individually under the respective headings.

Transport

Introduction – Transport (p.55)

- 7.33 In their second paragraph of the introduction to their representation on 'Transport', UVAG comment on the increase in HGV movements and the hazards that they perceive these movements would cause.
- 7.34 Table 7.3 in the Nant Llesg ES presents the baseline traffic flows on the local highway network. Para. 7.52 of the ES indicates that these flows are lower than road design capacities as set out in the Design Manual for Roads and Bridges (DMRB). A review of Personal Injury Accident (PIA) data covering a three-year period is presented in paras. 7.53 to 7.67 of the ES.

Paras. 7.65 to 7.67 summarise the findings of this review, and in particular that no statistically significant accident clusters were identified. HGVs were not instrumental in the cause of the accidents recorded. Para. 7.66 does, however, acknowledge that the restricted visibility to the south of the Bogey Road/Fochriw Road junction is a potential road safety concern – and para. 7.120 outlines the highway improvements which the applicant is offering to mitigate this concern.

Detail – Transport (p.55)

- 7.35 The 284 lorry journeys to which UVAG refer relate solely to movements between the coal extraction area and Cwmbargoed Disposal Point, as detailed in para. 7.96 of the Nant Llesg ES. Capacity testing has been undertaken at the Bogey Road/Fochriw Road junction, assuming a very worst case scenario. Para. 7.105 of the ES sets out the assumptions made, and Table 7.9 of the ES provides the results of the capacity assessment, which demonstrate that the junction will operate satisfactorily in all future conditions with no adverse queuing predicted. This is the case with or without the highway improvements being offered by the applicant. Further analysis of the junction has been undertaken to show that it will operate satisfactorily even with a far greater, hypothetical, amount of traffic.

Detail – Transport (p.56)

- 7.36 UVAG contend that there will be “convoys” of HGVs travelling in both directions between the coal extraction area and CDP. However, these movements equate to (based on a 12 hour working day) approximately 24 one-way movements per hour, or one HGV in either direction every five minutes. Although the time interval between HGVs may vary due to operating conditions at the loading/unloading points, as explained earlier in this chapter in response to Question 11 of Representation 1 ‘Caerphilly County Borough Council’ above, the operating regime on site is extremely unlikely to result in “convoys” in both directions. In any event, the junction with Fochriw and Bogey Roads is capable of taking any bunching.
- 7.37 They go on to express concerns regarding the impact of HGVs on vulnerable road users. A review of Personal Injury Accident (PIA) data covering a three-year period is presented in paras. 7.53 to 7.67 of the Nant Llesg ES. This indicates that no incidents involving vulnerable road users took place on either Bogey Road or Fochriw Road.

Detail – Transport (p.57)

- 7.38 Para. 7.118 of the Nant Llesg ES outlines the Site Environmental Management Plan which will be adopted and in particular the vehicle washing facilities to ensure that mud is not transferred to public roads.
- 7.39 The matter of winter road conditions is dealt with in response to Representation 8 ‘Fochriw and Pentwyn Residents Association (FPRA)’ above. Caerphilly County Borough Council is responsible for road maintenance but Miller Argent has a duty of care to its employees and will not use roads where they are unsafe due to prevailing conditions.

Representation 32 - Merthyr Tydfil County Borough Council

- 7.40 This representation from Merthyr Tydfil County Borough Council can be found at Appendix MA/NL/PA/A026.
- 7.41 It is noted that the Highway and Engineering Manager for Merthyr Tydfil County Borough Council agrees with the conclusions of the Environmental Statement, namely that the transport impact of the development would not be significant following mitigation, nor would there be significant cumulative impacts on sensitive parts of the highway network.

Representation 134 - Welsh Government - Transport Division

7.42 It is noted that the Welsh Government Transport Division commented that:

"...the operational transport impacts of the proposal on the surrounding trunk road network would be insignificant against existing background traffic levels. Welsh Government (Transport) as highway authority for the motorway and trunk roads therefore has no objection or further comments to make."

Representation 140 - Caerphilly County Borough Council (Highways)

How does Miller Argent propose to manage HGV movements to and from the site to the CDP? In particular to access/egress onto Fochriw Road and the interaction of HGVs with other highway users.

7.43 This matter is dealt with in response to Representation 1 'Caerphilly County Borough Council' above.

What measures are proposed to prevent mud/debris from vehicles being deposited on Fochriw Road?

7.44 Para. 7.118 of the Nant Llesg ES outlines the Site Environmental Management Plan which would be adopted and, in particular, the vehicle washing facilities to ensure that mud is not transferred to public roads.

What consideration has been given to winter maintenance along Fochriw Road to ensure safe movement of HGVs to the CDP during times of inclement weather?

7.45 This matter is dealt with in response to Representation 8 'Fochriw and Pentwyn Residents Association (FPRA)' above. Caerphilly County Borough Council is responsible for road maintenance but Miller Argent has a duty of care to its employees and will not use roads where they are unsafe due to prevailing conditions.

What consideration has been given to the protection of the highway surface from the extraordinary traffic resulting from the HGV movements?

7.46 The Applicant is not clear about what is inferred by the word 'extraordinary', but interprets it as referring to an increase in current traffic levels. The movement of HGVs between the Nant Llesg site and Cwmbargoed Disposal Point equates to approximately 24 movements per hour (based on a 12 hour working day), or one HGV in either direction every five minutes. The level of traffic generation is not extraordinary and is well within the capacity of the highway.

Can the applicant provide additional information (survey) as to the precise width of Fochriw Road. Is it of sufficient width to accommodate two way movements of HGV traffic?

7.47 Paragraph 7.37 of the Nant Llesg ES notes that Fochriw Road is a two-way single carriageway road typically 7.0m in width. For the entire length from its junction with Bogey Road northwards to its junction with Rhymney Common Road, Fochriw Road is able to accommodate two-way HGV movements.

Nant Llesg Surface Mine

Incorporating Land Remediation

Chapter 8

Ecology and Nature Conservation

Nant Llesg Surface Mine

Incorporating Land Remediation

Addendum to Planning Statement

Applicant's Response to Post-Application Representations

Chapter 8 – Ecology and Nature Conservation

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8 Ecology and Nature Conservation

- 8.1 The following is the Applicant's Response to representations that relate to ecology and nature conservation.

Representation 3 - Caerphilly County Borough Council

Alison Jones - Ecologist

Terrestrial Invertebrate Report

A plan showing the locations of the various sampling methods employed;

A plan showing the hot spot areas referred to in the report; and

Appendix 1 - additional information for each species recorded on abundance, location within the site, and method of collection would be helpful.

- 8.2 The Environmental Statement explains that a survey of terrestrial invertebrates has been carried out over the period June to October 2011 using a variety of techniques including direct observation, sweep netting, beating vegetation, pitfall trapping, MV light trapping and actinic light trapping. During consultation on the planning application Caerphilly County Borough Council asked for further detail of the invertebrate sampling locations.
- 8.3 The full Terrestrial Invertebrate Report is included at ES Appendix MA/NL/ES/A08/012 of the Environmental Statement. This further explains that an initial site visit was made on 20th June 2011, when a walk-over survey of the entire site was undertaken in order to determine the nature and scope of detailed survey work required in order to undertake an assessment of overall terrestrial invertebrate interest.
- 8.4 On all visits, terrestrial invertebrates were recorded during daylight across the site as a whole by direct observations of both species and their signs (such as leaf mines and plant galls). Direct observational recording and active sampling methods (sweep-netting and beating vegetation) were applied, more or less at random, in all areas across the site wherever suitable places were observed.
- 8.5 Based on the initial walkover, the area around Rhaslas Pond was selected for detailed passive sampling as it contained a range of vegetation types including areas likely to be of most value for invertebrates. The locations of pit fall and light trapping in the area of Rhaslas Pond are shown on the drawing entitled 'Invertebrate Survey Sampling Areas' at Appendix MA/NL/PA/A08/001.
- 8.6 Pitfall trapping was carried out with a view to sampling ground beetles (*Carabidae*). Twenty pitfall traps were established in a broad perimeter around Rhaslas Pond and affecting the following four broad NVC habitat types:

- U5: *Nardus stricta* – *Galium saxatile*: west of the lake;
 - U4: *Festuca ovina* – *Agrostis capillaris* – *Galium saxatile*: north-east of the lake;
 - M23: *Juncus effusus* – *Galium palustre* rush pasture: further east;
 - M15: *Scirpus cespitosus* – *Erica tetralix* wet heath: south of the lake.
- 8.7 Traps were established on 22nd August and remained in position until 3rd October. Unfortunately, several traps were lost to trampling by cattle or horses and two were excavated – probably by a fox. The remaining samples from all the traps were pooled to provide a single species list for the wider grassland macro-habitat.
- 8.8 The Terrestrial Invertebrate report explains that a total of six light traps were operated during each of three overnight periods. These were randomly positioned on the west, south and north sides of Rhaslas Pond. The precise positions of the traps were altered on each occasion to accommodate wind direction in particular and the results are, therefore, pooled as a single list for the whole site.
- 8.9 The conclusion of the reports was that in terms of terrestrial invertebrates the Nant Llesg site provides a typical example of an upland acid grassland area. Much of the ground is of very low invertebrate interest, including all of the MG7 neutral grassland to the north.
- 8.10 Acid grasslands are specifically poor in nectar-bearing flowers, particularly in spring and early summer when post-hibernation insects are seeking feeding sites. Surrounding flower-rich habitats may be of greater importance in supporting populations of some invertebrates, such as solitary bees and so it is of importance that any relatively enriched edge habitats, such as roadside verges, with umbellifers and patches of disturbed ground with ragwort or thistles are identified, as they will probably make a significant contribution to the wider ecological picture.
- 8.11 The Terrestrial Invertebrate Report at Appendix MA/NL/ES/A08/012 of the ES referred to small and very localised invertebrate “hot-spots” identifiable here and there – that of greatest interest being, on the basis of available data, the relatively flower-rich patch of H12 *Calluna vulgaris* – *Vaccinium myrtillus* heath north of Rhaslas Pond. However, invertebrate species associated with the plants in this and other hot-spot areas are usually low in number simply because there are not extensive areas of the plants which they find attractive. Because these “hot-spots” are small and very localised it has not been possible to map them, but in general, wherever there are areas of more distinctive relatively species-rich vegetation within the general acid grassland, they will be of relatively more invertebrate interest, subject to the qualification referred to above that the small extent of such areas does itself limit their value. As explained in the invertebrate report, the survival of the invertebrate fauna that affects these isolated hot-spots may involve a relationship with the wider, open grassland area that demonstrates little or no intrinsic invertebrate interest at present.
- 8.12 Appendix 1 of the Terrestrial Invertebrate Report at Appendix MA/NL/ES/A08/012 of the ES listed the invertebrate species recorded during the surveys and provided information on habitat preferences. The plan included as Figure 1 of Appendix MA/NL/PA/A08/001 shows the subdivision of the site for the invertebrate survey which was as follows:

- A The south west margin of the Nant Llesg site north of South Tunnel Road and including the north and west margins of Rhaslas Pond and a number of smaller ponds.
 - B The southern and eastern margins of Rhaslas Pond with adjoining wet heath and acid grassland.
 - C Wet heath, marshy grassland and acid grassland south and south east of Rhaslas Pond
 - D Area of largely improved grassland in the north of the site.
 - E Area of acid grassland in the east of the site.
- 8.13 A revised version of Appendix 1 is appended to this Planning Statement Addendum as Appendix MA/NL/PA/A08/002. This indicates in which of the above areas of the site the species listed were recorded.
- 8.14 The assessment of impacts on terrestrial invertebrates can be found in the ES at Chapter 8 'Ecology and Nature Conservation', paras 8.338 - 8.340. This assumed that all terrestrial invertebrate habitats within the application site would be lost. As explained in the section on 'Habitats' below, subsequent to issue of the ES the extent to which land outside the operational area of the mine would be disturbed has been considered in more detail and revised areas of disturbance have been calculated, given that not all habitat would be lost in the areas identified for early remediation. As can be seen from Figure 1 of the Biodiversity Offsetting Report at Appendix MA/NL/PA/A08/003, extensive areas in the west, south and east of the site, including much of the land owned by Caerphilly CBC south of the South Tunnel Road, would remain largely undisturbed, in particular areas of wet heath, marshy grassland and unimproved acid grassland of relatively greater importance to terrestrial invertebrates.
- Habitats**
- Information on areas (in hectares) of each habitat that will be lost beneath the development area would be helpful, together with information on areas of habitats that are currently present and or/ will be enhanced as part of the Cwm Golau enhancement proposals, and estimated areas of recreated habitat upon restoration of the site.**
- 8.15 Table PSA8.1 below taken from the ES provides details of the areas of existing habitats within the Nant Llesg application area, the extents within the operational area, and the extents following restoration of the site. For the purposes of the ES it was assumed that all habitats within the application area would be lost as a worst case. The actual extent of loss of habitats would be between the figures for the application site and the operational area depending on how much of the site outside the identified operational area remained undisturbed.

Table PSA8.1 Nant Llesg Habitats within the application site

Habitat	Extent within application site	Extent within operational areas	Extent following restoration
Acid dry dwarf shrub heath	0.62ha	0.29ha	0.33ha
Wet dwarf shrub heath	47.49ha	41.18ha	61.75ha
Acid flush	3.15ha	2.42ha	0.19ha
Lakes and reservoirs (standing water)	12.70ha (includes ponds)	12.30ha (includes ponds)	12.70ha (includes ponds)
Unimproved acid grassland	120.00ha	56.00ha	262.69ha
Semi-improved acid grassland	62.00ha	59.00ha	81.47ha
Poor semi-improved grassland	7.24ha	3.90ha	-
Improved grassland	133.93ha	100.41ha	17.43ha
Marshy grassland (includes Purple moor-grass marsh)	57.64ha	43.31ha	20.05ha
Semi-natural broadleaved woodland	0.01ha	0.01ha	15.29ha (plantation)
Mixed plantation	0.97ha	0.83ha	-
Coniferous plantation	2.36ha	0.03ha	1.97ha
Naturally Revegetated Colliery Spoil (ephemeral/short perennial vegetation)	15.63ha	0.00ha	4.46ha
Area occupied by hard standing, linear habitats etc.	14.26ha	-	9.03ha
Total	478.00ha	319.68ha	478.00ha

8.16 Subsequent to issue of the ES the extent to which land outside the operational area of the mine would be disturbed has been considered in more detail (see Figure 1 of the Biodiversity Offsetting Report at Appendix MA/NL/PA/A08/003). It can be seen from the figure that extensive areas in the west, south and east of the site would remain largely undisturbed, in particular areas of wet heath, marshy grassland and unimproved acid grassland.

8.17 Based on this, revised areas have been calculated and are set out in the Table PSA8.2 below:

Table PSA8.2 Extent of Disturbance

Habitat	Extent within application site ha	Extent of disturbance ha	Extent following restoration ha
Acid dry dwarf shrub heath	0.62	0.32	0.33
Wet dwarf shrub heath	47.5	35.4	62.6
Acid/neutral flush	3.2	2.6	0.74
Lakes and reservoirs (standing water including 18 ponds)	12.7	12.3	9.8
Swamp (predominantly wetland margin north of restored Rhaslas Pond)	0.00	0.00	5.1
Unimproved acid grassland	134.5	54.4	67.4
Semi-improved acid grassland	45.3	38.1	169.1
Poor semi-improved grassland	7.2	2.8	0.0
Improved grassland	133.1	87.8	100.4
Marshy grassland (includes Purple moor-grass marsh)	57.7	40.1	24.8
Semi-natural broadleaved Woodland	0.01	0.00	17.3
Conifer plantation/including mixed plantation	3.3	0.88	2.4
Ephemeral/short perennial	15.6	0.70	15.6
Hard standing and linear features	17.2	13.9	2.6
Total	478	289	478

8.18 It can be seen that the area of wet heath would increase from the existing 47.5ha to 62.6ha post restoration. Of the existing 47.5ha, 35ha would be disturbed leaving 12.5ha undisturbed. The restored area would include 50.1ha of wet heath. As explained in section 9 Agricultural Land Use and Soils the peaty topsoils in Soil Type A (these being the soils currently under wet heath and adjoining grassland) which would be stripped amount to 195,000 m³ giving a depth of some 0.35m over the area of restored wet heath (allowing for use of some of the resource in areas to be restored to marsh).

- 8.19 There are other changes in the measurement of the extent of restored habitats between the two tables. Table PSA8.2 includes a measure of swamp habitat. This is predominantly the wetland margin at the north of the restored Rhaslas Pond. This was previously included in the 'Lakes and Reservoirs' measurement. The extent of unimproved grassland in the revised measurements has reduced and the extent of semi-improved grassland has increased. This results from a more precautionary approach which assumes that the upland grassland shown on the restoration plan would be semi-improved rather than unimproved other than where this grassland would be undisturbed unimproved grassland around the margins of the site.
- 8.20 The areas for habitat creation and improvement at Bryn Caerau Farm (Cwm Golau), which are put forward as compensation for the disturbance, are set out in Table PSA8.3 below.

Table PSA8.3 Bryn Caerau (Cwm Golau) habitat creation and enhancement.

Habitat	Action	Ha
Unimproved Acid Grassland	Create	26.6
Dense Bracken	Enhance	1.0
Improved Grass	None	45.2
Broadleaved Semi-natural Woodland	Create	13.9
	Enhance	24.2
Marsh Grassland	Enhance	29.0
Coniferous Plantation	None	0.46
Scrub	None	1.00
Tall Ruderal	None	0.18
Acid Neutral Flush	Enhance	1.17
Swamp	Create	0.30
	Enhance	0.10
Ponds	Create	0.39
	Enhance	0.10
Total		143.3 ha

- 8.21 As explained later in this section of this Planning Statement Addendum, Miller Argent have submitted a report entitled "*Nant Llesg – Biodiversity Offsetting*" (see Appendix MA/NL/PA/A08/003) to NRW and Caerphilly CBC which sets out the calculations of biodiversity value of the Nant Llesg site and the Bryn Caerau offsetting area as they currently exist and following the enhancement of Bryn Caerau and restoration of the Nant Llesg site.
- 8.22 This shows that there would be a slight increase in biodiversity units (measured in ha) which is not considered to be significant and is consistent with the previous conclusion of balance in biodiversity value across the two areas in terms of habitats measured in hectares, as set out in the ES. There would however be a substantial gain for linear habitats measured in metres.
- 8.23 NRW have however set out in consultation responses that maintaining the balance of biodiversity is disappointing. In their view the policy requirement is for biodiversity benefit. Miller Argent does not accept that this is a correct reading of the policy requirement (see Chapter 21 'Planning Policy' of this addendum) However, notwithstanding this difference in

- interpretation, opportunities for further compensation and biodiversity benefit have been considered in discussion with Caerphilly CBC and NRW.
- 8.24 Despite such discussions, no suitable and deliverable local opportunities have been identified. Miller Argent has therefore looked further afield and the Pumlumon Project in central Wales has been identified as a potential option. The Pumlumon Project is a flagship Living Landscape project of the Royal Society of Wildlife Trusts. It is led by the Montgomeryshire Wildlife Trust and supported by the Welsh Government, Natural Resources Wales, The Crown Estate, Welsh Water, Statkraft, Biffa and local businesses and landowners. Established in 2007, the Pumlumon Project is a radical rethink of how the landscapes of upland Britain could work. The project is pioneering an upland economy built around wildlife, ecology and long-term sustainability across 150 square miles of the Cambrian Mountains. The project has been successfully piloted over an area of 500 hectares over five years and is now inviting companies, organisations and individuals to help restore the remaining project area over ten years.
- 8.25 One of the elements of the project is carbon storage. Pumlumon includes extensive areas of peat. In the 1950s and 60s, much of it was drained in a largely unsuccessful attempt to improve grazing. This degraded the wildlife habitats and, as the drying peat oxidised, released large amounts of stored carbon into the atmosphere.
- 8.26 The project will reduce these emissions by blocking drainage ditches. As the bogs become wet again the mosses start to grow, absorbing carbon each summer and locking it away as new peat. At the same time, the existing stores of peat are protected from further erosion, and species marginalised by the original drainage can return. Bogs are one of the six key habitats which the project aims to restore.
- 8.27 Recognising that during the operation of the Nant Llesg Site there would be a temporary reduction in the area of wet heath habitat to the extent of some 35ha, and in response to NRW's request for benefit, Miller Argent has met with the Montgomeryshire Wildlife Trust to discuss possible involvement in the Pumlumon Project.
- 8.28 The Trust has indicated that, whilst it would remain entirely neutral with respect to the Nant Llesg project (and thus would neither support nor oppose the proposals), should the project be consented then the Trust would be prepared to accept funding from Miller Argent to be targeted on the restoration of some 50ha of wet heath/bog habitat. Funding for the restoration and ongoing management of 50 ha of upland bog has been agreed with the Montgomeryshire Wildlife Trust in the sum of £112,550 payable in stages over the 14 year life of the Nant Llesg Project.
- 8.29 The funding would support the Trust's restoration of the damaged peatland habitat including an initial habitat restoration phase supported by subsequent on-going habitat management over a total period of 14 years, this being the operational life of the Nant Llesg Project.
- 8.30 The habitat restoration would include any of the following activities: ditch blocking and rewetting, introduction of cattle grazing, the restoration of erosion features, grazing exclusion and heather cutting.
- 8.31 On-going habitat management would ensure that the habitat creation and repair works undertaken within the restoration phase were maintained. This management may initially include the exclusion of grazing animals and the maintenance of ditch plugs. However, over an extended time scale the majority of on-going habitat management would be associated with the maintenance of sympathetic grazing regimes.

- 8.32 Miller Argent's funding over the 14 years would restore and maintain 50ha of wet heath/bog habitat that would then be suitable for longer-term management under the Pumlumon Project. Current proposals under the Pumlumon Project are for 30 years.
- 8.33 The proposed funding is of course in addition to the reconsideration of areas that may be impacted upon by the Nant Llesg proposal and is in addition to the proposal to restore those areas of the Nant Llesg site that will be impacted upon by the scheme. Consequently, Miller Argent's involvement in the Pumlumon scheme would mean that, on restoration of Nant Llesg, there would be a total of 112ha of restored wet heath/bog habitats associated with the Nant Llesg scheme, some 62ha of which would be re-established and existing wet heath on the restored Nant Llesg site and 50ha of which would be in the Mid Wales uplands. This equates to a significant ecological benefit overall, once all of the impacts, mitigation and compensation is taken into account.
- 8.34 Discussions with CCBC and NRW have also identified potential projects in the local area that have the potential to allow more local biodiversity improvements than the Pumlumon project. These are not yet at a certain stage, but there is a possibility that they could come forward and could provide alternative suitable opportunities for biodiversity benefits. Should any more-local suitable alternatives be identified by CCBC or NRW that do provide deliverable compensation opportunities, then Miller Argent would be pleased for its funding to be targeted towards these as alternatives to the Pumlumon Project. Thus Miller Argent would be happy to include provision in the Section 106 Agreement for the sum of £113,000 to be made available in stage payments over the coaling life of the Nant Llesg scheme for CCBC to fund local and deliverable enhancement of biodiversity interests within the County Borough as an alternative to the Pumlumon Project. In either event, whether funding was provided to the Pumlumon Project, or local projects within Caerphilly, there would be a benefit to biodiversity as a result of the inclusion of this additional compensation.

Representation 8 - Fochriw and Pentwyn Residents Association (FPRA)

- 8.35 The written objection of the Fochriw & Pentwyn Residents Association can be found at Appendix MA/NL/PA/A010.
- 8.36 In relation to ecology and nature conservation, the written objection of the FPRA refers to the presence of red kite, buzzard and kestrels (among many other un-named species) flying over the site and using it for "*feeding and breeding*". The objection also refers to the CCBC wetlands report (as reported in the Caerphilly County Borough Biodiversity Action Plan for Wetlands section 3.10 – Associated Species). It provides the entire species list (other than common reed and orchids) in section 3.10 of the BAP, pointing out that these species can be found locally but the FPRA do not appear to appreciate that the entire species list is not found at the site.
- 8.37 Chapter 8 of the Nant Llesg ES relates to ecology and nature conservation. This identifies that the following groups have been surveyed at the site:
- Amphibians;
 - Reptiles;
 - Bats;
 - Breeding birds;

- Wintering birds;
- Otter and water vole;
- Badger;
- Aquatic invertebrates;
- Terrestrial invertebrates;
- Dragonflies; and
- Fish.

8.38 The chapter also provides evidence for and acknowledges the presence of the following species, based on the surveys:

- Great crested newt, palmate newt (possibly smooth newt) (ES Chapter 8, paragraphs 8.50 to 8.52);
- Common lizard (grass snake not identified on the site) (ES Chapter 8 paragraphs 8.53 to 8.56);
- Common and soprano pipistrelle bats, Myotis bat species (which include Daubenton's and Natterer's bats) and a single incidence of a noctule (ES Chapter 8, paragraphs 8.57 to 8.69);
- 37 species of birds confirmed to be breeding on the site, most numerous being meadow pipit and skylark. None of the species identified to be breeding on the site were included on Annex 1 of the EU Birds Directive. One species (Little Ringed Plover) is listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). Of the species listed in the FPRA's written objection, the following species were not found to be breeding on the site: kingfisher, dipper, water rail, common sandpiper, black-headed gull, heron, teal, green woodpecker, sparrow hawk, common scoter, goosander, sand martin, swift, "divers" and cormorant. However, a number of these species were identified in passage over the site or were identified as present during the wintering bird surveys. (ES Chapter 8 paragraphs 8.70 to 8.95)
- Surveys found that otters occasionally forage on water bodies within the site, although no evidence for the presence of otter holts or other places of shelter was found. No evidence of water voles was identified on any of the water bodies surveyed. (ES Chapter 8 paragraphs 8.96 to 8.106)
- Fifteen species of Odonata (dragonflies and damselflies) were identified during the surveys, although none of these are included in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). One Red Data list species was identified (scarce blue-tailed damselfly), although none of the species identified on the list of Species of Principal Importance prepared under Section 42 of the Natural Environment and Rural Communities Act 2006 or UK BAP priority species (UK Biodiversity Reporting and Information Group 2007). (ES Chapter 8 paragraphs 8.131 to 8.135)
- No records of white-clawed crayfish were found during the desk-study, which included a search for all species within a 2km radius search area. (ES Appendix MA/NL/ES/A08/001).

- Fish surveys identified the presence of a rather poor fish community at Rhaslas Pond, with pike and perch present, supported by common bream and roach. Brown trout and 3-spined stickleback were identified in two water courses (ES Chapter 8, paragraphs 8.136 – 8.147)
 - A survey of grassland fungi was carried out at the site, which identified 10 wax cap species and 3 clavarioids. The assemblage identified did not contain any UK or local BAP species, and the site was therefore assessed as of local importance for grassland fungi. Consideration of impacts on this element was included with effects on unimproved grassland (ES Chapter 8, paragraph 8.47)
- 8.39 The FPRA's written objection states that even small changes to the environment may have effects on wildlife populations in the area. It points to the potential removal of a large area of nesting sites, destruction of Rhaslas Pond and possible pollution which may affect invertebrates and have consequent effects on species higher up the food chain.
- 8.40 Chapter 8 of the ES assesses the ecological "value" of the receptors identified in paragraph 8.148 and ES Table 8.4 of that chapter.
- 8.41 Impacts on all of the receptors identified above are considered within the ES. The method of assessing the magnitude of predicted effects is set out in ES paragraphs 8.165 to 8.174 and ES Table 8.5. Methods for assessing the significance of these effects are described in paragraphs 8.175 – 8.176 and Table 8.6 of the Nant Llesg ES.
- 8.42 The predicted impacts are set out in paragraphs 8.198 – 8.205 of the ES, and their likely effects on all ecological and nature conservation receptors are described in paragraphs 8.232 to 8.369. Table 8.8 of the ES shows a summary of the significance of ecological impacts. The ES also shows the ways in which these impacts would be mitigated and compensated and came to a conclusion of an overall balance in biodiversity overall. As explained above, provision of additional compensation beyond that considered in the ES means that there would be an overall biodiversity benefit.

Representation 17 - Bedlinog & Trelewis Environment Group (BTEG)

- 8.43 The representation from Bedlinog & Trelewis Environment Group can be found at Appendix MA/NL/PA/A015. The following points are made regarding the issues raised about ecology and nature conservation.
- 8.44 BTEG expressed concern about further wildlife destruction along the route of the railway from Bedlinog to Merthyr Tydfil and Dowlais, commenting on effects on various bird species and wildlife generally. The ES has not specifically assessed the ecological effects of increased use of the railway since there would be no changes to the track, it is already an active railway and the limited additional use would not result in any additional effects. BTEG also make reference to the issues raised by UVAG in their submissions. The broad spectrum of ecology and nature conservation matters referred to by BTEG have been dealt with in the Applicant's response to Representation 29 'Jim Davies (UVAG) – Restoration'; Representation 8 'Fochriw & Pentwyn Residents Association (FPRA)'; Representation 57 'Andrew King'; Representation 137 'Royal Society for the Protection of Birds (RSPB)' and Representation 138 'Natural Resources Wales'.

Representation 29 - Jim Davies (UVAG) - Restoration

Ecology and Nature Conservation

8.45 The United Valleys Action Group (UVAG) have submitted a representation to Caerphilly CBC which refers under the heading Ecological Impact to:

- Detrimental impact on biodiversity
- Loss of habitat
- Loss of amenity for wildlife

8.46 A further submission on Restoration on behalf of the UVAG was submitted by Mr Jim Davies. This provides more detail of the UVAG's concerns regarding biodiversity. The relevant matters raised by Mr Davies are addressed in this response.

Loss of peaty heath habitat

8.47 At para 1.0, UVAG state that the complete loss and fragmentation of the peaty heath habitat is unacceptable.

8.48 As indicated in Table 8.4 of the ES, the wet heath habitat is considered to be of importance at the County Borough level (and is a significant component of the Cefn Gelligaer, West of Deri SINC which is also of County Borough importance).

8.49 The effects of the land take for the scheme on the Cefn Gelligaer, West of Deri SINC is reported in para 8.241 of the ES and states that the SINC is almost entirely within the Nant Llesg site in the area south of Rhaslas Pond extending to the south east of the site and also around the eastern margin into the centre east of site. Most of the SINC would be lost as a result of the operation of the site, primarily through over-tipping with overburden. As explained in Chapter 9 Agricultural Land Use and Soils, as part of the operation of the site, the peaty soils south of Rhaslas Pond would be separately stripped and stored and would be re-spread across the area of the overburden mounds as the overburden is removed and a suitable seed mix sown. This would be some 14 years after the commencement of operations. This area is part of the Gelligaer and Merthyr Common and would continue to be part of the common on completion of the scheme. Every effort would be made during the aftercare period to reinstate this habitat to seek to ensure that its long term development and improvement was facilitated. The introduction of grazing by the commoner's stock would be included in the aftercare period and monitored to ensure that any initial problems could be remedied.

8.50 Chapter 8 'Ecology and Nature Conservation' of the ES concluded:

"8.448the site itself would have been restored and would be managed by the landowner in the north and the commoners in the south. In addition, the Bryn Caerau offsetting area would have had some 20 years of habitat improvement and management, and an agreement would be in place to ensure that the key habitats would continue to be managed in an appropriate manner. While the wet heath habitats within the Nant Llesg site would take a long time to recover, the likelihood is they would recover in the long term, given the alternative grazing available. It must be acknowledged that there are current threats to the wet

heath if grazing pressure is increased and this would also be the case when the site is recovering.

8.449 Taking into account the likelihood of the wet heath recovering, the existing and continued threats from overgrazing, and the habitat improvement and management of Bryn Caerau, then the overall balance of biodiversity of the area would be maintained."

8.51 At para 8.242 of the ES the effect of land take on the SINC is stated to be of high magnitude and of Moderate significance.

8.52 At para 8.260 of the ES the extent of loss of wet heath habitat is stated to be 48ha, and of marshy grassland 58ha. These habitats are stated to be important features of the Cefn Gelligaer, West of Deri SINC. They are also identified as being of County Borough importance in ES Table 8.4. The impact of the loss of these habitats of County Borough importance is assessed as of high magnitude and the significance as Moderate.

8.53 The significance of the temporary loss of these habitats is fully recognised in the ES. The conclusions in the ES have however been revisited following further detailed consideration of the extent to which land outside the operational area of the mine would be disturbed and the areas to be disturbed in areas identified for early remediation works are less than originally considered. The acceptability or not of the temporary loss of habitat is a matter of balance and should take account of the biodiversity offsetting and compensation proposals which form part of the application. The current threat to the wet heath if grazing pressure were to be increased and the likelihood that it would recover in the long term when restored are also material factors. The conclusion in the ES was that there would be an overall balance of biodiversity in the post-development period. For linear habitats particularly hedgerows, there would be a significant overall gain in biodiversity value. This would improve habitat connectivity for wildlife, particularly in Bryn Caerau and the area of land that would be returned to Cwm Carno Farm in the north of the Nant Llesg site. The biodiversity compensation provided at Bryn Caerau during the life of the site would also compensate for temporary losses during the operational period. In addition, as explained above, Miller Argent now proposes either to fund the restoration of 50ha of wet heath as part of the Pumlumon Project or to fund some other form of local provision at CCBC's option, should a suitable and deliverable opportunity arise, which would ensure that the project achieved a net biodiversity benefit overall.

8.54 The following requirements of TAN 5, Section 5.5 'Local Sites' apply where development is likely to affect locally designated sites:

"Developers should avoid harm to those interests where possible. Where harm is unavoidable it should be minimised by mitigation measures and offset as far as possible by compensation measures designed to ensure there is no reduction in the overall nature conservation value of the area or feature....."

Where development proposals may affect national or local BAP habitats or species the same principles apply as to locally designated sites....."

8.55 As with all large or long-term development affecting locally designated sites, the overall balance has to be calculated and assessed at the planning stage, but can only be properly considered by taking measure of the full effect of the development as a whole. The Nant Llesg Biodiversity Offsetting Report, at Appendix MA/NL/PA/A08/003, provides information to assist with that consideration and demonstrates an overall balance in biodiversity in terms of

hectares in the long term as a consequence of working the Nant Llesg Scheme and a net increase in linear habitats.

8.56 The conclusion in the ES was that there was a biodiversity balance. Following publication of the ES there has been further work including:

- the detailed consideration of the areas to be disturbed and a reduction in such disturbance to the original assessment, which assumed total loss of biodiversity within the whole of the planning application site area;
- changes to the proposal, such as increasing the number of receptor sites for Great Crested Newts, providing further evidence about the quantities of soil materials on site and more detailed methodology and examples of the handling, storage and reinstatement of peaty soils to support the creation of heathland vegetation;
- additional information to assist CCBC in the preparation of a Habitats Regulations Assessment, additional survey data about the presence of invertebrates, wading/migrant birds and bats, and the presentation of information in the ES as a Water Framework Directive Assessment; and importantly
- further undertakings by the Applicant to employ and adapt to the lessons learnt from the experience at other sites in the UK where peat or peaty soils and heathland vegetation have been successfully restored.

8.57 In addition, proposals for further compensation have come about as a result of further discussions with NRW and Caerphilly CBC, which enable a conclusion of overall biodiversity benefit to be maintained as referred to above. These matters are set out and considered in the accompanying addendum to the ES which provides an assessment of the biodiversity benefit. This is in part a consequence of the frank and constructive dialogue that has been had between NRW, CCBC and the Applicant during the post-application consultation period.

Loss of Rhaslas Pond for waders and wildfowl

8.58 Paragraph 1.0 of their representation UVAG also refers to the loss of Rhaslas Pond as a migration centre for waders and wildfowl.

8.59 At Table 8.4 of the ES a number of species of wader and wildfowl wintering at Rhaslas Pond are identified as being of County Borough importance. The breeding Little Ringed Plover at Rhaslas Pond is stated to be of National (Welsh) importance.

8.60 At para 8.325 of the ES, taking into account the effects on Little Ringed Plover in particular, the overall effects of land take on breeding birds as a result of loss of habitat is assessed as of high magnitude and Major significance.

8.61 Para 8.333 of the ES states that development of the site would result in the loss of the key areas for wintering birds within the site. These are Rhaslas Pond for wintering waterfowl and the area south of Rhaslas Pond for species such as snipe, jack snipe and reed bunting. Loss of these areas would remove significant wintering habitat for these species. Given that some of these populations are of County Borough importance, this would be an overall impact of Moderate significance.

- 8.62 The ES thus fully acknowledges the significance of the loss of Rhaslas Pond for both breeding and wintering birds. As for the loss of wet heath habitats referred to above, in arriving at the overall balance for the scheme, it is necessary to look at the development as a whole and take into consideration the ultimate restoration of the pond in a complementary restored landform, with its northern wetland fringe and adjoining ecologically enhanced ponds and habitats.
- 8.63 It should also be noted that since the ES was issued, further surveys of breeding waders in the vicinity of Rhaslas Pond and the area to the south have been carried out. The survey reports are attached at Appendix MA/NL/PA/A08/004. Table PSA8.4 below summarises the results of all of the surveys carried out.

Table PSA8.4 Status of breeding waders recorded during the 2011, 2013 and 2014 surveys

Species	No of pairs/Year		
	2011	2013	2014
Little Ringed Plover	2	1	0
Ringed Plover	2	0	0
Lapwing	9	6-8	10
Snipe	1-2	2	1-2
Curlew	0	1	0

- 8.64 It can be seen that Little Ringed Plover, Ringed Plover and Curlew did not breed in 2014. Little Ringed Plover shows a decrease over the period of the surveys from two pairs in 2011, 1 pair in 2013 and none in 2014. Only Lapwing and Snipe bred in 2014. All of the Lapwing were in the area of land owned by Caerphilly CBC in the south of the Nant Llesg site in 2014, which will be undisturbed by the scheme. It is evident that the ES assessment of the importance of the site for breeding waders, particularly with respect to Little Ringed Plover, over-values the site.
- 8.65 An updated desk study of ornithological data for the site was carried out in 2014 and the report is at Appendix MA/NL/PA/A08/005. The dataset contains records relating to 88 species of conservation interest/importance from within the Nant Llesg survey area and a buffer of 2 km surrounding the site. No species was recorded as present on site in numbers approaching national significance (i.e. 1% of the UK population).
- 8.66 Accurate Welsh or local population estimates are unavailable for many of the species of conservation importance recorded during the survey. However, Little Ringed Plover, Lapwing, Lesser Black-backed Gull and Herring Gull have been recorded in numbers potentially

important at a regional/Welsh scale although both gull species are indirectly attracted to the area due to the presence of the adjacent Trecatti Landfill and their abundance on site is dependent on continued waste disposal activity.

- 8.67 Wigeon, Tufted Duck, Goldeneye, Goosander, Red Kite, Hen Harrier, Merlin Jack Snipe, Snipe, Curlew and Short-eared Owl in numbers suggesting importance at a county/local scale. In addition, the assemblage of waterbirds using Rhaslas Pond is important at a county/local scale.
- 8.68 This further review thus confirms the ES assessment that the site is of County importance for birds.
- 8.69 Whilst Rhaslas Pond would be partially infilled during the operation of the site, on restoration a wetland area would be created in the northern part of the pond which would increase the diversity of habitats available for birds in the long term.

Bryn Caerau, Cwm Golau

- 8.70 At paragraph 2.1 of their representation, UVAG refer to Area 10, Bryn Caerau and Cwm Golau, in the context of the biodiversity offsetting provision and it is stated to include the southern half of the Bryn Golau SINC and the northern half of Cwm Bargod SINC.
- 8.71 This area is described at paras 8.425 to 8.428 of the ES in the following terms:

"8.425 As shown on Drawing MA/NL/ES/08/002 a significant area within the Bryn Caerau land is designated as part of the Cwm Bargoed SINC or identified as part of the Afon Bargoed Taf candidate SINC.

8.426 The Cwm Bargoed SINC is a very large and diverse system of semi-upland 'fridd' (valleyside) and valley-bottom habitats associated with the Afon Bargod Taf. The SINC information describes a complex mosaic of semi-natural habitats including ancient semi-natural woodland, bracken slopes with scattered trees and scrub, marshy grassland, wet and dry heathland, acid grassland, swamp and acid flush. Several ponds are also present. The site supports small pearl-bordered fritillary and grayling butterflies, along with several scarce dragonfly and moth species. Otter ranges along the Bargod Taf, and the site is important for birds including cuckoo, pied flycatcher, wood warbler, whinchat and dipper.

8.427 The Afon Bargod Taf candidate SINC covers all sections of the Bargoed Taf and Nant Bargoed which do not fall into other candidate SINC's along the route. The cSINC information refers to adjacent bankside habitats, particularly semi-natural woodland (mostly dominated by alder) along with areas of semi-improved neutral grasslands, bracken slopes and swamp. Large mature trees are frequent along the banks, and these may support roosting bats. Otter occurs along the Bargod Taf, which is also important for a range of birds of interest, including kingfisher, grey wagtail, dipper and spotted flycatcher. Great crested newt is recorded in the floodplain at Bryn Caerau.

8.428 The land at Bryn Caerau thus already contains a variety of habitats of value and supports protected and notable flora and fauna. However, there are a number of opportunities available to enhance the overall ecological value of the area by making changes to how the habitats present are managed and by creating new habitats."

- 8.72 It is evident that the existing value of this land is fully acknowledged in the ES.
- 8.73 However, the ES goes on to explain that the proposals for this land are set out in the Habitat Enhancement Plan at ES Appendix MA/NL/ES/A08/015, and shown on the plan at ES Drawing MA/NL/ES/08/009, and adds:

“8.430 The management proposals would enhance the ecological value of the main habitats of interest in Cwm Golau, and in turn the areas identified as SINC, these being:

- *Woodland;*
- *Grassland;*
- *Marshy grassland;*
- *Swamp;*
- *Ponds;*
- *Hedgerows; and*
- *Dry stone walls and derelict buildings”*

Management of Bryn Caerau

- 8.74 At Para 2.11 the submission states that management of Bryn Caerau as a working farm is not appropriate. A better option would be as an SSSI and nature reserve. Public access should be on an open day only basis.
- 8.75 Para 8.423 of the ES explains that the land to be used is part of the holding known as Bryn Caerau Farm which is owned by Miller Argent (South Wales) Limited and farmed by tenants. The location is shown on the plan at Drawing MA/NL/ES/08/008.
- 8.76 The land is thus already managed as part of a working farm and this would continue to be the case. As part of the tenancy agreement, with Miller Argent's support, the tenant has entered into a Glastir agreement for management of the land for a period of 5 years to the end of 2018. The Nant Llesg proposals would ensure that the sympathetic management of the land for nature conservation continued for the life of the mine, and would deliver significant additional benefits, particularly as a result of extensive woodland and hedgerow planting.
- 8.77 We are not aware of any proposal for notification of the site as a SSSI under the provisions of the Wildlife and Countryside Act 1981 and the land would not objectively meet the criteria for notification. Notification is a decision for NRW in any event, with legal and resource implications for them. As to a nature reserve, it is assumed that this is a reference to a local nature reserve established under the provisions of the National Parks and Access to the Countryside Act 1949. Designation is a decision for the local authority, with legal and resource implications for them, and it usually only applies to Council owned land. However, insofar as the land would be managed in accordance with a habitat management plan, it would be a de-facto nature reserve.

- 8.78 We do not agree that it is necessary to restrict public access to 'open days' only. We see no nature conservation reason why access on clearly laid out and marked footpaths should not be permitted. Clearly unmanaged, open access would be inappropriate, but that is not what is proposed.

Common Exchange Areas

- 8.79 In section 3.0 of the UVAG submission, concerns are expressed as to the suitability of proposed Common Exchange Areas 6, 7, 8, 9, 10b, 11, 12, and 13.
- 8.80 As explained at para 8.392 of the ES the proposals include the provision of alternative land for stock grazing by the commoners and for access by members of the public, in order to mitigate the impact on the common land from the development proposals. A number of areas have been identified which have potential to be provided for these uses and these are shown on Drawing MA/NL/PA/035. In this section the potential ecological impacts of use of these areas as common land are considered. In each case the current ecological characteristics of each area is outlined and the acceptability of use for grazing and recreation considered.
- 8.81 Where there are areas of particular ecological sensitivity within these parcels of land, this is recognised. For example:

Area 8 – Land South of Rhymney - which would be available for public access for the duration of the project but not for grazing. The agriculturally improved nature of much of the land means that its use for informal recreation by the public would have no significant ecological impacts. However, an area of woodland around a stream is ecologically sensitive and this area would be fenced out of the access area.

Area 9 – Land south of the Ffos-y-Fran Land Reclamation Scheme alongside the Bargod Taf - which would be available for public access and grazing. Its appropriate use for grazing and informal recreation by the public would have no significant ecological impacts. Areas of wetter grassland bordering the Bargod Taf would be less attractive for recreation, and use is likely to be self-limiting.

Area 12 - Land at Pendducae Fawr Farm - which would be available for public access and for grazing. The agriculturally improved nature of much of the land means that its use for grazing and informal recreation by the public would have no significant ecological impacts. An area of acid grassland/dry heath mosaic would be fenced out of the grazing area although public access would be allowed. This public access would have no significant ecological effects.

Representation 32 - Merthyr Tydfil County Borough Council

- 8.82 This representation from Merthyr Tydfil County Borough Council can be found at Appendix MA/NL/PA/A026.

Landscape and Ecology

- 8.83 The County Borough Council's comments welcoming the proposed Bryn Caerau Biodiversity Compensation/Enhancement Area are noted. Since then, further compensation in the form of either funding of habitat improvements as part of the Pumlumon Project, or alternative local projects have been included within the proposal.
- 8.84 It is confirmed that the newt translocation ponds associated with the Ffos-y-fran Land Reclamation Scheme would be retained during the proposed Nant Llesg scheme and safeguarded from the continued use of Cwmbargoed Disposal Point.

Representation 57 - Andrew King

- 8.85 The representation from Mr Andrew King can be found at Appendix MA/NL/PA/A027. He expresses concern that Rhaslas Pond is important for wildlife, especially for breeding and migrant birds. He sets out his view that it is the richest still-water site across the Heads of the Valleys and is of great strategic importance for migrant birds. It attracts breeding birds that are scarce across much of Wales and the margins host breeding Ringed Plover and Little Ringed Plover. He has no confidence that it will be possible hydrologically to protect half the pond.
- 8.86 The Applicant has carried out a further desk study (Appendix MA/NL/PA/A08/005) which supports the conclusion in the ES that Rhaslas Pond is of county importance and the effects on the pond and the associated birds have been assessed on that basis. In addition, the Applicant has provided the local planning authority with an HRA report, which assesses the effects on the birds using the pond in the context of the Severn Estuary SPA and Ramsar Site. The relevant information can be found at Chapter 8 'Ecology and Nature Conservation' of the Nant Llesg ES and at Appendix MA/NL/PA/A08/006 'Habitats Regulations Assessment – Information Provided by the Applicant' of this addendum.
- 8.87 Further breeding wader surveys have been carried out since the ES was submitted (attached at Appendix MA/NL/PA/A08/004). These have shown that Little Ringed Plover, Ringed Plover and Curlew did not breed in 2014. Little Ringed Plover shows a decrease over the period of the surveys from two pairs in 2011, 1 pair in 2013 and none in 2014. Only Lapwing and Snipe bred in 2014. All of the lapwing bred in the area owned by Caerphilly CBC in the south of the Nant Llesg site in 2014, an area that will remain undisturbed by the Nant Llesg scheme. It is evident that the ES assessment of the importance of the site for breeding waders, particularly in respect of Little Ringed Plover, over-values the site.
- 8.88 It is accepted that during the operation of the mine, the northern half of Rhaslas Pond would be infilled and this part of the pond and its margins would not be available to birds. However, the margins of the southern part of the pond would not be directly affected. Although this area would be within the operational area of the mine, there would be no public access and there is the potential that species such as Little Ringed Plover and Ringed Plover may continue to breed. However, this cannot be guaranteed, and it is clear from the survey information that these species don't breed at the site every year in any event.
- 8.89 In addition Miller Argent would undertake works to the northern margin of the pond situated at the west of the Ffos y fran Land Reclamation Scheme Central Ecological Area to make this more attractive to these species. This will consist of light cultivation of the exposed former

bed of the pond during the late winter to create bare gravelly ground at the margin of the pond ahead of the bird breeding season. Miller Argent is also having discussions with Caerphilly CBC regarding possible measures to provide opportunities for breeding birds which could be implemented at Jepson's Pond to the north of the Nant Llesg site which is owned by the Council.

- 8.90 On completion of the scheme, the northern part of Rhaslas Pond would be restored as marginal swamp, and the southern part would remain essentially unchanged. Thus in the longer term, the pond and new wetland would provide a more diverse habitat for breeding birds.

Representation 137 - Royal Society for the Protection of Birds (RSPB)

- 8.91 The RSPB has submitted a representation to Caerphilly CBC which refers to its reasons for objecting to the Nant Llesg proposals under the following headings:

- Bird interest;
- Amenity value unrecognised;
- Ecological Impacts;
- Insufficient compensation measures; and
- Insufficient mitigation measures.

- 8.92 The relevant matters raised by the RSPB are addressed in this response.

Bird interest

- 8.93 This section of the RSPB letter refers to Chapter 8 Ecology and True Conservation of the ES together with the subsequent Addendum. The letter refers to nationally important (Wales) numbers of breeding lapwing. It makes the point that five species of wader breed at the site which is described as exceptional. It should be noted that only four species were actually recorded in any one year of the surveys (2011 and 2013) but a total of five were recorded across the two years of survey (Ringed Plover, Little Ringed Plover, Snipe, Curlew and Lapwing). It should also be noted that, as reported in the ES, the nesting Little Ringed Plover was also considered important at the national (Welsh) level. The RSPB is correct that this is unusual. However, the ES does recognise the importance of the breeding waders at the site and fully assesses the impacts on them, and it is accepted that there would be temporary loss of habitat during the operation of the mine, but following restoration, the site would once again be available to breeding waders and Rhaslas Pond would be restored with a greater variety of wetland habitat than is currently the case.

- 8.94 However it should also be noted that further surveys carried out since the ES was submitted (attached at Appendix MA/NL/PA/A08/004) have shown that Little Ringed Plover, Ringed Plover and Curlew did not breed in 2014. Little Ringed Plover shows a decrease over the period of the surveys from two pairs in 2011, 1 pair in 2013 and none in 2014. Only Lapwing and Snipe bred in 2014. All of the Lapwing nested in the area owned by Caerphilly CBC in

- the south of the site in 2014. It is evident that the ES assessment of the importance of the site for breeding waders, particularly with respect of Little Ringed Plover, over-values the site.
- 8.95 The letter also refers to the importance of the site for migrant waders and other waterfowl during spring and autumn. A review of available data recently carried out can be found at Appendix MA/NL/PA/A08/005. The report confirms that Rhaslas Pond attracts a wide range of species, but generally in small numbers. The report supports the ES assessment that Rhaslas Pond is of County value for birds.
- 8.96 The letter states that Rhaslas Pond attracts nationally important numbers for Wales of wintering Herring Gull and Lesser black backed gull. It is the case that these numbers of birds are present, but the attraction is the Trecatti landfill site, not the pond and the populations are thus artificially maintained. Their use of the site is generally restricted to roosting on Rhaslas Pond. On this basis the site is assessed as being of community importance for these species.
- 8.97 The location of Rhaslas Pond within the Cefn Gelligaer, West of Deri SINC is recognised in the ES.
- 8.98 As explained in the response to Mr Andrew King above, it is accepted that during the operation of the mine, the northern half of Rhaslas Pond would be infilled and this part of the pond and its margins would be available to birds. However, the margins of the southern part of the pond would not be directly affected.
- 8.99 In addition Miller Argent would undertake works to the northern margin of the pond situated at the west of the Ffos y Fran Land Reclamation Scheme Central Ecological Area to make this more attractive to these species. Miller Argent is also having discussions with Caerphilly CBC regarding possible measures to provide opportunities for breeding birds which could be implemented at Jepson's Pond to the north of the Nant Llesg site.
- 8.100 On completion of the scheme, the northern part of Rhaslas Pond would be restored as marginal swamp, and the southern part would remain essentially unchanged. Thus in the longer term, the pond and new wetland would provide a more diverse habitat for breeding birds.

Ecological Impacts

- 8.101 The letter refers to the assessment of the potential impacts of the land take on birds set out in the ES and doesn't appear to challenge this, but does state that the mitigation and compensation measures are insufficient and do not address the short and medium term impacts.
- 8.102 The ES Ecology chapter made it clear that the nature of the proposed development means that it is not possible to fully mitigate the ecological effects of the proposals within the Nant Llesg Site. In particular the ES identifies, as a result of the land take of the project, that there would be an impact of major significance on breeding birds (in particular the loss of the nesting area for two pairs of Little Ringed Plover, suitable habitat for which would be reinstated on restoration). There would be impacts of moderate significance on non-statutory designated sites (loss of much of the Cefn Gelligaer SINC, although this would be restored on completion of the scheme), habitat loss (particularly wet heath, unimproved acid grassland and marshy grassland) and wintering/passage birds (especially those associated with Rhaslas Pond). Since it is not possible to mitigate for these effects, it was proposed to implement ecological enhancements and management at Bryn Caerau to the south west of Nant Llesg.

Insufficient Compensation Measures

- 8.103 RSPB welcome the Bryn Caerau proposals but note that it does not offer like for like wetland creation, especially in terms of a large water body to replicate Rhaslas Pond. As explained above, it is accepted that during the operation of the mine, the northern half of Rhaslas Pond would be infilled and this part of the pond and its margins would be available to birds. However, the margins of the southern part of the pond would not be directly affected.
- 8.104 In addition Miller Argent would undertake works to the northern margin of the pond situated at the west of the Ffos y Fran Land Reclamation Scheme Central Ecological Area to make this more attractive to these species. Miller Argent is also having discussions with Caerphilly CBC regarding possible measures to provide opportunities for breeding birds which could be implemented at Jepson's Pond to the north of the Nant Llesg site.
- 8.105 On completion of the scheme, the northern part of Rhaslas Pond would be restored as marginal swamp, and the southern part would remain essentially unchanged. Thus in the longer term, the pond and new wetland would provide a more diverse habitat for breeding birds.
- 8.106 It is accepted that there would be ecological impacts which could not be mitigated which is why the project adopted offsetting/compensation, rather than mitigation. The point of offsetting/compensation is that it is not like for like, it provides a biodiversity benefit to compensate for the value of that which is lost.
- 8.107 The land at Bryn Caerau already contains a variety of habitats of value and supports protected and notable flora and fauna. However, there are a number of opportunities available to enhance the overall ecological value of the area by creating new habitats and by ensuring the management of both the existing habitats and new habitats created for the lifetime of the mine.
- 8.108 As set out in the ES, the restoration and aftercare proposals for the site take account of the habitats and species currently present within the site, and seek to re-establish topographical, soil and drainage conditions and management practices which would support these habitats and species. In particular habitats and species included in the Caerphilly Biodiversity Action Plan (BAP) have been taken into account. Local BAPs are intended to focus resources to conserve and enhance biodiversity by taking account of national and local priorities. Thus the restoration and after care proposals include specific measures to reinstate wet dwarf shrub heath in the area south of Rhaslas Pond. The pond would be a focal point and major feature of the restored landscape but with enhanced ecological interest along its northern wetland fringe and to its western and southern borders. Ponds would be enhanced and new ones created to the west of Rhaslas Pond to provide refuge for translocated Great Crested Newts, the adjoining area being enhanced as suitable habitat. These areas would be established at an early stage of site operations and would be well established by the time Rhaslas Pond is restored.
- 8.109 Additional new ponds would be created by modifying the water treatment areas used for the development, and elsewhere, and watercourses would be established as part of the drainage of the restored site. A network of hedgerows would be established within the farmland area in the north of site, with new woodland areas here and in the east of the site. The restored site would provide habitat for Caerphilly BAP species such as great crested newt and other amphibians, common lizard, bats, otter, lapwing and a range of other breeding and wintering birds

- 8.110 Following completion of the Nant Llesg project, the site itself would have been restored and would be managed by the landowner in the north and the commoners in the south. In addition, the Bryn Caerau offsetting area would have had some 20 years of habitat improvement and management, and an agreement would be in place to ensure that the key habitats would continue to be managed in an appropriate manner. While the wet heath habitats within the Nant Llesg site would take a long time to recover, the likelihood is that they would recover in the long term, given the alternative grazing available. It must be acknowledged that there are current threats to the wet heath if grazing pressure were to be increased and this would also be the case when the site is recovering. The wet heath would be largely self-managing, as is currently the case, in that grazing animals tend to avoid wet areas, but in any event, on completion of restoration and aftercare the agreement between Miller Argent and the Commoners provides that, following the aftercare period, they would not carry out drainage works, agricultural improvement, fencing, walling, gates, cattle grids, or other matters within the area restored to wet heath, and they would provide for shepherding or stock control of the area.
- 8.111 In addition, it has become apparent that the extent of habitat disturbance resulting from the proposal would be less than the worst case which was originally considered in the ES, and further mitigation for Great Crested Newts and further compensation in the form of funding of either the restoration of 50ha of peat bog at Pumlumon or suitable and deliverable local projects has been proposed following discussions with NRW and CCBC. This has enabled a conclusion of overall biodiversity benefit to be reached and this is addressed in the ES addendum.
- 8.112 Taking into account the reduced area of habitat disturbance, the increased mitigation, the likelihood of the wet heath recovering, the existing and continued threats from overgrazing, and the habitat improvement and management of Bryn Caerau and the funding of the Pumlumon project or alternative local schemes, the conclusion in the ES Addendum is that there would be a net benefit to biodiversity.

Insufficient Mitigation Measures

- 8.113 RSPB state that they welcome a verbal commitment on behalf of the developer to manage the 'lapwing area' in a sympathetic manner, there has been no formal written undertaking to this effect.
- 8.114 In an email to Mike Webb of RSPB on 19th November, Keith Jones of RPS stated, on behalf of Miller Argent (South Wales) Limited:

"There is no intention to restrict grazing of the lapwing nesting area other than in the immediate vicinity of any working areas for the remedial works which will be carried out on behalf of Caerphilly CBC at the start of the scheme and which mostly lie to the east of the lapwing nesting area.

Once the initial works were completed, Miller Argent would have a licence over the land and would be prepared to undertake works to improve the area for lapwings. They would welcome a dialogue with RSPB and Caerphilly CBC towards the establishment of a 'Lapwing Refuge Area' on this land. As discussed in the longer term this land will revert to the common. However, Miller Argent would be prepared to continue to carry out maintenance operations on this land with the agreement of Caerphilly CBC and the commoners."

and also:

“Regardless of the start date of the scheme, Miller Argent will carry out lapwing surveys on this land in 2014 and subsequently annually during the operation of the mine, and will liaise with RSPB/South and West Wales Wildlife Trust in this regard”.

8.115 This is a clear offer to work with RSPB and CCBC with respect to the lapwings.

8.116 The RSPB comment in their representation that:

“Whilst the RSPB welcomes a verbal commitment on behalf of the developer to manage land in the southern part of the development site, in a manner sympathetic to lapwing, the developer has not undertaken formally in writing to manage the land to that effect. Should revised supporting information be submitted, the RSPB will review its position.”

8.117 The Applicant confirms its commitment to improve and manage land in the southern part of the application site in a manner sympathetic to Lapwing. These works would start on commencement of operations on the Nant Llesg scheme and continue throughout the early remediation works, which will be completed within two years of the commencement of coaling. The detailed design of and the development and management of the Lapwing area for the duration of the Nant Llesg scheme would be agreed with CCBC in liaison with NRW and RSPB. As the land reverts to urban common on the completion of restoration, the Applicant will liaise with CCBC and the commoners association about the ongoing management of the land.

8.118 An obligation to this effect will be included in the Applicant's Section 106 Agreement for the Nant Llesg scheme.

8.119 The Restoration Strategy for the Nant Llesg scheme, incorporating strategic proposals for the Lapwing Refuge Area in the 'Southern Land Remediation Area' (paras 5.7 to 5.11), is set out in Chapter 5 of the Planning Statement (submitted with the planning application), depicted in its revised form on Drawing MA/NL/PA/059 of this Addendum to the Planning Statement, and assessed in the ES and ES Addendum.

Representation 138 - Natural Resources Wales

Habitats Regulations Assessment

8.120 In the response to consultation NRW stated:

“The requirement to carry out HRA has not been completed and therefore NRW objects to this aspect of the assessment process. Caerphilly County Borough Council as the competent authority should undertake a Habitats Regulations Assessment of the proposal as required under the above Regulations. The assessment should consider the potential for the proposal, alone or in combination with other projects, to have an adverse effect on the features of the above listed sites. The assessment should include both the land take and operational phases of the proposal.”

8.121 An EIA scoping request was sent to Caerphilly County Borough Council (CCBC) in June 2011. Following consultation with a range of consultees, including NRW's predecessors, the

- Countryside Council for Wales (CCW) and the Environment Agency (EA), CCBC responded with a Scoping Opinion on 26th August 2011. Responses from consultees, including CCW and the EA, were appended to the Scoping Opinion.
- 8.122 In a letter dated 20th July 2011 attached to the Scoping Opinion, CCW indicated that the Nant Llesg site is less than 10 km from the Usk Bat Sites and Aberbargoed Grasslands SACs and indicated that a Habitats Regulations Assessment should be undertaken, the first stage of which should be a test of likely significance. If it appears from that test that the development would have a likely significant effect, the regulations require that a more detailed assessment would be required to enable appropriate assessment of the implications for those sites, in view of their conservation objectives, to be carried out. The development could then only be consented if the development would not adversely affect the integrity of those sites. While referring to this requirement, CCW indicated that an impact on these European Sites was unlikely and measures could be put in place to avoid or minimise impact, and that the assessment of likely significant effect should be recorded.
- 8.123 A letter from the EA dated 29th July 2011, also attached to the Scoping Opinion, advised that the ES would need to address the cumulative effects of air emissions on air quality affecting the nearest SACs, these being Aberbargoed Grasslands SAC, Usk Bat Sites SAC, Cwm Cadlan SAC and Blaen Cynon SAC.
- 8.124 On the basis of this advice, the likelihood of significant effects on these European Sites was assessed in the Environmental Statement and the implications for the integrity of the sites considered.
- 8.125 The only potential for effects on the European Sites would be during the operation of the development, resulting from changes in air quality. This potential is reflected in the request from CCW and EAW that the potential effects of dust deposition be considered on the Aberbargoed Grasslands, Usk Bat Sites, Cwm Cadlan and Blaen Cynon SACs.
- 8.126 Chapter 12 'Air Quality and Dust' of the ES reports that the impact of the exhaust emissions from the coal trucks, Nant Llesg traffic, the remediation of land, and the operation of the mine and the Coal Disposal Point on the Tair Carreg SINC (which is adjacent to the site) was modelled using ADMS (Atmospheric Dispersion Modelling System) and ADMS-Roads. In addition the dust emissions were modelled using ADMS. Based on this modelling it was concluded that there would be no likely significant effect on the European Sites. (Nant Llesg ES Chapter 12, paragraphs 12.266 and 12.315)
- 8.127 The Nant Llesg ES concludes at Chapter 12 'Ecology and Nature Conservation', paragraph 8.235B that:
- "The impacts on the Aberbargoed Grasslands SAC, Usk Bat Sites SAC, Cwm Cadlan SAC and Blaen Cynon SAC have not been modelled but it is considered, using professional judgement, that the SACs, which are significantly further from Nant Llesg than the modelled receptors (the closest - Aberbargoed Grasslands SAC- being some 7.9km from Nant Llesg), will not experience dust deposition of any significance as a result of the operation of the mine, due to their distance from it. On this basis it can be concluded that there would be no likely significant effects on these European Sites and Appropriate Assessment under the Habitats Regulations is not required. Further, there is no doubt that there would be no adverse impact on the integrity of any SAC as a result of the Nant Llesg project."*
- 8.128 During consultation on the planning application, and notwithstanding the scoping opinion and the subsequent conclusions in the Environmental Statement, Caerphilly County Borough

Council and NRW requested that a separate Habitats Regulations Assessment report be produced setting out the findings with respect to the potential effects of changes in air quality on these European Sites. They also requested that consideration should be given to the potential effects on the Severn Estuary SPA and Ramsar Site as a result of effects on migratory bird species from the estuary which may visit Rhaslas Pond.

- 8.129 Following this request a Habitats Regulations Assessment (HRA) report has been prepared by RPS on behalf of the Applicant and submitted to Caerphilly County Borough Council. The HRA report is attached at Appendix MA/NL/PA/A08/006. The scope of the HRA was agreed in consultation with the Council and NRW. The report considers the effects of changes in air quality and dust on the Aberbargoed Grasslands SAC, Usk Bat Sites SAC, Cwm Cadlan SAC and Blaen Cynon SAC and the effects on the bird populations of the Severn Estuary SPA and Ramsar Site. The potential in-combination with other projects is also considered.
- 8.130 On the basis of the air quality and dust deposition modelling which has been carried out, and as set out in the Environmental Statement submitted with the planning application, the HRA report at Appendix MA/NL/PA/A08/006 concludes that the proposed Nant Llesg Surface Mine would have no likely significant effect on any of the four SACs considered, either alone or in combination with other plans and projects. Given this conclusion, the Applicants view is that further 'appropriate assessment' is not required and there is no doubt that there would be no adverse effect on the integrity of any of the SACs as a result of the Nant Llesg project.
- 8.131 The assessment of numbers of migratory birds which occur at Rhaslas Pond also demonstrates that the proposed Nant Llesg Surface Mine would have no likely significant effect on the Severn Estuary SPA and Ramsar Site, either alone or in combination with other plans and projects. It is thus the Applicant's view that 'appropriate assessment' is not required and that there is no doubt that there would be no adverse effect on the integrity of the Severn Estuary SPA or Ramsar Site as a result of the Nant Llesg project.
- 8.132 NRW has confirmed (email of 8/7/14) that they agree with the conclusions of the HRA report.

Great Crested Newt Licence Method Statement (Draft)

- 8.133 It was agreed with NRW and CCBC that this further detail would be provided in the form of a draft of a Method Statement such as would be submitted with an application for a licence to disturb great crested newt following a grant of planning permission. A draft Method Statement has been prepared and submitted to NRW and CCBC. The draft Method Statement is attached at Appendix MA/NL/PA/A08/007. A further great crested newt survey was carried out in Spring 2014 to inform the Method Statement.
- 8.134 The proposed Nant Llesg site contains six water-bodies which might be suitable for the presence of great crested newts. In 2011, a single immature newt was identified at a small pond on the western fringes of the proposed scheme (in a pond which would be retained and enhanced). A further possible sighting of a mature great crested newt was made in P8 and a further possible sighting of a great crested newt was reported by others in a large water-body on Gelligaer Common to the south of the scheme (in an area which would not be affected by the proposed scheme). The update survey carried out in spring 2014 has identified a small population of great crested newts located at the pond where the juvenile was previously identified and in another pond some 450m to the north west. Both of these ponds would be retained and enhanced. No additional evidence of great crested newts was identified in operational areas of the site, and a review of the quality of the ponds present in these areas suggests that they are of lower suitability for great crested newts (the 2014 survey found that

great crested newts were present only in the 2 ponds with the highest Habitat Suitability Indices within the survey area).

- 8.135 Experience from the neighbouring Ffos-y-fran Land Reclamation Scheme suggests that great crested newt in this marginal vicinity tends to live at low population densities extended over quite large areas of terrestrial habitat, often covering several ponds and utilising whichever of these is in most favourable condition in a given year. The evidence from the 2011 and 2014 surveys together serves to build a picture of the use of the Nant Llesg site and adjacent areas by great crested newts. It is now considered unlikely that great crested newts would occur over much of the site to the east of Rhaslas Pond and to the south and east of the disused railway cutting.
- 8.136 In order to maintain the species at a favourable conservation status, and in order to try and improve conditions for this species in the area, the following mitigation measures are proposed in the draft Method Statement:
- Creation of three self-contained receptor site cells, including restoration and improvement of three existing ponds (including the two identified as currently supporting great crested newts) and incorporating the creation of fourteen new ponds, all designed specifically to contain features likely to be of value to newts for breeding and foraging. Provision of these ponds in closer proximity to the existing ponds supporting great crested newts will substantially increase the value of the marginal habitats available in this area, and increase opportunities for great crested newt breeding success. Terrestrial habitats and features of benefit to great crested newts would also be incorporated into the receptor areas.
 - Implementation of a capture and relocation exercise to ensure any individual newts which may be present in areas of the site at threat from the proposed works would be removed and placed into safe receptor areas. Such capture exercises would utilise sufficient trapping effort to be effective, as stipulated in the relevant guidance.
 - Inclusion of testing for signs of amphibian chytridiomycosis during capture and translocation of amphibians, with attendant modification of mitigation if this should prove to be present (including a review of the appropriateness of improving connectivity between this population and others known in the vicinity).
 - Prevention of re-entry into operational areas of the site would be ensured by the erection of suitable amphibian-proof fencing, and its maintenance for the duration of any works which would be likely to injure newts.
 - Implementation of additional measures to ensure newts are not affected by small scale localised land remediation works to areas beyond the operational area which are included in the package of development proposals. These works would also see the creation of additional ponds intended to improve connectivity for newts and other amphibians between the Nant Llesg site and populations known to occur to the south and west, particularly those associated with the Ffos-y-fran Land Reclamation Scheme.
 - Further such measures to enhance connectivity would include provision of dedicated amphibian crossings allowing connections between individual receptor site cells, and linking back to other measures included in the scheme design to be of assistance to other species, such as the toad crossings included in the scheme design across South Tunnel Road and Fochriw Road.
 - Monitoring of the translocation exercise, including populations of newts and habitats they have been introduced into would be carried out on a regular basis throughout the

life of the scheme. Similarly a management plan for the receptor areas would ensure that they are managed in a way which would be of benefit to great crested newts.

- 8.137 On completion of the mining operations the scheme restoration strategy would result in the creation of an additional nineteen ponds and there would be approximately 106ha of terrestrial habitats likely to be of benefit to great crested newts within the application site (in addition to a further approximately 329ha of unimproved, semi-improved and improved grasslands). The comparable figures for the existing site are 110ha of suitable terrestrial habitat and 324ha of unimproved, semi-improved and improved grasslands grassland.
- 8.138 As explained in the draft Method Statement, ten ponds would be lost as a result of the operation of the site; fourteen ponds would be created within the receptor cells and a further nineteen ponds would be created as part of the restoration of the site. There would thus be an overall net increase of twenty three ponds on completion of restoration compared with the baseline.
- 8.139 On completion of remediation works, early on in the scheme programme (to be completed within the first two years of coaling), additional "*linking ponds*" would be formed to ensure a stronger link between the receptor site and the existing Great crested newt meta-population known to occur to the south-west, associated with the Ffos-y-fran development, as shown in Figure E2.4.3 of the draft Method Statement. Timing for completion of this element is shown in Section G of the same draft statement.
- 8.140 Although the scheme presents some risks to newts initially, the mitigation measures proposed would provide sufficient improvement in breeding pond habitat, availability in this marginal area for great crested newts, particularly in the lower lying areas of the site, to ensure that they remain at their current population levels, and increase sufficiently to inhabit the restored areas of the site in greater numbers than is currently the case.
- 8.141 Previous work carried out locally by Miller Argent as part of the Ffos y fran Land Reclamation Scheme has shown that great crested newts have been successfully translocated to new ponds and viable breeding populations maintained.
- 8.142 NRW have confirmed, subject to some minor revisions, that they consider that the proposed methodology addresses their concerns regarding GCN (email of 9/7/14).

Reptiles

- 8.143 As set out in the Environmental Statement submitted with the Nant Llesg Planning Application, one species of reptile; common lizard, was recorded within the site in areas of rough grassland and scattered rocks around a disused tip, a pond, the southern bank of Rhaslas Pond and a stone wall. These areas were to a degree connected and common lizards are likely to move between them.
- 8.144 The ES assumed as a worst case that all of the areas of higher quality habitat within which the reptiles were found which were within the site would be lost. Subsequent to issue of the ES the extent to which land outside the operational area of the mine would be disturbed has been considered in more detail (see Figure 1 of the Biodiversity Offsetting Report at Appendix MA/NL/PA/A08/003). It can be seen that most of the areas where Common lizard was recorded at the western margin of the site would not be affected by the scheme. In addition, although within the operational area, the southern embankment of Rhaslas Pond where the species was also recorded would also be retained.

- 8.145 Whilst the areas surveyed, and which would largely be retained, were those considered most likely to support reptiles, it is the case that reptiles will also occur at low densities in areas of less suitable habitat in other areas of the site, and this has been taken into account in the assessment of the effects of the scheme.
- 8.146 In their letter of 21 February 2014, NRW refer to matters which should be addressed through Planning Conditions. One such matter is Biodiversity (Reptiles). NRW state that to comply with the protection afforded to reptiles under the Wildlife and Countryside Act 1981 (as amended), it will be necessary to draw up an appropriate trapping and translocation plan. This requirement should be made a condition of the planning consent in the event that consent is granted. Miller Argent confirm that prior to commencement of the scheme they would commission a further reptile survey to provide additional detail of the distribution and numbers of reptiles across the site and would be happy to agree to a Planning Condition to this effect.
- 8.147 Prior to the commencement of work, a series of low south facing banks would be constructed from the arisings of Great Crested Newt ponds, as detailed further below, in the area of land outside the operational area of the mine that would not otherwise be affected by the development which would provide good cover and feeding areas for reptiles. A trapping exercise would be carried out in advance of the works and reptiles transferred to the prepared areas.
- 8.148 During consultation on the planning application, Caerphilly County Borough Council requested further detail of the proposals for mitigation of effects on reptiles.
- 8.149 The receptor sites for reptiles would in part be the same as those used for Great Crested Newt. These are described in the Draft Great Crested Newt Method Statement referred to above and found at Appendix MA/NL/PA/A08/007. The location of the receptor cells are shown on Figure E2.4.2 of the draft method statement.
- 8.150 The indicative layout of Receptor Cell 1 is shown on Figure E2.4.3 of the draft Method Statement which explains that this cell would contain five new ponds, seven artificial hibernacula and six wood-pile refugia. Existing terrestrial habitats on site would be retained as far as possible and would be protected during the construction activities. Arisings from the excavation of the ponds would be used to form a bank with gentle south-facing slopes along the northern boundary of the site, as shown. The bank would incorporate artificial hibernacula structures and is intended to improve the value of the area for basking by reptiles. In order to retain local plant assemblages as much as possible, the bank would utilise turves removed from the initial stages of pond construction (and those at the base of the bank itself) to clad the bank. No additional seeding of terrestrial habitat is proposed. The northern boundary of receptor cell 1 would be formed by the amphibian/reptile-proof exclusion fence to be retained around the scheme during works which would prevent reptiles entering areas of risk.
- 8.151 The indicative layout of Receptor Cell 2, to the south of the proposed new site entrance off Fochriw Road, is shown on Figure E2.4.4 of the draft method statement. An existing wet area adjacent to the road would be improved to form a pond. An additional three new ponds, eight hibernacula and four wood-pile refugia would be created. Two banks incorporating south-facing slopes of benefit to reptiles would be formed using arisings from pond creation. These would be finished using retained turves from the pond excavation and from the base of the mounds to retain as much of existing vegetation as possible.
- 8.152 Proposed Receptor Cell 3 lies to the north of Cell 2 and consists of the area of land between the existing Fochriw Road and the proposed operational site boundary to the east. The indicative layout of this cell is shown on Figure E2.4.5. The area selected contains three

existing ponds. The proposals include the creation of five additional ponds, formed as the others using locally-occurring clay linings. The receptor cell will also include thirteen artificial hibernacula, some incorporated into banks with south-facing slopes to benefit reptiles, and four wood-pile refuge areas. As with other cells, the arisings from the new ponds will be used to create three areas with pronounced south-facing banks suitable for reptile basking.

- 8.153 Thus each receptor cell will provide artificial hibernacula and wood pile refuges and areas of south facing slopes which will enhance the value of these areas for reptiles and increase their suitability to receive reptiles translocated from the operational area of the Nant Llesg site.
- 8.154 In addition to these receptor areas for reptiles created alongside the measures to provide receptor sites for Great Crested Newts, further south facing earth banks would be constructed in the area of land in the east of the site, outside the operational area of the mine, where works would be carried out to ensure the safety of disused mine shafts and adits. These banks would be created in areas of vegetation that would not otherwise be affected by the development which would provide good cover and feeding areas for reptiles. This area would also be used as a receptor site for reptiles.

Bats – potential roost locations in rock crevices

- 8.155 The Environmental Statement explains that an inspection of potential bat roosts was carried out in 2008. This included inspection of exposed cliff faces within the site for evidence of roosting bats and for roosting potential. The exposed cliff faces were assessed as having low potential for summer and winter roosts.
- 8.156 As reported in the ES, the daytime ground-based inspection was repeated in June 2011. The rock faces were inspected for features that may support a bat roost, such as cavities, cracks and splits which could provide access to sheltered cavities. No evidence of bat roosts in the cliffs was identified.
- 8.157 During consultation on the planning application, Caerphilly County Borough Council requested that further inspection of those cliffs which would be affected by the scheme be carried out for any evidence of use by bats.
- 8.158 The further survey was carried out on 10th March 2014. The report of the survey is attached at Appendix MA/NL/PA/A08/008. Each cliff was re- inspected in detail for features that may support a bat roost, such as gaps, cracks and cavities. Signs of bat presence were also searched for, such as tiny scratches or staining around the entry point and bat droppings in or around the entrance.
- 8.159 All cracks and splits identified within the cliff faces were inspected with a high powdered torch and endoscope to determine whether they had evidence of roosting bats or any potential for them.
- 8.160 No evidence of roosting bats were found within any gaps or cavities identified along the cliff faces.
- 8.161 The cliffs had limited potential for roosting bats due to the lack of suitable cavities within the rock face and the cool conditions experienced as they were exposed and north facing.
- 8.162 In their response to consultation NRW also requested:

“Clarification of whether the adits and shafts associated with old mine workings to be impacted were included in the bat survey and if so the results of this survey. If this was not the case we would advise that an inspection of these features and assessment their suitability for use by roosting bats is sought. Please note that if potential or evidence of bat use is identified further survey may need to be undertaken and suitable mitigation measures provided as appropriate.”

- 8.163 In preparation of the Nant Llesg scheme, the Applicant has carried out a considerable number of walk-over surveys of the land, including a number of recent additional surveys to update data. The site has also been drilled to explore the coal reserve and to inform the geotechnical design of the site. Prior to drilling operations, the recorded positions of known mine entrances were marked on site to be avoided by the drill rigs. None were found to be open. Had an open mine entrance been found during any of the above investigations, the Coal Authority would have been immediately notified of the hazard. Those that have previously collapsed and been reported to the Coal Authority, on both Ffos-y-fran and Nant Llesg, have already been sealed. As there is little or no evidence of shafts and adits at the surface prior to any collapse, Miller Argent's proposals for their remediation include systematic geophysical ground investigations to locate them so that each can be investigated and any necessary remediation designed and carried out in liaison with the Coal Authority. Miller Argent is therefore able to confirm that no shaft or adit recorded within the Nant Llesg site has been found to be currently open and consequently none would be available as bat roosts.

Odonata

- 8.164 In their response to consultation NRW noted that:

“Section 8.343 of the ES confirms that much of most valuable Odonata habitat on site would be lost. Given our concerns above regards habitat restoration, it may be difficult to recreate the current site conditions that support such a diverse range of Odonata species and would likely damage an important Regional Odonata site. Given that the ES recognises significant impacts are likely to Odonata, appropriate mitigation for these impacts should be prepared.”

- 8.165 During consultation on the planning application, Caerphilly County Borough Council also asked for further information on the opportunities for habitat creation for Odonata during the operation of the site.
- 8.166 The Environmental Statement reported that fourteen species of Odonata were identified as occurring, or having occurred, within the Nant Llesg survey area boundary.
- 8.167 The greatest diversity and abundance of Odonata were found to occur in those parts of the survey area adjacent to Rhaslas Pond, between Rhaslas Pond and the minor South Tunnel Road to the south, and to the south of the road. Those ponds in this area along the western margin of the site and to the south of South Tunnel Road would be retained and would continue to provide suitable habitat for Odonata during the life of the mine.
- 8.168 A further survey carried out in 2013 recorded thirteen species of Odonata. In combination with the desk study and previous survey undertaken in 2011, fifteen species have been identified as occurring, or having occurred within the last ten years, within the Nant Llesg survey area boundary.
- 8.169 The ES reports that much of the habitat of most value to Odonata would be lost to the development of the site. Whilst a number of ponds suitable for breeding would be retained around the margin of the site, and additional ponds created for amphibians would also be of

- value to Odonata, the extensive wetland areas which provide foraging habitat for the adult insects would be lost.
- 8.170 Restoration of the site would reinstate vegetation of similar character to that which currently exists across the site. Additional ponds would be established which would provide new breeding sites for Odonata, in addition to the ponds which would have been established early in the scheme. The area of most potential for Odonata would be the area to be restored to wet heath and marsh south of Rhaslas Pond.
- 8.171 The draft Great Crested Newt Method Statement at Appendix MA/NL/PA/A08/007 describes the pond creation which would be carried out prior to the commencement of the operation of the site. Receptor sites for great crested newts would include creation of new ponds, which would also be suitable breeding sites for Odonata. The proposed locations are shown in Figure E 2.4.2 of the draft Method Statement.
- 8.172 The receptor sites consist of three cells, each with a complex of ponds. All new ponds would be constructed with ledges approximately as shown in the sections on Figure E2.4.3 of the draft Method Statement. They would be lined with locally-occurring clay and planted as shown. Where it may be possible to introduce aquatic vegetation from existing ponds to be lost, this would be considered where there was no risk of transmission of fish or their eggs.
- 8.173 Receptor Cell 1 would contain five new ponds constructed using locally-occurring clay to line them, and planted with the aquatic species shown in Figure E2.4.3 of the draft Method Statement.
- 8.174 Proposed Receptor Cell 2 is to the south of the proposed new site entrance off Fochriw Road. An existing wet area adjacent to the road would be improved to form a pond, by increasing its size, reducing out-flow into road drainage (it would be separated from the road-drain system) and by improving sectional shape to allow for shallow shelving ledges to improve establishment of vegetation. An additional three new ponds would be created.
- 8.175 Receptor Cell 3 lies to the north of Cell 2 and consists of the area of land between the existing Fochriw Road and the proposed operational site boundary to the east. The area selected contains three existing ponds. Existing ponds P14 and P24 would be enhanced by modifying their connections to the existing drainage features to maintain better water levels and some re-modelling to enlarge them and offer shelving ledges or other sectional features. Where this work involves removal of aquatic vegetation, it would be retained and used to assist with planting of other new ponds in this receptor cell. Existing pond P8 is also within this receptor cell, but is not appropriate for modification as it is a flooded small quarry feature and is generally formed in solid rock.
- 8.176 The proposals for this receptor cell also include the creation of three additional ponds, formed as the others using locally-occurring clay linings and planted as shown in Figure E2.4.3, to reinforce the use of vegetation removed from existing ponds P14 and P24 during their improvement.
- 8.177 As explained in the draft Great Crested Newt Method Statement, ten ponds would be lost as a result of the operation of the site; fourteen ponds would be created within the receptor cells and a further nineteen ponds would be created as part of the restoration of the site. There would thus be an overall net increase of twenty three ponds on completion of restoration compared with the baseline.
- 8.178 Additional "*linking ponds*" would be formed to ensure a stronger link between the receptor site and the existing Great crested newt meta-population known to occur to the south-west,

associated with the Ffos-y-fran development. These would become available to Odonata on completion of remediation works, which are to be completed within the first two years of coaling. They are shown on Figure E2.4.3 of the draft Method Statement (Appendix MA/NL/PA/A08/007) and their timing for completion is provided in Section G of the same draft statement.

- 8.179 It can be seen that there will be considerable opportunities for Odonata to colonise suitable new ponds during the operation of the site. These ponds will be in a variety of topographical settings around the site and will thus provide a range of habitat conditions. The overall increase in the number of ponds on completion of the scheme would be of considerable benefit to Odonata.

Representation 146 – Green Valleys Alliance (GVA) - Restoration

- 8.180 The Green Valleys Alliance (GVA) have submitted a representation to Caerphilly CBC dated 6th June 2014 to which was attached a report prepared by Simply Ecology (an ecological consultancy). After referring to the Natural Environment Rural Communities Act 2006 and the National Planning Policy Framework (which does not apply in Wales), the report refers to a number of matters which may be summarised as follows:

- The methodologies used for the collection of ecological data appear robust other than that no vegetation condition assessment was carried out;
- There is no 'Restoration Project Plan' or 'Biodiversity Management Plan';
- There is an assumption within the ES that wet heath re-creation will be successful;
- There is an apparent contradiction in that the ability to reinstate to a condition suitable for designation as a SINC is in doubt;
- Successful restoration of wet heath (for example at Bleak House in Staffordshire and at Ball Clay pits in Dorset) is based on storage of complete turves in suitable pre-prepared receptor sites prior to translocation for restoration;
- In order to ensure no net loss of biodiversity, a measurable evaluation of biodiversity loss at Nant Llesg must be made using the Defra methodology; and
- A five year duration aftercare is inadequate to ensure the aims of the restoration and offsetting are achieved. A minimum of 15 years is suggested for wet heath and mires.

Condition Assessment

- 8.181 Assessments of the condition of vegetation within the Nant Llesg site and the Bryn Caerau offsetting area were carried out as part of the biodiversity offsetting calculations which are reported in the Nant Llesg Biodiversity Offsetting Report which has been submitted to Caerphilly County Borough Council and forms part of the addendum to the ES. These assessments were based on data from the Phase 1 Habitat surveys and NVC surveys which had been carried out and which are at ES Appendix MA/NL/ES/A08/002 'Nant Llesg Habitats

and Vegetation Report' and ES Appendix MA/NL/ES/A08/015 'Cwm Golau Habitat Enhancement Plan'.

8.182 A survey to provide updated data on the habitat of greatest ecological significance within the site, the area of wet heath in the south, was carried out in July 2014. As part of this survey, further assessments of vegetation condition were carried out based on two methods:

- Assessing Vegetation Condition in the English Uplands (ENRR264); and
- Higher Level Stewardship Farm Environment Plan Manual

8.183 The report of the survey (see Appendix MA/NL/PA/A08/009) has been submitted to Caerphilly CBC and forms part of the addendum to the ES. The condition assessment was 'Unfavourable' under the Natural England system and 'B' under the Stewardship system as a result of the high percentage cover of grasses and low cover of dwarf shrubs, confirming our previous assessment of Moderate condition for this habitat.

There is no 'Restoration Project Plan' or 'Biodiversity Management Plan'

8.184 The Restoration Strategy for the Nant Llesg site is set out in Chapter 3 'The Nant Llesg Project' of the Environmental Statement (ES). This explains that one of the overall objectives of the strategy is to provide a range of habitats offsetting the habitat loss due to the operations and enhancing other habitats within the site. The strategy for restoring the landscape of the site is shown on Planning Application Drawing MA/NL/PA/009 and ES Drawing MA/NL/ES/016/012-2.

8.185 The ES explains that the restored landform would include a range of features which would deliver ecological benefits. These would include:

- retention of existing features where possible and their protection during the operation of the site;
- restoration of features which would have been removed during the site operations; and
- creation of new wildlife habitats.

8.186 Existing features which would be retained and protected would include the area in the south of the site which is used by nesting lapwing. This area (owned by Caerphilly CBC) is included within the site to allow remedial work to be undertaken on part of this land to reduce erosion of the former Fochriw Tip which results in pollution of the Nant Bargod Rhymni and silting of the lake in Parc Cwm Darran downstream. The extent of the works in this area would be kept to a minimum to avoid damage to the area used by the lapwing and its restoration would reflect its use by lapwing.

8.187 The western margin of the site, which includes a number of marshy areas and ponds, would be retained and protected during the mining operations. Other ponds and reptile habitat would be created in the east of the site at the outset of the scheme to provide habitat into which amphibians and reptiles would be transferred from the operational areas of the site in advance of the commencement of the mining operation.

8.188 Habitats which would be restored at the end of operations would include areas of wet heath and marshy grassland to the south of Rhaslas Pond. So far as practicable, the topography, hydrology and soil conditions in these areas would be reinstated to encourage the development of the desired vegetation. Appropriate seed mixes would be sown and the land

- carefully managed during the aftercare period. Areas of marsh would be reinstated on clay soils at the heads of watercourses which would be created to drain the site to form similar habitat to that which currently occurs in similar situations within the site.
- 8.189 New habitats which would be created on completion of the scheme would be a network of hedgerows and small woodlands in the north of the site. Some of the water treatment areas would be reinstated to form wetland areas and a number of ponds would be created in suitable areas around the margins of the site.
- 8.190 Chapter 3 of the ES also explains (paras 3.90 and 3.91) that the final restoration design for each stage of the progressive restoration would be submitted for the consideration and written approval of the local planning authority at least six months before the restoration of each stage is complete.
- 8.191 The Section 106 agreement will include obligations to carry out works within Bryn Caerau in accordance with a detailed plan to be agreed prior to the commencement of development, and to manage the area from the date of their completion until completion of restoration of the Nant Llesg project. In addition the Section 106 agreement will include obligations to improve the land in the south of the Nant Llesg site for lapwing and to manage the same until such time as restoration is complete. The section 106 agreement will also require funding for the restoration of 50 ha of peat at Pumlumon or the funding of a suitable alternative local scheme, if available and deliverable. The site will also be subject to numerous planning conditions requiring the mitigation suggested by the ES to be implemented. License conditions will also be imposed at the request of NRW in relation to various species. It is not considered that an overall biodiversity management plan is required for the site, but it is acknowledged that specific works, the methodologies for them to be carried out and several management regimes will be required to be implemented to mitigate impacts on particular species and habitats. The details can be agreed prior to implementation of the planning permission, in the usual way, and Miller Argent is committed to working with the Council and NRW to ensure that appropriate conditions are included within the planning permission and any species licenses.

There is an assumption within the ES that wet heath re-creation will be successful

- 8.192 Para 8.270 of the ES states that:
- “The effects of the restoration proposals for the site on wildlife habitats would be to offset the adverse effects of the original land take on wet heath and acid grassland habitats. There would also be benefits as a result of the increased area of woodland and length of hedgerows on the site, as well as new pond and wetland habitats. However, given the ecological significance of the habitats lost to the scheme, and the uncertainty regarding the effectiveness of restoration of these habitats of county importance, the overall significance of the effects compared to the existing baseline would be Minor to Moderate adverse.”*
- 8.193 Thus in assessing the significance of the effects of the proposals on wet heath, it is accepted that there is a degree of uncertainty regarding the effectiveness of restoration of this habitat as acknowledged in the ES and this has been taken into account in the assessment of the effects of the proposals.
- 8.194 However, subsequent to submission of the ES, Miller Argent has undertaken further investigations of the methods and experience of restoration of wet heath which has provided additional confidence that successful restoration can be achieved. The findings of this work are set out in the report entitled Peat Handling and Wet Heath Restoration (see Appendix MA/NL/PA/A08/010). The examples of wet heath restoration considered have confirmed that

these habitats on peaty soils can be successfully restored. However, it is acknowledged that, as is presently the case, the threat of overgrazing by commoners' livestock will remain once restoration and aftercare is complete, although it is likely that stock will tend to concentrate their grazing on the 'better' areas of grass and avoid wet ground.

8.195 Key points arising from the investigations include the following:

- Establishment of the habitats on peaty soils (as proposed at Nant Llesg) is more successful than on mineral soils;
- Notwithstanding this, restoration at Bleak House demonstrates that wet heath can be successfully established on mineral soils;
- Where peat is to be used, an impermeable clayey substrate should be created prior to peat placement;
- The clayey substrate should be roughened to promote "*keying*" in of the peat;
- Contour ridges in the clay assist in the containment of the restored peat;
- Containment of peat in rock and clay bunds has been successful;
- Peat stripping methods similar to those proposed at Nant Llesg have been successfully applied on other sites ;
- Peat soils can be successfully restored with limited settlement using appropriate roughening of the clay substrate on moderately sloping sites (1 in 10 to 1 in 20);
- Avoid thinning out on the edges of the restored peat, particularly on sloping areas;
- Prompt establishment of vegetation is important for stabilisation of the surface and to prevent drying out;
- Grass nurse crop needs to be sown in advance of the heather;
- Soft rush needs to be controlled using glyphosate using weedwiper or similar;
- Invasion by birch and willow can be a problem and may need control although once grazing is established this should prevent further establishment of woody species;
- Plenmeller and Bleak House were released from aftercare after approximately 10 and 11 years respectively;
- It may be possible to apply tracked or low ground pressure machinery onto the restored peats, although this is not proposed in the current Nant Llesg methodology;
- Ponds add considerably to biodiversity;
- Wet heath of high biodiversity value can be established as indicated by the SSSI notification for Bleak House; and
- Moorland bird populations can be established relatively quickly following restoration, as evidenced at Plenmeller.

There is an apparent contradiction in that the ability to reinstate to a condition suitable for designation as a SINC is in doubt

8.196 Para 8.241 of the ES states in the context of the land take for the development of the mine that that:

“The Cefn Gelligaer, West of Deri SINC is almost entirely within the Nant Llesg site in the area south of Rhaslas Pond extending to the south east of the site and also around the eastern margin into the centre east of site. Most of the SINC would be lost as a result of the operation of the site, primarily through overtipping with overburden. As explained in Chapter 9 Agricultural Land Use and Soils, as part of the operation of the site, the peaty soils south of Rhaslas Pond would be separately stripped and stored and would be respread across the area of the overburden mounds as the overburden is removed and a suitable seed mix sown. This would be some 14 years after the commencement of operations. However the period required for re-establishment and recovery of wet heath vegetation similar to that currently found across this area is uncertain. This area is part of the Gelligaer and Merthyr Common and would continue to be part of the common on completion of the scheme. Every effort would be made during the aftercare period to reinstate this habitat to seek to ensure that its long term development and improvement was facilitated.”

8.197 On this basis the effect of land take on non-statutory designated sites is assessed as being of high magnitude and of Moderate significance.

8.198 In the context of the restoration of the site the ES states at paras 8.255 and 8.256 that:

“To the extent to which the restoration may achieve the desired vegetation type, then it may in due course be of sufficient value to be designated as a SINC once more. In order to achieve such designation the site would need to satisfy the criteria set out in ‘Criteria for the Selection of Sites of Importance for Nature Conservation in the County Boroughs of Blaenau Gwent, Caerphilly, Merthyr Tydfil and Rhondda Cynon Taff (The ‘Mid-Valleys Area’)’ (June 2008).

If this is achieved then the effects of restoration on non-statutory sites would be of negligible magnitude and negligible significance. To the extent that this was not achieved then the impact would remain as for land take as of high magnitude and moderate significance.”

8.199 This is thus entirely consistent with the assessment of the effects on wet heath habitat and again recognised a degree of uncertainty. However, again the further work carried out since submission of the ES has provided further information on the extent of effects on wet heath habitat. In addition, further assurance has been given that restoration can achieve results worthy of designation in so far as the restored wet heath at Bleak House has been designated as part of the Chasewater and the Southern Staffordshire Coalfield Heaths SSSI by Natural England.

8.200 The reasons for notification of the SSSI state that it is nationally important for its wet and dry lowland heath and that the heathland has largely developed on land heavily influenced by past and more recent coal mining activities and, as a consequence, varies considerably in both age and origin. Whilst some of the heathland has been associated with the site for a considerable time, some is relatively recent in origin with the youngest having been established in the last twenty years as part of a derelict land reclamation scheme, a restoration scheme on an exhausted open-cast mine (the Bleak House site) and a translocation associated with the construction of the M6 Toll motorway.

8.201 Furthermore, the compensation provision has been increased by way of the funding of either the restoration of 50 ha as a part of the Pumlumon project or the funding of a suitable local

alternative project has been agreed. This has enabled a conclusion of net biodiversity benefit to be reached.

Successful restoration of wet heath (for example at Bleak House in Staffordshire and at Ball Clay pits in Dorset) is based on storage of complete turves in suitable pre-prepared receptor sites prior to translocation for restoration

8.202 As explained at para 5.90 of the report entitled "Peat Handling and Wet Heath Restoration" selected areas of the wet heathland at Bleak House were trans-located in advance of the main site operations to provide the restored site with suitable material to use during the rehabilitation phase.

8.203 The report further explains at para 5.93 regarding Bleak House that:

"The restoration of the large central valley landform commenced in 1995 and was completed in 1999. Revegetation was phased and commenced on completion of each stage of the restoration. A basic bent/fescue grass mix was sown to provide protection against erosion and heather brash collected from the nearby Cannock Chase annually each November was spread over the areas to provide an abundant source of heather seed. Initial problems occurred in the earlier phases of restoration with growth of Yorkshire fog and rushes and these had to be controlled with applications of glyphosate herbicide. The valley sides however did not require this treatment and heather began to establish quickly, generally within 12 - 18 months of spreading. Topping was also used to control any excessive grass growth during the early stages of heather development."

8.204 Thus the methods used at Bleak House were very similar to those proposed for Nant Llesg with initial seeding with a suitable mix followed by spreading of brash from suitable vegetation in the vicinity.

8.205 We have no knowledge of the methods used for restoration of ball clay excavations in Dorset and the extent to which translocation of turves or seeding have been used. In any event translocation of turves is not practical at Nant Llesg since there would be no receptor area available at the time of equivalent size to the area of wet heath from where the vegetation would be stripped.

In order to ensure no net loss of biodiversity, a measurable evaluation of biodiversity loss at Nant Llesg must be made using the Defra methodology

8.206 In September 2013 the UK Government consulted on its proposals for an offsetting system for England, and is currently considering the responses it received. Miller Argent have submitted a report entitled "Nant Llesg – Biodiversity Offsetting" (see Appendix MA/NL/PA/A08/003) to Caerphilly CBC which sets out the calculations of biodiversity value of the Nant Llesg site and the Bryn Caerau offsetting area as they currently exist, and following the enhancement of Bryn Caerau and restoration of the Nant Llesg site, following the Defra methodology set out in the guidance for the offsetting pilots.

8.207 Biodiversity units have been calculated using the following guidance produced for Defra's biodiversity offsetting pilots:

- Biodiversity Offsetting Pilots – Technical Paper: The Metric for the Biodiversity Offsetting Pilot for England (Defra 2012);

- Biodiversity Offsetting Pilots: Guidance for Developers (Defra 2012); and
- Biodiversity Offsetting Pilots: Guidance for Offset Providers (Defra 2012)

8.208 Miller Argent acknowledges that biodiversity is a devolved matter and there is currently no formalised offsetting scheme in Wales. The methodology has been used solely as a tool to enable the biodiversity value of the different habitats within Cwm Golau and the Nant Llesg site to be compared. The report explains that the construction and operation of the mine would result in the temporary loss of habitats within the operational areas of the mine, while only some of the habitats in areas identified for early remediation works would be lost. The loss of habitats would be offset by the restoration of the land on completion of the mining operations and by implementation of habitat enhancement within an area of land at Bryn Caerau which is owned by Miller Argent (South Wales) Limited.

8.209 Table PSA8.5 below summarises the overall changes in Defra biodiversity units which would result from the Nant Llesg project.

Table PSA8.5 Overall changes in Defra biodiversity units

Area	Biodiversity units (ha)	Biodiversity Units (m)
Nant Llesg site existing	2560	141973
Nant Llesg site following restoration	2142	141856
Nant Llesg change	-418	-117
Bryn Caerau existing	720	100842
Bryn Caerau following enhancement	1249	193005
Bryn Caerau change	+529	+92163
Nant Llesg and Bryn Caerau existing combined	3280	242815
Nant Llesg and Bryn Caerau following restoration/enhancement combined	3391	334861
Overall change	+111	+92046
Overall change %	+3.38%	+38%

- 8.210 The increase in biodiversity units (ha) is not considered to be significant and the report supports the original conclusion in the ES that the overall balance of biodiversity would be maintained, notwithstanding that there would be a substantial gain for linear habitats measured in metres.
- 8.211 The enhancement and restoration of habitats measured in hectares would result in an increase in high and low distinctiveness habitats and a reduction in medium distinctiveness habitats compared to those currently present. The enhancement and restoration of linear habitats would result an increase in high, medium and low distinctiveness habitats compared to those currently present.
- 8.212 In addition, as explained above, Miller Argent now proposes to fund the restoration of 50ha of wet heath as part of the Pumlumon Project, or to fund an alternative suitable local project, which has enabled a conclusion of net biodiversity benefit to be reached.

A five year duration aftercare is inadequate to ensure the aims of the restoration and offsetting are achieved. A minimum of 15 years is suggested for wet heath and mires.

- 8.213 The aftercare period proposed would be for five years, apart from those areas to be restored to woodland and wet heath (and for hedgerows) where the aftercare period would be ten years. As explained in the report "*Peat Handling and Wet Heath Restoration*" (Appendix MA/NL/PA/A08/010), the Plenmeller and Bleak House sites which were restored to wet heath were released from aftercare after approximately 10 and 11 years respectively.

Nant Llesg Surface Mine

Incorporating Land Remediation

Chapter 9

Agricultural Land Use and Soils

Nant Llesg Surface Mine

Incorporating Land Remediation

Addendum to Planning Statement

Applicant's Response to Post-Application Representations

Chapter 9 – Agricultural Land Use and Soils

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9 Agricultural Land Use and Soils

- 9.1 The following is the Applicant's Response to representations that relate to agricultural land use and soils.

Representation 2 - Caerphilly County Borough Council

Copy of the supporting data behind the auger work that is shown in ES Volume III Drawings, part 1 Chapter 9 - Auger boring locations.

- 9.2 See Applicant's Response to Representation 5 and 138 – Natural Resources Wales below.

Copy of the assessment of peat using the Von Post system.

- 9.3 See Applicant's Response to Representations 5 & 138 – Natural Resources Wales below.

1) Detail of the other sites/s where a similar peat restoration has / is been carried out.

- 9.4 See Applicant's Response to Representations 5 & 138 – Natural Resources Wales below.

(2) Peat restoration - Although the ES recognises that peat is sensitive and susceptible to damage/loss, an assessment of the consequences of the proposed restoration failing does not appear to have been carried out. Should the peat restoration fail (to a lesser or greater degree) the predicted losses would likely be very much higher. This is obviously tied in with the long -term success of the storage and restoration.

- 9.5 See Applicant's Response to Representation 5 and 138 – Natural Resources Wales below.

(3) Carbon calculation - We note that there is a carbon calculation of the project but cannot see a calculation of the potential carbon losses caused through disturbing the peat resource itself.

- 9.6 See Applicant's Response to Representations 5 and 138 – Natural Resources Wales below.

Representations 5 & 138 - Natural Resources Wales

Representation 5 – Natural Resources Wales

- 9.7 Representation 5 consists of an email to Caerphilly County Borough Council, dated 3rd December 2013, in which Natural Resources Wales requested the following information:

- A copy of the supporting data behind the auger work that is shown in ES VOLUME III DRAWINGS PART 1 Chapter 9 Auger boring locations to help with understanding of the distribution of the soils on the main site;

- The data relating to the assessment of the peat on site using the Von Post system.
- 9.8 Further to the above, NRW made further statements and requests in an email to the Applicant dated 10th December 2013. The statements and requests are set out below and the email can be found at Appendix MA/NL/PA/A09/001.
- Detail of the other site/s where a similar peat restoration has/is been carried out;
 - Peat restoration - Although the ES recognises that peat is sensitive and susceptible to damage/loss, an assessment of the consequences of the proposed restoration failing does not appear to have been carried out. Should the peat restoration fail (to a lesser or greater degree) the predicted losses would likely be very much higher. This is obviously tied in with the long-term success of the storage and restoration;
 - Carbon calculation – NRW note that there is a carbon calculation of the project but cannot see a calculation of the potential carbon losses caused through disturbing the peat resource itself.

Auger Boring Data

- 9.9 The auger boring descriptions for the soil profiles along transects where there are natural soils, including clays with peaty topsoils, can be found at Appendix MA/NL/PA/A09/002.

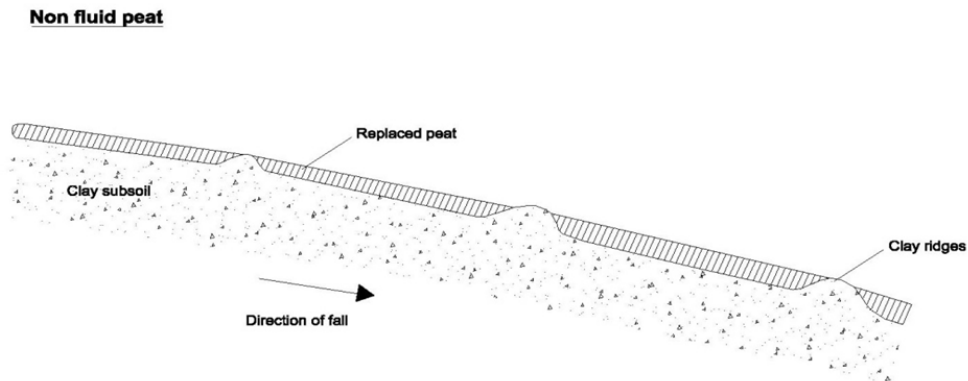
Von Post Assessment

- 9.10 The Von Post assessment for each auger boring is included in the data at Appendix MA/NL/PA/A09/002.

Other sites where a similar peat restoration has been carried out

- 9.11 Local experience of this soil type has been gained from the work currently being undertaken on the adjoining Ffos-y-fran site.
- 9.12 The natural soil profiles on the FLRS site were stripped during 2007 and have been put into stores around the site. This included limited volumes of predominantly humose clay loam topsoils with small volumes of shallow peaty topsoils.
- 9.13 As part of the work being carried out at FLRS, RPS have carried out a review of the soil resources that are located in heaps around the site in advance of the restoration of soils on the site. The review of the heaps where shallow peaty soils and humose soils have been stored indicates that the materials have been well maintained in the heaps, although there is evidence of mixing of clayey subsoil material. These heaps will continue to be monitored through the working and restoration of the FLRS site.
- 9.14 Another example where techniques similar to those being proposed at Nant Llesg are being implemented is at the Aberpergym site approximately 20km to the west of the site. Here deep peat soils have been stripped and moved and reinstated in two different types of formations:

- Shallow clay lined voids where a peat bog restoration programme is being implemented;
- and
- Gently sloping areas across which a series clay ridges (acting as tracks) have been formed to enable soil handling machinery to access and directly place peat materials onto the clayey subsoils without any movement across the sensitive soil materials. These clay ridges also restrict any potential for downslope slippage of materials. This method is illustrated below and is the technique identified in the Methodology for Handling of Peaty materials included as part of the Nant Llesg ES.



Peat Restoration - Consequences of the proposed restoration failing.

9.15 With regards to the assessment of the potential effects on the peat resource, it is recognised that the clayey soils with shallow peaty topsoils can be particularly sensitive and subject to damage. Therefore, whilst Miller Argent have proposed measures as part of the project to ensure that these soils can be handled and restored effectively, it is acknowledged that there may be some small losses of peat. The likely effects on shallow peat resources is assessed to be of moderate adverse significance with the recognition that there may be some long term losses of the shallow peat resource associated with the working and restoration of the site.

9.16 The wording of the assessment is given below:

“With regard to the clayey soils with a peaty surface, the draft soil handling methodology for peaty soils has been developed taking into account best practice guidance available, examples of other development sites in Wales and Scotland where peaty soils are being stored and handled and consultation advice. However, it is recognised that these peaty soils are sensitive materials and are susceptible to damage and losses when disturbed.

Therefore, whilst the successful implementation of the soil handling methods and the ecological restoration and aftercare strategy for these areas should lead to the effective redevelopment of the soil profiles and habitats in this area, it is assessed that a loss of a proportion of these sensitive materials may result from operations taking place on the main site. It is therefore assessed that following aftercare there would be a medium magnitude of

impact on the shallow peat resource, which is considered to be of moderate sensitivity. The overall effect on these clayey soils with a peaty surface is therefore considered to be of moderate adverse significance."

- 9.17 The assessment does therefore recognise that there may be small percentage losses of shallow peat resources, following the movement and restoration of the site and this effect is recognised as significant in EIA terms.
- 9.18 However, even taking into account potential losses of shallow peat resources through the stripping, storage and reinstatement process, it is considered that the implementation of a detailed soil handling methodology and careful monitoring of the soil handling programme will ensure that the restoration of the wet heath areas can be achieved at Nant Llesg.
- 9.19 Key factors that will assist in ensuring that the proposed restoration can be implemented with the loss of shallow peat resources limited as far as possible include:
- a. The soil types, including the clayey soils with peaty topsoils have been mapped in detail and the nature of these materials is well documented;
 - b. The peat resources are shallow and overlay a clay base within an average of 30cm depth, this is a different proposition to the movement and restoration of deep peat soils;
 - c. The natural clay base would be stripped where appropriate and stored within the overburden mound during the working of the site, to be replaced and prepared appropriately to receive the peaty topsoils during the restoration phase.
 - d. The soil handling techniques proposed on the site recognise the sensitivity of the material and will take into account local experience from the Ffos-y-fran site and other opencast and wind farm sites where these techniques have been successfully implemented; and
 - e. There is a continuing commitment that Miller Argent have made in terms of supervision of the soil handling on the site, in line with best practice guidance, which is absolutely key to the successful restoration of any scheme. RPS have been working with Miller Argent on the Ecological Management of Ffos-y-fran since 2007 and are now monitoring the initial placement of soil forming materials on this site.
 - f. There has been an ongoing dialogue with MTCBC as the local planning authority & WG (as a consultee) about the restoration and aftercare of the Ffos-y-fran site and initial discussions have taken place with CCBC, WG and NRW about the potential restoration scheme and techniques to be applied at Nant Llesg. It is anticipated that this dialogue and development of the techniques and proposals can be refined taking into account this continuing consultation.

Carbon Calculation

- 9.20 Paragraph 10 of MTAN 2 requires applications for coal working to "*demonstrate that actions to reduce carbon emissions from the extraction and transport of coal are included in the proposals*". There is also potential for methane to be released as the seams are extracted by surface workings, and paragraph 225 of MTAN 2 recommends that "*applicants should mitigate the carbon produced by the extraction process, making the extraction operation itself carbon neutral*".
- 9.21 This is explained in paragraphs 6.2 to 6.5 of ES Appendix MA/NL/ES/A19/001 'Sustainability and Carbon Statement', along with a review of relevant international and national guidance on

addressing impacts on climate change of proposed projects like the proposed Nant Llesg Surface Mine, including Land Reclamation. Following this guidance, the focus of the climate change chapter in the sustainability and climate change statement is to consider opportunities for minimising carbon and other greenhouse gas emissions, setting out how the GHG emissions have been reduced during the extraction and transport of coal, and how the carbon potentially emitted during the extraction process has been mitigated. The only quantification that has been carried out is in relation to the potential emission of methane during the extraction process, following the methodology defined in MTAN 2.

- 9.22 The appraisal of carbon emissions associated with the project has identified the potential to release carbon emissions through the degradation of peat. As stated in the chapter, *“during the extraction process it is anticipated that soil stripping activities could result in the potential release of carbon emissions through the degradation of peat, if the soils are not appropriately handled, stored and managed”*. Following the approach, as defined above, to focus on methods to reduce carbon emissions associated with the extraction activities, the sustainability and carbon statement sets out the proposed soil handling methodology that has been developed for the site's peat soil (see paragraph 24.26 of ES Appendix MA/NL/A19/001) and the potential carbon emissions associated with the potential degradation of peat as a result of the soil stripping operations at Nant Llesg (see paragraphs 9.61 to 9.65 below). The soil handling methodologies follow best practice guidance and have incorporated relevant principles to ensure that soil from the project is appropriately managed in order to reduce the potential for carbon emission release.

Representation 138 Natural Resources Wales

- 9.23 NRW Representation 138 was submitted to CCBC by letter on 21st February 2014. The letter can be found at Appendix MA/NL/PA/A028, which set out their objection to the proposal for the following reasons:

“1 The site currently supports habitats and species of high nature conservation value. However, this proposal will impact large areas of semi-natural habitats and have adverse impacts on the species associated with them. Inadequate mitigation / compensation has been proposed for these impacts. In addition, there is insufficient information on existing biodiversity, site restoration and aftercare.

2. The potential impacts of this proposal have not been adequately considered in the context of the Water Framework Directive.”

- 9.24 The objection included comments on specific matters in the Environmental Statement relating to peat including:

1. Assessment of the peat resources
2. Potential Extent of Losses of peat resources
3. Peat Handling Methodology
4. Restoration and aftercare of peat based on evidence from other schemes that have been implemented; and
5. Potential loss of carbon from peat

- 9.25 Responses to all the issues raised in this response are addressed in the document entitled Peat Handling and Wet Heath Restoration (see Appendix MA/NL/PA/A08/010). With regards to each of the items above the response is as follows:

Assessment of peat resources

- 9.26 NRW have considered the auger boring data provided by Miller Argent in December 2013. They raised a concern in regards to the identification of soils in Unit 2 and disagree with aspects of the assessment of Unit 2 Loamy over clayey soils due to significant depths of peat demonstrated by supporting augering data.
- 9.27 It is agreed that there are a number of auger borings within the Unit 2 that do have peaty topsoils. There are a group of 7 auger boring locations where there is a thickness of approximately 20cm peaty topsoil on the eastern fringe of the Soil Type 1 soil unit. However, the identification of this Soil Unit is not based on the identification of the topsoil alone, but on the nature of the whole soil profile and in particular on the nature of the underlying subsoil and lower subsoil.
- 9.28 In Soil Type 1, the peaty topsoils directly overlay a heavy textured and poorly structured slowly permeable clay subsoil. In Soil Type 2, the topsoils, a number of which are peaty overlay, a lighter textured clay loam subsoil which in turn overlays a clay lower subsoil. Soil Type 2 has therefore been identified as a separate soil unit as it contains soil profiles that comprise different physical characteristics and are notably better drained than those in Soil Type 1. The different Soil Types have therefore been correctly identified in terms of the overall soil profile characteristics.
- 9.29 However, it should be emphasised that Miller Argent are committed to stripping all of the available peat resources on the site separately to be stored and re-used as part of the restoration strategy. In this respect, as NRW have identified, there is a group of 7 auger borings (described above) where a depth of an average thickness of 20cm peaty topsoil has been identified and it is confirmed that this topsoil material would be stripped together with the other peaty topsoils within Soil Unit A. It is estimated that this would provide an additional approximate maximum volume of 10,000m³ of peat resource which can be used within the restoration strategy for the site. It is further confirmed that this additional material can be accommodated within the peat storage areas identified as part of the Scheme Proposal.

Potential Extent of Losses

- 9.30 NRW have correctly identified that *"Table 9.10 of Chapter 9 of the ES states that the area of soil generation of Clayey with Peaty Surface soils would be 65ha and Table 9.11 gives a restoration of Peaty Topsoil area of A Peatland of 48.7ha"*. Based on this information NRW concluded that the smaller area of Wet Heath to be restored compared to the area that comprises peaty topsoils must mean that there is a significant loss of peat resource proposed, stating:

“This appears to be a permanent loss of a considerable extent of peaty soils and their associated habitats”

The conclusion further states:

“These losses do not appear to be addressed in the ES as permanent losses nor is specific compensation for this matter proposed.”

- 9.31 For clarification, it is not proposed that there should be any intentional loss of either peaty soil resources or wet heath habitat is proposed. It is proposed that:
1. All peat resources would be stripped, stored and reinstated on the site; and
 2. The area of wet heath on the site which would be disturbed would be 35ha. 50.1ha of wet heath would be restored using the peaty topsoils stripped from this area and adjacent grassland on the same soil type.
- 9.32 The misunderstanding in relation to the proposals may be explained by identifying the differences between the ecological habitat assessment and the soil resource assessment.
- 9.33 The soil survey work is carried out as an independent assessment of the physical soil resources across the site. This is not the same as the ecological assessment of the habitats that have established across the site. Whilst there is commonly a good correlation between the areas of habitats and soil physical characteristics they do not necessarily match in terms of exact location or area. For example, on Nant Llesg grazing patterns vary and in particular where the peaty resources are located over slightly drier subsoils on the fringe of Unit 1, this area is likely to be subject to greater grazing pressure and therefore may not be classified as wet heath habitat.
- 9.34 The Habitat assessment of the site has identified that a total of 47.5ha of Wet Heath Habitat of which 35ha would be disturbed. The restoration strategy includes proposals to restore 50.1ha of Wet Heath habitat which, together with the undisturbed area of 12.5ha, would result in 62.6ha of Wet Heath post restoration. All of the peat resources identified in the soil survey would be stripped from the Wet Heath and other areas where peaty soils occur and these would be retained, as far as possible. It is proposed that the peaty topsoils in Soil Type A (average 30cm depth) would be stripped in their entirety and stored for reuse. As identified in the Soil Handling Methodology this would provide a total of approximately 195,000m³ peat resources. It is intended that all of this identified peat resource would be used in the restoration of the Wet Heath and Wetland areas which cover a smaller area (56.5ha) than the area from which the peaty soils would be stripped. This would provide a greater overall average depth of peat to be replaced from the peat storage cells onto the Wet Heath restoration area (approximately 35cm depth). This slight concentration of materials will ensure that there would be a suitable depth of peaty material for the successful re-establishment of the Wet heath across the entire area proposed, allowing any minor variations in the volume of materials stripped compared to the detailed survey data and also for any minor losses of material (<5%) during the soil handling process. There is an option that the area of wet heath habitat could be extended to a slightly greater area, or that peat resources could be graded out on the perimeter area to provide a gradation in habitat type. However, this would have to be balanced against the potential risks of losses associated with peaty soils drying out in areas restored with a very shallow peaty resource.

- 9.35 In summary, Miller Argent are therefore fully committed, as expressed in the Environmental Statement, to stripping and storing all available peat resources and to using the same to restore a greater area of Wet Heath habitat than currently exists on the site.

Peat Handling Methodology

- 9.36 There are a number of additional items highlighted where NRW have requested additional information for clarification of information provided in the Peat Handling Methodology (PHM) provided with the ES. These include:

The PHM not reflecting the Restoration Strategy in regards to habitat re-establishment.

Details of the quantity suitability or availability of material that is proposed to build the storage lagoons.

Sources of water to ensure that the lagoons can be kept wet

- 9.37 In addition to points raised in the letter, a meeting with NRW in March 2014 raised a couple of additional points which are also clarified below:

The minimum depth of clay which would be available either in situ or relaid over the overburden to produce a suitably impermeable layer for the replacement of the peat

A commitment to water level monitoring by used of piezometers.

Peat Handling Methodology and Restoration Strategy

- 9.38 The NRW response has picked up a description of the peat handling, which will be used to re-create the Wet Heath habitat as explained in the PHM. This is a text error in paragraph 1.4 of the Peat Handling Methodology where “*wet acid grassland*” should read “*wet heath*” (an erratum is being simultaneously submitted with the Applicant's Response to post-application representations). It is intended that the peat resources would be mainly concentrated onto the area to be restored to wet heath and wetland habitat areas as shown on ES Drawing MA/NL/ES/09/007.
- 9.39 The restoration strategy for the scheme is set out at Chapter 5 of the Planning Statement and the strategy for restoring the landscape of the site is depicted on planning application drawing MA/NL/PA/009. References to restoration to wet heath south of Rhaslas Pond and north of South Tunnel Road are provided at paragraphs 5.16 and 5.31 of Chapter 5 with soil handling methodology set out at paragraphs 5.54 to 5.62 and proposals for the establishment of vegetation and pond creation set out at paragraphs 5.63 to 5.75. Paragraph 5.74 points out that “*These issues would be addressed as part of a detailed minimum 5 year Aftercare Management Plan which would be submitted to and agreed with the Mineral Planning Authority*”.
- 9.40 MTAN2 provides advice at paragraphs 271 to 277 on procedures for conditioning and monitoring restoration and aftercare of the site. It advises that the standard for restoration should be set by the Mineral Planning Authority (MPA) so that remedial works can be required if necessary (MTAN2 paragraph 272). An Aftercare Condition, which should be included in

the planning permission for the scheme, would set the length of the aftercare scheme at 5 years or such other maximum as the MPA determines, identify the aftercare scheme to be applied to the site with provision for it to be revised at a later date and agreed with the MPA at least six-months prior to completion of restoration of that part of the site covered by the aftercare scheme (MTAN2 paragraphs 273 and 276). Any increase of the statutory five year aftercare period would be subject to agreement with the Applicant and inclusion in a planning obligation (MTAN2 paragraph 276).

9.41 It is acknowledged in MTAN2 that the long term success of restoration and aftercare requires continued close liaison between the Applicant and the MPA. Annual aftercare meetings to review progress and the programme for the subsequent year being reported as stipulated by the planning authority (MTAN2 paragraph 277).

9.42 To ensure compliance with the restoration and aftercare conditions, MTAN2 further advises that the MPA may serve an enforcement notice or a breach of condition notice specifying the period at the end of which steps are required to have been taken. This can extend beyond the end of the aftercare period stipulated in the permission (MTAN2 paragraph 276). As a final remedy, MTAN2 advises that, if the Applicant fails to remedy the situation, the MPA may carry out the necessary works and recover the costs from the landowner (MTAN2 paragraph 271).

9.43 The Applicant's proposals for the restoration and aftercare of the Nant Llesg scheme, as set out in the planning application, have been designed to reflect the above advice in MTAN2. A detailed minimum 5 year Aftercare Management Plan is to be submitted to and agreed with the Mineral Planning Authority as proposed at paragraph 5.74 of the Restoration Strategy set out in Chapter 5 of the Planning Statement. The Aftercare Management Plan will:

- Describe the progressive restoration and aftercare of the site;
- Ensure that the detailed proposals are well designed, appropriate for the successful establishment of the proposed vegetation, considerate to the use of adjacent land, and suitable for the intended after-use;
- Provide for the establishment and management of nature conservation interests, with clear and structured management objectives;
- Incorporate habitat creation techniques with species lists, seed mixtures, planting/sowing rates, ground preparation, seasonal considerations and management schedules for the different vegetation types,
- Include provision for the creation of standing and running water with details of pond and channel construction and specifications for materials to be used;
- Provide timetables and schedules for the future management of the restored land with monitoring against desired objectives, as agreed with the MPA;
- Provide for public access, whether during or after aftercare, and account for public safety during the aftercare works;
- Consider contingent alternatives should restoration or recreation of desired vegetation types not be successful on site;
- Be subject to a detailed specification of works being submitted and approved by the MPA;

- 9.44 The relevant assessment of the likely environmental effects of the restoration and aftercare proposals is set out in the Environmental Statement, its addenda and appendices and covers matters in relation to, landscape and visual impact, land use and soils, ecology and nature conservation, archaeology and cultural heritage, hydrogeology, hydrology and drainage, recreation and tourism, social impact, traffic and transport, air quality and dust, noise and waste, together with an integrated assessment of the health and well-being of the surrounding communities,
- 9.45 The proposals in the Planning Statement, its addenda and appendices set out the Applicant's proposals for working the site and the establishment of the restored landscape (with gradients and drainage) and including the recreation of the wet heath south of Rhaslas Pond, proposals and methodology for the stripping, storage and replacement of soils and soil forming materials, excavation, storage and replacement of overburden, the progressive nature of site restoration, the treatment of potentially unstable shafts and adits to old mine workings, the remediation of off-site adverse impacts from site operations, the replacement of surface water and groundwater regimes, the provision of ponds and other water features, the provision of appropriate vegetation, planting and surface features including field boundaries, woodland planting, nature conservation and biodiversity enhancement, grazing land, access tracks, public rights of way, informal public amenity and heritage trails and features, together with aftercare to follow the phased and progressive restoration of the land.
- 9.46 Paragraphs 9.43 to 9.45 show that the Applicant's restoration and aftercare proposals correspond to the advice set out in Appendix Q of MTAN2: 'Best practice for reclamation'.

Details of the quantity and suitability of materials for building the peat storage cells

- 9.47 The areas identified for peat storage are located within areas where clayey with peaty topsoils have been identified. Pits have been dug on site in this area as part to the soils survey, which extended to approximately 2.0m in depth. These identified that the depth of low permeability clay extends to at least that depth below the surface of the ground. In addition geological borehole data across the site identify a thickness of between 0.7m up to 5.8m of clay across most of the excavation area that is undisturbed by previous surface mining.
- 9.48 The area where Soil Types 1 and 2 are located contains clayey upper and lower subsoil material that is available for use in the formation of the containment areas as required. This provides a total area of 85.4 ha where sources of clayey material have been identified on site. Based on a conservative average of 1m depth of clayey material within this area this would provide a resource of 850,000m³ of suitable material for containment of peat resources on site.
- 9.49 The excavated clay can be used to create banded areas to a suitable depth to contain the peat material as indicated in the Peat Handling Methodology. Where bedrock is encountered beneath the clayey till, clayey material would be used to line the containment areas, to ensure that the peat resources can be suitably contained.

Depth of Clay proposed to be placed beneath Peaty Topsoils

- 9.50 The peaty topsoils would either be replaced over in-situ clayey soils where possible, or over a layer of compacted impermeable clayey material above the final overburden level. The key

requirements in ensuring that this is a suitable material over which to place the peaty topsoils are:

- The clay horizon is suitably impermeable; and
- The clay is suitably prepared to enable the peaty topsoils to “key” into the clayey horizon.

9.51 The clay horizons identified in the soil survey are very poorly structured and “slowly permeable” throughout. These materials if compacted by machinery would form a suitable impermeable substrate for the placement of the peaty topsoils. The examples considered later in this response provide evidence that this technique has been successfully applied on other sites where there was no set thickness of clay stipulated to be replaced as this was not considered to be a limiting factor on the creation of an impermeable substrate. However, it is suggested that a depth of 30cm would be sufficient to create the impermeable horizon.

9.52 Whilst the clay can be worked and compacted using tracked machinery, it is also important that the surface of the clay is not left “smooth” prior to the placement of the peaty topsoils. This roughening of the surface was proposed in the PHM as follows:

“In addition, roughening or scarification of the basal layer would be carried out to provide a key for the replaced peat. This could be achieved by gentle combing of the surface with a toothed excavator bucket.

5.4 The Good Practice Guide for Handling Soils describes such a method for the deliberate loosening of compacted layer. However, deep decompaction is not required for the situation where peat is to be respread over a slowly permeable basal layer and so the machinery should be operated so as to produce only a slight roughening of the surface.”

Water Sources on Site and Monitoring

9.53 The Peat Handling Methodology at Appendix MA/NL/PA/A08/010 identified that the levels within the peat storage areas would be monitored by piezometers and taking into account the high rainfall amounts at Nant Llesg and the current status of the soil bunds on Ffos y fran which remain moist throughout the year, the PHM raised the possibility that excess water may have to be drained away from the containment areas.

9.54 NRW raised an additional concern about the availability of water resources to be used to keep the peat in the storage areas moist on the surface, if required. It is confirmed that there would also be sufficient water available on site during the operational period to ensure that the peat storage area can be kept suitably moist, if any drying out on the surface becomes apparent. The water would be pumped from the retained section of Rhaslas Pond, storage within the void or as a last resort Water Treatment Areas. Water from these sources would also be used for other operations on Nant Llesg but there will always be more than sufficient water to keep the peat storage areas moist. Chapter 11 ‘Hydrology and Drainage’ of the Second Addenda to the ES considers water availability in more detail and shows that even in times of drought, there is sufficient water available for all requirements.

Restoration and aftercare of peat based on evidence from other schemes that have been implemented

- 9.55 The response document, Peat Handling and Wet Heath Restoration contained at Appendix MA/NL/PA/A08/010 provides the full record of the evidence that has been collated by Miller Argent for a number of key sites. The sites that are discussed in the document include the following local and national examples:
- 9.56 The local examples include:
1. **Aberpergwm.** A surface mine located approximately 20km to the west of the site where peaty soils have recently been restored to form a number of developing peat bogs. Techniques being applied to the storage and replacement of peaty soils in the depressions created as bogs are similar to those proposed at Nant Llesg.
 2. **Ffos y fran Land Reclamation Scheme.** This is the current reclamation scheme being operated by Miller Argent immediately to the west of the Nant Llesg site where organic soils are currently being stored in heaps for use in the restoration scheme.
 3. **Nant Helen.** This is a surface mine being operated by Celtic Energy and located approximately 20km to the west of Nant Llesg where areas of peat bog have recently been created as part of the restoration scheme. Techniques used for the production of suitable vegetative material to be used in the restoration of the site could be considered for use at Nant Llesg.
- 9.57 The national examples include:
1. Plenmeller
- 9.58 Plenmeller is a former surface coal mine situated at an altitude of some 300m AOD in the north Pennines. The planning consent issued to British Coal in 1987 included a condition that some 190ha of the site must be restored to cotton-grass, mat-grass, heath rush, heather and Sphagnum moorland plant communities. Mining commenced in 1988.
- 9.59 The restoration of wet heath areas on peaty soils on this site is directly comparable in many respects to the proposed restoration of wet heath habitat at Nant Llesg. The site is located south of Haltwhistle in Northumberland and covered a total of approximately 450 hectares, including 190ha excavation area. Coaling finished in 1998 and the final restoration of the site was completed in 2002. The site was restored to a mixture of hill farmland, upland grazing and moorland, including areas of wet heath habitat. Annual aftercare monitoring has been carried out on the site with the site being released from aftercare following the monitoring inspection in May 2012.
2. Bleak House
- 9.60 The Bleak House opencast mine near Cannock in Staffordshire was granted planning permission by Staffordshire County Council in 1993. The mine was worked within an area of existing heathland (SSSI), agricultural land, woodland and large water bodies. SSSIs were retained at the edges of the site and re-incorporated upon restoration, having been managed to enhance the area. Within the surface mining site, selected areas of the wet heathland were trans-located in order to provide the restored site with suitable material to use during the rehabilitation phase. This was assisted by the formation of an extensive network of pools, ponds, fen and wetland. The development of the rehabilitation scheme has encouraged

breeding populations of dragonfly on the site, a valuable enhancement to the biodiversity of the area. A major element of the Bleak House site was the provision of a storage system capable of supplying Biddulph's Pool SSSI with adequate volumes of suitable water for a full year, until the natural hydrological regime was re-established during the rehabilitation phase. In summary, the local and national examples discussed above confirm that these habitats and peaty soils can be successfully restored. Key points arising include the following:

- Establishment of the habitats on peaty soils is more successful than on mineral soils;
- Notwithstanding this, Bleak House demonstrates that wet heath can be successfully established on mineral soils;
- Where peat is to be used, an impermeable clayey substrate should be created prior to peat placement;
- The clayey substrate should be roughened to promote "*keying*" in of the peat;
- Contour ridges in the clay assist in the containment of the restored peat;
- Containment of peat in rock and clay bunds has been successful;
- Peat stripping methods similar to those proposed in the Nant Llesg PHM have been successfully applied on other sites ;
- Peat soils can be successfully restored with limited settlement using appropriate roughening of the clay substrate on moderately sloping sites (1 in 10 to 1 in 20);
- Avoid thinning out on the edges of the restored peat, particularly on sloping areas;
- Prompt establishment of vegetation is important for stabilisation of the surface and to prevent drying out;
- Grass nurse crop needs to be sown in advance of the heather;
- Soft rush needs to be controlled using glyphosate using weedwiper or similar;
- Invasion by birch and willow can be a problem and may need control although once grazing is established this should prevent further establishment of woody species;
- Plenmeller and Bleak House were released from aftercare after approximately 10 and 11 years respectively;
- It may be possible to apply tracked or low ground pressure machinery onto the restored peats, although this is not proposed in the current Nant Llesg methodology;
- Ponds add considerably to biodiversity;
- Wet heath of high biodiversity value can be established as indicated by the SSSI notification for Bleak House;

- Moorland bird populations can be established relatively quickly following restoration.

Carbon Losses

9.61 NRW made the following comment in relation to the potential loss of carbon from the peat.

“Although the project aims to restore the disturbed peat as detailed above, NRW consider the proposed method high risk. We have been unable to find calculations detailing the potential release of carbon from disturbed peat should the restoration fail. We therefore recommend that this calculation is carried out”

9.62 The following table sets out the potential carbon emissions associated with the potential degradation of peat as a result of the soil stripping operations at Nant Llesg.

9.63 The carbon content and bulk density of the peat is based on the detailed soil survey work undertaken on the site. The potential emissions have been calculated using the Scottish Government Windfarm Carbon Assessment Tool (v2.9.0 published 26/3/14).

Table PSA9.1 Potential Carbon Emissions Resulting from Potential Degradation of Peaty Soils at Nant Llesg

Relevant Characteristics of the Peaty Topsoil				Potential Carbon Emissions		
Total volume of Peaty Topsoil	Average Depth of Peat	Dry Soil Bulk Density	Carbon Content (by weight)	5% loss	25% loss	100% loss
Approx. 200,000m ³	0.3m	0.25g cm ⁻³	28%	2,567 tCO ₂	12,835 tCO ₂	51,338 tCO ₂

9.64 Table PSA9.1 presents a range of scenarios to present the carbon emissions in the event that a) 5%, b) 25% or c) all of the peat was degraded. However, as explained earlier, the proposed strategy is to preserve and restore all of the peaty topsoils on site and therefore to retain this resource in its entirety, as far as possible.

9.65 As explained in the Sustainability and Carbon Statement, 30.1 hectares of tree planting are proposed as part of the Nant Llesg scheme (16.1 hectares within the restoration strategy and 14 hectares as part of the ecological enhancement at Bryn Caerau) which will offset the release of methane during coal mining excavation.

Representation 13 – Gelligaer & Merthyr Commoners Association

- 9.66 The Gelligaer and Merthyr Commoners Association submitted an objection to the Nant Llesg scheme via their solicitors, JCP Solicitors, on 31st October 2013. The Applicant notes their objection and has since that time been in communication with the commoners association to resolve their concerns. Discussions are ongoing at the time of this response.

Representation 62 - P E Morris (Commoner)

- 9.67 Mr Morris raised the following concerns:

- (1) Less grazing for his animals;
- (2) Additional shepherding due to disturbance of grazing area;
- (3) Danger to livestock when both sides of the road are fenced from "Disposal Site to Trecatty Grid";
- (4) Failure of applicants ability to keep site stock proof on their adjoining site at Ffos-y-Fran, causing animals to go untreated for health, shearing etc.;
- (5) Removal of watering ponds and streams, where animals from all the northern section of the common visit to drink;
- (6) General interference with his Statutory Commoners Rights.

- 9.68 Apart from a misconception that Fochriw Road is to be fenced on both sides, his concerns are similar to those expressed by the Commoners Association in Representation 13 'Gelligaer & Merthyr Commoners Association'. As stated in response to that representation, since submission of their objection to the scheme, the Applicant has been in communication with the commoners association to resolve their concerns, and hopefully, in doing so, will resolve those of Mr Morris. Discussions with the Commoners Association are ongoing at the time of this response.

Representation 136 - Natural Environment and Agriculture Team, Land, Nature and Forestry Division, Department for Natural Resources and Food, Welsh Government

"The Department of Natural Resources and Food of Welsh Government is considering this planning application in accordance with the requirements of the Town and Country Planning Act 1990 (as amended) Schedule 5 Part 1 paragraph 4.

It is confirmed that there is no best and most versatile agricultural land present on this site. The Department will therefore confine its comments to technical matters relating to the proposed agricultural after use.

In accordance with Schedule 5 Part 1 paragraph 4(1) of the 1990 Act, the Department confirms that it is appropriate to specify agriculture as the after use.

The Department is also required to confirm the standard of agricultural after use that should apply to this case, to satisfy paragraph 3(2) of Schedule 5 of the 1990 Act. It is

in the context of this requirement that the Department at present is in difficulty, as follows

Minerals Technical Advice Note 2: Coal paragraph 262 advises that uncertainties such as shortfall in soil should be tackled in the Reclamation Scheme.

The problem lies with the lack of information within the developer's proposals concerning the manner in which Restoration Area C4 upland grassland northern area (123.1 hectares) is to be restored. To a lesser extent, the problem also concerns the restoration of Areas C3, C5, D and E which also relies upon the use of "selected restoration material" as the surface or subsurface layer in the restoration, due to the lack of insitu natural soil resources. It can be seen from the areas involved that the availability of "selected restoration material" is a very significant issue at Nant Llesg.

For the developer's proposals in this regard, please refer to Environment Statement Table 9.11 Restoration of Soil Units and Plan MA/NL/ES/09/007 Restored land Uses. Table 9.10 confirms that there are no soil resources within Soil Unit 4, so total reliance is placed on "selected restoration material", otherwise known as soil forming material.

The developer appears to have failed to address where this "selected restoration material" will come from and how it will be recovered to secure storage during the period of excavation. Normally, and reliance on soil forming material in the absence of recoverable natural soils is a common and accepted method of agricultural restoration following opencast mining in the South Wales Coalfield, suitable soil forming material (weathered brown shales) is found within the superficial geology of the excavation zone. This material, correctly handled in restoration and managed during aftercare, is a valuable substitute restoration material. The problem at Nant Llesg is that the majority of the zone of excavation has been worked previously and appears from the submitted soil pit descriptions to have been backfilled to the surface with ungraded bulk overburden, so the usual source of superficial soil forming material is not present.

The above issue affects not only the standard of agricultural after use, but also the working phases when the developer should commit to identifying the appropriate volume of soil forming material as the excavations progress across the site, recovering to secure storage and final placement. The source of the restoration material and commitment to recover in the required volumes should be confirmed by the developer at the outset.

Types of Soil Forming Materials

- 9.69 Materials selected as potential Soil Forming Material (SFM) should be as "soil-like" as possible. They should, ideally, have a mixture of particle sizes and, while not necessarily being a "loam" in the strict sense, they should not be extremely sandy, clayey or silty. They should not contain appreciable amounts of boulders or large stones (more than 6cm diameter) and, ideally, the total stone content (less than 6cm) should be no more than about 20%. They should show some signs of having, or the potential to develop, a form of soil structure in that the material will break up fairly readily into smaller coherent lumps. They should be free of any contaminants, in particular high levels of heavy metals or actual or potential harmful substances e.g. pyrites (which produces "acid shales"), or high levels of salts.

Sources of SFM

- 9.70 On open-cast coal sites, there are three main sources of SFMs likely to be encountered and used as restoration materials:
1. Brown weathered shales near the top of the sequence or similar weathered material from the upper part of any locally derived glacial tills.
 2. A further source of SFM is the "*inter-burden*" between the actual coal seams and this has proved to be an important source of SFMs on the adjacent Ffos-y-fran site.
 3. Restoration profiles consisting largely or even entirely of relatively "*raw*" unweathered shales. These materials can perform well, but should ideally have as high a proportion of "*finer*" as possible, should be free of large boulders and should be placed with minimum compaction.

Requirement for Clarification

- 9.71 The clarifications required are understood to be:
1. To provide further information on the sources and likely volumes of SFM that would be used to form up to 0.5m depth of the restoration profile; and
 2. Confirmation of a commitment by Miller Argent to strip, store and restore the different sources of materials appropriately to ensure that the best standard of agricultural reclamation can be achieved on this area.

- 9.72 Dealing with each of these in turn:

1. Additional Information on Sources of SFM

- 9.73 At Nant Llesg, the soil pits dug across the area of land previously restored identify that there are no surface based soil forming materials likely to be recovered across this part of the site. The pits dug to 2-3m show that the historical restoration areas currently are based on a base of predominantly raw shale material, although any areas where recoverable materials are encountered in this area would be stripped and stored as soil resources to be used as soil forming material.

- 9.74 The existing use of the restored area as agricultural grazing land illustrates that restoration can be achieved using the raw shale materials. However, the placement and treatment of these materials as part of a future restoration profile could be improved by applying the principles mentioned in ES Appendix MA/NL/ES/A09/003 'Non-Peaty Soil Handling Methodology', so that the materials are of a more consistent nature than present, with the appropriate placement of such material to reduce the potential for compaction and to remove large boulders or stones. However, Miller Argent have in addition identified that there are areas of inter-burden materials that would become available within the Nant Llesg excavation that can be retained and used to form part or, if possible, of up to 0.5m depth of the restored profile in these areas. The use of these materials in accordance with best practice methods for stripping, storage and replacement, as laid out in the Non-Peaty Soil Handling

Methodology document attached to the Environmental Statement would constitute an improvement in the quality of the restoration profiles across the 123ha, compared to the existing situation, following the aftercare period. These materials would also be used in the preparation of the woodland planting areas (Area F in the 'Non-Peaty Soil Handling Methodology') across an area of approximately 4.4ha.

- 9.75 In order to provide further clarification of the potential volumes of inter-burden materials likely to be generated within the Nant Llesg excavation MA has carried out an exercise to compare the location and volumes of inter-burden materials recovered to date within the Ffos-y-fran (FLRS) scheme with the locations and thicknesses of these materials relative to the geological sequence at Nant Llesg. Table PSA9.2 below identifies the location of these materials within the sequence and estimates of likely recovery based on the areas and quantities recovered from FLRS within these same interfaces.

Table PSA9.2 Soil Forming Material Generation Between Seam and Rockhead

Nant Llesg SFM Inter-burden Generation Between Seam and Rockhead - Modelled on Volumes Recovered from Areas on FLRS within Same Interfaces			
Location of Potential resource	5m Depth Volume Estimate m³	7.5m Depth Volume Estimate m³	10m Depth Volume Estimate m³
Above R seam	83,000	124,500	166,000
Above S seam	53,000	79,500	106,000
Above Q2 seam	19,000	28,000	38,000
Above PB seam	16,000	24,000	32,000
Above N seam	56,500	84,750	113,000
Above LT2 seam	72,500	108,750	145,000
Estimate Totals	300,000	450,000	600,000
Depth of Restoration of Inter-burden SFM Generated from Interfaces	24cm	36cm	48cm

- 9.76 A recent inventory of stored soil and soil forming materials on Ffos-y-fran have identified that the materials collected from these inter-burden sources are relatively uniform in nature and have enabled the successful establishment of upland grassland across an initial area of approximately 18 ha on the western part of the site.
- 9.77 Despite the fact that large parts of the Nant Llesg site are worked there remain considerable areas of original crop edge coal, albeit in the upper seams. Experience from Ffos-y-fran indicates that there would be a minimum of 5m thickness up to a maximum thickness of 10m weathered shale material likely to be recovered between the seam and rockhead. Based on the current recovery of materials from Ffos-y-fran it is estimated that the recovery within the Nant Llesg excavation above the L2 seam would be from a minimum of approximately

- 300,000m³ (up to 5m thickness) up to a maximum of approximately 600,000m³ (up to 10m thickness) of inter-burden. Based on an average outcome, it is considered that the generation of inter-burden material is likely to be in the region of 450,000m³ across the Nant Llesg site.
- 9.78 Estimates of materials that may be encountered deeper within the excavation area and their suitability as SFM are more uncertain and therefore have not been included within the figures given here. However, wherever such materials are identified they would be excavated, stored separately and reused as SFM.
- 9.79 Based on a recovery of an average volume of 450,000m³ this would provide a depth of approximately 36 cm of inter-burden material to be placed as the upper horizon across the area of both the upland grassland area (123ha) and Area F, the woodland area (4.4ha).
- 9.80 Based on a recovery of a greater than average thickness of 10m of inter-burden and the generation of 600,000m³ of material from this source, this would provide the full depth of approximately 48cm to be potentially replaced as the whole SFM restoration profile across the area of grassland (123.1ha) and Area F, the woodland area (4.4ha).
- 9.81 Based on a recovery of a less than average volume of 300,000m³ this would provide a depth of approximately 24 cm of inter-burden material to be placed as the upper horizon across the area of both the upland grassland area (123ha) and Area F, the woodland area (4.4ha).
- 9.82 In summary therefore, it is proposed, based on the evidence base presented, that the restoration of the 123.1 ha of upland grassland would be carried out in the same way as the current SFM placement on Ffos y fran, including the following key elements:
1. 0.5m of selected backfill material. This would be loosened by a multi-tined ripper in two directions. Large boulders would be removed (>300mm) in diameter.
 2. Placement of a likely average of 36cm (minimum of 24 cm and a maximum of 48 cm) of inter-burden material SFM onto the prepared backfill SFM material using best practice soil handling methods as outlined in the Non-Peaty Soil Handling Methodology (ES Appendix MA/NL/ES/A009/003)
 3. Removal of stones greater than 150mm from the inter-burden materials in this upper layer.

2. Miller Argent – Commitment to recovery of Inter-burden SFM.

- 9.83 Miller Argent has successfully identified, recovered and stored SFM within the Ffos-y-fran excavation. An initial area of approximately 18ha on Ffos-y-fran was subject to the preliminary placement of SFM in the summer of 2013, where an upper horizon of brown weathered shales and inter-burden materials (35cm depth) has been placed over suitably prepared raw shale materials. The result of the preliminary placement and seeding of similar SFM on Ffos y fran has shown good results in the first season. A similar approach is being proposed with regards to the upland grassland at Nant Llesg and Miller Argent is committed to this.
- 9.84 The inter-burden materials that are identified will be recovered and stored separately within the areas designated for overburden storage. The location of the proposed storage area is shown on Drawing MA/NL/PA/056. The volumes of such materials being recovered in the initial phase of the excavation (Disposition 1 and Disposition 2) can be monitored on an annual basis to provide a more accurate estimate of the final total volumes of inter-burden

materials likely to be recovered. Following the identification of the total volume of inter-burden materials likely to be recovered, the specification for the placement of the different soil forming materials within the restoration profile can be agreed with the Local Planning Authority and Welsh Government. The agreed restoration profile would then be restored in accordance with best practice methodology as identified in the Non-Peaty Soil Handling Methodology that forms part of the Environmental Statement.

Nant Llesg Surface Mine

Incorporating Land Remediation

Chapter 10

Hydrogeology

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10 Hydrogeology

- 10.1 Due to the way in which representations tend to refer to a mix of hydrological and hydrogeological matters, the Applicant's response to such representations are dealt with under one heading Hydrogeology, Hydrology and Drainage.
- 10.2 Accordingly the Applicant's Response to all representations of this nature is contained in **Chapter 11 Hydrogeology, Hydrology and Drainage.**

Nant Llesg Surface Mine

Incorporating Land Remediation

Chapter 11

Hydrogeology, Hydrology and Drainage

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11 Hydrogeology, Hydrology & Drainage

- 11.1 The following is the Applicant's Response to representations that relate to hydrogeology, hydrology and drainage. Due to the way in which representations tend to refer to a mix of hydrological and hydrogeological matters, the Applicant's response to such representations are dealt with here under one heading.

Representation 1 - Caerphilly County Borough Council (CCBC) relating to the initial representation made by the United Valleys Action Group (UVAG)

22. The remediation of the silting of the stream running into Parc Cwm Darran appears to be quite a routine and undemanding job to us. We have been told a wide and deep(ish) settlement pond around 2/3 of the way down the stream would do the job. At least one concrete bank with a small paved road access for a digger with a long arm to empty the silt every few years. Have other solutions for the remediation of the silting of the stream running into Parc Cwm Darran been explored and put out to tender?

- 11.2 With regards to the alternative to the proposed land drainage remediation in the above, mentioned representation, this is not considered by the Applicant to be a viable long term solution, given that there would be a continued requirement to remove sediment collected in the settlement pond, with a significant ongoing cost associated with it. CCBC could, as an alternative, choose to continue dredging the existing channel and lake and pay for its disposal. It is understood that the works carried out by CCBC in 2007 were at a cost of £120,000. This would likely be a recurring cost during future years. The UVAG solution and the continuation of the existing situation are not sustainable as they do not tackle the root cause of the problem – erosion of the spoil material above Fochriw.
- 11.3 Paragraphs 11.113 to 11.115 of Chapter 11 of the Nant Llesg Environmental Statement (ES) provide the rationale for the solution proposed by Miller Argent. This is a proactive rather than a reactive solution and aims to deal with this problem at source, and avoids the need for ongoing management and maintenance.

23. Would the water remediation works to the river Rhymney feed drain water from shafts that extend beyond the boundary of the site? There are concerns that drying out shafts that haven't been filled in would actually cause collapse and create sink-holes beyond the site. Has a survey been carried out to establish the effect that the Nant Llesg project will have on the surrounding old mine workings that extend outside the site boundary? Miller-Argent made a big thing about the sink-hole that appeared in Fochriw recently even though they would never be remediating the area as it was off site.

- 11.4 The proposed works would not encounter significant volumes of groundwater until the Rhaslas Drain is intercepted near to the base and the southern edge of the excavation. When intercepted, this would form the bulk of water discharged to the River Rhymney via treatment facilities. However, because groundwater levels in the area are already depressed due to the presence of the Rhaslas Drain and the wider Dowlais Free Drainage

System (DFDS), the interception of this drain would result in only a modest lateral increase in extent and magnitude of drawdown in groundwater. It is considered that shafts would therefore not experience sufficient additional drying out so as to cause their collapse.

24. Other water treatment solutions have revolved around settlement ponds and natural reed and other water plant filters. Has this solution been explored for the remediation of the water issues at Nant Llesg? If so, would this solution negate the need to dig up the old shafts to deal with the water issues?

- 11.5 Typically, mine water discharges are dealt with via a water treatment area featuring cascades and reed beds set up to promote oxidation, precipitation and collection of the dissolved substances before the flow enters a watercourse. Periodic maintenance needs to be undertaken to remove accumulated material and to pay for the disposal of this material. Ideally, systems function by gravity ('passive'), and water falls downhill through the works, an example being the nearby Taff Merthyr mine water treatment facility on the Taff Bargoed (5 km south of the Site).
- 11.6 However, at Nant Llesg/Rhymney mine water enters the River Rhymney at depth within the Rhymney Culvert. Considering this and the volumes of mine water currently discharged into the culvert, if the proposed development does not proceed, a significant pumped system would be required to remediate this discharge successfully, costing considerably more (with both plant and running costs in addition to the maintenance costs referred to above) than a typical solution. The combined mine water and River Rhymney flows cannot be easily treated at the exit of the culvert, due to the even larger volumes of water and the need to avoid excessive engineering intervention into the main river channel.
- 11.7 Paragraph 10.65 of the Hydrogeology chapter of the ES characterises the poor water quality in the DFDS and Bute Watercourse, and notes the opinion of Natural Resources Wales (NRW, formerly the Environment Agency, EA) that the DFDS discharge is currently considered the second worst unmitigated discharge in Wales. This concern is also repeated in the Hydrology chapter at paragraph 11.10. Hydrogeology paragraphs 10.63, 10.64 and 10.66 and Hydrology paragraphs 11.87, 11.88, and 11.92 provide more information on the drop in water quality in the River Rhymney as this mine water discharge enters the Rhymney.
- 11.8 The proposed development would itself contribute towards improvements to the water quality environment in the River Rhymney, at no cost to the public purse, whilst other more typical interventions are not practical or sustainable.

26. It has been revealed by Miller-Argent at the recent Nant Llesg liaison meeting that the extent of the remediation works to be carried out under the Nant Llesg project would only amount to £750,000 instead of the £6 million project that had been planned by CCBC. Can you confirm this remediation works will have the desired effect on silting of the pond at Parc Cwm Darren? If so, could you explain why Miller-Argent can complete the required works for less than 15% of the original planned cost to the public purse?

- 11.9 Firstly, as far as Miller Argent is aware, the figure of £6 million for the proposed works has never been detailed or substantiated by CCBC or any other authority, and no detailed breakdown of this cost has ever been provided. Secondly, the figure of £750,000 quoted by Miller Argent related to the drainage works only and did not include remediation of shafts and adits. The total estimated cost for the Applicant's remediation works therefore

- approximates to £2.15 million (£750,000 for drainage works plus £1.4 million for shafts and adits).
- 11.10 The only document that Miller Argent has had sight of in respect of the Council's proposals is a submission by CCBC to the Welsh Development Agency (WDA) for the funding of a land reclamation scheme proposed at the time (20th April 2007). This was submitted to the WDA to resolve the on-going siltation problems at Parc Cwm Darran (see Appendix MA/NL/PA/A04/001). The total cost detailed in this document is £2.281 million, and the total is further broken down into a number of separate costs.
- 11.11 With respect to work item 8.1.4 (Drainage), a figure of £420,000 is the only element of the costs detailed that relate directly to the drainage works proposed by Miller Argent. Obviously part of items 8.1.2, 8.1.3, 8.3, 8.4 and 8.5 would also be incurred in carrying out the works but, because of the existing in-house supervision, administrative and design capabilities that Miller Argent would have on the site anyway, the Applicant's costs would be substantially less than those quoted in the CCBC submission.
- 11.12 Of the remaining work items on the list, a number can be discounted completely or are covered elsewhere within the costs for the Nant Llesg scheme for the reasons given below:
- The work Items 8.1.1 (Site Investigation), 8.2 (Topographical Survey), and 8.6 (Land Acquisition), amounting to £187,000, have already been carried out by Miller Argent in preparing the Nant Llesg planning application and designing the drainage scheme.
 - Work item 8.1.5 (Earthworks), associated with a figure of £825,000, related to the re-profiling of the overly steep tips in this area, and was not considered by Miller Argent to be a viable option, given the scale of works required and the potential damage these works might cause to the ecology of the area. Consequently, an alternative solution was designed which uses the existing ground profile with the drainage works re-designed to fit in with this profile.
 - Work item 8.1.7 (Treatment of Shafts and Adits), amounting to £330,000, was not included in the stated figure of £750,000 by Miller Argent. The cost to Miller Argent of dealing with the 138 known shafts and adits within the Nant Llesg boundary is currently estimated at £1.4 million. These works would be carried out separately to the drainage works as part of the overall shaft and adit treatment works for the Nant Llesg scheme.
 - For work Item 8.1.9 (Landscape and Fencing), a figure of £50,000 was included by CCBC, which only covered temporary 'Heras' type fencing. The Applicant's costs for landscape and fencing are included in the figures of £750,000 for the drainage works and £1.4m for the treatment of shafts and adits.
- 11.13 The contention of UVAG that *"Miller-Argent can complete the required works for less than 15% of the original planned cost to the public purse"* is therefore not correct. On the basis of the above considerations, the figure quoted by Miller Argent of £750,000 for the proposed **'drainage works'** remains a reasonable estimate for those works.
- 11.14 A number of versions of the currently proposed drainage scheme were discussed with CCBC engineers, and some changes to the original were made in response to comments from them. The drainage scheme submitted by Miller Argent as part of the Nant Llesg planning application was examined and agreed with CCBC engineers prior to submission of the planning application.

30. The hydrology/hydrogeology of the proposed operation and the site itself is very complex and finely balanced. We have read the planning application and the complexity of the statements is beyond us. Does CCBC have the expertise on-board to perform due diligence on this submission or do they plan to bring in an expert to check the veracity of the applicants statements on water management?

- 11.15 This is for CCBC to answer. However, the Hydrology and Hydrogeology chapters of the ES were prepared by the Applicant's qualified expert consultants (AMEC) and, if required, the Applicant is more than happy to provide the assistance of these experts to help the local planning authority to understand any of the complex issues, and would request that the local planning authority indicate as much in the event that any aspect of the proposal is not fully understood.

Representation 10 – CCBC – Engineering

In general the proposals for the protection and remediation of the colliery spoil tips north of Fochriw appear adequate – however, there are no benching details, either described in the text or detailed on the drawings, for those areas of gullying where the proposals are for filling and regrading.

- 11.16 The design drawings presented at this stage are outline in nature, and are intended to present an overview of the scheme. The drawings are not for construction. Naturally, in accordance with best practice and good workmanship, benching of any placed fill into the insitu materials would be required. The detail of this would, however, form part of a detailed design to be submitted to the local planning authority for approval in advance of the works being carried out. This can be controlled by way of planning condition.

The detail of the reinforced blockstone bank on Drg 005 (Areas 3-6) does not show the lateral extent of the blockstone protection. It is unclear from this drawing how potential scouring, on and behind, the upstream and downstream ends of the proposed blockstone protection is to be achieved.

- 11.17 Again, these details would be developed during a detailed design to be submitted to the local planning authority for approval in advance of the works being carried out. This can be controlled by planning condition.

The detail on Drg 004 (Area 2) for a Type A ditch is labelled incorrectly - it should be Type C to be consistent with the details on Drg 003 (Area 1).

- 11.18 The Applicant acknowledges this point and, to be consistent with the details provided elsewhere on other drawings, has added detail for a 'Type A' ditch to Drawing MA/NL/PA/A005, and has relabelled the ditch currently labelled as 'Type A' to 'Type C'. The revised Drawing can be found at Appendix MA/NL/PA/A11/001.

Representation 16 – Rhymney Area Residents Group (RARG)

- 11.19 The representation from RARG can be found at Appendix MA/NL/PA/A014.

Water Pollution

- 11.20 RARG comments that water withdrawals for surface mining can deplete aquifers and surface waters, degrading both water quality and quantity, whilst toxic materials can also leach from the surrounding rocks to contaminate water resources.
- 11.21 The potential impacts with respect to derogation of groundwater and surface water quantity and quality are addressed in Chapters 10 and 11 of the ES respectively. This includes water quality issues associated with exposed overburden (ES Chapter 10, paragraphs 10.101 and 10.102) and coal washing (ES Chapter 11, paragraphs 11.103, Table 11.14 part E2, and 11.146).
- 11.22 RARG also expresses concern about chemically treated water for coal washing being discharged into surface waters or injected into groundwater. To further explain the use and treatment of water used for the coal washing operations, as set out in the planning application, the washing plants would re-circulate a large proportion of the water required, with top-up water provided from the Rhaslas Pond, storage ponds within the working area, a newly formed water recycling facility at the CDP, or, as a last resort, from water treatment areas (WTAs). Runoff from the process and the washed coal runoff would be kept separate from clean runoff, and would be subject to additional phases of treatment (settling, pH balancing and flocculation) in the WTAs before being discharged from the site. pH balancing would cause metals such as iron and manganese to precipitate out, with flocculation assisting the settlement of these and other fine particles to settle out by causing them to clump together into larger particles. Absorbent booms would be provided within WTAs to absorb hydrocarbons. All water discharging from the site would have to comply with the standards set out in discharge consents required to be obtained from NRW. The likely environmental effects of this process have been fully considered in the Hydrogeology and Hydrology Chapters of the ES (Chapters 10 and 11 respectively).

Ponds Drainage Problems and Pollution

- 11.23 RARG comments about the drainage and loss of Rhaslas Pond as a public amenity and the risk of pollution to the Rhymney River and streams feeding Parc Cwm Darren.
- 11.24 In response to comments on the loss of Rhaslas Pond, Miller Argent notes that a reconfigured Rhaslas Pond would be an operational part of the scheme for the duration of the scheme. In addition, Miller Argent is committed to incorporating a reconfigured Rhaslas Pond into the restored landscape for the site following completion of coaling, and infilling of the void.
- 11.25 As detailed in the ES, the coal extraction works would reduce pollution to the River Rhymney, since the existing mine water discharge via the Bute Level shaft to the Rhymney Culvert would be intercepted, and a large proportion of the remaining coal removed.
- 11.26 Surface water runoff from operational areas and the overburden mounds would be managed within the site, with water collected and routed to storage ponds and WTAs designed to release the water slowly and provide water quality treatment. The rate of discharge would be below the pre-existing site runoff rate to allow for appropriate water quality treatment. The quality and rate of discharge would need to comply with discharge consents issued by the NRW.

- 11.27 A detailed response regarding the water requirements for on-site dust suppression is provided below.

Water Requirements

- 11.28 RARG is concerned that there will not be enough water for dust suppression and coal preparation. The water requirements and water supplies are fully explained in the ES Hydrology Addendum paragraphs 1.27 to 1.59, and further details of water uses and supplies are provided below.
- 11.29 The approach taken in the ES Addendum is to use the worst case situation, when water supplies are likely to be most vulnerable, in order to show that sufficient water supplies are available for all water requirements on site, even in a drought period. The Addendum focusses on the period in Disposition 1 from year 2.5 (when dust suppression and peat requirements have reached the maximum and there is a requirement for coal preparation, but before groundwater is encountered) to year 4. Once groundwater is encountered in year 4 there would be more than adequate water supply on site. Groundwater would continue to be available until the commencement of restoration in Disposition 5, year 11, but at that time dust suppression and peat requirements would begin to diminish and there is no requirement for coal preparation. As such, the 2.5 year period in Disposition 1 is worst case and provides a means of showing that there would be adequate supplies, even in a drought period.

Dust Suppression

- 11.30 For dust suppression purposes the primary source of water supply would be Rhaslas Pond. Miller Argent is proposing to use three water bowsers (two x 55 m³ and one x 40 m³) supplemented by slurry slaves as required. They would collect water from any of the in-pit water storage areas, the remodelled Rhaslas Pond and, very much as a last resort, the WTAs. The amount of time the bowsers would need to run varies, and site management would make judgements as to how much water is needed to effectively suppress dust for different activities and at different times.
- 11.31 It has been estimated by the Green Valleys Alliance's (GVA's) consultant, 'Kevan Walton Associates', that just less than 600 m³ of water per day would be used by the water bowsers for each of the Nant Llesg and FLRS sites. The Applicant does not disagree with this estimate, as it could be as much as this with dust suppression operating at full capacity all day.
- 11.32 Four Fog Cannon® units are proposed for the site. Two would be semi-static and require filling by the bowsers, and two would be mobile. The amount needed to keep the two semi-static Fog Cannon® units supplied with water would be up to 288 m³/day (200 l/min x two units running full time over a twelve hour shift), giving a total, including the amount used by the bowsers themselves, of up to approximately 900 m³/day with dust suppression operating at full capacity all day.
- 11.33 The other two Fog Cannon® units would not be dependent on the water bowsers for supply of water, as they are to be self-propelled and therefore mobile. They would carry their own water supply and travel to the filling point to refill. If it is assumed that they run for the full twelve hour shift on full power with a discharge time of approximately 40 minutes and travel and filling time taking approximately 20 minutes (i.e. twelve cycles a day), then the total daily water usage for these two mobile units would be up to approximately 144 m³ (200 l/min + 100 l/min x 40 min x twelve cycles) with dust suppression operating at full capacity.

- 11.34 The total maximum water requirement for dust suppression would therefore be 600 m³ per day for water bowsers, 288 m³/day for semi static Fog Cannon® and 144 m³/day for mobile Fog Cannon®, a total of 1032 m³ /day. However, from experience of conditions on the adjacent FRLS, the maximum water requirement for dust suppression is a rare occurrence - for the vast majority of the time water usage is much lower, or not required at all, as weather conditions requiring the full dust suppression capacity would only occur on a limited proportion of days.
- 11.35 Each day is different, and rather than simply running all mitigation at maximum capacity all of the time, mitigation would be dynamically managed by site management and operators who would make judgements on how much water is needed to effectively suppress dust. In the event that this cannot be achieved, the ultimate precaution would be to stop work on part or the whole of the site. It is therefore in the Applicant's interest to ensure that adequate dust suppression facilities are maintained and kept available at all times. The water requirement of 1032 m³/day is accordingly very much a worst case scenario.

Peat Requirements

- 11.36 There is also a requirement for water supply on site to keep the stored peat moist within the storage areas. Details of peat handling and storage are provided in ES Appendix MA/NL/A09/001. As part of the scheme, peat would be stored in open, clay lined lagoons totalling c 4.7 hectares (ha) in area. Peat would be placed to a depth of 6 m, with the surface being covered with vegetation attached to the excavated peat. Miller Argent currently has peat storage areas (raised mounds) at the adjacent FLRS site. These are not provided with any additional water in summer months, but rely on retained water absorbed within the body of peat. These have been inspected by the ES Soil Specialist, and the peat and surface vegetation found to be in good condition. Since, at Nant Llesg peat would be stored in lined lagoons; these areas would not be raised above ground as at FLRS. Water retention would therefore be enhanced in comparison. Monitoring equipment would be installed within the lagoons to identify when water needs to be removed or added to the storage areas to maintain a suitable degree of water content within the peat. When required Miller Argent would irrigate the storage areas to maintain good conditions for the stored peat.
- 11.37 Water for this purpose would be taken primarily from Rhaslas Pond. The peat storage areas on site cover an area of 47,000 m², and evaporation rates as a percentage of annual rainfall average around 40%. Rates are typically higher than this in the east of the UK and lower in the north and west, but also correlate with exposure and wind, and 40% is therefore considered representative for the site. The majority of evaporative losses tend to occur during summer months, and in a worst case this would mean 40% of the annual average rainfall (1509 mm), i.e. 600 mm, of evaporation could occur. Assuming the peat storage areas are full, multiplying by the area gives a maximum evaporative loss of 28,370 m³ per annum. In a drought period of 183 days (see paragraph 1.51), this would mean a maximum water supply requirement of 155 m³/day (3 mm per m² of storage area).

Coal Preparation

- 11.38 Water supply is also required for the preparation of coal at the Barrel Wash facility, and all water for this facility would also primarily be taken from Rhaslas Pond. The amount of water required by this process would be directly comparable to that used at Ffos-y-fran; the proposed plant at Nant Llesg would be the same as the existing plant at Ffos-y-fran.
- 11.39 It should be noted that coal processing in the new coal wash at the Cwmbargoed Disposal Point (CDP) has its own dedicated water supply from water stored adjacent to the CDP, and

this does not need to be factored in to the Nant Llesg calculations for coal processing. The CDP's separate supply could also be topped up with mains water if required.

- 11.40 During the barrel wash process water is absorbed by the coal and discard material. As part of the process, discard material would be passed through a filter press prior to disposal to reduce water loss, and water recovered is recycled back for use in the plant. Based on Ffos-y-fran the water usage is up to a maximum of 8% of input tonnage.
- 11.41 The annual input tonnage at Nant Llesg varies over the life of the scheme, but the maximum annual tonnage would be approximately 400,000 tonnes, and at 8% this equates to 32,000 tonnes of water per year, or about 667 tonnes per week or 121 tonnes per day over 5.5 working days. This maximum usage equates to a requirement of 121 m³ of water per day.
- 11.42 Again, during Disposition 1 the barrel wash would not be running all of the time. Although coaling commences in year 1, any feedstock produced would initially feed in to a stockpile. The barrel wash would become operational from year 2.5, and would run until the end of coaling (approximately year 11). As such, the water requirement for the barrel wash would be from year 2.5 during disposition 1. The barrel wash would not run at all during Disposition 5.

FLRS Requirements

- 11.43 Some representations have implied that the major source of water for dust suppression for FLRS is Rhaslas Pond, but this is incorrect. Miller Argent does have an abstraction licence, but usage for FLRS is explained further below.
- 11.44 Whilst water from Rhaslas Pond has been used in the early stages of operations, surface water runoff and groundwater are now the most important source of water for FLRS, and Miller Argent stores a proportion of this within the operational area of the FLRS site for dust suppression. Recently, this capacity has been increased, and consequently the amount of water required from Rhaslas Pond has decreased. FLRS has never run out of water during the first seven years of working.
- 11.45 In April 2014 Miller Argent intercepted groundwater at FLRS, and now has an additional source of water to supplement run off stored in the void. As it is now necessary for water to be continuously pumped from the void and discharged from the site, it is unlikely that water required for dust suppression at FLRS would be needed from Rhaslas Pond.
- 11.46 During the final restoration phase of FLRS, water stored on FLRS in the restored Longtown Pond and water treatment areas would be used for dust suppression of the site. During the restoration phase of FLRS there would be sufficient water to meet the needs of both mines for dust suppression, since Nant Llesg would be operational with the water storage available on site (Rhaslas Pond as an operational resource, run off from the Nant Llesg void, groundwater, and, as a last resort, water from the WTA lagoons) and FLRS would be self-sufficient and would not require water from Rhaslas Pond.

Nant Llesg Requirements

- 11.47 Adding the maximum water bowser, mobile fog cannon®, peat storage areas and barrel wash plant usage together gives a total maximum daily water usage at Nant Llesg of approximately 1308 m³.
- 11.48 On the Nant Llesg site, the primary source of water would be Rhaslas Pond; even in its reduced form it would have over five times the available capacity of that currently available

at FLRS. However, this would not be the only source of water available for dust suppression. Water would be collected from within the operational area of the site and pumped to lagoons. Water would also be collected in the void, from surface water runoff. Furthermore, if required, the WTAs would be able to be used as a source of water to supplement the available water. The total available water storage within the Nant Llesg site would be up to 150,000 m³ (from both Rhaslas Pond, and water retained in the void and, as a last resort, the WTA lagoons).

- 11.49 It has been suggested in the Kevan Walton Associates' report that Rhaslas Pond "...is already showing significant depletion...". Miller Argent is responsible for weekly visual inspections of the reservoir. During 2013, when Miller Argent did extract water from Rhaslas Pond for the FLRS, the water level dropped below the level of the outlet weir, but from September the water level had increased back up to the weir level, and water was discharging over the weir for prolonged periods after this. At a recent statutory inspection of the reservoir, on the 24th of May 2014, the records show the reservoir was "full". As set out above, the operating regime at FLRS is such that water is unlikely to be needed from Rhaslas Pond.

Drought Conditions

- 11.50 Assuming that the water supply was full at the start of a dry period and no runoff from rainfall was collected on the site, at a consumption rate of 1,308 m³/day, this would equal around 114 days water supply.
- 11.51 The Kevan Walton Associates' report gives details of the most severe drought of recent times that occurred during 1984. The drought began in March and continued through to August, a total of 183 days or approximately six months. The suggestion is that it did not rain for four to five months. Whilst Miller Argent accepts that 1984 was one of the driest years in South Wales on record, both the average rainfall figures quoted and the suggestion it did not rain are misleading. Cwmbargoed was, for many years, a Meteorological Office (MO) weather station, and records are available for 1984, as detailed in Table ESA11.1 below.

Table ESA11.1 Rainfall for 1984 recorded at Cwmbargoed MO Weather Station

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Rainfall (mm)	244	106	53	10	52	51	29	53	140	217	259	139	1,353

- 11.52 As Table ESA11.1 shows, there was rainfall in every month of the year, and in only two months, April and July, was there less than 50 mm of rainfall. It is therefore inappropriate to use average rainfall figures to make assumptions at this location. The available data indicates that the 1984 drought would more correctly be classified as a 'hydrological drought'¹ (lack of effective rainfall leading to reduced runoff), rather than a meteorological drought (absence of rainfall). The distinction is important when considering water supply at the site.

¹ See: <http://www.ceh.ac.uk/data/nrfa/nhmp/whatisadrought.html>

- 11.53 The operational area of the proposed site is approximately 223 ha and the rainfall total between March and August in 1984 was 248 mm. If this drought condition were to be repeated during the working of Nant Llesg, this would still result in a total of over 553,000 m³ of water falling onto the site over this period. Depending on the type of rainfall (heavy torrential summer convective storms may produce runoff, whilst light frontal rainfall would largely be absorbed by the dry soils); a proportion of this flow could end up making its way to Rhaslas Pond and other water storage areas. It is considered that a proportion of this 553,000 m³ could therefore be available subsequently. For example, if it is assumed that only 5% (27,650 m³) of this reached the storage areas it would support 21 days of the site's water requirements.
- 11.54 If runoff did become available that would further extend the water supply from the 114 days storage referred to in paragraph 1.50. The example above shows that with 5 % of any rainfall reaching storage areas, a further 21 days would be added, giving a total water supply of 135 days (177,650 m³).

Working Weeks

- 11.55 It must also be appreciated that on non-working days water supply requirements are more limited, as the lack of site operations and plant movement significantly reduces water requirements, and this would mean that if the number of days referred to above is converted to weeks, it would be appropriate to consider a week consisting of 5.5 days. On this basis, 135 working days supply would be the equivalent of 24.5 weeks of water supply available on site.

Other Factors

- 11.56 This 24.5 weeks supply does not factor in days with rainfall to suppress dust, days with wet ground at the start of a drought, days with damp/foggy/still conditions when dust generation is subdued, or times when dew conditions effectively suppress dust. In addition, the 24.5 weeks supply does not factor in that during drought conditions, wind speeds are generally subdued, or are from the south/east i.e. continental Europe. Dust generation that has the potential to cross the site boundary, and impact on receptors in the absence of any suppression would be limited in those meteorological conditions – the nearest receptors are situated to the south and east of the site.
- 11.57 All of these factors mean that the maximum water supply requirements for dust suppression referred to above are unlikely to exist continuously for six months, and this means that water supplies would be extended to well beyond the 24.5 weeks calculated above.

Conclusions on Water Availability

- 11.58 From Table ESA11.1, it can be seen that the 1984 drought lasted 183 days, or approximately six months, or 26 weeks. Further, it can be seen that the total overall rainfall in 1984 was still comparable to a typical year's rainfall (see ES Table 11.4 – annual rainfall 2005 to 2011). Large quantities of runoff from the volume of rainfall that falls at this location would be available to refill storage areas at other times of the year, and water storage would be likely to be full at the commencement of any drought period.
- 11.59 It can be seen that the volume of stored water available on site is such that sufficient water would be available for dust suppression and other on-site needs, even in the event that the worst case drought conditions coincided with the most vulnerable water supply situation in part of Disposition 1 (years 2.5 to 4), once all factors are taken into account.

- 11.60 At other times the water supply situation would be an improvement on this as groundwater would be available to top up supplies, whilst water demands remain equal, or alternatively, water supplies remain equal to the above whilst water demands are lower. Years 2.5 to 4 are accordingly very much the worst case scenario, i.e. when water supply is at its most vulnerable, and there is no need to consider the extent of water availability beyond this period.
- 11.61 There is accordingly enough water available on the Nant Llesg site to supply all operational requirements for a prolonged dry spell that might be experienced, and substantially longer than any experienced to date on FLRS.
- 11.62 Finally, as a failsafe, dusty operations could be reduced or stopped if water supply ever became a limiting factor.

Representation 17 - Bedlinog & Trelewis Environment Group (BTEG)

- 11.63 The representation from BTEG can be found at Appendix MA/NL/PA/A015. BTEG has expressed concern about the silting up of Trelewis Millennium Park.
- 11.64 In response, the Applicant notes that Trelewis Millennium Park is located on the Bargod Taf. With regards to the Nant Llesg Scheme, the only drainage to this watercourse is from the existing CDP. No change from the present is expected i.e. discharges would continue to meet the existing Discharge Consent requirements.
- 11.65 The Nant Llesg Scheme does not include any excavations within the catchment of this watercourse.

Representation 20 - Green Valleys Alliance (GVA)

- 11.66 The GVA representation can be found at Appendix MA/NL/PA/A018.
- 11.67 It is noted that Representations 22, 23, 24 and 25 by the Welsh Economy Research Unit (Cardiff University), Environment Pollution Management Ltd., Groundwater Solutions Ltd. (GSL) and Terraconsult form part of the GVA representation.
- 11.68 A number of water-related comments are made throughout the GVA statement. These have been addressed below.
- 11.69 In Section 5 of its representation, GVA suggests that there may not be sufficient water to supply the washing plant, dust suppression and vehicle washing. This matter has been dealt with in response to Representation 16 RARG, see paragraphs 1.28 to 1.62 earlier.
- 11.70 GVA paragraph 12.1 makes reference to a professional hydrogeology report, which has been submitted separately as Representation 24. GVA paragraphs 12.2-12.12 then highlight the main hydrogeological conclusions from this report. The Applicant's comment with respect to these issues is provided in response to the GSL Representation 24 further below.
- 11.71 In paragraph 12.10, GVA states that "*the effects of the Overburden Storage Area both on surface and groundwater*" have not been considered. In respect of surface water, the Applicant notes with respect to surface water that the Surface Water Management Plan (SWMP, ES Appendix MA/NL/A11/001) details a strategy designed to route all flows from

- the overburden mounds to the WTAs. The proposed locations of the WTAs would ensure that they would be able to receive runoff from all parts of the overburden mounds. Ditches would route surface flows from each aspect of the overburden mound to the adjacent WTA. The WTAs would provide attenuation of flows, and water quality treatment. Discharge from the WTAs (both quality and quantity), would be governed by discharge consents which would be required to be obtained from NRW, as stated in ES paragraph 10.98. The Applicant's response with respect to groundwater issues associated with the Overburden Storage Area is provided in regard to Representation 24 'GSL – Hydrology/Hydrogeology'.
- 11.72 In paragraph 12.11, GVA considers that *"the influence of the proposal on the water regime in the superficial deposits and their present ameliorating effect on surface water quality"* is not adequately assessed. In response, the Applicant notes that the existing superficial deposits would be removed during the construction and operation stages of the proposed development. Over this period, the proposed surface water drainage arrangements, as set out in the SWMP, would manage the site's surface water. The SWMP sets out how the WTAs would provide appropriate water treatment to ensure the water quality of the runoff leaving the site is appropriate. This would be governed by the discharge consents required to be obtained from NRW. Superficial materials would be stored in segregated areas during works, ready to be reinstated during the restoration stage of the scheme.
- 11.73 In paragraph 12.12, GVA expresses concern regarding the impact of the development on Rhaslas Pond. In response, the Applicant notes that a reconfigured Rhaslas Pond would be an operational part of the scheme for the duration of the scheme. A reconfigured Rhaslas Pond would be restored following completion of the coal extraction and restoration of ground levels across the site. Positioning the on-site Barrel Washing plant adjacent to Rhaslas Pond allows the plant to be adjacent to the water supply. Water would be largely recycled, with Rhaslas providing top-up water. Runoff from the treated coal would pass through a WTA before being discharged off-site.
- 11.74 Section 20 refers to a Kevan Walton Associates report addressing mining issues, which is to follow. The report was subsequently submitted and forms part of the GVA's second submission. The matter raised at section 3 of the report, regarding water demand for dust suppression and coal preparation, is dealt with in the Applicant's response to Representation 16 RARG, see paragraphs 1.28 to 1.62 earlier.

Representation 24 - Groundwater Solutions Limited (GSL)

- 11.75 This report forms part of Representation 20 by the GVA. The Applicant's response to issues raised in the report is set out below.
- 11.76 GSL has been instructed by Richards & Appleby Limited to review the hydrogeological and hydrological chapters of the Nant Llesg Environmental Statement, and although its review is not referenced in Richards & Appleby's own objection (Representation 21), it is summarised in the GVA objection (Representation 20).
- 11.77 In the first paragraph of Page 2, GSL states that, with respect to ES paragraph 10.96, *"it is plausible that a greater volume of groundwater may be encountered; the storage capacity of any existing mine workings is likely to be elevated. In addition, there is evidence to suggest that the aquifer is multi-layered and the presence of perched water bodies is highly likely. The impact assessment should consider these aspects and identify mitigation as necessary"*. In response, the Applicant notes that the groundwater level data available for the site and documented in the ES at paragraphs 10.41-10.50 indicate that the main water table appears to be associated with the elevation of the DFDS, as at FLRS, and its experience was that no

- major old workings or laterally extensive perched water systems were encountered above this main water table. This is not to say that there are no water bodies above the main water table; for instance, this is recognised later in the ES paragraph 10.96 with respect to 'perched aquifers'. However, the volumes of water associated with such features are likely to be small compared to that assumed for the purposes of the impact assessment and the mitigation design (see ES paragraph 10.97), which is based on the large measured (probably over-estimated, see ES paragraph 10.80) flow rates in the down-gradient Bute Watercourse (4.3-43 MI/d), rather than the anticipated lower flows in the underlying Rhaslas Drain. Having adopted such a conservative approach, it is considered that the volume of water associated with any relatively shallow water bodies that may be encountered is easily accommodated within the proposed water management scheme.
- 11.78 In the second paragraph on page 2, GSL expresses concern about *"...an increase in suspended sediment occurring in the DFDS...during its interception and exposure in the open pit and the subsequent discharge of this mine water...to...the River Rhymney"*. The DFDS is to be free-draining into the open void, and its exit tunnel from the void temporarily obstructed, such that any sediment build-up in the undisturbed DFDS would be avoided. Once intercepted, sediment would be encouraged to settle out in the base of the void, or within settlement ponds incorporated into the on-site WTA. In this way, any subsequent discharge to the river would be *'...in accordance with limits to be agreed with NRW, and would assist in improving water quality in the receiving river, as well as compensating for flow losses'* (ES paragraph 10.98).
- 11.79 In the third paragraph of page 2, GSL maintains that *"The applicant does not provide a robust estimate on the volume of water...rate of flow or hydrochemistry which is likely to be encountered in the DFDS"*, and argues that a more detailed consideration of water management aspects *"including a more detailed and robust operational site water balance...would facilitate the impact assessment – especially in terms of flooding of the open pit, sufficient on-site attenuation lagoon storage capacity, adequate treatment capacity of WTA2 and the impact on the flow and quality of both surface and groundwater...systems during these [storm] events"*. In response, the Applicant points out that monitoring of flow in the DFDS presents practical difficulties (see ES paragraph 10.80), but what information that is available is presented in ES paragraph 10.60, and has been used to inform the conservative flow estimate presented earlier and used in the impact assessment and the mitigation design (ES paragraph 10.97). The underground drainage quality has been measured directly by the Coal Authority and can also be reasonably reliably inferred from surface water quality monitoring, and this is documented in the ES paragraphs 10.61-10.66. Regarding water balance calculations, GSL appear to assume that WTA2 has been designed to accommodate the pumping of in-pit water during a 1 in 100 year storm event. This is incorrect. During such a brief event, groundwater inflows would be retained within the working void, to be pumped out in a controlled manner after the storm event. During normal site operations, the water management infrastructure has adequate capacity to deal with the groundwater inflows. As mentioned earlier, it is recognised and accepted that any discharge to the river would be *"...in accordance with limits to be agreed with NRW, and would assist in improving water quality in the receiving river, as well as compensating for flow losses"* (ES paragraph 10.98).
- 11.80 In the paragraph at the bottom of page 2, GSL states that *"...the base of the open pit, during its later stages, may be effectively impermeable given that it is likely to be at or close to the saturated zone. This effectively impermeable area should be factored in to the scoping calculations of the SWMP"*. In response, the SWMP prepared by the Applicant (see ES Appendix MA/NL/A11/001) has considered the management of surface water, such that water leaving the site leaves at an acceptable rate, and is of an acceptable quality, in order to ensure that the development does not have an off-site impact. Since the SWMP

- considers the whole site area when assessing catchments, the area of the void is already considered in terms of direct rainfall and WTA capacity. As stated earlier, during storm events, groundwater inflows would be retained within the working void, to be pumped out in a controlled manner after the event. Given anticipated pump rates, dewatering flows would be less than the treatment capacity of the WTAs.
- 11.81 In the second paragraph of page 3, GSL claims that “...*there is insufficient information relating to the positions, dimensions, hydraulic connectivity and discharge points*” of the underground workings and adits, and also that the flows and hydrochemistry of the individual adits is uncertain. In response, the Applicant points out that data limitations associated with the practical difficulties of monitoring the DFDS system are already acknowledged in the ES at paragraphs 10.78-10.82, and the Applicant remains of the opinion that the flow and quality data provided in ES paragraphs 10.60-10.66 is sufficient to characterise the system for the purpose of environmental impact assessment (EIA) and preliminary mitigation design. In the experience of the Applicant's hydrogeological consultants (AMEC), the amount of flow and quality data is fairly typical for surface mine EIAs that have to take account of underground drainage systems.
- 11.82 In the third paragraph of page 3, GSL considers that there is not “...*sufficient detail on technical precautions to be employed to prevent a slug or prolonged increase in suspended sediment load/derogation of mine water*”, and that “*As a result of insufficient information relating to the existing mine workings, there remains a high risk that any proposed groundwater and surface water monitoring regime may be ineffectual...*”. In response, the Applicant notes that some short- and longer-term variation in hydrochemistry can be anticipated over time, but such changes can be accommodated within the proposed water management and treatment regime. For example, the open void and any settlement ponds provide ample opportunity to ‘smooth out’ slugs in suspended sediment loading. In any event, the Applicant would be required to comply with NRW discharge consents.
- 11.83 In the fourth paragraph of page 3, GSL expresses concern about the possibility of “...*the collapse of any existing subterranean mine workings...*” or “...*catastrophic failure of seals/plugs...*”. In response, the Applicant points out that the workings date from the eighteenth and nineteenth century, up to the 1930s, and the draining effect of the DFDS would have ensured that a proportion of these would have been standing ‘dry’ for some considerable time already. Any changes in flow or hydrochemistry as a result of any collapse or failure could be accommodated within the proposed water management and treatment regime, and additional remedial measures such as the installation and pumping of ‘relief’ boreholes to intercept trapped mine water could be employed as required.
- 11.84 In the fifth paragraph of page 3, GSL makes reference to the preliminary Backfill Risk Assessment submitted with the ES (ES Appendix MA/NL/ES/A10/006) and to the proposal to reinstate the Rhaslas Drain during restoration. In the final paragraph of page 6, GSL then states that “*Proposed backfilling of the open pit with overburden and reinstatement of the DFDS, post-mining, is likely to result in AMD [acid mine drainage], as noted by the applicant in ES Table 10.10, with no real improvement in groundwater or mine water drainage quality from this area*”. GSL attempts to justify this statement later in the paragraph and also the first two complete paragraphs of page 4. After observing at the top of page 4 that “*The applicant does not present a backfilling strategy, stating instead that it should be developed and implemented as a planning condition...*”, GSL states that “*The impact assessment in ES Chapter 10 relies heavily on the assumption that the backfilling strategy will prevent adverse impact on the groundwater and surface water systems...which is considered to be overly optimistic in the absence of a definitive backfill strategy*”. In response, the Applicant points out that the need for a backfill strategy is already recognised in the ES paragraph 10.101 and ES Table 10.10, and the paragraph also introduces some of the likely elements of this

- strategy. These elements take account of the findings of the initial Backfill Risk Assessment. The Applicant remains of the opinion (ES paragraph 10.102) that it is appropriate that the *“backfill strategy is developed and implemented by means of a planning condition and in consultation with NRW”*, and informed by *“site-specific mineralogical analysis”* i.e. a further stage (Level 3, ES paragraph 10.117) of Backfill Risk Assessment. The Applicant's hydrogeological consultants (AMEC) advise that this approach is standard practice with respect to surface mine proposals. Furthermore, no groundwater quality issues related to backfilling strategy have been encountered at FLRS.
- 11.85 In the third complete paragraph of page 4, GSL asserts that *“The impact assessment does not discuss the impact of the dewatering of the open pit and subsequent lowering of groundwater levels in the surrounding strata which lie beyond the boundary of the proposed open pit”*, arguing that such dewatering has the potential for *“possible derogation in groundwater quality”*. In response, the Applicant points out that the impact of the dewatering in terms of both level and quality is addressed in its ES assessment (ES paragraphs 10.106-10.115). Theoretical calculations have been used together with the results of flow monitoring to conservatively quantify dewatering volumes (ES paragraph 10.112), and it is considered that the majority of this is associated with the DFDS, rather than *“in-situ groundwater”* (ES paragraph 10.113), and *“...so the actual radius of influence associated with the dewatering would be much less than calculated”*. The quality of this dewatering volume is considered to be similar to that documented in the *“baseline”* section of the ES (ES paragraphs 10.62-10.66, ES Tables 10.5 and 10.6, and ES Appendices MA/NL/ES/A10/003-005), most relevant being the Coal Authority monitoring of the Bute Watercourse (ES paragraph 10.65).
- 11.86 In the last two paragraphs of page 4, GSL considers that *“there is no discussion on proposed treatment of sulphate or the expected concentrations in mine water or from the backfill material”*, and that account should be taken of background sulphate concentrations in groundwater and surface water. In response, the Applicant notes that any discharge to the river would be *“...in accordance with limits to be agreed with NRW, and would assist in improving water quality in the receiving river, as well as compensating for flow losses”* (ES paragraph 10.98). Background sulphate concentrations are documented in the ES, e.g. ES paragraph 10.53 and ES Appendix MA/NL/ES/A10/002 for groundwater and ES paragraphs 10.62-10.66, ES Tables 10.5 and 10.6, and ES Appendices MA/NL/ES/A10/003-005 for mine drainage and surface water, and this and other information would be taken into account in the detailed design of the water treatment facility.
- 11.87 In the first paragraph on page 5, GSL states that *“The applicant does not consider the impact of the temporary ‘Overburden Storage Area’ on groundwater levels and quality and surface water runoff quality”*. In the subsequent three paragraphs, GSL expresses other concerns relating to the overburden storage, including its placement close to a number of streams, the absence of down-gradient groundwater monitoring, and the stacking and compaction techniques to be deployed. In response, the Applicant points out that consideration of the overburden in respect to groundwater is presented in the ES at paragraphs 10.100 and 10.101. The polluting potential is recognised, and it is stated that *“The proposed limited duration of its exposure, especially in terms of progressively restored overburden, means that the effects would be more limited....However, it is still important to identify the level of risk to groundwater and implement an appropriate strategy during site operations”*. In other words, the management of the overburden is inextricably linked in with the backfill strategy, and, as stated earlier, the Applicant remains of the opinion (ES paragraph 10.102) that it is appropriate that the formal *“backfill strategy is developed and implemented by means of a planning condition and consultation with NRW”*. Similar issues are encountered and addressed in this manner at other surface mine sites, and the Applicant is confident that they can be similarly addressed here. What would, in fact, be a Water

Monitoring (rather than Management) Plan “*would include details for groundwater and surface water monitoring*”, as stated in the last bullet point of ES paragraph 10.101, and the Applicant considers that this, too, would be subject to a planning condition and discussions with NRW. With respect to surface water issues relating to the overburden storage area, the Applicant would point out that the SWMP (ES Appendix MA/NL/A11/001) details a strategy designed to route all flows from the overburden mounds to the WTAs. The proposed locations of the WTAs would ensure that they would be able to receive runoff from all parts of the overburden mounds. Ditches would route surface flows from each aspect of the overburden mound to the WTA. The WTAs would provide attenuation of flows, and water quality treatment. Discharge from the WTAs, would be governed by discharge consents required to be obtained from NRW, as stated in ES paragraph 10.98. It should also be noted that the small watercourses issuing on top of the site are associated with superficial deposits (in particular, peat) and result from the subsequent release of water following rainfall events (ES paragraph 11.74). During the operational stage, these superficial deposits would be removed, and direct rainfall would instead be captured by the surface water drainage system.

- 11.88 In the remainder of its note, GSL focuses on the potential derogation of local springs. It correctly notes that the Applicant “*screens out any risk associated with the derogation of springs/issues early in the risk assessment*” (ES Chapter 10, Paragraph 10.24), on the basis that there are “*very few springs...and where springs do exist they are considered to result from discharges from shallow perched bodies*”. However, in the first full paragraph of page 6, GSL states that “*The applicant does not demonstrate the hydraulic connectivity, or lack thereof, of the superficial deposits with the bedrock and perched water bodies of the potential from draining-down of superficial deposits once dewatering commences*”. In response, and as stated earlier, the Applicant notes that the groundwater level data available for the site and documented in the ES paragraphs 10.41-10.50 indicates that the main water table is associated with the elevation of the DFDS, as at FLRS, and therefore at a considerable depth below ground surface. By definition, any perched water bodies supporting springs are hydraulically disconnected from the main water table, and so would not be subject to derogation effects resulting from any dewatering of the main water table.

Representation 26 - United Valleys Action Group (UVAG)

- 11.89 This is the second representation of the UVAG, which encompasses the issues raised in its original submission (Representation 7).
- 11.90 Representation 26 can be found at Appendix MA/NL/PA/A020. It is noted that in respect to water-related issues, Representation 27 by Jim Davies forms part of this representation.
- 11.91 On page 25, UVAG states that “*The remediation works and the mining works will disturb the water flow and allow colliery spoil and other pollutants into the river Rhymney*”, arguing that “*it is inevitable that the water storage areas will be overwhelmed*”. In response, the Applicant again notes that any discharge to the river would be in accordance with limits to be approved by NRW, and would assist in improving water quality in the receiving river, as well as compensating for flow losses (see ES paragraph 10.98). In support of this, the WTAs have been sized to manage flows up to the 1 in 100 year event, with an additional allowance for increased rainfall intensity due to climate change (see ES Appendix MA/NL/ES/A11/001). This is in line with standard WAG and NRW advice for runoff management from developments. This is in accordance with EA/NRW guidance on the management of runoff from development.

- 11.92 UVAG also maintains that the existing river pollution “*can't be too excessive*”, and advocates the use of reed bed treatment. In response, the Applicant notes that the poor chemical quality of the current river is well documented in the ES (see ES paragraphs 10.61-10.64 and 10.66; ES Tables 10.5 and 10.6, and ES Appendices MA/NL/ES/A10/004 and 005), and data with respect to the Bute Watercourse and the associated DFDS (ES paragraph 10.65 and ES Table 10.5) is sufficient for the then EA to have considered “*the DFDS discharge as the second worst unmitigated discharge in Wales*”. This is based on a ‘Coal Mine Water Discharges Ranking List: England and Wales’ (NRW and Coal Authority, pers. comm., May 2013). In terms of the use of reed beds to manage the mine water discharge, the Applicant notes that the mine water at issue at Nant Llesg is at depth and enters the river within the underground Bute Watercourse and the Rhymney Culvert, and therefore a reed bed is not a practical solution here.
- 11.93 ES paragraph 11.114 provides the rationale for the proposed solution. Three options exist. The first option, namely “*business as usual*”, allows silt to continue to accumulate in the existing channel/lake, with CCBC potentially choosing to dredge this material from time to time and pay for its disposal. A second solution involves the construction of a facility as described in UVAG's response, and CCBC would again have to dredge and pay for disposal of the fine sediment deposited therein. However, the costs of the works carried out by CCBC in 2007 were significant. There would be a reoccurring cost in future years, and the Applicant considers that it is not sustainable because it does not tackle the root cause of the issue, namely the erosion of the spoil material above Fochriw. The third solution proposed by Miller-Argent would remediate the problem at source and provide a more sustainable solution, as is also set out in paragraphs 1.5 and 1.6 above.

Representation 27 - Jim Davies (UVAG) Hydrogeology and Biodiversity

- 11.94 This report can be found at Appendix MA/NL/PA/A021 and forms part of Representation 26 by the UVAG. The Applicant's response to issues raised in the report is set out below.
- 11.95 Mr Davies starts his “*Further Notes*” with a consideration of river pollution. He first advises the reader to look at his November 2012 notes (paragraph 1.0). He then states that the EA data only makes reference to zinc and iron, and discredits the claim that “*the EA consider the DFDS discharge as the second worst unmitigated discharge in Wales*” (ES paragraph 10.65) as “*a PR type of comment*” (paragraph 1.1). He also considers that the proposed development “*will set in train its own pollution stream*” (paragraph 1.2). In response, the Applicant observes that the attached hand-written notes appear to be dated March 2012 and relate to biodiversity, rather than hydrology. The Applicant's summary of surface water EQS failures and elevated levels, including that based on EA (NRW) monitoring, is presented in ES Table 10.5, and indicates a wide range of parameters of concern, not just iron and zinc. The deterioration in water quality down the River Rhymney and due to the Bute Watercourse discharge is discussed in the ES at paragraphs 10.63-10.66, and, as stated earlier, it is such data that has caused the EA to “*consider the DFDS discharge as the second worst unmitigated discharge in Wales*” (ES paragraph 10.65). With regards to the use of reed beds to manage the mine water discharge, as noted earlier, at paragraphs 1.5 to 1.6 and 1.89 above, such an approach is not a practical solution here.

Representation 138 - Natural Resources Wales (NRW)

- 11.96 NRW partly objected to the proposal on the following ground:

“The potential impacts of this proposal have not been adequately considered in the context of the Water Framework Directive.”

11.97 It went on to state:

“Whilst we acknowledge the references to water quality in the ES, a Water Framework Directive (WFD) assessment is required to understand and appropriately mitigate or manage the potential impacts from these proposals. The Nant Llesg site is the source and water shed of 3 catchments, the Nant Bargoed Rhymni, Taff Bargoed and the River Rhymney. The application area is the source of the 3 waterbodies and therefore a combination of the groundwater resource and the open watercourses is an important issue to be fully considered in a WFD assessment, ensuring flows are maintained in a natural regime and distribution of flows are not altered. This application could impact the length of the waterbodies, for water quality and hydromorphology.”

11.98 The water quality and related information that informed the EIA process has been brought together in the form of a Water Framework Directive Assessment (WFDA) by AMEC on behalf of the Applicant, and can be found at Appendix MA/NL/PA/A11/002. The WFDA provides some additional baseline information on the existing water environment at Nant Llesg. No changes to the findings of the original ES are required. The study in fact further supports the conclusions of the original ES, and emphasises that the proposed development not only would not reduce the current status of the water environment, or the ability to improve it, but would itself contribute towards improvements to that environment.

11.99 NRW has confirmed that it is satisfied with the information presented within the WFDA, subject to one comment which has been addressed in the final WFDA appended at Appendix MA/NL/PA/A11/002.

**Nant Llesg
Surface Mine**
Incorporating Land Remediation

Chapter 12
Air Quality and Dust

Nant Llesg Surface Mine

Incorporating Land Remediation

Addendum to Planning Statement

Applicant's Response to Post-Application Representations

Chapter 12 – Air Quality and Dust

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12 Air Quality and Dust

- 12.1 The following is the Applicant's Response to representations that relate to air quality and dust.
- 12.2 Many of the issues raised in the various representations are similar in nature. The Applicant has therefore prepared a response below that is intended to address all air quality and dust matters:

Representations Received on Air Quality and Dust

Representation 1 - Caerphilly County Borough Council

27. What effect would the overburden/spoil tip have on weather in Fochriw? Would the wind, rain and snowfall patterns be altered? There are concerns within the community that it will serve to funnel the wind, dust and noise onto Fochriw and further down the Darran Valley.

Representation 3 - Caerphilly County Borough Council

Air quality

Air Quality Information required for Nant Llesg application:

Para 12.29 Please can you confirm the exact period over which the monitoring data was used from the BAMS in Rhymney and please can the raw data be provided. The report mentioned that the monitoring starts in November 2011, but the end date is not clear.

Para 12.60 You have discussed the US EPA AP42 emissions factors - can you fully explain how you achieved a 95% reduction in dust emissions for haulage routes. This assumption seems particularly high? Given that dust from haulage routes will be a major factor of the project, we would be interested to see how the results would be affected if this figure was reduced to around 75-80%, we would like to see this remodelled with this parameter changed to 75%.

Para 12.271 DUSTSCAN Results for the monitoring undertaken next to the railway line to assess dust escape from coal wagons - please can these results be provided. Were they visual assessments or quantified results? Please provide comments.

Para 12.273 - You have stated the most significant impact is dust deposition. This is a concern to this department as whilst the project complies with the Air Quality Objectives, we are still concerned about nuisance dust. This project is heavily reliant on dust mitigation measures working, if this lapses for whatever reason, then local residents may experience problems. Some of the input parameters to the model i.e. 95% mitigation for haulage routes, 75% mitigation for Fog Cannons etc are all quite high figures and if these figures could not be achieved in reality for whatever reason, then this would totally alter the predicted results at residential receptors. Can you please provide some comment on this?

Para 12.295 - In this paragraph, you state 'A custom and practice level of 200mg/m²/day is typically used for sources other than coal'. Can you please explain what document this figure came from and how it was derived?

A12 Air Quality & Dust

2.5.1 and 2.5.2

You have stated mitigation factors that you have used in each of the above sections, i.e. 50% for loading / unloading of coal and 75% for loading and unloading of overburden, however you have gone on to state that this figure reflects the use of the Fog Cannons as mitigation to suppress the dust in these areas. It is our understanding that the number of Fog Cannons are limited at the site and in FYF they do not use a Fog Cannon for the loading / unloading of every truck and for every piece of machinery working on excavation. Can you please provide some further comments on the mitigation factors used please, when reading the document, it sounds like you are assuming that the Fog Cannon is being used at each stage. From observing practices at FYF, this does not appear to be the case?

Can you please provide evidence / details of the model performance and uncertainty?

Halfway House - This is a receptor within '500m distance' of the proposed working mine. Whilst the property is not within the defined LOP settlement boundary, this department still has concerns regarding dust affecting the residents of the property. The proposed acoustic bund does not extend around to afford this property mitigation and therefore because of the distance to the mine and the absence of a physical barrier, we are concerned that dust could be a problem. Can you please comment as to whether the acoustic bund can be extended round to afford this property mitigation or offer other mitigation solutions to adequately protect the residents of this property.

As stated in the meeting this department is currently discussing the relevance of the H1 document in relation to the proposed development with NRW.

In line with the recommendations from Aneurin Bevan Health Board little information has been provided on the Environmental Management System. Please provide a copy of the system in place for Ffos Y Fran if a similar version is proposed for Nant L1esg should permission be granted.

There is also reference to a AQNV strategy used at Ffos Y Fran. Please provide a copy if a similar strategy is proposed for Nant Llesg should permission be granted.

Please provide a shape file of the operations of the proposal for the Local Authority to superimpose onto their GIS mapping system (if available). Should a discussion be required with an IT officer please speak to Phil Mountain 01443 863135.

Representation 8 - Fochriw and Pentwyn Residents Association (FPRA)

- 12.3 The written objection of the Fochriw & Pentwyn Residents Association can be found at Appendix MA/NL/PA/A010. The following responses refer to issues raised in that submission.

Representation 17 - Bedlinog & Trelewis Environment Group (BTEG)

- 12.4 The representation from Bedlinog & Trelewis Environment Group can be found at Appendix MA/NL/PA/A015. BTEG have expressed concern about dust in Bedlinog, and this is addressed in paragraph 1.38.

Representation 20 - Green Valleys Alliance (GVA)

- 12.5 The Green Valleys Alliance representation can be found at Appendix MA/NL/PA/A018. The Applicant's response to issues raised in the report is set out below.

Representation 23 - Environment Pollution Management Ltd - Dust

- 12.6 This report forms part of Representations 20, 21 and 26 by the Green Valleys Alliance, Richards & Appleby and the United Valleys Action Group. The Applicant's response to issues raised in the report is set out below.

Representation 26 - United Valleys Action Group (UVAG)

- 12.7 This is the second representation of the United Valleys Action Group, which encompasses the issues raised in their original submission (Representation 7), which was also referred to in the questions raised by CCBC at Representation 2. Representation 26 can be found at Appendix MA/NL/PA/A020. It is noted that Representations 23 by Environment Pollution Management Ltd and 27, 28, 29, 30 and 31 by Jim Davies form part of this representation. The Applicant's response to each is provided below.

Representation 143 – Green Valleys Alliance (GVA)

- 12.8 The Green Valleys Alliance submitted a second representation on 7th March 2014 entitled 'Supplementary Information - Noise Prediction and Impact' This supplementary representation was accompanied by a report by Kevan Walton Associates Ltd entitled "*Technical Report on Miller Argent Planning Application No 13/0732/MIN To Extract Coal at Nant Llesg*".
- 12.9 Although this GVA representation only considers the aspect of noise with reference to paragraphs 4.22 to 4.32 of the Kevan Walton report, the report also covers the issues of dust, water for the suppression of dust, fuel consumption and mine shaft remediation. The following response on behalf of the Applicant therefore includes references to Kevan Walton's comments on dust and dust suppression.

Representation 144 – Richards & Appleby

- 12.10 This second representation by Richards and Appleby involved the simultaneous submission of the same Kevan Walton Report submitted by the Green Valleys Alliance at Representation 143 above. The Applicant's response to this representation by Richards & Appleby is therefore the same as that for Representation 143 'Green Valleys Alliance (GVA)' above.

Introduction

- 12.11 The Environmental Statement (ES) shows, for the duration of the proposed Nant Llesg mine, that the MTAN2 criterion for dust deposition of $80 \text{ mg/m}^2/\text{day}$, averaged over a week, is achieved at all receptors. This includes the cumulative impact of the removal of the overburden mounds at the adjacent Ffos-y-fran Land Reclamation Scheme (FLRS). The predicted dust deposition methodology used for the local community is considered to be an over-estimate and the assessment criterion overly stringent for the reasons set out in this document. Therefore the assessment is robust, and it is clear that local communities will not become dusty environments as a result of the proposed surface mine.
- 12.12 The average dust deposition is substantially below the MTAN2 criterion, generally in the range 1 to $20 \text{ mg/m}^2/\text{day}$. The highest average dust deposition, in the worst case scenario, is $21.5 \text{ mg/m}^2/\text{day}$ derived using the St Athan meteorological data. Therefore, even in the worst case the average deposition would be about one quarter of the MTAN2 criterion.

Dust Assessment Criteria

- 12.13 There is no statutory limit for dust deposition, but the 'custom and practice' level of $200 \text{ mg/m}^2/\text{day}$, averaged over one month, is widely used to assess dust impacts. This value was suggested by Vallack and Shilito in 1998¹ as the level where complaints are likely and is based on the average UK background dust deposition in residential areas and the outskirts of towns. Examples of its use include:
- The Environment Agency's technical guidance note M17 on 'Monitoring of particulate matter in ambient air around waste facilities' (2013) states "in the absence of any other criteria, the 'custom and practice' guidance of $200 \text{ mg m}^{-2} \text{ day}^{-1}$ is widely used for general (i.e. non-toxic and non-corrosive) dust deposition measured by Frisbee gauges".
 - The Institute of Air Quality Management's 'Guidance on air quality monitoring in the vicinity of demolition and construction sites' (2012) states "*in the absence of other information, the Site Action Levels set out below are recommended. These will be reviewed in the future as additional information becomes available... dust deposition Frisbee-type deposition gauges: $200 \text{ mg/m}^2/\text{day}$, averaged over a four week period.*"
 - The sustainable aggregates website (previously 'Good Quarry') states that "*the limit of nuisance dust customarily accepted in the UK ... is $200 \text{ mg/m}^2/\text{day}$ measured as an annual mean*". It also reports standards and guidance from other countries which range from 133 to $650 \text{ mg/m}^2/\text{day}$ as a monthly mean.
- 12.14 Neither the National Planning Practice Guidance for England (2014), Scottish Planning Policy (2010) nor the Scottish PAN 50: Controlling the Environmental Effects of Surface Mineral Workings (1996) sets limits for dust deposition.
- 12.15 MTAN2 (paragraph 155) suggests that the value of $200 \text{ mg/m}^2/\text{day}$ is too high for amenity purposes when the colour of coal dust is taken into account. MTAN2 (page 60) states that "*amenity relates to the qualities, characteristics and attributes people value about a place and which contribute to their quality of life*". Dust modelling was carried out and the results were

¹ Vallack H.W. and Shilito D.E., 1998. Atmospheric Environment, Vol 32, No 16, pp 2737-2744.

assessed in the ES against this, more stringent, value of 80 mg/m²/day suggested for coal dust by MTAN2.

12.16 Using the value of 80 mg/m²/day as the assessment level in the ES is however a conservative approach for the following reasons:

- The assessment treats all dust as coal dust. In reality the potential for coal dust to be deposited in residential areas is low for the following reasons: (1) The ratio of overburden to coal excavated (m³/m³) is estimated to be 17:1, i.e. the potential dust **in the excavation area** would therefore comprise approximately 95% overburden and only approximately 5% coal. (2) The visual and acoustic screening bund and the overburden mound will be constructed from overburden not from coal. (3) The haul roads will also be constructed from overburden. As the haul roads are the main potential sources of dust in the local communities the dust will be virtually all lighter coloured overburden.
- The MTAN2 value of 80 mg/m²/day is derived from Bates and Coppin (1991)² who say "A **monthly average** deposition rate of 200 mg/m²/day is often considered as a threshold for serious nuisance... For black coal dust, which has a higher contrast with its background, a deposition rate of 80 mg/m²/day is likely to give rise to complaints" (our emphasis). 80 mg/m²/day averaged over **one week** is much more stringent than the same value averaged over **one month**. Despite this, the ES has assessed all dust as if it were coal dust, by adopting the value of 80 mg/m²/day for assessment purposes.

12.17 With the surface mine operational there was predicted to be a minor impact when assessed using the MTAN2 coal dust criterion at most receptors. However, it must be remembered that the majority of dust will not be coal dust, and there would be no significant change if the assessment had used the custom and practice criterion of 200 mg/m²/day averaged over a month³ using the Cwmbargoed Disposal Point (CDP) meteorological data⁴. It is clear that the Heads of the Valley Industrial Estate and the residential areas of Rhymney, Pontlottyn and Fochriw will not become dusty environments due to this development.

12.18 During Disposition 3 and the removal of the FLRS overburden mounds a moderate impact was identified in the ES at one receptor using the MTAN2 criterion of 80mg/m²/day and the St Athan meteorological data. This, in effect, treated the removal of the overburden mounds and the use of the haul roads as having the potential to generate coal dust, which clearly will not be the case. The 80 mg/m²/day criterion applies explicitly to coal dust and therefore using it to assess overburden dust is not appropriate.

PM₁₀ and PM_{2.5}

12.19 Several representations have expressed concern regarding the health effects of exposure to PM₁₀ and PM_{2.5}. The modelling took account of the PM₁₀ and PM_{2.5} emitted from the exhaust of the diesel plant and the fugitive emissions from the mine workings.

² Bate K. and Coppins N.J., 1991, Dust impacts from mineral workings, Mine and Quarry, pp 31-35.

³ The model results were actually averaged over 4 weeks.

⁴ Using this criteria and the St Athan meteorological data there was predicted to be a minor adverse impact at one receptor under the worst case scenario (Disposition 3 plus FLRS overburden mounds removal). Overall this would not be considered a significant effect.

- 12.20 Air quality objectives have been set to protect human health. These will be achieved by a wide margin even under the worst case scenario, which is the cumulative effect of Disposition 3 and the removal of FLRS overburden mounds occurring at the same time⁵.

Modelling

- 12.21 The performance of dispersion models is only as good as the model's parameterisation of complex atmospheric processes and the model input data. The parameterisation of ADMS 5 has been comprehensively verified in real-world and wind tunnel experiments. A number of verification papers are available for download from CERC (<http://www.cerc.co.uk/environmental-software/model-validation.html>).
- 12.22 Monitoring data can be used to verify a model's performance. In the case of Nant Llesg some long term dust monitoring data is available which allows the comparison of the baseline model with the measured dust deposition. This comparison is discussed under 'ADMS Model Verification' (ES paragraphs 12.74 to 12.83 and Table 12.3). In summary, the data available from Fochriw and Rhymney suggests that the model may over-estimate the dust deposition. There is third party evidence that dispersion models over-predict dust from surface mines, perhaps by as much as 2 to 10 times⁶, and therefore the modelled results are likely to be higher than what would actually occur. This is due to the combination of dispersion models not being able to simulate the complex air patterns within the pit and the use of US emission calculations.
- 12.23 MTAN2 strongly recommends, in the absence of data from Defra, that the emission calculations should use the guidance for Western Surface Coal Mining (MTAN2 paragraph 145). The methodology is contained in Chapter 11 and 13 of USEPA AP42, and was used in the air quality assessment of the proposed Nant Llesg Surface Mine. However, MTAN2 recognises that there is uncertainty in using US data for estimating surface mine emissions (MTAN2 paragraph 146). US surface mines tend to be much larger than UK mines, the equipment used is also larger, and the climate in the Western States is hotter and drier and therefore more likely to generate dust.
- 12.24 It has been suggested that the reduction in dust emissions on haulage routes by a factor of 95% is high. It must however be appreciated that the use of 95% dust mitigation was only used for the haul routes and that 75% was used for the loading and unloading of overburden in the excavation areas and 50% was used for the loading and unloading of coal.
- 12.25 The recommended methodology in MTAN2 was used to derive the efficacy of the dust mitigation for the haul roads. The use of 95% is therefore fully justified. This is described in the ES Appendix MA/NL/PA/A12/002. The unmitigated emissions were estimated using local data for the weight of the vehicles, silt content and rainfall. AP42 (AP42 Figure 13.2.2-2) provides information on the effectiveness of watering unpaved roads based on the moisture

⁵ This scenario is considered the worst case as the highest concentrations and dust deposition at residential receptors for the duration of the proposed mine are predicted under this scenario. The highest concentrations/deposition at individual receptors may occur during other dispositions.

⁶ Management, mitigation and monitoring of nuisance dust and PM₁₀ emissions arising from the extractive industries: an overview, Report to The Minerals Industry Research Organisation (MIRO), Report N^o AEAT/ENV/R3141. AEA Technology, Didcot, February 2011.

- ratio (M)⁷. When M=1 the control efficiency is 0; when M=5 it is 95% efficient. The surface water content of dry and wet roads at FLRS were measured using the AP42 recommended procedures in May 2012 following a period of dry, hot weather. The measured values of M were in the range 5.5 to 7.9, with an average value of 6.9. As these figures were all greater than M=5 a value of 95% mitigation was appropriately used in the model. Therefore the data from FLRS supports the dust suppression factor used in the model, and operational experience at this mine shows that a high mitigation factor is fully justified.
- 12.26 The use of 75% mitigation for loading and unloading of overburden in the excavation and overburden areas is also justified. In these locations Fog Cannons[®] will be used to suppress dust, where and when the potential for dust arises. There is evidence that they are very effective at reducing dust emissions during dry weather over a wide area. When correctly positioned the manufacturer believes they can remove much more than 75% of the dust in the air (see ES paragraph 12.57 to 12.59), so the use of a 75% reduction is robust. The effectiveness of the Fog Cannons[®] at the FLRS site, and similar albeit smaller devices used on construction sites, for removing visible dust can be clearly observed.
- 12.27 For the unloading and loading of coal 50% mitigation was used in the model. This will take place in the excavation area, at the coal storage area to the west of Nant Llesg over 1 km from the nearest residential receptors, and at the CDP. The coal dust will be mainly suppressed using spray mists. These are effective at mitigating dust, albeit it must be recognised that they are less efficient than Fog Cannons[®] as they are fixed and cannot be moved to the optimum position, and therefore a lower mitigation factor was used in the model. In the excavation area, fixed spray mists cannot be used and therefore Fog Cannons[®] will be used in this area. As above there is evidence that these are very effective at reducing dust emissions, and a more appropriate mitigation factor where they are used is 75%. However, in the model it has been assumed that the mitigation of coal dust in this location will also be 50% not 75% as for overburden dust, i.e. this is a conservative assumption.
- 12.28 The visual and acoustic screening bund will be constructed over a four month period at the beginning of the mine and will remain in place until it is removed at the end of operations. In the model it has been assumed that once it is constructed it will be seeded and vegetated⁸, and that this will effectively suppress windblown dust. For the overburden mound, however, the model has assumed that there will be no mitigation of windblown dust. This is a conservative assumption because in reality the mound will be partially seeded as sections are completed. There will also be a period of several years when the overburden mound is completely vegetated (see ES paragraph 12.61).
- 12.29 In the modelling it is necessary to apply constant assumptions regarding mitigation. In reality the mitigation that would be applied will be determined on a case-by-case basis, using experience of when and where it is most effective at reducing the risk of dust affecting the local community. Site managers would use their professional judgement to determine local requirements in any given situation. This will be backed up by twice daily visible dust monitoring on-site each working day (ES Paragraph 12.187 1st bullet) and by community visits during adverse weather conditions (ES paragraph 12.187 last bullet). Further information is given in the section below on mitigation.

⁷ $M = (\text{surface moisture content of the watered road}) / (\text{surface moisture content of the uncontrolled road})$.

⁸ Brash from the wetland area south of Rhaslas Pond may also be placed on the visual and acoustic screening bund.

- 12.30 AP42 provides information on the uncertainty or reliability of the emission factors using a scale A (most reliable) to E (least reliable). The haul roads, if unmitigated, are the most important sources of dust, and the emission data is 'B rated, i.e. there is a relatively high degree of reliability in the emission calculations. The quality of this data is greater than that for most other sources of dust from surface coal mines.
- 12.31 Reducing the effectiveness of the dust suppression on the haul roads from 95% to 75% in the model results in none of the receptors experiencing dust deposition above 200 mg/m²/day. As coal is not applied to the haul roads or used in the screening bund or overburden mound, this is considered the appropriate criterion to use. It must be borne in mind that the 80 mg/m²/day criterion in MTAN2 is for coal dust and although it has been applied in the ES for assessment purposes, it is a very conservative criterion to assess dust from the haul routes. The majority of residential receptors will not experience dust deposition above 80 mg/m²/day. Using the CDP wind data the model predicts that even at the 75% suppression level the 80 mg/m²/day will only be exceeded less than once per year during the worst case scenario (the cumulative effect of Disposition 3 and the removal of the FLRS overburden mounds⁹) at five residential receptors. The long term average dust deposition is predicted to be less than 30 mg/m²/day at all the residential receptors, i.e. less than half the MTAN2 criteria for coal dust. Further details of the dust deposition, assuming the dust mitigation on the haul roads is only 75% effective are given in Chapter 12 of the Addendum to the ES.
- 12.32 The visual and acoustic screening bund is principally designed to provide mitigation for the visual and noise impacts of the mine from Rhymney. It is not designed to provide mitigation for dust. The dispersion modelling predicts that dust deposition at the two receptors to the northwest of the site to be low, in the worst case about 15.5 mg/m²/day. Although Halfway House has not been explicitly modelled, and is closer to the excavation area than Blaen Carno Farmhouse and Gypsy Castle, it is not anticipated that dust deposition will be greater at this location than at any of the other receptors. This receptor also lies to the north west of the excavation area. The windroses (ES Drawing MA/NL/ES/12/004) show that the wind is only very rarely from the south east, i.e. when this property would be downwind of operational areas. This is the case for both the Cwmbargoed and the St Athan wind data.

Monitoring

- 12.33 The PM₁₀ and PM_{2.5} data presented in the ES is for the calendar year 2012; i.e. for the period 1st January to 31st December 2012. Monitoring commenced in November 2011 and is ongoing. Miller Argent (South Wales) Limited (MA) use AQ Data Services of Port Talbot to independently prepare monthly and annual summaries of the data.
- 12.34 The Environment Statement (ES) paragraph 12.96 states that the data capture was 72% for PM₁₀ and 70% for PM_{2.5}. This is incorrect, and unfortunately it was not updated from an earlier draft of the chapter when data for a shorter period was presented. The data capture for 2012 was 89% and 84% for PM₁₀ and PM_{2.5} respectively. We have attached the AQ Data Services report for 2012 at Appendix MA/NL/PA/A12/001.

⁹ This scenario is considered the worst case as the highest dust deposition at residential receptors for the duration of the proposed mine are predicted under this scenario. The highest dust deposition at an individual receptors may occur during other dispositions

- 12.35 The dust data presented in the ES for the locations near the railway are quantitative dust flux measurements collected using DustScan directional sticky pad samplers, and analysed using their proprietary software to determine the absolute area coverage (AAC) and the effective area coverage (EAC) for 24 x 15° sectors, thus enabling the direction of the dust source(s) to be determined. AAC provides data on total dust collected whereas the EAC takes account of the colour of the dust.
- 12.36 The DustScan data presented in the ES covers the period from 5th April 2012 to 19th April 2013, during which coal deliveries from FLRS were taking place along the railway line. For the sampler to the east of the railway four samples (equivalent to 96 data points) were lost due to the sampler being vandalised. Whilst this is unfortunate this has no impact on the conclusion that dust is not emitted from the waggons, due to the number of samples successfully taken. The samples were typically collected over a seven day period. All samples were collected between 3 to 10 days except 3 samples collected over 14 days and one sample over 21 days.
- 12.37 A dust complaints risk matrix has been produced by DustScan Ltd. based on the results of a large number of monitoring programmes around mineral and waste sites. This is in the ES as Table 12.2. Table PSA12.1 provides a summary of the dust data from the two samplers adjacent to the railway using the dust complaints risk matrix (see ES Table 12.8).

Table PSA12.1: Baseline Dust Flux Measurements

Dust Complaints Risk Category	East of railway		West of railway	
	Number	Percent	Number	Percent
Very Low	1032	100	1128	100
Low	0	0	0	0
Medium	0	0	0	0
High	0	0	0	0
Very High	0	0	0	0

- 12.38 During approximately one year of monitoring all the samples were in the very low risk of dust complaints category. It is considered very unlikely that there will be any significant dust emissions from the railway waggons used to transport the coal from Nant Llesg and it is therefore considered that there will be a very low risk of dust complaints from receptors adjacent to the railway.
- 12.39 The Air Quality, Noise and Vibration Strategy for FLRS is in Appendix MA/NL/PA/A12/002. It was originally issued seven years ago, before FLRS operations commenced, as a formal response to the relevant planning conditions. The dust monitoring has since been extended from six to nine sites and the dust suppression techniques have been updated to represent current best practice. For Nant Llesg a bespoke document will be produced and it is anticipated that this will be a requirement of a planning condition.

- 12.40 Miller Argent has not used the monitoring data from FLRS to assess the impact of Nant Llesg10 as suggested in some representations – Nant Llesg is a different site with many different characteristics. Monitoring data from Fochriw and Rhymney has been used to define the baseline conditions (ES paragraphs 12.103 – 12.111, Table 12.8) and to provide some confidence in the baseline model results (ES paragraphs 12.74 – 12.83). As dust deposition in the community is very dependent on the wind direction and distance it would not have been appropriate to use the FLRS monitoring data to determine the impact of the proposed mine. Dispersion modelling was used because this takes account of the wind direction and other meteorological data, and simulates the dispersion and deposition of the dust from the site as the air moves towards the receptors at different directions and distances from the proposed surface mine. This is the approach that is recommended in MTAN 2 (see ES paragraphs 12.47 to 12.68).

Remediation works

- 12.41 The early remediation works will be completed within 2 years from the commencement of coaling, and include works on land closer to Rhymney than the operational area of the proposed mine. These works are minor and will use small equipment similar to that used for construction. These works have little potential to generate sufficient dust to affect residential amenity in the local community.
- 12.42 The remediation of the land covered by the mine's operational area will take longer, and will be progressive as the excavation area moves eastwards and the land behind it is progressively backfilled and restored. This work is effectively assessed as a part of the operation of the mine.

Visual and Acoustic Screening Bund

- 12.43 The visual and acoustic screening bund will be constructed over a four month period at the beginning of the works. During this period special attention will be given to ensuring that dust is properly mitigated as it is closer to Rhymney than the mining operations.
- 12.44 The grass seeding of the side slopes and upper surface would take place on the completion of the bund. The hydro-seeding of the entire bund would take less than a week to complete. Given that the exact start date and season of the site is as yet unknown, it is difficult to say how long the grass cover will take to establish. Experience from FLRS shows that, with favourable conditions, the bund could have grass growing on it within a matter of weeks. One benefit of hydro-seeding is that, once down, the mulch used to hold the grass seed mixture is a very effective dust suppressant. The mulch forms a crust that suppresses dust even during dry weather¹¹.

¹⁰ Data from Fochriw School was used to assess the baseline conditions, but not to assess the impact of the proposed new mine.

¹¹ Brush from the wetland area south of Rhaslas Pond may also be placed on the visual and acoustic screening bund. This will not adversely affect the efficiency of the hydro-seeding to suppress dust.

Formation of Overburden Mounds

- 12.45 The Kevan Walton Associates Ltd report¹², which accompanied the Green Valleys Alliance representation, commented on the method of formation of the overburden mounds, suggesting that it promotes the generation of dust. However, it is not normal “*practice*” in the UK to form dumps, whether in-pit or ex-pit, in one lift as suggested. To the Applicant's knowledge, this practise has not been used in the UK for many years.
- 12.46 The formation of any tip would typically be created in layers no higher than the height of a tipped load (4-5m). The first layer would be formed by the dump trucks tipping short of the edge of the tipping area and dozers would then be used to level the tipped material out and advance the tip forward. The maximum height the material could roll down the advancing face of the tip would typically be no more than the 4-5m tipped by the trucks. When this layer is complete the dozer would not then be needed on this section of the tip because the trucks will run to the furthest point on the tipping bench and “*block tip*” their way back leaving the characteristic profile shown on the Google Earth image as described in the Kevan Walton Associates' report.
- 12.47 At no point during the tipping of this “*block tipped*” layer is the dozer employed to push material over the edge. When a “*block tipped*” layer is completed the trucks will then tip over the layer with a dozer in attendance repeating the method as described for the first layer. The layer thickness would, again, be about 4-5m with material dropping at most 5m onto the previously tipped layer.
- 12.48 The backfill profiles shown on Drawings MA/NL/PA/004-008, Dispositions 1 to 5, only show the in-pit and ex-pit tips at a point in time, not the detailed sequence of how these dumps are to be built. Just to be clear, these profiles do not in any way show or imply full height tipping benches, all of the tips will be constructed in layers tipped using the method described above. This methodology would be applied not only in constructing the overburden mound, but also in constructing any internal tip and the visual and acoustic screening bund.
- 12.49 It has been suggested that the overburden mound will be continually worked for 14 years. This is not correct. The overburden mound will be partially seeded as sections are completed, and then, for 3.5 years in Disposition 3, no work will take place on the mound. Once it has been completed and before its removal it will be seeded and no longer a potential source of dust (ES paragraph 12.61).
- 12.50 The seeding of the overburden mound would be similar to that for the visual and acoustic screening bund, but would be a phased operation. On completion of the initial outer screening bund, hydro-seeding would immediately be carried out on its outer face. On completion of each stage or layer of the tip hydro-seeding would immediately be carried out on the remaining outer faces. The top of the mound would be hydro-seeded on completion of the final phase of infilling). As before, the time taken for each phase of the hydro-seeding to be completed would be less than a week. The same comments as above apply regarding the time for a grass sward to appear and the suppressing effects of the hydro-seeding.

¹² Technical Report on Miller Argent Planning Application No 13/0732/MIN To Extract Coal at Nant Llesg, Kevan Walton Associates.

Windblown Dust

- 12.51 Both the dispersion modelling for the proposed mine and experience at FLRS show that windblown dust is not likely to be a major source of dust. At FLRS there is a larger disturbed area than there would be at the Nant Llesg site (about 15% larger), but there has been very little problem with wind-blown dust. Rain tends to wash the fine material from the surface leaving larger material exposed to the wind, which is less susceptible to wind erosion.
- 12.52 The Kevan Walton Associates' report quotes selectively from the Arup report¹³ regarding the threshold wind speed for initiation of wind-blow. It should read "**2-9-5.8 m/s for disturbed soils having less than 50% clay and less than 20% pebbles (less than 1 cm in diameter) cover**" [the Applicant's emphasis]; the Walton report omitted the bold sections. It is difficult to reconcile this with the material excavated at Nant Llesg; in fact none of the descriptions in this table could be used to easily describe the material to be excavated on Nant Llesg.

Dust Mitigation

- 12.53 There seems to be a misconception that there should be no visible dust emissions even within the site. Small amounts of visible dust emissions will occur close to a source, but this will not adversely affect the local community given the distance between the active working on the site and the receptors. Mitigation is aimed at protecting the amenity of the local community from dust soiling (see ES paragraphs 12.186 and 187). At FLRS a proactive approach is used. Site supervisors continually assess dust levels in the operational areas of the site. In addition, several times a day, dust is visually monitored on a formal basis when circumstances dictate (ES paragraph 12.187, 1st bullet) and in the rare event of airborne dust from the site possibly being deposited off-site, remedial action is taken immediately and if necessary all or some site operations will cease (ES paragraph 12.187, 2nd bullet). In addition, dust flux and dust deposition are measured at several locations to provide quantified data.
- 12.54 Miller Argent has a good neighbour policy and will adopt similar procedures for the operation of Nant Llesg.
- 12.55 Miller Argent use professional experience to determine the appropriate dust suppression techniques to be used at any given time. This takes account of the weather conditions, the location of the works with respect to the closest receptor downwind and a number of other factors (ES paragraphs 12.177 to 12.179).
- 12.56 In the excavation area there would be up to 17 excavators (of various sizes) working at any one time. Of these only the large and the medium sized excavators have the potential to create dust requiring suppression. The remaining machines generate very little dust in operation. Experience on FLRS has shown that some of the materials excavated have the potential to generate more dust than others and therefore some excavations do not require as much suppression as others. In these cases dampening the working area using water bowsers is sufficient.
- 12.57 The majority of dust generated by overburden excavation is made up of larger particles, which settle back to ground quite quickly. It is only the smaller particles that, if un-attenuated, have

¹³ The Environmental Effects of Dust from Surface Mineral Workings, Volume Two, Technical Report, Arup Environmental, Ove Arup & Partners, for The Department of the Environment, Minerals Division, HMSO, 1995.

- the potential to travel further; and it is because of this that Fog Cannons[®] are deployed. The operating range of Fog Cannons[®] is quoted to be up to 80m. On FLRS Miller Argent locates the units to make use of the prevailing wind and, where possible, places them on an elevated position to significantly increase their useful range.
- 12.58 The Fog Cannons[®] are not generally needed on the in-pit and ex-pit overburden tips for the following reasons: The material excavated is wet (or wetted at source); these tips are constructed in thin layers so dust generation is minimal; and block tipping of alternate layers reduces the need to have dozers in attendance. If the Fog Cannons[®] were deployed in the backfill area or overburden mound, they would only have to suppress the dust generated over a relatively small tipping area and not an entire tipped face as has been suggested. The required dust suppression would be well within their operational range. The function of the Fog Cannons[®] is to reduce dust emissions from tipping. They are not designed to reduce wind-blow dust from a tipped face. As set out above windblown dust is not likely to be a major source of dust.
- 12.59 One representation has quoted from the US NIOSH 'Dust Control Handbook for Industrial Materials Mining and Processing' (NIOSH, 2012), in which the principles of using water to suppress dust are discussed. It has been suggested that the Fog Cannons[®] will be ineffective because the small water droplets will be blown away from where they are needed. This is not an issue for the mobile fog cannons as they can be placed taking account of the wind direction; the static Fog Cannons[®] are placed upwind of the prevailing wind direction.
- 12.60 It has also been suggested that the Fog Cannons[®] can produce snow in very cold conditions. This has happened but it is localised and in any event extremely rare.
- 12.61 There seems to be a misconception that the FLRS water bowsers are deployed during weekends and holidays. However this is not common practice but they have been deployed on the rare occasions of extreme weather (only 2 or 3 times since the start of the site).
- 12.62 The number of Fog Cannons[®] used at Nant Llesg would depend on the risk of dust from the site reaching the local community. One Fog Cannon[®] can effectively mitigate dust emissions over a large area (a reach of 80m over a 330° arc gives a coverage of approximately 18,500 m²). However operations can take place at several different places, and therefore several Fog Cannons[®] are required. There would be up to four Fog Cannons[®] available for use at Nant Llesg, in addition to those at FLRS. The weather conditions that may have the potential to cause dust to reach Rhymney are very different to those that may cause dust to reach Merthyr Tydfil. Therefore, having the two sites working together provides more flexibility in times of adverse weather conditions as equipment can be moved between the two sites to where it is most needed. It is anticipated that when the need is greatest at one site, there will be no corresponding need at the other site, given their locations.
- 12.63 Experience at FLRS, which has a similar size plant fleet to that proposed for Nant Llesg, is that four Fog Cannons[®] used in conjunction with the other dust suppression equipment available is more than adequate to suppress any operational dust generated. It should also be noted that the current disturbed area of FLRS is approximately 15% larger than the maximum expected at Nant Llesg.
- 12.64 In the excavation and overburden areas the Fog Cannons[®] will be used when the weather conditions are likely to increase the potential for significant dust emissions and/or when particularly friable strata is excavated. They will not be used when it is raining and/or the material being loaded or unloaded is moist and the risk of dust soiling in the local community is small.

- 12.65 The Green Valleys Alliance representation suggests that the dust suppression efficiencies included in the Environmental Statement (ES) relate to “*closed spaces, not open windy places such as Nant Llesg*”. This is not correct. The dust suppression efficiencies are derived from the MTAN2 recommended guidance and equipment manufacturers’ studies combined with professional experience.
- 12.66 MA would use its own water supply from the remodelled Rhaslas Pond, in pit water storage areas on site and, as a last resort, the site water treatment areas. Experience from operations at FLRS, over a period of almost seven years, shows that there is no shortage of water for dust mitigation during the driest periods, even during prolonged dry periods of several weeks without rainfall. When both FLRS and Nant Llesg operate, MA estimate that there will be a surplus of water available. Further details are provided below in the section on water supply.
- 12.67 MA has considerable experience of mitigating dust from their FLRS operations. As described in the ES they adopt a proactive approach (see ES paragraphs 12.12.177 to 12.180; 12.182), and their management system allows for all or part of the operations to be shut down when necessary to protect the amenity of local residents (ES paragraph 12.187). Partial shut-down has occurred occasionally for short periods of time during adverse weather conditions. Nant Llesg would operate under the same mining and environmental management systems as FLRS.
- 12.68 The visual and acoustic screening bund would not be an “*active tip for a considerable amount of time*” as suggested in some representations¹⁴. It will take approximately 4 months to construct (ES paragraph 12.220) and then will be seeded. Once it is hydro-seeded the mulch used to hold the seed mix will suppress any potential for wind-blown dust immediately even during dry weather, and once vegetated the risk of dust emissions from the bund will be no greater than from the existing vegetated ground on Nant Llesg close to Rhymney.
- 12.69 FLRS has around 400 residential properties and about a dozen businesses, factories and industrial units within 500m of the excavation area, whereas around Nant Llesg there would be only 2 residential properties and no factories or industrial units within 500m of the excavation or overburden storage areas. Merthyr Tydfil County Borough Council has not had reason to instigate any action regarding nuisance dust. It is clear that FLRS is not causing a dust nuisance, and the greater distance between emissions and receptors at Nant Llesg means that there is a lower risk of dust deposition adversely affecting local amenity.
- 12.70 A common argument used in several representations is that Rhymney is downwind of Nant Llesg more frequently than Merthyr Tydfil is downwind of FLRS and therefore more likely to experience a loss of amenity due to dust from the mine operations. However, this argument is simplistic since it ignores the other factors that affect dust deposition such as wind speed, rainfall, atmospheric stability, distance and mitigation. Once these factors are taken into account, it is clear that the likelihood of nuisance dust impacts is overstated by objectors to the scheme. This is why dispersion modelling, which uses hourly sequential weather data, and takes into account the above factors, is used to quantify the potential impacts, although there is evidence that the model is likely to over-estimate the impacts of dust emissions from the surface mine.

¹⁴ United Valleys Action Group and the Fochriw and Pentwyn Residents Association

- 12.71 The prevailing wind blows the FLRS dust away from Merthyr Tydfil most of the time. However, easterly winds (i.e. from 65° to 115°), that blow from FLRS towards the town, occur on about 20% of days. During these periods, which are often dry, the use of good mitigation measures is essential. The closest receptors at Merthyr Tydfil are almost an order of magnitude closer to operational areas at FLRS than they would be to Nant Llesg. The distances are 36m at FLRS compared to 350m at Nant Llesg. There will be two isolated properties within 500m of Nant Llesg but the settlement boundary will be at least 500m from the coal workings as required by MTAN2¹⁵.
- 12.72 The dispersion model results show that on average dust deposition rates¹⁶ are predicted to be low, generally around 10-20 mg/m²/day at the nearest residential receptors during the operation of the Nant Llesg surface mine. Higher dust deposition rates are predicted only during a few weeks of the year, and even these are predicted to be less than the 80mg/m²/day criterion for coal dust in MTAN2 and well below than 200 mg/m²/day that is more appropriate for other types of dust. It is during these few weeks that the use of good mitigation techniques is most important. MA's mining management system means that these weather conditions are identified early and the appropriate measures are put in place to ensure that the appropriate level of mitigation is in place.
- 12.73 The water supply for dust suppression is discussed at Chapter 11, 'Hydrogeology, Hydrology and Drainage' of this Addendum to the Planning Statement.

Wind Direction

- 12.74 The prevailing wind direction across much of the UK is from the south west, however this is not the case for all locations, as the local topography, and other features, influence wind patterns. The ES Drawing MA/NL/ES/12/004 shows the windroses for the years 2007 to 2011 for the Met Office weather station at St Athan and the MA weather station at the CDP. The windroses show the frequency of different wind directions (i.e. the direction the wind comes from) and the strength of the wind. The drawing shows that the most common local wind direction is broadly from the west in most years with a strong north east component. In 2010 the dominant wind direction was from the north east.
- 12.75 The dispersion modelling uses hourly weather data, including wind speed and direction, to predict the dispersion and deposition of dust (including PM₁₀ and PM_{2.5}) from the proposed Nant Llesg surface mine (ES paragraphs 12.47 to 12.68). Both the St Athan and the CDP data have been used (ES paragraph 12.52), and the results of the dispersion model for each disposition is presented in the ES (for dust deposition see ES Tables 12.28, 12.34, 12.38, 12.42; and 12.46; for PM₁₀ and PM_{2.5} see ES Tables 12.26, 12.32, 12.36, 12.40 and 12.44). This shows that the coal dust deposition criterion of 80mg/m²/day in MTAN2 is predicted to be achieved and that the criterion for other dust of 200 mg/m²/day is comfortably achieved.

¹⁵ MTAN2 states there should be no coal working within 500 of a settlement, and that the Mineral Planning Authority should define the settlement boundary (MTAN2 paragraphs 29 and 30). There are 2 residential receptors within 500m of Nant Llesg which lie outside the settlement boundary. The coal working is at least 500m from the settlement boundary.

¹⁶ The average dust deposition at the residential receptors modelled for each phase/scenario modelled ranges from 1.3 to 10.8 mg/m²/day (average of relevant data in ES Tables 12.28,12.30, 12.34, 12.38,12.42, 12.46,12.57, 12.59).

- 12.76 It is not true that the impact on local communities of any “*dust nuisance will, because of the prevailing westerly winds, be evident for 60-70% of the time*”¹⁷. There are significant distances between the active site operations and the local communities, and no individual dwelling will be downwind for 60-70% of the time. Dust and air pollution is diluted as it travels over distance mainly by dispersion but also by deposition. This is taken into account in the dispersion models. As discussed in the section on modelling above, the models are likely to over-estimate the dust deposition in the local community and even with this over-estimate there will be no breach of the MTAN2 coal dust deposition limit or the limits for other types of dust.

Temperature Inversions

- 12.77 It has been suggested that PM₁₀ and PM_{2.5} will concentrate in the bottom of the valley in Rhymney during temperature inversions. Temperature inversions under certain weather conditions are relatively common in valleys. If there is a source of pollution within the valley these weather conditions will restrict dispersion. However the Nant Llesg emission sources are outside the valley and will disperse or deposit over distance. As a result during these conditions there will not be higher concentrations within the valley.

Ffos-y-fran Land Reclamation Scheme (FLRS)

- 12.78 Several of the representations make unsubstantiated claims regarding the dust impacts of FLRS. For example, it has been suggested that Fochriw will live under a “*cloud of dust from the constant tipping on the overburden mound*” (Fochriw and Pentwyn Residents Association), and that FLRS has caused numerous dust events in Merthyr Tydfil (United Valleys Action Group) – both claims are denied by Miller Argent. Both Merthyr Tydfil and Caerphilly County Borough Councils issue Environmental Permits for MA's current operations and have determined that they are a low risk¹⁸.
- 12.79 Significant offsite monitoring is conducted by Miller Argent. One such monitor is located in Fochriw School which clearly shows that this is not the case. The data shows that more than 99% of the time between January 2006 and April 2013 the dust level was in the very low category. There has been no high or very high dust event at the measuring location since measurements began (see ES Tables 12.1 and 12.2 and paragraph 12.104). There is no evidence that FLRS and the CDP are a “*constant issue*” in Fochriw. This is supported by there being only 3 complaints from Fochriw residents up to the end of October 2012 (ES paragraph 12.107). The monitoring has been undertaken for more than 7 years and therefore covers a wide range of weather conditions including long periods of dry weather.
- 12.80 There has also been a suggestion that the dust samples were taken after the tipping operations on the southern FLRS overburden mound had stopped. This is incorrect. Dust

¹⁷ Contained within the representations from United Valleys Action Group and the Fochriw and Pentwyn Residents Association.

¹⁸ These risk assessments are for those operations that require an environmental permit.

- sampling at Fochriw has been continuous since prior to the commencement of works at FLRS.
- 12.81 The dust monitoring undertaken in Rhymney since November/December 2011 also does not show any dust events from the direction of FLRS (see ES paragraphs 12.104; 12.107; 12.110 and 12.111 and Table 12.8).
- 12.82 The location of the proposed Nant Llesg Mine in relation to the prevailing wind direction and the local community is very different to FLRS, and therefore the impacts cannot be directly compared. Whilst Rhymney is likely to be downwind of Nant Llesg more frequently than Merthyr is downwind of FLRS, precipitation tends to occur with westerly winds, which acts as natural dust suppression. Also there are significantly greater distances between the closest receptors to the Nant Llesg operational area compared to FLRS (see paragraph 1.69 above). The dispersion modelling takes these factors into account.
- 12.83 It has been suggested that MA does not put mitigation measures in place when the weather conditions are *"unfavourable to local residents"*. It is not true that *"the operator has continued to work as normal"* or that MA only respond when mitigation is *"argued for"* (United Valleys Action Group). In the last three years the partial FLRS shutdowns due to dust have generally occurred as a result of MA's internal procedures to proactively manage dust. MA's response is inevitably short lived because dust is dependent on the weather, which is changeable.

Diesel

- 12.84 MA does not purchase 'black diesel', it only purchases diesel from a reputable source that meets mandatory quality standards¹⁹. The fuel is an ultra-low sulphur fuel similar to that permitted for use in on-road vehicles.

Relevance of H1 Guidance

- 12.85 Annex F of the Environment Agency's horizontal guidance (H1) gives advice on assessing the impact of releases to air when applying for a bespoke permit from the Environment Agency (EA), now Natural Resources Wales (NRW), under the Environmental Permitting Regulations. Surface coal mines require an Environmental Permit issued by the local authority not NRW. Therefore the H1 guidance will not be applied by NRW.
- 12.86 Defra issues process guidance notes on behalf of the Welsh Assembly Government to help local authorities control emissions from regulated processes. Process Guidance Note 3/05(12) provides guidance for coal processing and loading or unloading coal. This states that there should be no visible airborne emissions crossing the site boundary. It should be noted that there is an important difference between visible dust within the site and visible dust crossing the site boundary. The guidance note does not say there should be no visible dust within the site. This guidance would be fully complied with at Nant Llesg.

¹⁹ Motor Fuels (Composition and Content) and Merchant Shipping (Prevention of Air Pollution from Ships) (Amendment) Regulations 2010.

- 12.87 Even though NRW will not apply the H1 guidance to Nant Llesg, in order to answer CCBC's question, it is discussed below.
- 12.88 H1 Annex F provides guidance on the assessment of the risk of emissions to air. It is typically used to assess emissions from point sources (i.e. stacks), although the guidance does not preclude its use for assessing fugitive sources. It requires the process contribution to ambient concentrations to be estimated and provides guidance on **screening out** insignificant emissions that do not warrant further investigation. If the emissions are greater than the 'insignificance' thresholds detailed modelling is likely to be required (H1, Page 3). Process contributions can be considered insignificant if:
- the long term process contribution is <1% of the long term environmental standard; and
 - the short term process contribution is <10% of the short term environmental standard
- 12.89 If the process contribution exceeds these levels the guidance provides additional criteria to help decide whether detailed modelling is required²⁰. The EA guidance **does not** say that if these thresholds are exceeded that there is a significant effect, and does not provide any explicit guidance of when such an effect will be significant.
- 12.90 H1 states that an operator should consider further control measures if a mandatory EU air quality limit is already exceeded or may be exceeded by the additional contribution from the proposed activity. To comply with national or non-statutory objectives there is no requirement to impose stricter conditions than best available techniques (BAT). However, they are a benchmark for harm and further controls should be considered, taking account of their costs and benefits, where the releases constitute a **major proportion to a breach** of one of these standards or objectives. Any significant contribution **to a breach** is likely to be unacceptable but will be assessed on a case by case basis taking account of the costs and benefits of the situation.
- 12.91 In the case of the proposed Nant Llesg mine all the statutory and non-statutory environmental standards are predicted to be achieved and therefore there is no need to consider further control measures using the H1 methodology.
- 12.92 As described in the ES, an assessment was carried out using the Institute of Air Quality Management (IAQM) guidance on significance criteria (ES paragraphs 12.149 to 12.155) to assess the modelled impacts. Table 12.16 of the ES sets out the descriptors used to describe the magnitude of change in air quality and dust deposition, which are then used to determine the significance of impacts at individual receptors. If the change is less than 1% of the environmental standard it is described as imperceptible, and therefore insignificant, 1-5% of the environmental standard is a small change, 5-10% of the environmental standard is a medium change, and greater than 10% of the environmental standard is a large change.
- 12.93 The approach taken in the ES in assessing whether the impact is insignificant is more stringent than that in H1. This is because the environmental standard used is the MTAN2 dust criterion (80 mg/m²/day) which is averaged over one week. It is therefore appropriate to consider this a short term environmental standard. Using the H1 guidance any change under

²⁰ The H1 guidance recommends that detailed modelling of long term emissions may be useful where:

- Long term : Process contribution + background concentration > 70% environmental standard
- Short term: Process contribution > 20% (environmental standard – 2x long term background concentration).

- 8 mg/m²/day (10% of the MTAN2 criteria of 80 mg/m²/day) would be screened out as being insignificant and no further assessment would be required. The approach taken in the ES however only screened out changes of less than 0.8 mg/m²/day (1% of the MTAN2 criteria of 80 mg/m²/day). The ES therefore considered the significance of a greater degree of change than would have been the case had the H1 criteria been applied).
- 12.94 If the H1 criteria were applied, in the worst case scenario (Disposition 3 and FLRS overburden mounds removal), using the more common custom and practice criterion of 200 mg/m²/day averaged over a month as the environmental standard, the modelled impacts at all receptors except one, and then only when using the St Athan meteorological data, are under the 10% criterion (i.e. 20 mg/m²/day) and therefore using this more appropriate environmental standard, as discussed in earlier sections of this document, the impacts would be considered insignificant and not require further assessment using the H1 guidance. The impact at the remaining receptor is less than 12% of this criterion, and therefore is also likely to be considered insignificant.
- 12.95 Using the H1 criteria and the more stringent MTAN2 criteria of 80 mg/m²/day averaged over a week as the environmental standard the impact at a number of receptors is predicted to be greater than 10% of the 'environmental standard' (i.e. 8 mg/m²/day). As above, this does not mean that the impact is significant – H1 does not give any guidance on that. All it suggests is that the significance should be assessed. Significance is a function of both the magnitude of change **and** the sensitivity of the receptor, which is accounted for in the IAQM methodology by the extent to which the applicable environmental standard is actually achieved (see ES Table 12.17). As such, whilst the H1 methodology might indicate that there would be effects that should be considered further, the IAQM methodology better defines the significance of the effects and enables more robust conclusions on the effects to be made than the H1 criteria. Using the IAQM guidance, where there is a magnitude of change greater than 10% of the environmental standard - in this case the MTAN2 criterion (i.e. greater than 8 mg/m²/day) - but the total dust deposition is predicted to be less than 90% of the environmental standard (in the ES the MTAN2 criterion was used i.e. under 72 mg/m²/day) the overall impact is considered to be minor. During all Dispositions, using the IAQM methodology the significance of the impact is either negligible or minor using the CDP meteorological data. Using the St Athan data at one receptor the cumulative effect of Disposition 3 and the FLRs overburden mounds removal is predicted to result in a moderate impact. However in all cases the environmental standard is still achieved.
- 12.96 It should be emphasised that the modelled impacts are considered to be conservative, i.e. an over-estimate of dust deposition, due to a combination of the inability of dispersion models to adequately represent the complex air flows in the pit and the use of US emission factors²¹. Therefore the ES is considered to be robust in terms of the prediction of impacts and the assessment of the significance of these predicted impacts.
- 12.97 As all the statutory and non-statutory environmental standards are predicted to be achieved with the proposed Nant Llesg surface mine and BAT is to be used, the H1 guidance suggests that Nant Llesg would be acceptable if it were applied.

²¹ US surface coal mines tend to be larger and use larger equipment, which are likely to generate more dust, and the climate is drier, which will also give rise to higher dust emissions.

Environmental Management Plan

- 12.98 The Environmental Management system (EMS) is one part of MA's Mining Management System (described briefly at ES paragraph 12.181 -12.187). It is a dynamic system subject to change to respond to changing conditions and experience, and uses a system of controlled documents.
- 12.99 Representatives of CCBC have examined the current management system and MA has received no negative feedback. MA has recently passed a further independent audit of its Environmental Management System, which is certified to the ISO 14001 standard.

Shape file of the operation

- 12.100 AutoCAD DXF files were provided to Caerphilly County Borough Council on 27th January 2014 for the attention of Phil Mountain.

Environment Pollution Management Ltd

- 12.101 This report forms part of the representations of several groups. This report does not relate to the Nant Llesg proposal and therefore has little relevance to the planning application. The report is referred to in nuisance proceedings taken against MA by local residents in respect of the FLRS, which are actively opposed by MA. Due to the ongoing litigation MA is advised not to comment on the report, but it has been reviewed by MA's air quality experts who conclude that it is fundamentally flawed.

Richards and Appleby Ltd.

- 12.102 Richards & Appleby argue that they will have to move their business if the Nant Llesg Mine is granted permission, because they will need to install dust filtration equipment which they claim would be too expensive. They state that their process requires relatively sterile conditions, although they do not currently use filtered air in their facility.
- 12.103 There are no assessment criteria for the effects of dust deposition on industry. It is common practice for dust sensitive industries to filter the inlet air for their manufacturing facilities to avoid contamination.
- 12.104 The dust monitoring undertaken at the Heads of the Valley Industrial Estate over the period November 2011 to April 2013 shows that there are existing sources of dust from within the industrial area (ES Table 12.8). Using a locally derived relationship between %EAC (effective area coverage) and mg/m^2 dust deposition (see ES paragraph 12.80), the dust deposition data shows that there were seven weeks when the average dust deposition was greater than $80 \text{ mg/m}^2/\text{day}$ (the MTAN2 criterion) over the approximately 18 month monitoring period. The dust deposition during these weeks ranged from 85 to $217 \text{ mg/m}^2/\text{day}$ (see Second Addendum to ES, Table ESA12.4). The dust did not come from the direction of Nant Llesg or FLRS, and is likely to be from within the industrial estate or further afield in Rhymney.
- 12.105 Richards & Appleby assert that "Dust not only has an effect on the consistency and texture of the product but coal dust in particular has a high bacteriological effect which is more critical.... rendering the products unusable within a varying period of time". As described above any dust

that may ingress the Richards & Appleby facility will contain virtually no coal; almost 100% will be overburden.

- 12.106 It should be noted that at the time of the FLRS planning application there were similar concerns expressed by a luxury chocolate manufacturer and a print works located in Dowlais which at 265 to 270 m are much closer to FLRS than Richards & Appleby will be to the operational area of the Nant Llesg Mine (approximately 540 m). Both of these factories remain operational and no complaints related to dust have been received from either of these businesses since the commencement of works at FLRS. Therefore, if Richards & Appleby choose to relocate it will not be due to the dust from the proposed mine.
- 12.107 Further details regarding Richards & Appleby's claims are provided in Appendix MA/NL/PA/A05/004.

Summary

- 12.108 In summary, the dust assessment included in the ES is robust. The stringent **black coal dust** criteria is achieved even though the vast majority of the dust that potentially could be deposited in the local community would be the lighter coloured overburden, which will be used in the construction of the screening bund, overburden mounds and on the haul roads. The modelling shows that the proposed mine will not cause a loss of amenity due to dust deposition in the local community.
- 12.109 The more commonly used custom and practice criterion for lighter coloured dust is achieved by a wide margin at all residential receptors even if it is assumed that mitigation on the haul roads is only 75% efficient.
- 12.110 The modelling, including the assumptions regarding the mitigation of dust from the haul roads, follows the methodology recommended in MTAN2, and is based on data and experience from the nearby FLRS. Therefore the use of 95% mitigation of the dust from the haul roads is fully justified.
- 12.111 Miller Argent is confident that there will be more than adequate on-site dust suppression resources to meet the needs of Nant Llesg, including water, even during an extreme dry spell.
- 12.112 Miller Argent is also confident that the Heads of the Valley Industrial Estate and the residential areas of Rhymney, Pontlottyn and Fochriw will not become dusty environments due to this development.
- 12.113 FLRS is not causing a loss of amenity due to dust deposition despite around 400 residential properties and a number of businesses being within 500m of the excavation area. At Nant Llesg there would be only 2 residential properties and no businesses within 500m of the excavation or overburden storage areas, and the greater distance between emissions and receptors at Nant Llesg means that there is an even lower risk of dust deposition adversely affecting local amenity.
- 12.114 Both Merthyr Tydfil and Caerphilly County Borough Councils issue Environmental Permits for MA's current operations and have determined that they are a low risk.
- 12.115 The air quality objectives, set for the protection of human health, will also be achieved by a wide margin as they have been in Merthyr Tydfil since operations commenced at FLRS.

Nant Llesg Surface Mine

Incorporating Land Remediation

Chapter 13

Noise

Nant Llesg Surface Mine

Incorporating Land Remediation

Addendum to Planning Statement

Applicant's Response to Post-Application Representations

Chapter 13 – Noise

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13 Noise

13.1 The following is the Applicant's Response to representations that relate to noise.

Representation 1 - Caerphilly County Borough Council

28. The Fochriw residents are concerned that the proposed overburden or spoil tip could deflect the noise from the CDP down into the community of Fochriw (they can hear CDP and railway noise now on the Pontlottyn road and in the council houses). Could CCBC confirm or deny this? Also, is it true that the noise when reflected multiplies, or appears noisier?

13.2 The concern expressed is that the presence of the overburden mound might cause noise from Cwmbargoed Disposal Point to be deflected towards Fochriw. The propagation of sound from any noise source on the ground is by pressure fluctuations (sound waves) which spread out from the source in expanding hemispheres. It is, however, often simpler to consider the sound moving as rays, or straight lines radiating outwards in all directions from the source. The strength of the sound decreases with distance from the source. The "rays" directly between the CDP and Fochriw would be unaffected by the presence of the overburden mound which is located to the north of the line of propagation. Some of the rays propagating towards the overburden mound could be reflected from the outer face of the mound, although the strength of the sound would be reduced as some sound would also be absorbed by the surface of the mound. The angle of reflection would be equal to the angle of incidence. It is therefore important to consider the slope of the overburden face, and assuming it is approximately 1 in 2, or about 30° from the horizontal, the reflected ray would therefore be reflected upwards at about 60° from the horizontal. This reflected sound would therefore be deflected upwards into the atmosphere and would not be expected to contribute significantly to any receiver on the ground at Fochriw or elsewhere. In summary, the overburden mound will not cause any increase in noise from the CDP at Fochriw.

13.3 A secondary question was asked regarding the possibility of reflected sound multiplying the noise from a source. Sound is energy and as such cannot be increased or multiplied by interaction with a passive surface. However, locally sound levels may be increased by the presence of a reflecting surface (and decreased in the screened area). Sound incident on a large flat wall would be reflected back from the wall and therefore a listener close to the wall would hear both the incident sound and the reflected sound. If the wall was a perfect reflector the reflected sound would be equal to the incident sound and the listener may hear a slight increase in sound level (two equal sounds cause an increase of 3 dB which is just detectable by the human ear). It should be noted that this effect is very localised. The area affected does depend on the size of the reflecting surface and also coherence of the incident sound, but generally the effects are not significant at more than a few metres from the reflecting surface. It should be noted that BS 4142 requires measurements to be taken at more than 3.5 m from a building to avoid significant effects of reflections. In the case of the overburden mound its surfaces are not perfect reflecting surfaces, particularly the surface being worked which would be irregular and open textured. This would cause sound to be absorbed. The relative location of the mound and large propagation distance between the face of the overburden mound and Fochriw means that there would be no cumulative impact of direct sound and sound reflected from the mound at Fochriw.

- 13.4 In conclusion, while noise from the CDP was not included in the model the Applicant considers that concerns regarding reflections of sound from the overburden mound are unfounded.

Representation 3 - Caerphilly County Borough Council

Claire Davies & Colleagues - Pollution Control

Noise

1. Chapter 13 of the ES (Noise) It is stated that the acoustic screening provided by the bund will leave proposed noise limits exceeded at the nearest house on Fochriw Rd. It is proposed to erect a 3 m acoustic barrier along the south eastern boundary of the property to ensure noise limits are met. Further details on the barrier and location are required including calculations of sound reduction provided by barrier.

- 13.5 A 3 m high noise barrier was proposed within the planning application close to the south eastern boundary of Halfway House. The calculated noise levels (in dB LAeq) for each disposition with and without the 3 m barrier are shown in Table PSA13.1 together with reductions in noise (in dB) at the house during the various phases of the proposed development. The location of the barrier included in the IMMI model is shown in Figure PSA13.1 below. The 3 m barrier would have been of a similar construction to that of the 2 m noise fence shown in Figures PSA13.1 and PSA13.2 and Drawing MA/NL/PA/58.
- 13.6 Noise barriers can be constructed from a range of materials that meet the requirements for sound insulation, durability and structural integrity; however, in this case the noise barrier is proposed to be constructed from timber. This material has been selected to provide a single figure sound insulation DLR of not less than 18 dB when measured and rated in accordance with BS EN 1793-2:2012, Road traffic noise reducing devices – Test method for determining the acoustic performance. Part 2: Intrinsic characteristics of airborne sound insulation under diffuse sound *field conditions*.

Table PSA13.1 Attenuation provided by a 3 m barrier to the south east of Halfway House

Description	Disp 0	Disp 1A	Disp 1B	Disp 2 HR1	Disp 2 HR2	Disp 3	Disp 4	Disp 5A	Disp 5B
No barrier	25.9	47.4	51.7	52.0	52.0	49.9	50.2	49.9	46.2
3m barrier	25.9	47.4	46.9	46.2	48.9	49.4	48.7	45.9	44.2
Benefit	0.0	0.0	4.8	5.8	3.1	0.5	1.5	4.0	2.0

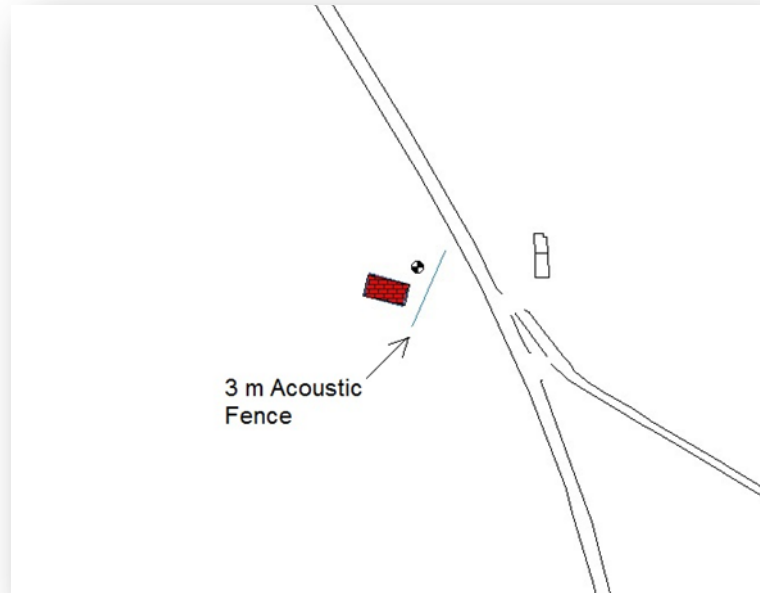


Figure PSA13.1 Location of 3 m barrier at Halfway House

- 13.7 Since the submission of the Nant Llesg Planning Application and following questions raised during consultation further work has been carried out to investigate if it would be possible to reduce the height of the proposed 3 m barrier at Halfway House and still achieve the proposed noise limits. To achieve this, given the topography of the land between the house and the workings, means that a lower screen at the house would need to be used in conjunction with an additional screening bund at the edge of the working area. This offers an alternative solution that would be as effective as the use of the 3 m screen proposed in the ES. The location of the reduced barrier and the top of the screening bund at the edge of the excavation area is represented in Figure PSA13.2. The position and profile of the proposed screening bund can be seen on Drawing MA/NL/PA/057. The proposed noise fence, reduced to a height of 2 m is shown on Drawing MA/NL/PA/058 'Typical Detail of Acoustic Noise Fence' and the typical appearance is shown at Figures ESA13.1 and ESA13.2 of the Second Addendum to the ES.

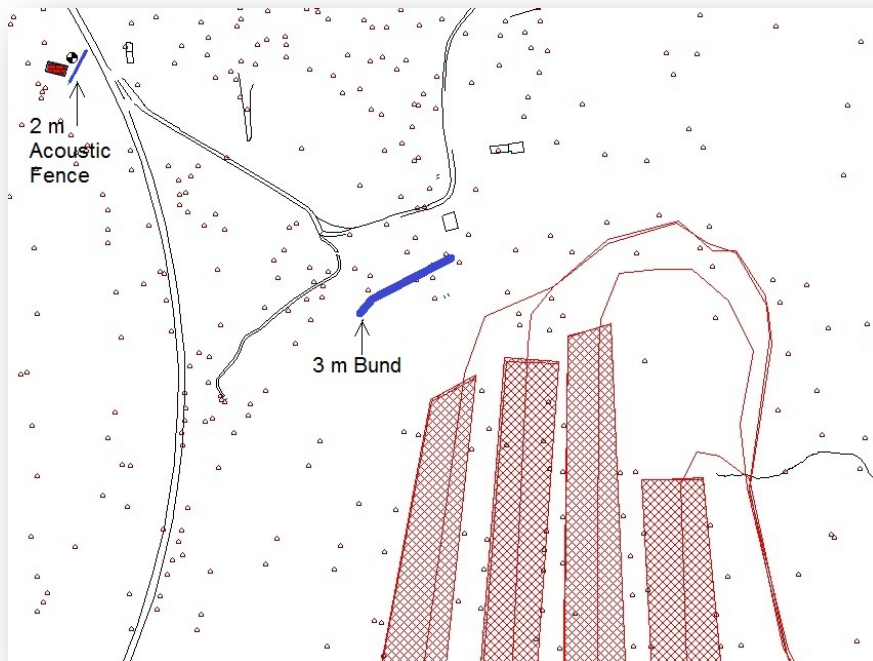


Figure PSA13.2 Location of 2 m barrier at Halfway House and 3m bund at edge of working area for Disposition 1B

- 13.8 The use of the barrier and screening bund will reduce the noise at Halfway House as shown below for the three dispositions where an excess was predicted in the absence of any screening:

Disposition 1B = 49.0 dB L_{Aeq}

Disposition 2HR1 = 48.9 dB L_{Aeq}

Disposition 2HR2 = 50.2 dB L_{Aeq}

- 13.9 It can be seen that by introducing the 2 m barrier and the 3 m bund the proposed limit of 51 dB L_{Aeq} can be achieved.

2. There does not seem to be any noise data sheets for any of the noise monitoring carried out for the site and transport assessments (noise log sheets and frequency). Please provide this raw data.

- 13.10 The contemporaneous notes taken during surveys can be found at Appendix MA/NL/PA/A13/001.

3. In addition to point 2, L_{Amax} levels for the railway noise assessments are not included. Please provide them for both daytime and night time periods.

- 13.11 The tables from the Nant Llesg ES Appendix MA/NL/ES/A13/001 'Noise Surveys' are reproduced below with the L_{Amax} data added. **For clarity the Table numbers are those used in the ES Appendix.** In most cases the maximum noise data were recorded in terms of fast response (0.125 s sampling time) but where recordings of time histories were made primarily to identify train numbers and pass-by times, recordings were made of 1 s L_{Aeq} samples, and this sampling period is equivalent to L_{Amax} slow. The night-time L_{Amax} values for coal trains have been identified at Coed y Graig and are presented in ES Table 13. The daytime L_{Amax} values can be taken from the Figures showing the time histories recorded at Coed y Graig as these are 1 s L_{Aeq} data which are numerically equal to L_{Amax} slow. It can be seen that the L_{Amax} values for coal trains is similar to those for passenger trains.

ES Table 10 Coal Train Pass-by Noise Levels from Logging Meter in Bedlinog

Date	Time	Duration, Seconds	Distance from track, m	Noise Level, dB L_{Aeq}	Max noise level, dB $L_{Amax, f}$
08-Aug-12	14:17	90	12	71.9	78.2
08-Aug-12	16:03	50	12	75.5	87.2
08-Aug-12	20:51	50	12	74.7	82.6
09-Aug-12	06:49	50	12	75.7	87.1
09-Aug-12	07:48	50	12	74.0	84.8
09-Aug-12	10:23	50	12	75.9	80.7
09-Aug-12	14:18	50	12	74.4	81.5

Date	Time	Duration, Seconds	Distance from track, m	Noise Level, dB LAeq	Max noise level, dB LAmax, f
09-Aug-12	16:18	60	12	74.5	87.4
09-Aug-12	20:26	90	12	74.8	79.5

ES Table 11 Coal Train Pass-by Noise Levels from at Trelewis

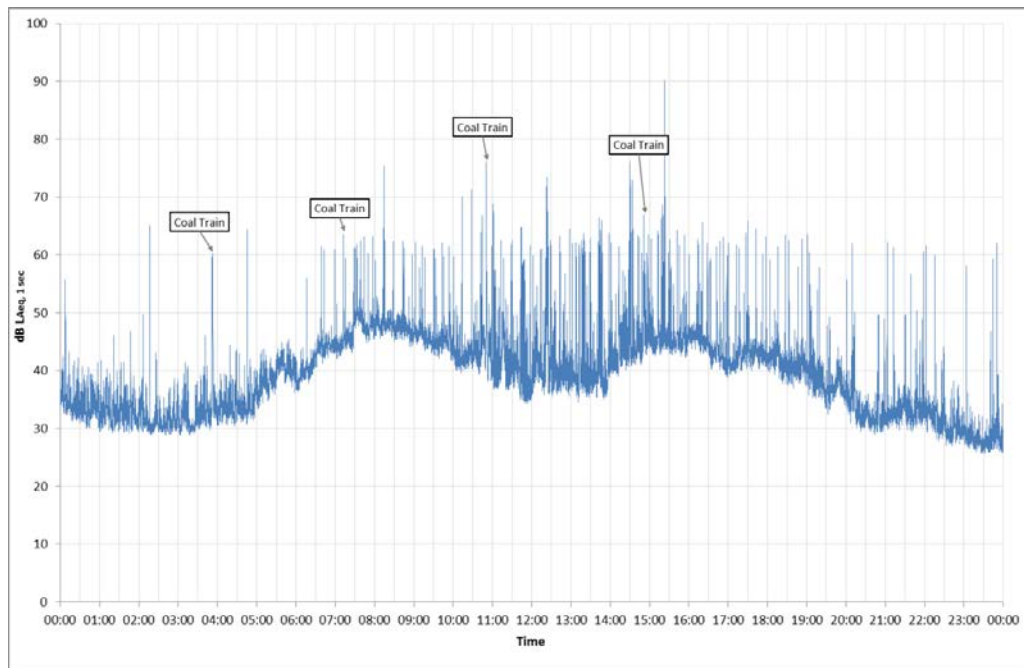
Date	Time	Duration, Seconds	Distance from track, m	Noise Level, dB LAeq	Max noise level, dB LAmax, f
09-Aug-12	10:22	50	14	74.9	78.1
09-Aug-12	10:22	50	21	67.5	70.1

ES Table 12 Noise Levels from Coal Train Stopping at Ystrad-Mynach

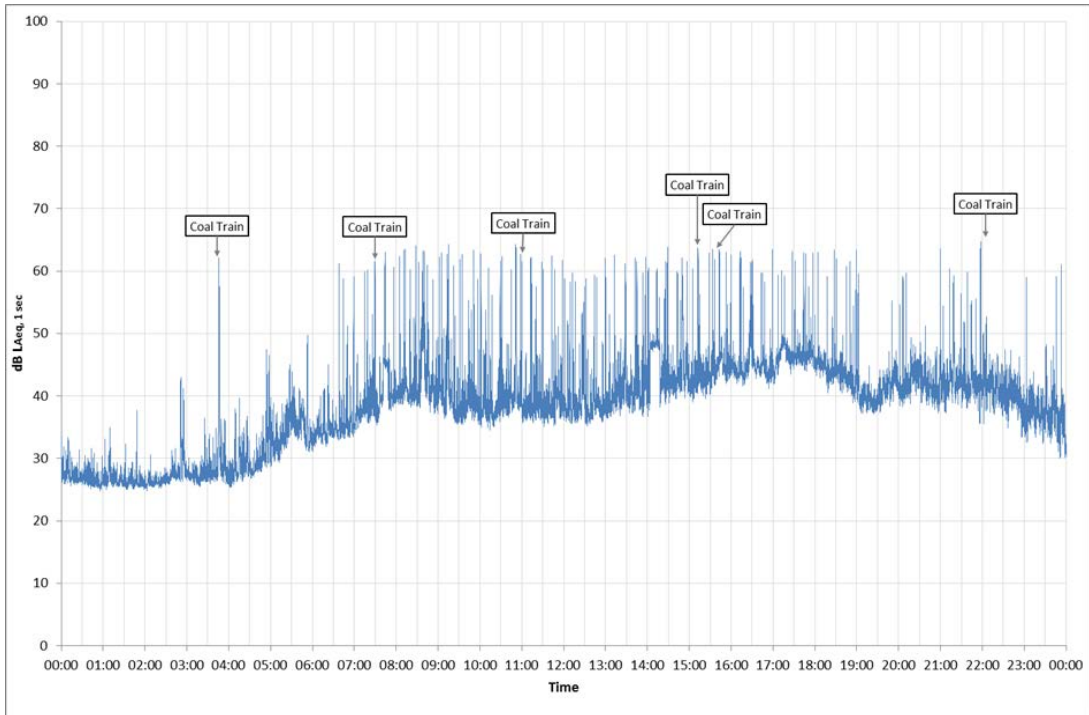
Date	Time	Duration, Seconds	Distance from track, m	Noise Level, dB LAeq	Max noise level, dB LAmax, f
09-Aug-12	14:27	130	13	75.9	87.6
09-Aug-12	14:46	100	13	75.2	80.0
09-Aug-12	20:34	70	13	80.6	88.1

ES Table 13 Noise Levels from night-time Coal Train at Coed y Graig

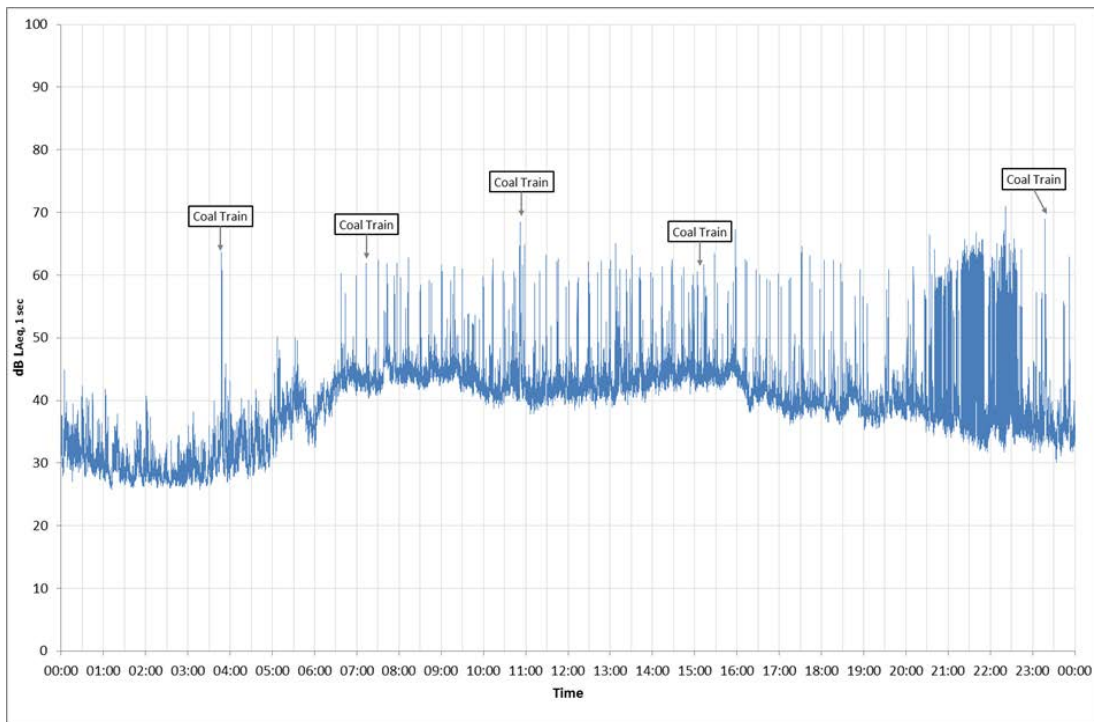
Date	Time	Duration, Seconds	Distance from track, m	Noise Level, dB LAeq	Max noise level, dB LAmax, f
11-Dec-12	03:52	70	22	57.0	60.3
12-Dec-12	03:45	60	22.	58.2	62.1
13-Dec-12	03:47	60	22	59.9	63.7



ES Figure 2 Main line time history of noise levels on 11 December 2012



ES Figure 3 Main line time history of noise levels on 12 December 2012



ES Figure 4 Main line time history of noise levels on 13 December 2012

4. The noise report does not include an assessment of reversing beepers, sirens, horns etc. used on site? Please provide this assessment.

- 13.12 The assessment of noise has been carried out to comply with MTAN2 advice, which sets limits in terms of 1 hour L_{Aeq} levels. Short term and occasional noises, such as vehicle reversing sounders and horns used on excavators to signal completion of loading, do not make any significant contribution to the overall hourly noise levels emitted from the site. Reversing sounders are generally designed to be audible close to the vehicle due to the character of their sound rather than volume. The sound power level of a reversing sounder is usually selected and set up to be slightly less than the sound power level of the truck or excavator to which it is fitted. For example a reversing sounder of 107 dB(A) would be used when a truck develops a sound power level of 111 dB(A). If used for 10 seconds in a 5 minute loading cycle the 5 minute L_{Aeq} of the sounder would be 19 dB lower than that caused by the excavator. While the reversing sounder would be noticeable in the immediate area, it would make no difference to the overall noise level from the loading operation. The vehicles to be used at Nant Llesg will be fitted with white noise reversing sounders which are designed to be noticeable in the area directly behind of the vehicle, but the broad band nature of the noise means that they are not intrusive at long propagation distances due to the masking provided by broad band noise from the entire site. In addition the sounders will incorporate ambient noise sensing which will limit the white noise to level 5 dB higher than the noise in the area immediately to the rear of the vehicle.. Observations at Ffos y Fran confirm that the overall noise levels at the boundary of the site are not influenced by the use of reversing sounders and horns and that these are generally not perceptible.

5. Please provide a map showing detailed monitoring locations used for railway noise assessment.

- 13.13 Plans showing the measurement locations are included at Appendix MA/NL/PA/A13/002.

6. Noise information was previously requested relating to the effects of the trains on Dan Yr Darren, Llanbradach particularly during the night time. Please provide this information.

- 13.14 CCBC did request that the noise impact assessment of the additional coal trains should include a survey at Dan y Darren. In order to carry out a survey covering both daytime and night-time it was necessary to use a secure location for the sound level meter. CCBC officials undertook to investigate if they could gain access to such a location, but we were advised that they had not been successful in finding someone in the street who could provide a suitable monitoring location. For this reason the street was not specifically included in the ES assessment. However, the impact or change in noise at this location will not be dissimilar to any other location along the line carrying the additional coal trains, given the location of the receptors. The survey carried out at Coed y Graig, Ystrad Mynach provided information on the number of scheduled trains using the line and their noise levels. It also provided noise levels for the coal trains included in the survey period. The assessment is set out at paragraphs 13.59 to 13.63 at Chapter 13 of the ES. It should be noted that there are no official regulations or guidance on the assessment of increased train noise. The main concern is increased train noise at night and here there are two main considerations. First, the increase in trains would cause an overall increase in noise: on average the additional trains cause an increase in train noise of about 2 dB, which is not generally considered to be significant. Second, The WHO Guidelines do refer to noise from "high noise events" at night:

this is set in terms of average annual events and therefore the current average night-time train movements of 1.4 (Monday to Saturday) equates to 1.2 movements on an annual daily average basis. This will increase to an annual daily average of 2.1 trains with the development in operation. The existing and future trains cause maximum levels in excess of the WHO recommended level of 60 dB L_{Amax} at many locations along the line, but the WHO recommends that this level should not be exceeded for more than 10 to 15 times per night. Thus, the noise of the increased train movements is well within the WHO Guidelines.

Representation 17 - Bedlinog & Trelewis Environment Group (BTEG)

- 13.15 The representation from Bedlinog & Trelewis Environment Group can be found at Appendix MA/NL/PA/A015. The following points are made regarding the issues raised that relate to noise.
- 13.16 BTEG expressed concern about coal-train disturbance to rail-side residents (RSR).
- 13.17 BTEG is affiliated to the United Valleys Action Group (UVAG) and the above concern generally reiterates that expressed by UVAG. The matter has also been similarly raised in representations by other bodies and organisations. Rather than reiterate matters here, the Applicant refers below to the responses that deal with those issues.
- 13.18 The BTEG reference to coal-train disturbance refers to research carried out by Jim Davies on behalf of the United Valleys Action Group. The Applicant's responses to this issue can be found in this chapter in relation to Question 6 of Representation 3 'Caerphilly County Borough Council'; Representation 21 'Richards & Appleby'; Representation 26 'United Valleys Action Group (UVAG)' and Representation 143 'Green Valleys Alliance (GVA)'.

Representation 20 – Green Valleys Alliance (GVA)

- 13.19 Representation 20 by the Green Valleys Alliance can be found at Appendix MA/NL/PA/A018.
- 13.20 A subsequent submission by the Green Valleys Alliance can be found at Representation 143 below. This specifically relates to a report prepared by Kevan Walton Associates Limited, which includes further comments on noise.
- 13.21 Due to the close similarity between Representation 20 by the Green Valleys Alliance and Representation 21 by Richards & Appleby, the Applicant's response to both can be found under Representation 21.

Representation 21 - Richards & Appleby

- 13.22 Representation 21 by Richards & Appleby can be found at Appendix MA/NL/PA/A019.
- 13.23 It is noted that Representations 22 by the Welsh Economy Research Unit (Cardiff University), 23 by Environment Pollution Management Ltd. and 25 by Terra Consult form part of Richard & Appleby's representation.
- 13.24 A subsequent submission by Richards & Appleby can be found at Representation 144 below. This specifically relates to a report prepared by Kevan Walton Associates Limited, which includes further comments on noise.

- 13.25 The objections regarding noise in Representations 20 and 21 from the Green Valleys Alliance (GVA) and Richards and Appleby (RA) are similar and consequently these are discussed together.
- 13.26 It is noted that Richards and Appleby state that the noise is unlikely to affect its staff while at work, but includes noise as an objection because of the potential effects on staff who live in the area during their leisure time. However, no details as to the number of staff that live in the area or where they live are given.
- 13.27 The issue of noise is raised under section 7 of the objections. Comments are given below using the paragraph numbers in the GVA Objection (the paragraph numbers in section 7 of the RA objection are 0.1 greater due to the inclusion of an introductory paragraph in the R&A objection).

Plant Noise (section 7)

Paragraph 7.1:

- 13.28 The construction of the screen mound is included in the calculations for Phase 1A but is not shown as a temporary (up to 8 weeks) activity that can be carried out at a higher noise level than normal operations, as is suggested. It is unclear why the objections state that the mound construction will take 12 weeks as this is not stated in the ES. The RA objection also expresses doubt as to whether the mound could be constructed in 12 weeks, but this is not a material issue since no relaxation above the normal working noise limit is sought for construction of the bund. The only activity that is noted as taking 12 weeks is the remediation work at the southern end of the application area.

Paragraphs 7.2 – 7.5:

- 13.29 It is accepted that the background noise survey was mainly carried out at times when work may have been carried out at FLRS, however, that work was generally 2 km or more away from the nearest monitoring location and observations during the survey indicated that there was no significant contribution to the measured background noise from this work. The survey results were either very quiet with no discernible noise source or where higher noise levels were recorded these were emitted by sources of noise close to the survey location (typically road traffic).
- 13.30 It is noted that BS 4142 does not apply to this activity as that standard is for fixed industrial noise sources, although that standard is the source of the use of L_{A90} as an index for background noise.
- 13.31 MTAN2 paragraph 171 contains confusing references to ambient and background noise (which are measured in L_{Aeq} and L_{A90} respectively and cannot simply be combined). The intended principle is however clear and has its origins in government advice issued in 1973. That was before the definition of background noise was introduced in BS 4142 which may explain why MTAN2 is not entirely clear. It does, however, indicate that the noise from nearby mineral, waste and similar operations should be excluded from the background noise used for the assessment of a new minerals working. This has been done insofar as the survey measurements contained no significant contributions from such sources. If FLRS was a significant contributor to the background noise it would have been audible to the surveyors and excluded, but it was not audible.

- 13.32 The cumulative impact of FLRS was addressed at 13.66 of the ES and the cumulative impact of the woodchip plant was addressed at 13.71.

Paragraphs 7.6 – 7.9:

- 13.33 It is accepted that the noise limits are met on the assumption that the sound power levels for plant set out in the ES are achieved. It is for this reason that Miller Argent has been working closely with manufacturers to ensure that suitable noise attenuation measures are designed and incorporated in their plant. The results of this design effort show that the assumed sound power levels are realistic. This is dealt with at paragraphs 13.47 and 13.48 of the ES. Of the 20 categories of plant that GVA has identified, the major sources of sound power have been identified and all are included in the noise modelling. The major items of plant are not items that can be hired from a local hire company (large excavators and large dump trucks) and therefore it is not likely that noisy plant could be brought in in the case of breakdown. It is the major items of plant which govern the noise emission from the site.

Paragraphs 7.10 & 7.11:

- 13.34 BS 4142 is designed for rating of noise from fixed industrial noise sources and is not applicable to minerals and open sites. The assessment has been carried out in accordance with MTAN2, which allows site noise to be up to 10 dB above background noise.

Paragraphs 7.12 & 7.13:

- 13.35 The plans in ES Volume III Part 2 show that the areas of Fochriw that have the most potential to experience any increase in noise were modelled and the topography was included for the extent of the area shown in these contour plans. The analysis shows that the noise levels in the area of Fochriw presented meet the requirements of MTAN2 and the noise at the more distant area of Fochriw, which benefits from additional screening due to topography will also meet these requirements. MTAN2 does not apply a time limit on developments.

Paragraph 7.14:

- 13.36 While an individual reversing alarm might be noticeable it would not contribute significantly to the overall sound power of equipment on the site. It is the overall sound power that governs the community noise levels that are compared with the limits set in MTAN2.

Railway Noise (section 8)

Paragraph 8.1:

- 13.37 The purpose of the ES is to provide an assessment of the significance of change that would be caused by the scheme. The impacts have been assessed and it is the change that is of most importance since the proposal is to add more trains which would be identical to those already in use. These changes have been separately assessed for (i) the branch line to Cwmbargoed DP and (ii) the main line. The measurements at Bedlinog and Trelewis were used to assess the impact at houses along the branch line and this is discussed at paragraphs 13.59 to 13.62 of the ES. The measurements at Ystrad-Mynach were taken to establish the relative noise levels for coal trains and passenger trains using the line and this is discussed at paragraph 13.63 of the ES.

- 13.38 There is no discrepancy between the measurements. The measurements at Bedlinog were at 12 m with an uninterrupted view of the railway. The survey at Ystrad-Mynach was conducted

at 22 m from the track and there was some screening due to the elevation of the track. The data would be expected to be lower and are consistent with the Bedlinog data.

Paragraph 8.2:

- 13.39 Regulations on railway noise in Wales are provided in *The Noise Insulation (Railways and Other Guided Transport Systems) Regulations 1996* and calculations are required to be made following the methodology set out in *Calculation of railway noise – 1995*. These documents require all assessments to be made using L_{Aeq} noise levels and no mention is made of L_{Amax} . It is therefore wrong to say that railway noise is normally assessed in terms of maximum noise levels

Paragraph 8.4:

- 13.40 It is wrong to describe the WHO Guidelines or BS 8233 standard as “a nationally recommended upper level of noise acceptability”. The WHO noted in its Guidelines that “Governments should adopt the Health Guidelines for Community Noise values as targets to be achieved in the long-term” and from this it is clear that they were aspirational targets. When WHO published its Guidelines the UK government commissioned a review by B Berry et al which recommended that the Guidelines should not be adopted as a basis for noise limits. The Guideline values were adopted as the basis of advice in the 1999 edition of BS 8233, however, this standard provides guidance for noise levels to be achieved in new buildings and does not apply to new noise affecting existing buildings. This is also the basis of the revised 2014 edition of BS 8233. The advice in BS 8233 has no legal status and it is misleading to describe it as nationally recommended as this implies government approval.

Representation 26 - United Valleys Action Group (UVAG)

- 13.41 This is the second representation of the United Valleys Action Group, which encompasses the issues raised in their original submission (Representation 7), which was also referred to in the questions raised by CCBC at Representation 2 above.
- 13.42 Representation 26 can be found at Appendix MA/NL/PA/A020.
- 13.43 It is noted that Representations 23 by Environment Pollution Management Ltd and 27, 28, 29, 30 and 31 by Jim Davies form part of this representation. The Applicant's response to each is provided individually under the respective headings.

Noise & Vibration

- 13.44 The issue of noise is raised under the Environmental Impact section of UVAG's second submission.
- 13.45 It is accepted that wind could affect noise propagation from the mine. This is noted at paragraph 13.20 of the ES. The highest noise levels would occur under calm or light downwind conditions. Moderate or strong downwind conditions may result in the propagation of slightly higher noise levels, but this is not considered to be the worst case as the wind would cause significant increases in ambient noise at the houses, which would mask the noise from the mine. Thus, any potential excess of noise from the mine above background noise would be greatest during calm or light downwind conditions. It is noted at paragraph 13.20 of the ES that when upwind conditions occur the propagated noise will be 8 to 10 dB

- lower than under calm conditions. It is recognised that calm or light downwind conditions would result in the highest levels of impact at a receptor. Calm conditions are the conditions for which the noise limits have been derived and the conditions for which the noise modelling was carried out. The wind rose information given at ES Appendix MA/NL/ES/12/004 confirms that the predominant wind direction is from the mine towards Rhymney, however it can also be seen that for much of the time the wind speed exceeds 5 m/s and during this time the noise generated locally by the wind would cause noise from the mine to be masked. It is therefore misleading to state that Rhymney residents will have noise issues for 60 to 70% of the time. For the remaining 30 - 40% of the year when the wind is not from the south west, the noise levels experienced at receptors in Fochriw will be significantly below those predicted in the ES, for similar reasons – for much of the time the wind speed would cause the noise from the mine to be masked. .
- 13.46 The excavators will be procured with state-of-the-art noise attenuation systems. Work is well advanced with the manufacturers to incorporate additional noise mitigation into their design as noted at paragraph 13.48 of the ES. The Applicant has visited and worked with the manufacturers at their manufacturing bases in the USA and Germany to establish what technology is available to be delivered as factory fitted noise attenuation and are confident that the required level of attenuation can be achieved to ensure noise limits can be met.
- 13.47 The limits quoted by UVAG are the limits set by the Welsh Government in MTAN2 and are those considered acceptable by the Welsh Government. Meeting these MTAN2 limits does not constitute a defence under the Control of Pollution Act, but it is likely to be accepted by the court as reasonable behaviour. It is not possible to verify the claim that 60 dBA has been measured by Merthyr residents in respect of the FLRS. In any case, the ambient noise level should be subtracted from the measured noise level before comparison with the noise limits for plant is made. It seems likely that the levels quoted for the FLRS are overall noise levels. Any and all noise complaints by members of the public or the LPA at FLRS are fully investigated by the Applicant and all complaints received are audited by Merthyr Tydfil County Borough Council on one of their regular audits. In any event the Nant Llesg site is a different site, with receptors in a different direction and at much greater distances. It would be wrong to extrapolate purported noise impacts of the FLRS to the Nant Llesg proposal.
- 13.48 On Page 9 of UVAG's second submission, it is not made clear which element of the remediation works is considered likely to cause a noise problem, and this is not accepted. All of these works will be completed within 2 years of the commencement of coaling will be small-scale works, carried out using much smaller plant than that used for the mining operations. The drainage works to the north of Fochriw have been assessed as part of Disposition 1 in Chapter 13 of the ES.
- 13.49 With regard to noise and vibration along the mineral railway line, experience has shown that vibration induced building damage occurs at levels of vibration which are significantly higher than those that cause concern for occupiers of buildings, and certainly well above those likely to be induced by trains passing along the mineral railway line. Subjective observations made while carrying out noise surveys, confirmed that vibration levels were not high enough to cause a risk of building damage.
- 13.50 The increases in train movements are discussed at paragraph 13.59 of the ES and it is accepted that there will be increased movements during both the daytime and night-time. The trains would be the same as those currently using the line and it is accepted that where these are audible, there will be an increase in the number of audible train movements. The overall increase in noise caused by these movements is discussed at paragraph 13.61 of the ES and the changes are not significant.

- 13.51 UVAG make specific reference to the WHO and its publications on noise in Representation 31 - UVAG/BTEG and provides parts of the report and other documents in Representation 28. Some statements made are considered misleading and undue weight is placed on the report. These concerns are discussed below.
- 13.52 At paragraph 3.1 it is misleading to claim that the WHO Guidelines on Noise, 1999, are “consistently respected by all National Authorities”. In a report on the 1995 draft guidelines prepared for the Department of the Environment by B Berry¹, et al, it was noted that: “The guideline values contained therein have not been adopted by the WHO or by any other official body, although this does not of course have any effect on their underlying scientific validity as determined from the available research data.” The subsequent WHO publications on community noise have not been adopted by the WHO or by any government.
- 13.53 At paragraph 3.4 UVAG state that Miller Argent does not refer to the WHO Guidelines on Night Noise in Europe 2009. This is correct. This document was not referred to because it has not been adopted by any authority in the UK or elsewhere. It is noted that with all of the WHO Guidelines the threshold levels are the lowest levels at which observable responses occur and this does not necessarily mean that any adverse effect will occur at these levels. This is likely to be a reason why the guidelines have not been adopted by any authorities. This point was noted in a report prepared by an ad hoc committee chaired by Professor Robert Maynard for the Department of Health and Defra in 2010² at paragraph 5.33:

“The guideline values for avoiding sleep disturbance provided in the WHO guidelines document, i.e. 30 L_{Aeq} and 45 L_{Amax} measured inside the bedroom (WHO, 1999), seem to be based on the lowest values at which any kind of physiologically measurable disturbance has been observed without making allowance for habituation and adaptation which undoubtedly occurs after long-term residence under road, railway, and aircraft noise exposure situations.”

In summary, the lower threshold levels identified by the WHO in its Night Noise report are considered to be only levels at which any measurable effect can be observed in a population newly exposed to a noise and these levels do not equate to the onset of any adverse health effect. It should also be noted that people habituate to noise and as per the comments made by the ad hoc committee, any threshold level would be higher in a population which is used to the noise of occasional trains (such as the communities close to the railway).

- 13.54 At paragraph 5.24 of the committee report it is stated:

“Research on noise and sleep disturbance has been carried out in the laboratory and in the field. On the whole, the evidence from laboratory studies is stronger than that from field studies and it has been found that associations between outdoor aircraft noise exposure and sleep disturbance are tenuous (Michaud et al, 2007). During sleep there is no cumulative effect of number of noises and their intensity on sleep disturbance (Muzet, 2002): a single noise can be as disturbing to sleep as multiple noises and whether someone awakes may depend on the time of sleep, the time of the night and the current sleep stage.”

¹ Berry B, Porter N & Flindell I, Health Effect Based Noise Assessment Methods: A Review and Feasibility Study, NPL Report CMAM 16 (1998) National Physical Laboratory, London

² Maynard Prof. R et al, Environmental Noise and Health in the UK - A report by the Ad Hoc Expert Group on Noise and Health, (2010) Health Protection Agency, Didcot, Oxfordshire

13.55 At paragraph 5.25 it states:

“Habituation occurs with an increased number of sound exposures by night and across nights. One laboratory study, however, found no habituation during 14 nights of exposure to noise at high levels of exposure. However, there is a weak association between outdoor noise levels and sleep disturbance.”

13.56 From this it can be seen that the small increase in train movements in any night is unlikely to change the level of disturbance caused to residents as the local authorities have no records of awakenings caused by trains and the additional trains will not have any cumulative impact on residents.

13.57 At paragraph 3.5 UVAG raise concern about sensitive groups, but does not identify any locations for these groups. The committee report recognises the issue of sensitive groups and notes at paragraph 5.33:

“On the other hand, it is likely that not everyone habituates or adapts to night-time noise to the same extent and that, as noted in the position paper, special attention might be justified in the case of vulnerable or sensitive groups. Unfortunately, there does not seem to be any objective way to identify especially vulnerable or sensitive groups except by self-report which may be considered unreliable.”

13.58 In summary, the applicant is not aware of any reports of awakenings caused by the existing coal train movements and as there is no evidence in research of cumulative effects from noise events during sleep that there will be any more sleep disturbance than at present. There is a suggestion that increased numbers of events below the levels that cause awakenings may increase habituation to noise and make awakenings less likely.

Representation 28 - Jim Davies (UVAG) - Noise

13.59 This report can be found at Appendix MA/NL/PA/A022 and forms part of Representation 26 by the United Valleys Action Group. See the Applicant's Response to Representation 26 'United Valleys Action Group (UVAG)'.

Representation 31 - Jim Davies (UVAG) - Train Traffic

13.60 This report can be found at Appendix MA/NL/PA/A025 and forms part of Representation 26 by the United Valleys Action Group. The matter is dealt with under the heading of 'Noise & Vibration' in the Applicant's response to Representation 26 'United Valleys Action Group (UVAG)'.

Representation 32 - Merthyr Tydfil County Borough Council

13.61 This representation from Merthyr Tydfil County Borough Council can be found at Appendix MA/NL/PA/A026.

Noise

- 13.62 It is noted that the location of the proposed excavation and associated works is not expected to have an adverse effect on residents within Merthyr Tydfil County Borough.
- 13.63 The matter of train noise is dealt with under the heading of 'Noise & Vibration' of the Applicant's response to Representation 3 'Caerphilly County Borough Council'; Representation 21 'Richards & Appleby'; Representation 26 'United Valleys Action Group (UVAG)' and Representation 143 'Green Valleys Alliance (GVA)'.
- 13.64 With respect to control over the six daily network pathways for rail traffic, the Applicant has no such control. The timing of the paths is fixed, but the Applicant can only request paths. It does not have ultimate control. The final decision lies with the network operator.

Representation 120 - Nelson Community Council

- 13.65 The Community Council resolved:

"... to support the local Protest Group in objecting to the scale of this development on grounds of its environmental impact, its impact on the visual amenity and to also object on its potential to impact on Nelson residents along the rail link from the site to Ystrad Mynach, due to the increased frequency and larger capacity of trains to be used to transport materials from the site."

- 13.66 The topic of train noise along the rail link has been similarly raised and responded to in respect of the following representations: Representation 3 'Caerphilly County Borough Council'; Representation 21 'Richards & Appleby'; Representation 26 'United Valleys Action Group (UVAG)'; and Representation 143 'Green Valleys Alliance (GVA)' and those responses are referred to.

Representation 121 - Llanbradach and Pwll-y-Pant Community Council

- 13.67 The Community Council confirmed that:

"...councillors are unhappy at the increased amount of noise that will affect residents and are concerned that the railway bridges might not be strong enough to take the anticipated amount of traffic."

- 13.68 The topic of train noise has been similarly raised and responded to in respect of the following representations: Representation 3 'Caerphilly County Borough Council'; Representation 21 'Richards & Appleby'; Representation 26 'United Valleys Action Group (UVAG)'; and Representation 143 'Green Valleys Alliance (GVA)' and those responses are referred to.

Representation 143 – Green Valleys Alliance (GVA)

- 13.69 The Richards and Appleby objection was submitted together with the Green Valleys Alliance objection and can be found at Appendices MA/NL/PA/A030 and MA/NL/PA/A029 respectively. These objections are based on a report by Kevan Walton Associates Ltd in which plant noise is considered at section 4 and railway noise is considered at section 5. It is noted that Kevan Walton is a well-qualified geotechnical engineer and not a specialist acoustic engineer: he

shows his professional qualifications as BSc, MSc, CEng, CGeol, MIMMM, FGS, FIQ, CMIOSH, but these do not include membership of the Institute of Acoustics or any other acoustics qualification. A meeting was held with Kevan Walton and Mitchell Field on 7 May 2014 in order to understand more fully their concerns and to provide further details to clarify aspects of the ES that were not clear to them. Comments are set out below following the paragraph sequence in the Kevan Walton report.

Plant Noise

Paragraph 4.1

- 13.70 The plant noise section in Mr Walton's report starts with an explanation of noise indices, however this is muddled and the description given for background noise is not correct. The background noise level (L_{A90}) is the level of A weighted sound exceeded for 90% of the full measurement period. It is not an average value as stated in the report. The equivalent continuous level (L_{Aeq}) is the logarithmic average of all sound in the measurement period.

Paragraphs 4.3 and 4.4

- 13.71 The use of BS 4142 is inappropriate, except for any fixed plant. BS 5228³ is specifically written for construction and open sites, including surface mines. The Applicant notes that the draft for public comment for a revision of BS 4142 that was issued on 24 February 2014 includes a list of 13 noise sources that it explicitly states that it **should not** be used to assess and these include:

- Vehicle traffic on the public highway
- Passing trains, trams etc.
- Mineral extraction

- 13.72 The short summary of the BS 4142 rating method is not wrong, but, as can be seen from the draft revision, it is not relevant to the assessment of the environmental impact of noise from a surface mine or the passage of trains.

Paragraph 4.5

- 13.73 It is not correct to link MTAN2 to the BS 4142 rating methodology given at paragraph 4.4. While it is the case that MTAN2 and BS 4142 both use an increment of 10 dB above

³ British Standards Institution, (2009) BS 5228: Part 1: 2009, Noise and vibration control on construction and open sites: Code of practice for basic information and procedures for noise and vibration control, British Standards Institution, London

background noise in their respective guidance, this does not mean that their use is identical. BS 4142 was developed for the assessment of fixed and permanent sources, whereas MTAN2 has evolved to deal with mobile sources in the open, which are non-permanent. MTAN2 was developed from MPG 11 guidance which states:

"The Government takes the view that during the working week, except in the circumstances outlined below, the daytime nominal limit at noise-sensitive properties used as dwellings should normally be 55 dB LAeq, 1h (free field) where 1 h means any of the one hour periods during the defined working day. This is roughly equivalent to the noise made by a person talking normally and is generally agreed to be a tolerable noise level; above this level, continuous noise could well cause annoyance."

And also:

"A lower nominal daytime limit might be appropriate in quieter rural areas if a limit set at 55 dB LAeq, 1h for noise from the proposed development would exceed the existing background noise levels by more than 10 dB(A)."

- 13.74 From this it is clear that the use of the 10 dB increment in MTAN2 is designed to keep noise within acceptable levels and is not equivalent to the 10 dB excess used in BS 4142 which indicates that complaints are likely due to noise from industrial sources. The reasons for these differences are complex and in part are due to people's greater tolerance of noise that is of a temporary nature, albeit for an extended period, than noise from industrial sites where the noise is permanent. People are also less accepting of noise that is perceived to be controllable and therefore are less tolerant of industrial noise which emanates from buildings than exposed mobile machinery on minerals and construction sites. The fact that minerals have to be worked where they occur whereas industry can generally be sited away from sensitive development also influences governments' attitudes to noise control.

Paragraph 4.6

- 13.75 It is not correct to imply that noise from Ffos-y-fran caused the measured background noise levels to be unrepresentatively high. The background noise surveys were all undertaken as attended surveys. In every survey the surveyor was able to observe the source of any significant contributing noise and no measurements were considered to be influenced by noise from the FLRS. On some occasions very faint noise was discernible which could have been from the FLRS or the CDP, but was well below the background noise and would not have significantly added to the background noise. To make a meaningful increase in the background noise the contribution from the FLRS would need to be within 3 or 4 dB of the other sources of background noise and if this were the case it would have been clearly audible.

Paragraph 4.7

- 13.76 The proposals do not result in "noise creep" as suggested. Avoiding creeping background or ambient noise is a reasonable concern, but is generally an issue where sources of noise are much closer than will be the case at Nant Llesg. As noted above, an increase in background noise needs the contribution from a source to be close to the levels of other sources in order to cause a measureable increase in overall noise. This is not the case at Nant Llesg.

Paragraph 4.8

- 13.77 At paragraph 13.66 of the ES it is stated that In general the proposed scheme is sufficiently remote from the FLRS and the Trecatti landfill site that there are no significant cumulative impacts at receptor locations. Mr Walton is wrong to conclude that there will be a cumulative impact from Ffos y fran and Nant Llesg. Specific mention of the Trecatti site was made at paragraph 13.68 of the ES because it is an active site close to the boundary of Nant Llesg, but the statement at 13.66 of the ES remains valid for both sites. As stated above, in general, the surveyors did not perceive noise from FLRS and on occasions when any noise was perceived that could possibly be from FLRS it was at a level well below background noise and was judged to not contribute significantly to the measured background noise. It is noted that noise levels 10 dB or more below background noise do not contribute significantly to the measured level, but can still be perceptible (up to about 18 dB below background levels).

Paragraphs 4.9 – 4.10

- 13.78 Paragraphs 4.9 – 4.10 are based on a false assumption (that FLRS contributes equally to the noise) and no weight should be attached to them.

Paragraph 4.11

- 13.79 It is wrong to state that Miller Argent has failed to satisfy the MTAN2 requirement to avoid creep. MTAN2 states: It is important to prevent “*creeping*” of ambient noise levels, whereby successive developments each add to the background noise. Background levels should exclude the existing contribution to noise from mineral, waste, and similar operations so that cumulative and in-combination effects can be assessed. The surveys revealed that the levels of noise from FLRS at the sites potentially affected by noise from Nant Llesg were low enough that there would not be any significant cumulative impacts and therefore no creeping of ambient noise. The concern raised is not justified.

Paragraph 4.12

- 13.80 It is acknowledged that the achievement of community noise targets assumes plant can be procured that meets specified noise emission levels. Discussions were held in 2012 with engineers responsible for the technical development of Caterpillar products at three factories in Germany and the USA and there have been continuing discussions with them to secure suitably noise suppressed plant. In 2012 Caterpillar had one noise suppressed 777G dump truck in the UK and their initial noise survey results indicated that it was approximately 7 dB quieter than the standard trucks when moving uphill under full load. These results formed the basis for discussion of further improvements and these are summarised in Table PSA13.2 below. The full load sound power levels have been used in the modelling for the entire working cycle, but in practice the sound power levels during the time spent during loading and returning empty to the void would be lower.

Table PSA13.2 Further improvements to noise suppression

Further improvements to noise suppression	dBA
Baseline sound level	113
New/Current Rockford fan with modified software logic	-0.3
Rear bottom engine panel	-0.5
Torque Converter Insulation	-0.8
Louvres in front of radiators	-0.6
Transmission insulation	-0.5
Additional sound suppression in engine compartment	-0.3
Exhaust Noise reduction (New/Modified muffler)/Body heat resonators	-0.6
Absorption on body front wall	-0.3
Total Sound Power	109.1

- 13.81 The first major item of plant to be delivered to site fitted with the new noise suppression kit is a D9 dozer. This was tested on 6 May and also shown to Mr Walton on 7 May prior to a meeting with him. A sound power level of 114 dB(A) was used in the calculations in the ES for this dozer (see ES Table 13.2). This was a reduction of about 4 dB(A) from the standard dozer, however the tests show that the sound power level has been reduced to 110 dB(A) in second gear and 107 dB(A) in first gear. These are very significant reductions and importantly they have reduced the attention-drawing clanking that came from the tracks.
- 13.82 Discussions have been held with manufacturers of large excavators and Komatsu has provided results of a noise suppression package it has developed that reduces the sound power level of their PC3000-6 excavator to 109 dB(A). The noise suppression package achieves a reduction of 13 dB over the standard machine. The test results are given for operational engine speed without load, however, the noise from the engine is the most significant source of noise on the excavator and does not vary when under load as the engine is run continuously to drive hydraulic pumps. The results of various configurations are shown below at Table PSA13.3. The figure quoted in the ES is 111 dB(A). In the UK it is possible to operate this plant with lower cooler fan speeds without it overheating, and at these speeds the sound power levels are likely to be below those quoted in the ES. The sound power level used in the ES is accordingly robust and represents the worst case scenario.

Table PSA13.3 Sound power levels for Komatsu PC300-6 excavator.

Model	PC3000-6 without sound suppression kit	PC3000-6 with sound suppression kit	PC3000-6 with sound suppression kit	PC3000-6 with sound suppression kit
Engine Type	SSA12V159	SSA12V159	SSA12V159	SSA12V159
Weather	humid, no wind	humid, no wind	humid, no wind	humid, no wind
Engine rated speed	1800 rpm (without load)	1800 rpm (without load)	1800 rpm (without load)	1800 rpm (without load)
Oil and water cooler	Cooler fan speed 1360 rpm	Cooler fan speed 1360 rpm	Cooler fan speed 1300 rpm	Cooler fan speed 1100 rpm
Sound Power Level* LWA in dB(A)	122	111	110	109

- 13.83 It is on the results of these discussions and test results like the above that MA is confident that noise mitigation will be designed by the manufacturer to be incorporated in its products. Full production testing could not take place at the time of the ES as development was ongoing, but further discussions with the manufacturer and further testing of noise suppressed prototype machines by the manufacturer have shown that the figures quoted in the ES are achievable.

Paragraphs 4.13 – 4.16

- 13.84 The statement made here is incorrect. MA does not intend to retro-fit noise mitigation. This is to be factory fitted prior to procurement as discussed above.

Paragraph 4.18

- 13.85 It is agreed that the figures in ES Tables 13.9 and 13.10 are correct. The reference to BS 4142 is not relevant. It is not correct to state that MTAN2 requires the noise from the mine to be set relative to the background noise – MTAN2 provides a method for setting noise limits that are based on background noise, but compliance with MTAN2 is achieved by meeting the derived limits. The Applicant's noise consultants consider that the presentation used in Mr Walton's report is misleading.

Paragraph 4.19

- 13.86 The Welsh Government anticipates in MTAN2 that developments of this nature will cause an increase in noise in the surrounding area. The increases modelled for Nant Llesg are within the limits set out in Welsh Government guidance. The statistical analysis provided is somewhat superficial and consideration of phase duration and numbers of properties affected should be included if this type of analysis is to be undertaken. However, the assessment in the ES shows that the appropriate limits will be met and it is considered that further analysis is not appropriate and not required by MTAN2.

Paragraphs 4.20 and 4.21

- 13.87 The analysis in these paragraphs is based on a false assumption (explained above) and should be disregarded. As stated above MA is liaising with manufacturers to ensure that plant is designed and procured to meet the sound power levels set out in the ES.

Paragraph 4.22

- 13.88 The analysis in the ES has shown that the noise at the northern (closest) part of Fochriw is within recommended limits and it follows that the noise in the further parts of Fochriw would also meet these limits due to the greater propagation distance. The topography of Fochriw would also provide additional screening to the southern areas. It is accepted that this may be less significant when the noise source is elevated, i.e. on the upper parts of the overburden mound, but the important point is that the recommended limits would be met even without this benefit of topography.

Paragraphs 4.23 to 4.31

- 13.89 These paragraphs deal with the IMMI noise modelling and unfortunately the comments are based on a number of misconceptions. The modelling carried out for the ES did not include any screen or barrier at the edge of the overburden mound. Thus, the assumptions made by Mr Walton regarding screening are wrong. It is noted that although the blue lines on the plans show the main haul routes the model includes plant spread over the full overburden area, but concentrated at the southern part of the mound, so as to achieve the worst case scenario. The haul routes include the total number of vehicles expected to use them in an hour and the overburden mound includes all sources expected to be on the area. The top of the mound was assumed to be flat (with no raised outer face) in the model to represent a worst case scenario precisely because it was understood that there would be times when there would be no benefit from screening provided by the face of the mound. In practice the outer face of the mound would be constructed and then the area behind the face would be filled over a longer period and when completed further layers would be deposited in a similar manner. This modelling was explained to Mr Walton as it was not fully described in the ES. However, following the meeting, the Applicant has carried out further modelling in order to test that the model did represent the worst case. The overburden mound has been remodelled with a mound at the outer face and the plant working across the whole mound area for the lowest

level of mound construction. This analysis showed lower noise levels than the worst case assumed in the ES.

Table PSA13.4 Overburden mound remodelled with mound at outer face and plant working across the whole mound area for the lowest level of mound construction

Location	Limit	ES Results	Actual Working Method	Change
Fochriw	49	47.4	44.7	-2.7
SW Fochriw	47	44.5	43.5	-1.0

13.90 The following table of common sounds allows the predicted noise to be set in context.

Table PSA13.5 Common sounds to set predicted noise in context

Noise Source	Noise Level. dB(A)
Traffic in busy street	75
Normal speech at 1 m	65
Quiet speech at 1 m	55
Refrigerator at 1 m	45
Quiet office	40
Library	35
Quiet suburban area at night	35
Whisper	30
Bedroom at night	25
Concert hall (background)	25

13.91 The IMMI model can incorporate Maekawa barrier theory, but since the assessment follows the prediction methodology in BS 5228 (which is referenced in MTAN2)), it has, where appropriate, only used the 5 and 10 dB reductions as allowed in the BS. The greater screening that would be derived from Maekawa (which is capped at 24 dB) would be unlikely to be achieved over these relatively long propagation distances and this is the reason why the smaller figures are used in BS 5228.

Paragraph 4.32

- 13.92 It is not correct and misleading to claim that Fochriw generally will experience significantly elevated noise levels for 10½ to 11 years. The overburden mound will take about 5.5 years to build and 4.5 years to remove, with an intervening period of 3.5 years - about 10 years in total. Mr Walton's comment relates to the entire time when any work is carried out on the overburden mound. His implicit assumption is that all of the plant will be closest to Fochriw for all of these years. This is obviously incorrect. For the first three years all of the excavated material, other than coal and soils, will be deposited on the overburden mound, but thereafter only material surplus to that required to progressively restore the site would be hauled to the overburden mound. In practice tipping exclusively on the mound would take place only for 35-40% of the time. When the tip is being removed the full excavation plant fleet will only be on the tip for about 2 years with a build-up of plant and a tailing off of plant for the other 2.5 years. The outer bunding (which is the worst case modelled in the ES) will take a total of about 36 weeks to construct and a similar amount of time to remove. Thus, it is about 72 weeks in total when the noise levels could be at this level and for the remainder of the time the plant would be working inside the outer bund at the lower noise levels shown in the above table. This means that the highest noise levels that would be created when the outer edge of the mound is being created or removed only occur for 15% of the 10 years that the overburden mound is being worked. It was this condition that was presented in the ES as a worst case and for 85% of the time lower noise levels would be created.
- 13.93 It is important to note that the calculations in the ES, and also the calculations for the screened case shown above, are for the worst case during each of these scenarios and assume that dozers will be used on the tipping area at all times. In practice the mound will be constructed with each alternate layer of the tip "block tipped" with no dozers in attendance, with concomitant reductions of up to 2 dB(A) in noise. It is also incorrect for Mr Walton to state that these elevated noise levels would affect Fochriw for the entire period that the mound is being created and removed because for the majority of this time the wind direction would be from the south and west, i.e. from Fochriw towards the overburden mound, and this would significantly reduce noise propagation towards Fochriw.

Railway Noise

Paragraph 5.1

- 13.94 The noise levels quoted are correct, the lower levels of 60 – 65 dB L_{Aeq} were recorded at the house adjacent to the main line and the comments in the ES (at paragraph 13.63) refer only to that location.

Paragraphs 5.2 – 5.4

- 13.95 It is accepted that the L_{Amax} is the highest instantaneous level within the measurement period and that the L_{Aeq} is the logarithmic average of all of the energy within the measurement period. However, the survey of train pass-bys on the main line was conducted to identify all train movements and to obtain the relative noise levels of each type of train. The meter was set to time history mode which records a series of 1 second samples of L_{Aeq} levels. The $L_{Amax, slow}$ index is defined as the maximum level in a given period. The measurement is subject to the response time of the meter and for slow response this is 1 second, thus the $L_{Amax, slow}$ is

identical to the $L_{Aeq, 1 \text{ sec}}$. The response time for the fast response is one eighth of a second; however, the variation of noise within a 1 second sample is negligible and for practical purposes the $L_{Aeq, 1 \text{ sec}}$ and the $L_{Amax, \text{ fast}}$ (and the L_{Amin}) are effectively the same number.

Paragraph 5.5

- 13.96 The comparison with WHO Guidelines is for the location where the survey was undertaken and shows that the WHO Guidelines are already marginally exceeded. The WHO quoted research that stated: *For a good sleep, it is believed that indoor sound pressure levels should not exceed approximately 45 dB L_{Amax} more than 10–15 times per night.* It also concluded: *To avoid sleep disturbance, indoor guideline values for bedrooms are 30 dB L_{Aeq} for continuous noise and 45 dB L_{Amax} for single sound events.* These noise levels are internal levels assuming a level difference between inside and outside of 15 dB. From this it can be seen that the recommendation is for events (eg train movements) which cause a maximum noise level of more than 60 dB(A) outside the bedroom should be limited to 10 to 15 per night. The comparison with WHO guidelines shows that the recommended external level is exceeded by both coal and passenger trains, but the number of events is less than the recommended number. It is therefore considered that a reasonable assessment has been made of railway noise. It should be noted that alternative assessments have been made which considered the change in overall night-time and daytime train noise and also the change on the number of events.
- 13.97 MA has not failed to assess the night-time impact of train noise as claimed. The assessment is set out at paragraphs 13.59 to 13.63 of the ES. The impact of additional trains is the change between the noise before the development and the noise including the additional trains generated by the development. Thus, the impact or change in noise in areas affected by the trains is directly related to the increase in trains. The main concern regarding train noise is increased train noise at night. The increase in trains would cause an overall increase in noise: on average the additional trains cause an increase in train noise of about 2 dB, which is not generally considered to be significant.

Representation 144 – Richards & Appleby

- 13.98 This second representation by Richards and Appleby involved the simultaneous submission of the same Kevan Walton Report submitted by the Green Valleys Alliance at Representation 143 above. The Applicant's response to the Richards & Appleby submission is therefore the same as that for Representation 143 'Green Valleys Alliance (GVA)' above.

Nant Llesg Surface Mine

Incorporating Land Remediation

Chapter 14

Blasting and Vibration

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Chapter 14 – Blasting and Vibration

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14 Blasting and Vibration

- 14.1 There were no representations received that related to Blasting and Vibration that require a further response by the applicant.

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Incorporating Land Remediation

Chapter 15

Cultural Heritage

Nant Llesg Surface Mine

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Chapter 15 – Cultural Heritage

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15 Cultural Heritage

15.1 The following is the Applicant's Response to representations that relate to cultural heritage.

Representation 8 - Fochriw and Pentwyn Residents Association (FPRA)

15.2 The written objection of the Fochriw & Pentwyn Residents Association can be found at Appendix MA/NL/PA/A010. The following responses refer to issues raised in that submission.

Loss of Historic Heritage

15.3 Overall, it is noted that the FPRA does not draw attention to the content of the Applicant's specialist ES chapter and the associated technical appendices, and thus appear not to have used them in their 'Written Objection'. It is assumed that the specialist chapter and appendix are adequate from the perspective of the FPRA.

15.4 Their Written Objection focusses on the Association's own identification of relevant national and local planning policies to support its response and argue against the Applicant's proposals. In particular, the report provides an identification and assessment of the assets forming Rhaslas Pond and nearby features associated with it. Their representation also contends that the cultural heritage assets in the rest of the site and the wider context are not identified and discussed.

15.5 No observations and comments are made in the Written Objection to the proposed Common Land strategy which provides parcels of land for temporary grazing and/or public access. It is therefore assumed that the Association has no objection to the Applicant's proposals in this regard.

Reference to objection location in the document	Issue Raised in Representation	Cultural Heritage Response	Supporting evidence (Generally see Chapter 15 of the ES ' Cultural Heritage')
Page 4 Paragraph 5	The area has lain undisturbed for nearly 200 years.	This is completely wrong. The site and setting have been systematically and rather randomly worked for minerals over the last 200 years. The ground surface has evidenced continuous change.	19 th and early 20 th century historic OS maps define the character and distribution and phasing of the industrial activities across the whole of the site. Nant Llesg ES at Chapter 15, Pages 6 and 7, provide an introduction to the

Reference to objection location in the document	Issue Raised in Representation	Cultural Heritage Response	Supporting evidence (Generally see Chapter 15 of the ES ' Cultural Heritage')
			site. Nant Llesg ES Appendix MA/NL/ES/A15/002 'GGAT (2012b)' provides a detailed history in its archaeological desk based assessment.
Page 5 Paragraphs 4 and 6	The LDP seeks to protect the environment for future needs. We are unsure as to where the proposal would fit into such a statement	Protection includes making safe elements of the cultural heritage, specifically the many mine shafts/adits and shallow workings on the site – such remains having a history of instability. The scheme would make safe such elements, both inside and outside the area of surface mine excavation. Making these features safe incorporates heritage mitigation objectives - making features such as tops of mine shafts and associated pit head buildings available as a safe cultural heritage and education resource.	Nant Llesg ES at Chapter 15, Pages 69-74, describes the Applicant's plan to conserve and thus to protect the environment where the assets are retained in clusters; therefore providing a meaningful future resource. With exception these clusters are better components of the landscape than the more isolated ones within the footprint of the excavation and overburden mound. The Cluster Areas and the activities in them following the scheme are discussed ES Chapter 15, Pages 70-71.
Page 5 Paragraph 8	A large part of the proposed site will include the destruction of some of the best and last remaining relics of the Dowlais free drainage system. An industrial water features that, has national importance.....	The scheme has been designed to fully retain the south dam of Rhaslas Pond along with relics of the DFDS. The south dam of the reservoir was identified by all parties during the early design stage as of national value. Nearby DFDS elements: leats entering the reservoir and the best preserved set of leats of the system are to be preserved (in the SINC to the west). The full story of the DFDS will thus be preserved physically and by preservation by record. The decayed north dam, of	Baseline conditions are identified and evaluated in ES Chapter 15, Pages 25-37 and are more fully accounted for by GGAT in its archaeological desk based assessment (2012b) at ES Appendix MA/NL/ES/A15/002. The impacts and effects of the scheme are found in the Nant Llesg ES at Chapter 15, Pages

Reference to objection location in the document	Issue Raised in Representation	Cultural Heritage Response	Supporting evidence (Generally see Chapter 15 of the ES ' Cultural Heritage')
		<p>lesser value to the objectives of Cadw, will be removed and this will include modern elements, constructed in the 20th century as safety features for the reservoir in its post DFDS life. Other elements of the DFDS disturbed by the DFDS site will be reinstated in the restored landscape. Mitigation will provide the opportunity for future generations to better understand the 'story' of the DFDS and the evidence of it that will remain.</p>	38-57.
Page 6 Paragraph 3	<p><i>"The protection of the environment be given a high priority"</i>. The term protection is a key to the proposal. It does not mention the restoration of the environment</p>	<p>There is an implicit understanding that protection means it being kept safe and possibly not accessible, as protection can imply it be guarded from damage caused by humans (vandalism) and extreme/unusual environmental conditions. Thus it is argued that protection implies there can be a need for restoration and conservation, both processes are fully addressed as providing the best sort of protection. The proposed mitigation would assist in achieving the required protection and would be given high priority to the best of national standards, as to be evidenced on the Ffos-y-fran Land Reclamation Scheme during the last six years or more.</p>	<p>Beyond the proposed area of excavation and overburden mound, high priority is given to retention, protection and preservation of individual and clusters of assets in the as-found landscape. There would be mitigation and undertakings are addressed in the Nant Llesg ES at Chapter 15, Pages 57 -65.</p>
Page 6 Paragraphs 9 and 11	<p>In the vision statement for the LDP it states..... To make Caerphilly clean, green and safe</p>	<p>To make old mining features safe is an objective of the scheme. This requires archaeological mitigation where there would be engineering works which would have positive cultural and societal objectives and outcomes related to the area being clean and green and a pleasant place to live and</p>	<p>Residual adverse and beneficial effects are described in the ES at Chapter 15, Pages 65-69</p>

Reference to objection location in the document	Issue Raised in Representation	Cultural Heritage Response	Supporting evidence (Generally see Chapter 15 of the ES ' Cultural Heritage')
		work.....	
Page 7 Paragraph 3	4. Ensure that the environmental impact of all new development is minimised	Alternative development proposals have been considered and the proposed scheme would minimise impact and maximise asset retention. Groundworks have been modified to retain heritage assets on the west, north, east and south sides of the surface mine. In these areas there would be protection measures and these would be shared with requirements to safeguard the natural heritage. The retained assets form key components of the restoration strategy.	Residual adverse and beneficial effects are described in the ES at Chapter 15, Pages 65-69. The references to Cluster Area CA5 at Page 71 of Chapter 15 of the ES 'Rhaslas Pond and DFDS' describes the proposed works. ES Chapter 15, Pages 71-73, go on to provide an account of the activities that would relate to CA5 (and also CA1 to CA4).
Page 7 Paragraph 4 and 7	11. Identify, protect and, where appropriate enhance, valuable landscapes and landscape features and protect them from unacceptable development. 24. Protect and enhance the overall quality of the historic natural and built environment.....	In designing the scheme, the Applicant has gone to great lengths to protect individual and groups of heritage assets as part of the landscape. The aim has been to provide an acceptable balance between asset retention and removal. Mitigation would off-set losses and provide added and enhanced cultural and education values, for the better and safer enjoyment of the community and visitors.	Residual adverse and beneficial effects are described in ES Chapter 15 at Pages 65-69. ES Chapter 15 at Pages 70-71 relates to the creation of 5 cultural heritage Cluster Areas, where significant amounts of protection and preservation would occur. ES Chapter 15, Pages 71-73 then provide an account of the activities that would occur.
Page 8 Paragraph 6 Page 9 Paragraph 1	Environmental protection.....without causing undue harm to areas that are valued for their intrinsic value in terms of biodiversity, landscape, historic and conservation interest.	The impact on cultural heritage assets, singly and group-wide, have been identified and evaluated. The scheme has aimed to retain where possible assets and where this is not possible to have acceptable mitigation options and proposed solutions. It must be noted that the landscape is no longer the important cultural one it was in the days when it was 'industrial'. Mitigation aims to have an important role in the	The Nant Llesg ES Chapter 15, Pages 70-71 relate to the creation of 5 cultural heritage Cluster Areas, where significant amounts of protection and preservation would occur. ES Chapter 15, Pages 71-73 then provide an account of the activities that would

Reference to objection location in the document	Issue Raised in Representation	Cultural Heritage Response	Supporting evidence (Generally see Chapter 15 of the ES ' Cultural Heritage')
		landscape restoration to support future 'place making'.	occur. This shows that the Applicant has valued the history and heritage of the site and setting.
Page8 Paragraphs 4/5	As previously stated the area is of outstanding natural beauty.....it contained a scheduled ancient monument. We feel that the land in question is of equal importance as a site of natural beauty and historic interest	This area is not designated as an Area of Outstanding Natural Beauty. Approximately 41% of the operational area of the proposed mine has been previously disturbed by historic surface coal mining that wasn't restored to modern-day standards. Nevertheless, as a result of consultation, the Applicant feels that the right balance has been set between development and leaving the landscape as-found. The northern and southern parts of the site has lost the old character it once had due to opencast coal workings, coal spoil manipulation, and fly-tipping. The development would preserve the national valued south dam of Rhaslas Pond, and the body of water it retains, and a landscape of DFDS leats. A representative selection of old to recent man-made assets would be retained as-found to allow the 'history story' to be told and seen. Archaeological mitigation and research will considerably enhance the societal understanding of its heritage as so excellently achieved on the Ffos-y-fran Land Reclamation Scheme.	ES Chapter 15, Pages 70-71 relate to the creation of 5 cultural heritage Cluster Areas, where significant amounts of protection and preservation would occur. Pages 71-73 of ES Chapter 15 then provide an account of the activities that would occur. This shows that the Applicant has valued the history and heritage of the site and setting. The restoration provides a management and sustainable future for the scheduled ancient monument and furthermore links it to other valued and protected assets with a heritage trail (see the proposed Restoration Strategy)
Page 11 Paragraph 11	1.87 Access to public open space, natural green space and recreational facilities are important in promoting public.....	The scheme, as a result of cultural heritage asset retention and archaeological mitigation, would considerably support Strategic Policy SP18. It aims to do this safely for improved public education and enjoyment. Furthermore, as part of the Nant Llesg proposal, substantial areas of	As above

Reference to objection location in the document	Issue Raised in Representation	Cultural Heritage Response	Supporting evidence (Generally see Chapter 15 of the ES ' Cultural Heritage')
		additional land will be made available for the duration of the works for public access. Substantial areas will also be added to the common on completion of the scheme.	
Page 12 Para 11	The site would have an unacceptable impact on the amenity of adjacent properties and land	The archaeological mitigation would considerably minimize asset degradation in the future, resulting from better asset identification, short to long term management and promotion to the public. Contrary to the Residents Association's contention, the cultural heritage undertakings would help increase amenity for the local community.	As above
Page 15 Paragraph 4	In respect of Countrywide policy CW15 Criteria A ... iii. Assessment against recreation leisure and tourism proposals	In respect of cultural heritage the proposed mitigation, safeguarding and restoration objectives and implemented methods support a better consideration of local developments and identification of constraints and opportunities resulting from a consideration of cultural heritage.	As above
Page 17 Paragraph 1	The area of the LDP that <u>covers Conservation of natural Heritage</u> . Goes into depth the lengths of protection needed to preserve our heritage the proposal is surrounded by Special Landscape Areas, Visually Important Local Landscapes and Sites of Importance for Nature Conservation as well having a Scheduled Ancient Monument in the middle of the site... a large part of the site was a SINC area before the finalising of the LDP the protection of this part NH3.17 was removed following petitioning by the	Rhaslas Pond lies in the western sector of Nant Llesg. The southern embankment has consistently been treated as a Scheduled Monument by the Applicant throughout the preparation of the Nant Llesg scheme. The SINC was not removed as a consequence of the Applicant's petition. NH3.17 'Cefn Gelligaer, West of Deri' continues to be shown in the adopted LDP.	The proposed treatment of Rhaslas Pond, particularly the southern embankment, is dealt with in detail in Chapter 15 'Cultural Heritage' of the Nant Llesg ES and further referred to in Chapter 4 'The Proposal' of the Planning Statement. Its subsequent incorporation into the restored landform is detailed in the Restoration Strategy at Chapter 5 of the Planning Statement.

Reference to objection location in the document	Issue Raised in Representation	Cultural Heritage Response	Supporting evidence (Generally see Chapter 15 of the ES ' Cultural Heritage')
Page 19 Loss of Historic Heritage Paragraph 1	<p>developer....</p> <p>The proposal would involve the total destruction of one of the last remaining and best preserved parts of the DFDS. (Page 15 generally provides a background history of Rhaslas Pond).</p>	<p>This is not a correct statement and misunderstands the proposal. Only half of Rhaslas Pond would be removed. The better half, including the southern embankment, which has been classed as of national value, is fully retained and managed. Many other elements of the DFDS will be preserved, including an excellently preserved set of leats found to the west of the Pond, both on the site and within the SINC to the west of the site.</p> <p>Page 19 of the objection states the importance of other original assets, but is misleading in implying that features that are either more recent or very recent in archaeological terms, are of more than just local value.</p>	<p>See Nant Llesg ES Appendix MA/NL/ES/A15/001 'GGAT (2102a)' and ES Chapter 15, Page 17.</p>
Page 20 Paragraph 1	<p>.... Is still in a very good state of preservation</p>	<p>The south dam of Rhaslas Pond retains a high level of authenticity and integrity and thus it has been identified as being of national importance. However the north dam with its modern infrastructure is degraded. This explains its lesser cultural heritage value to Cadw.</p> <p>It is not an accurate statement to say that most of the items associated with Rhaslas Pond or the DFDS are still intact – most are degraded and damaged. Many elements are now absent. Many of the listed elements are of recent origin and thus of far lower value and interest than the original ones.</p>	<p>GGAT has provided an independent account of assets, their value and condition – ES Appendix MA/NL/ES/A15/002 - 'GGAT 2102b'.</p>
Pages 22 to 24	<p>Recent photographs with captions naming features</p>	<p>The captions do not provide information on age and cultural heritage value.</p>	<p>See baseline documentation in the Nant Llesg ES at Chapter 15, Pages 25- 29 and GGAT specialist reports</p>

Reference to objection location in the document	Issue Raised in Representation	Cultural Heritage Response	Supporting evidence (Generally see Chapter 15 of the ES ' Cultural Heritage')
			GGAT 2013a and GGAT 2012b (ES Appendices MA/NL/ES/A15/004 and MA/NL/ES/A15/002)
Page 25 Paragraph 1	<ol style="list-style-type: none"> 1. Although the site has survived without protection for 200 years 2. The site will involve open cast mining the land the land directly to the north of the site and as such removing the various leats and pipe lines that cross the land 3. MA claim in their planning application information they will preserve the south dam 	<ol style="list-style-type: none"> 1. This is not true - the site has continuously changed by robust industrial processes. This has damaged assets and created new assets. Very little of the industrial landscape has survived - with or without protection! 2. The key areas of leats are to the west of Rhaslas Pond, within and beyond the site. Those to the west of Rhaslas Pond within the early remediation area will be retained. Pipelines to the north would be removed but these are 19th and 20th century. Pipes will be removed and retained as archaeological assets and will continue to be preserved where necessary as archaeological/museum artefacts. 3. This is correct – the dam will be preserved. 	<ol style="list-style-type: none"> 1. See historic Ordnance Survey plans to appreciate the character and continuous changes. 2. See GGAT 2102b at ES Appendix MA/NL/ES/A15/002 for identification and evaluation of each asset. See mitigation objectives related to archaeology and mitigation proposals for Nant Llesg at ES Chapter 15, Pages 58 – 62. See mitigation proposals for Historic Landscape at ES Chapter 15, Pages 62 – 65. 3. See 'Site Selection and Alternatives' at Chapter 4 of the Nant Llesg ES.
Page 25 Paragraph 2	Cadw took the decision to protect the south dam with SAM status before the proposal for protection by MA felt the best way to preserve it was to place 1000's tonnes of overburden on top of it,	This is not a true statement. CADW are considering Schedule Monument status and have not reached a final decision. Preserving the dam was an early design decision allowing the retained water to be an important water source for the scheme. Burial could have adequately preserved and protected it but was not considered to be the best option.	As Above
Page 25	If this proposal goes	A significant proportion of	See Nant Llesg ES

Reference to objection location in the document	Issue Raised in Representation	Cultural Heritage Response	Supporting evidence (Generally see Chapter 15 of the ES ' Cultural Heritage')
Paragraph 3	ahead we will lose a large part of our local/national heritage	elements within the footprint of the scheme would be preserved. Where there would be loss, this would be off-set by mitigation objectives and methods. Mitigation will significantly improve on the understanding and appreciation of the historic landscape and individual assets. This would improve on the protection, enhancement and management of the retained assets and better use of the assets for educational, community and tourism activities.	Chapter 15, Pages 65 – 69 - accounting for the residual effects. See ES Chapter 15, Pages 69 – 73 - addressing the innovative cultural heritage restoration strategy.
Page 26 Conclusion Paragraph 1	This site (Rhaslas Pond) has remained intact since its conception.....	The reservoir continues to be an operational reservoir governed by the Reservoirs Act 1975 and the shape has remained intact but both dams, the bottom of the reservoir, and infrastructure have been regularly/semi-regularly changed as result of regular management, upgrading and as a response to degradation and safety issues.	See GGAT archaeological desk based assessment (ES Appendix MA/NL/ES/A15/001 'GGAT2012a')
Page 26 Paragraph 2	It far surpasses Sarn Howell in size, prominence, provenance and accessibility, and its social history within the community.....	It is agreed that it is the largest of the DFDS reservoirs and once had a greater role within the local community. It is however no different from Sarn Howell Pond in prominence, provenance and accessibility. It is to be recorded that Sarn Howell Pond Scheduled Ancient Monument (SAM) has been recently enlarged as result of Miller Argent's mitigation for the Ffos-y-fran Land Reclamation Scheme and the SAM and its setting are subject to the implementation of a Miller Argent scheme to make it a visitor attraction (an archaeological park).	Copies of documentation relating to these works should be available to the public through the Ffos-y-fran Land Reclamation Scheme planning files and the Listed Building Consent files for the aqueduct associated with the enlargement of the SAM at Merthyr Tydfil County Borough Council offices.
Page 26 Paragraph 3	1. Without protection we strongly believe that this monument	1. The Nant Llesg scheme has been undergoing planning and design for	The cultural heritage restoration strategy, EIA pages 69 – 73,

Reference to objection location in the document	Issue Raised in Representation	Cultural Heritage Response	Supporting evidence (Generally see Chapter 15 of the ES ' Cultural Heritage')
	<p>and its surrounding features will be lost for ever.</p> <p>2. They claim they will restore the landscape..... But any changes to this historic site will reduce its importance.....will only be a reproduction of the site.</p>	<p>several years, including the retention and conservation of the nationally important south dam wall of Rhaslas Pond. A good number of associated features would also be retained.</p> <p>2. The landscape restoration would eventually be undertaken according to an approved restoration detailed design, which will include enhanced public access routes with signage that would draw in the cultural heritage aspects of the restoration design. The detail will build on the submitted restoration strategy and would be subject to a rigorously applied Planning Condition. Mitigation related to off-setting loss of local value assets and the remediation of an unsafe mining landscape are reasonable and significant proposals of a balanced development design.</p> <p>The landscape restoration would also incorporate original elements, thus retaining measures of authenticity and integrity. The heritage story and these assets will provide a better and safer cultural environment for the community, local school uses and for visitors in general.</p>	<p>shows MA will protect, conserve and managed the SAM, and also improve it by linkages to other national and regional assets, including Sarn Howell.</p>

Representation 16 – Rhymney Area Residents Group (RARG)

- 15.6 Representation 16 by the Rhymney Area Residents Group (RARG) make the comment that *“If this open cast development is allowed to take place the beautiful setting of this village [Bute Town] could be completely destroyed”*.
- 15.7 Bute Town is acknowledged as a tourist resource outside the site in Chapter 6 of the Nant Llesg ES, at paragraphs 6.79 to 6.80 inclusive. A response to RARG's concern about 'Tourism' is set out at Chapter 6 'Recreation and Tourism' of the accompanying Addendum to the Planning Statement.
- 15.8 In respect of cultural heritage the Nant Llesg Scheme is beyond a distance where there would be shared or related known physical archaeological assets with Bute Town. The ES therefore identifies no scheme impacts and effects to the physical cultural heritage attributes of Bute Town.
- 15.9 However, the potential future cultural tourism attraction of Bute Town can be noted in context of the Nant Llesg Restoration Scheme and combined heritage within the Rhymney Valley, especially of industrial age with new networks that would naturally result.
- 15.10 Bute Town, a Conservation Area, identifies the values of the well-preserved 'model village' cluster of terraced houses and other community facilities where workers of 19th and 20th century local ironworks lived. However, this area of the Rhymney Valley has to be seen in relationship to the synergy and continuum with the coal mining industry, also with modern day on-going exciting industrial activities.
- 15.11 The landscape restoration scheme for Nant Llesg promotes the preservation of five areas (as addressed in Chapter 15 of the Environmental Statement, Paragraphs 15.219 to 15.230), on the east side of the site nearest to Rhymney's traditional residential and commercial areas, where assets of historic mining (both coal and ironstone) survive. Elsewhere, over large areas of the scheme the 19th century and 20th century industrial landscape has previously nearly been obliterated. The five areas will be made safe and surface features conserved and displayed for tourism and as educational resources. The resources, evidenced in the landscapes and those resulting from archaeological investigations, include mines shafts, adits and 'pit head' infrastructure.
- 15.12 As a result there is then the potential to forge viable heritage and cultural tourism networks, creating a 'sense of place' - a 'place of destination' focussed on the local industrial history but including some older remains and links south to Gelligaer Common. This will benefit the community and be a magnet for sustainable cultural tourism. Within this opportunity the former resources of Drenewydd Museum could have a new use. Overall, the result of the Nant Llesg scheme would therefore considerably support and give 'added-value' to tourism - leisure - recreation in Rhymney, providing a matching heritage and impetus now evidenced in the Ffos-y-fran scheme to the immediate west.

Representation 18 - Ian Jenkins

- 15.13 The representation from Ian Jenkins can be found at Appendix MA/NL/PA/A016. The following response is made.
- 15.14 The Applicant has responded to Mr Jenkins' representation in tabular form.

Reference to objection location in the document	Issue Raised in Representation	Cultural Heritage Response	Supporting evidence (Generally see Chapter 15 of the ES 'Cultural Heritage')
Page 1 paragraphs 2, 3, 4	<p>Identified sites of prehistoric importance</p> <p>Ref: (PRN) 02424m Prehistoric Round barrow</p> <p>Ref: D shaped platform (PRN 02913m)</p> <p>The letter notes the archaeological importance of the area proposed and notes 'one of the only prehistoric sites in the upper Rhymney valley'.</p>	<p>It is agreed that prehistoric remains are important and each tends to be unique. There are in fact a goodly number of prehistoric assets in upper Rhymney, and obviously there will be many buried remains that still await discovery. Not all need to be preserved for evermore and some are useful for investigating to advance our knowledge.</p> <p>Miller Argent's mitigation proposals are consistent with the archaeological profession good practice norms used throughout Britain.</p> <ol style="list-style-type: none"> 1. Locations 02424m and 02913 are identified in GGAT(2012b), Figures 4 and 5 [near to Bryn Pyllog] and logged in Table 4. Location 02424m is a possible cairn of B/C heritage value and 02913m is a platform of unknown age and considered to be of C archaeological value. These and a cluster of other local sites, variously of A to D value would be fully investigated and documented by the proposed mitigation programme of archaeology. 2. Within the footprint of the Nant Llesg excavation and overburden mounding all known and yet to be discovered archaeological sites would be investigated according to national standards, via one or more CCBC approved 'Written Schemes of Investigations', with the results significantly contributing to the understanding of the 	<p>ES Chapter 15, pages 6 and 7 provide and introduction to the site. GGAT (2012b) at ES Appendix MA/NL/ES/A15/002 provides a detailed history in its comprehensive archaeological desk based assessment.</p> <ol style="list-style-type: none"> 2. Baseline conditions are identified and evaluated in ES pages 25-37 and are more fully accounted for by GGAT in its archaeological desk based assessment (2012b at ES Appendix MA/NL/ES/A15/002). The impacts and effects of the scheme are found in ES pages 38-57.

Reference to objection location in the document	Issue Raised in Representation	Cultural Heritage Response	Supporting evidence (Generally see Chapter 15 of the ES 'Cultural Heritage')
		<p>heritage and other assets to be preserved <i>in situ</i> (those nearby, particularly immediately to the east).</p> <p>3. Within the footprint of the Nant Llesg scheme, along the eastern side, clusters of archaeological sites, of all ages, are to be preserved <i>in situ</i>. These will then be used within the landscape restoration scheme and for any other emerging medium and long-term cultural and educational objectives.</p> <p>4. For prehistoric sites within the parcels of land proposed for temporary grazing and/or temporary public access to compensate for the proposed occupation of common land, no material effects would occur to archaeological assets as a result of the proposed alternative uses. Assets could be locally protected if required by planning conditions based on the advice to CCBC by Cadw and GGAT (curatorial department). In these areas archaeological and historic research will further contribute to the evaluation and management of the resources, of all ages.</p>	<p>3. ES Chapter 15, pages 69-74, (15.218-15.229) describe the Miller Argent plan to conserve and thus to protect the environment where the assets are retained in clusters and therefore providing a meaningful future resource. With exception these clusters are better components of the landscape than the more isolated ones within the footprint of the excavation and overburden mound. The Cluster Areas and the scheme activities in them following the scheme are discussed ES pages 70-71.</p> <p>4. See GGAT(2013) at ES Appendix MA/NL/ES/A15/004 and ES Chapter 15.206-15.209, and Table 15.28 therein that prescribes specialist suitable mitigation objectives.</p>
<p>Page 1 Paragraph 4 and 5</p> <p>Page 2 paragraph 1, continued paragraph from page 1, and paragraph 2</p>	<p>Field name Coedcae Gwaun Llan</p> <p>Place name Greg Buik</p> <p>Llan being associated with a Celtic saint</p> <p>Pitched battle attended by King Arthur, Cai and Bedwyr as addressed</p>	<p>It is accepted historic place names are highly important, in themselves and as a tool for prescribing and assessing the history of a location and its setting – applicable for both real sites and others stemming from uncertain myths/stories/local traditions. Many place names are lost or are not recorded, but, others can also be misleading</p>	

Reference to objection location in the document	Issue Raised in Representation	Cultural Heritage Response	Supporting evidence (Generally see Chapter 15 of the ES 'Cultural Heritage')
	<p>in Ian's publication regarding Gelligaer common.</p>	<p>or be wrong.</p> <ol style="list-style-type: none"> 1) This is only one of many locations in Britain where some people believe there is a strong association with Arthur – there is no consensus between the many national and internationally distinguished past and present historians and archaeologists. No Arthurian battlefield sites are proved beyond reasonable doubt, as a result of historical research and archaeological forensic processes. 2) The location of the Arthurian Gelligaer tradition is commonly held to be well to the south of the Nant Llesg site – the area containing a goodly number of cairns, generally south of Cairn y Bugail. 3) Within the footprint of the Nant Llesg excavation and mounding areas there is just about nothing left there of the pre 19th century landscape. The 19th and 20th century complex and extensive industrial landscape is now mostly removed. Where there are older features, especially located in clusters on the east side, these are to be preserved <i>in situ</i>. Elsewhere there would be a programme of archaeological mitigation suitable to the character and value of the assets. 4) In the parcels of land proposed for temporary grazing and/or temporary public access to compensate for the proposed occupation of common land, generally to 	<ol style="list-style-type: none"> 2) 19th and early 20th century historic Ordnance Survey maps define the character and distribution and phasing of the industrial activities across the whole of the site. The complex industrial character is shown in GGAT (2012b) Figures 14, 15, 16 at ES Appendix MA/NL/ES/A15/002. These maps suggest part of the south part of Nant Llesg is a natural landscape. However, GGAT (2012b) shows in Figures 2 and 3 (and at large scale in Figure 4 to 9) that many industrial aged site locations are also found here. 4) See GGAT(2013) at ES Appendix MA/NL/ES/A15/004, which provides a desk based assessment of the parcels of land proposed for Common land exchange. ES Table 15.28 confirms the minor nature of the effects the alternative uses could result in. Suitable mitigation proposals are

Reference to objection location in the document	Issue Raised in Representation	Cultural Heritage Response	Supporting evidence (Generally see Chapter 15 of the ES ' Cultural Heritage')
		<p>the south of Nant Llesg, there would be no material changes to the presently found landscape and land uses. Thus there would be opportunities for CCBC, Cadw and other parties to develop future meaningful strategies for the preservation and promotion of the tangible and intangible heritage of the common. This is already identified as a historic landscape of great importance and which will continue to be respected by Miller Argent</p>	<p>promoted.</p>
<p>Page 2 paragraphs 3/4</p>	<p>Council duty to save places for future tourism and archaeological research.</p> <p>Unique contribution to shared global heritage and suggestion of promotion for it being a World Heritage Site</p>	<p>Miller Argent has significantly contributed, through undertaking historical and archaeological desk- and site-based research, to the identification and evaluation of the tangible cultural heritage of the Nant Llesg site and proposed exchange parcels of common land.</p> <p>Miller Argent believes the right balance has been developed, by the in house team/external commissions, and as a result of specialist consultation, for 'preservation <i>in situ</i>' (for future research and celebration) and 'preservation by record' (excavation and documentation).</p> <p>Given the character of 18th to 20th century industrial development across the whole Nant Llesg site then the focus of mitigating adverse effects will be clear in this respect. However, the nature of any older medieval and prehistoric remains is likely to be less robust and will require more sensitive investigation</p>	<p>See technical appendices GGAT(2012b) at ES Appendix MA/NL/ES/A15/002 and GGAT(2013) at ES Appendix MA/NL/ES/A15/004 to the Cultural Heritage Chapter of the Environmental Statement.</p>

Reference to objection location in the document	Issue Raised in Representation	Cultural Heritage Response	Supporting evidence (Generally see Chapter 15 of the ES 'Cultural Heritage')
		<p>methodologies, designed for in the proposed site-based investigation methods.</p> <p>The present landscape forming the Nant Llesg site would not be considered as being of World Heritage Site status. Today, there is a nearly complete loss of industrial phased remains (compared with what was originally located there and once related to the roles of Merthyr and Rhymney in the industrial revolution) and also the complete adverse effect of industrial surfaces processes on older local remains and the older rural historic landscape. Thus, Nant Llesg would fail to meet the Outstanding Universal Value criteria (OUVs) that would justify its consideration for a nomination to UNESCO.</p>	

Representation 19 - David B Walters

- 15.15 The representation from David B Walters can be found at Appendix MA/NL/PA/A017. The following response is made.
- 15.16 The Applicant has responded to Mr Walters' representation in tabular form.

Reference to objection location in the document	Topic Identification	Response	Supporting evidence (Generally see Chapter 15 of the EIA ' Cultural Heritage')
Page 1 paragraph 5, point (4)	The tourist industry on the common may soon become very important employer for the heads of the valley related to Arthurian stories and connections.... When properly developed can be worth Ten million pounds annual An open cast coal mine at Nant Llesg would destroy and deter most tourists from visiting the area	<p>This is a fanciful idea of little or no substance or viability. To assess the real merit of such an idea would require a review of the following to justify any financial investment or commitment of time and resources:</p> <ol style="list-style-type: none"> 1. Business and development model, with independent third-party check on viability, programme and commercial risks. 2. Business structure, with company details and details of investment and partners and specialist contractors. 3. Tourism plan related to local, regional and national short to long-term policies and objectives. 4. Heritage master plan, management plan, and conservation/maintenance plan related to the cultural objectives in the field. <p>In archaeological terms, the Nant Llesg scheme is a short-term commercial venture, well to the north of the Cairn-y-Bugail landscape and cairn-fields said to be associated with Arthur. Therefore the scheme would not deter the development and implementation of medium and long-term holistic cultural heritage proposals for the Gelligaer and Merthyr Common.</p>	<p>See Nant Llesg ES Appendices MA/NL/ES/A15/001 'GGAT 2012b' and MA/NL/ES/A15/004 'GGAT 2013c' regarding the archaeological desk based assessment with a log of know sites and the historic landscape assessment. These do not identify any sites of the relevant period within the Nant Llesg site.</p> <p>To the south of Nant Llesg, prehistoric remains and the later medieval/post medieval landscape are identified and documented (MA/NL/ES/A15/001 'GGAT 2013'). Relevant to the planning application for the Nant Llesg scheme, it is not possible, in the Applicant's view, to see and visit specific locations and resources of the period during which it is purported that Arthur operated here as a post-Roman war lord.</p>

Reference to objection location in the document	Topic Identification	Response	Supporting evidence (Generally see Chapter 15 of the EIA ' Cultural Heritage')
Page 3 Paragraph 3, point (9)	It is my belief that CCBC has a duty to the residents and ratepayers and all those people who use the common for social/historical research and livestock farming to refuse	<p>The mitigation programme of archaeology and the programme of activities giving 'added value' would greatly increase the interest of all visitors in the tangible and intangible cultural heritage of the common and of its setting. The promoted cultural heritage programme would mirror the successes of the archaeological undertakings achieved for the Ffos-y-fran Land Reclamation Scheme. Thus it is considered that the proposed cultural heritage programme for the Nant Llesg scheme would support the obligations and duties of CCBC towards promoting and valuing the heritage for which it has responsibilities.</p> <p>It is considered that the scheme would provide a catalyst for historic research that Mr David Walters is keen to see.</p> <p>In taking forward tourism programmes for cultural heritage on restoration of the Nant Llesg scheme, the mitigation programme of archaeology would have produced results that would have been captured in the restoration undertaking. This would also provide time for CCBC and local societies to better consider, fund and implement other topics of local heritage, including, if they so wish, the promotion of Arthur, Cadog, Gwynllyw, Gwladys, and Brychan. There would also be event opportunities related to cultural activities at the Waun Fair site, to the north west of Nant Llesg.</p>	
	David Walters, 18th October 2013 in the newsletter of the Green Valleys Alliance, states <i>"The stories of gelligaer common (sic Arthurian battles) and the historical sites</i>	The Miller Argent mitigation and restoration scheme strongly support cultural tourism - based on proved archaeological resources – to be variously excavated and preserved in situ. This will be a meaningful and funded contribution to the societal objectives of CCBC and	19th and early 20th century historic Ordnance Survey maps define the character and distribution and phasing of the industrial activities

Reference to objection location in the document	Topic Identification	Response	Supporting evidence (Generally see Chapter 15 of the EIA ' Cultural Heritage')
	<p><i>dotted along its length and breadth, would in any other country of the World be transformed into places that become a must for tourists, bringing in revenues in excess of £15 million annually to the local economy and up to 500 long term jobs for (local people)".</i></p>	<p>local amenity organisations. It has to be stressed that Nant Llesg site, within the footprint of the proposed ground works, is one of a predominantly an industrial heritage character, though now denuded.</p> <p>It is to be noted that Mr David Walter's objection letter has reduced the tourism value from £15m to £10m. Both figures are, of course, totally unsubstantiated.</p>	<p>across the whole of the site. The complex industrial character is shown in ES Appendix MA/NL/ES/A15/002 'GGAT 2012b', Figures 14, 15 & 16. These maps suggest part of the south part of Nant Llesg is a natural landscape. However, 'GGAT 2012' shows in Figures 2 and 3 (and at large scale in Figures 4 to 9) that many industrial aged site locations are also found here.</p>

Representation 20 - Green Valleys Alliance (GVA)

- 15.17 The Green Valleys Alliance representation can be found at Appendix MA/NL/PA/A018.
- 15.18 References to cultural heritage matters in Sections 15 and 17 of the GVA representation are dealt with below in tabular form.

Reference to objection location in the document	Topic Identification	Response	Supporting evidence (Generally see Chapter 15 of the ES 'Cultural Heritage')
Section 17 addressing Cultural Heritage	Objection that the proposal will destroy part of a site of national heritage importance and irrevocably change its character and worth.	In response to paragraph 17.1 – the south embankment of Rhaslas Pond is being considered for scheduling as a Scheduled Monument, recognising its national value, while the north embankment will not be scheduled due to its condition and lower value. The south embankment is to be protected by the Nant Llesg scheme and is expected to be conserved with Scheduled Monument Consent from Cadw. A comprehensive programme of mitigation would be implemented for the north embankment and Miller Argent strongly believes a right balance is set between 'in situ' preservation and 'preservation by record' (archaeological investigation/documentation/publication).	Rhaslas Pond has to be seen in context of the historic landscape which is now a relict/compromised one, as result of changes from the industrial expression shown in historic Ordnance Survey plans – see ES Appendix MA/NL/ES/A15/002), Figures 14, 15, 16. The well preserved leats are found to the west of Rhaslas Pond and will be preserved and celebrated within the landscape restoration scheme – see Chapter 15 of the Environmental Statement, paragraphs 15.218-15.229. Cluster Area 5 (CA5) establishes cultural heritage objectives related to the Dowlais Free Drainage System (DFDS).
Section 17 addressing Cultural Heritage	Objection that the proposal will destroy part of a site of national heritage importance and irrevocably change its character and worth	In respect of paragraph 17.2, Miller Argent agrees with the established importance of the identified archaeological asset of national value, the south embankment of Rhaslas Pond and strongly believes the right preservation strategy has been formulated. This strategy is required as the embankment is being considered for scheduling as a Scheduled Monument, thus identified as the one site of national value. Elsewhere, Miller Argent believes the right strategy has been established for mitigation of adverse effects of the scheme on the range of asset types	See ES Appendix MA/NL/ES/A15/002).

Reference to objection location in the document	Topic Identification	Response	Supporting evidence (Generally see Chapter 15 of the ES 'Cultural Heritage')
Section 17 addressing Cultural Heritage	Objection that the proposal will destroy part of a site of national heritage importance and irrevocably change its character and worth	and of various potential values. In respect of paragraph 17.3, as addressed above, the adverse effects related to the northern embankment are offset against a comprehensive set of mitigation objectives, via investigations and 'preservation by record'. The southern embankment identified by Cadw as of national value is to be fully preserved <i>in situ</i> and then used as an important cultural heritage element of the restored landscape.	The history of the Nant Llesg landscape is one of evolution, as result of on-going man-made works. Two more phases would occur – short term works by Miller Argent and restoration for long term adaptive public uses Chapter 15 of the Environmental Statement, paragraphs 15.218-15.229 and Table 15.29 show the positive results that would occur. Conservation of the southern embankment would result in moderately beneficial effects, whereas the mitigation programme would result in only moderately adverse residual effects in respect of the northern embankment. The restoration scheme promotes the outline of the northern embankment, as being a modern feature within the restored landscape, better geared to safe and interesting public uses – see Chapter 15 of the Environmental Statement, paragraphs 15.220-15.221
Section 17 addressing Cultural Heritage	Objection that the proposal will destroy part of a site of national heritage importance and	In respect of paragraph 17.4 the statement accords with the cultural heritage assessment and Miller Argent strongly believes a right balance is set between 'in situ' preservation and 'preservation by record' (archaeological investigation/documentation/publication). The restoration strategy promotes a	See Chapter 15 of the Environmental Statement, paragraphs 15.236-15.238 addressing alternative options.

Reference to objection location in the document	Topic Identification	Response	Supporting evidence (Generally see Chapter 15 of the ES 'Cultural Heritage')
	irrevocably change its character and worth	Common land landscape that would be of high cultural and social value to the local community and to tourists	Chapter 15 of the Environmental Statement, paragraphs 15.218-15.229 and Table 15.29 show the positive long-term results that would occur.

Representation 29 - Jim Davies (UVAG) - Restoration

Cultural Heritage

15.19 References to cultural heritage matters in Mr Davies' representation regarding the proposed restoration of the Nant Llesg site have been responded to by the Applicant in tabular form.

Reference to objection location in the document	Topic Identification	Response	Supporting evidence (Generally see Chapter 15 of the ES 'Cultural Heritage')
Page 3 , Section 3.8	Damage to archaeological resources as the result of Commoners' right to removal of stone and the creation of new access routes.	There will be no rights to remove stone, the areas merely used for temporary access and grazing as addressed in the submitted design. Within the parcels of land proposed for exchanged grazing there are no suitable rock outcrops, surface field stone and archaeological sites for exploiting. Within the present Common it is clear that have been no needs or examples for very long periods of extracting stone for field walls or for building with. So while in theory this is identified it is not a serious risk.	The mitigation design shows there will be no adverse effects from the temporary uses, See ES Chapter 15 Tables 15.28 and 15.30.
Page 4, Section 5.4	Cultural remains in Common land exchange Areas 7 and 8. Could be damaging effects by public and dogs.	The mitigation programme of archaeology addresses: <ol style="list-style-type: none"> 1) Early site evaluation and assessment by GGAT 2) Pre-scheme protection of exposed and sensitive assets and other of very high value where Cadw and CCBC would require it as a planning condition. 3) On-going site and landscape monitoring by GGAT 4) Further protection to what would be at worst slowly occurring effects to the ground surface and upstanding heritage features. 5) Deeply buried archaeological assets would always be robustly naturally protected – with new field uses above matching those presently occurring. 	Mitigation of effects during and after the completion of the scheme is addressed in the Environmental Statement, paragraphs 15.206-15.217. Attention is drawn to Tables 15.28 and 15.30 that prescribe suitable measures to ensure cultural heritage assets are protected.

Reference to objection location in the document	Topic Identification	Response	Supporting evidence (Generally see Chapter 15 of the ES 'Cultural Heritage')
Attached document, addressing further comments on 'my main site restoration concerns' November 13, 2013			
Opening Page, Point 8	Uncertainty of precise conservation of cultural heritage in Areas 1, 2, 3 and of how much ground would remain.	Prior to site evaluation, involving detailed field mapping, geophysical prospecting and site investigation it is not possible to be precise as to limits of conservation cultural heritage areas. Thus Areas 1, 2, 3 are very extensive, to capture clusters of sites, their settings and other sites that may be discovered.	Greater clarity of the areas will emerge as works occur to make the landscape safe and as archaeological mitigation works occur. See ES Chapter 15 Table 15.29 and paragraphs 15.218 to 11.229 addressing the landscape restoration strategy.
Attached document regarding Ffos y fran Land Reclamation Scheme Restoration Strategy			
Page 1, Point 3.1	Figure 4 definition of ecological and heritage areas	Greater clarity will emerge as a result of further research and investigations, which would occur as part of the heritage mitigation programme.	Chapter 15 of the Environmental Statement addresses cultural heritage aspects of the restoration. Paragraphs 15.218-15.229 shows there would be a comprehensive programme capturing and celebrating archaeological site remains and the historic landscape. The ES defines five substantial cultural heritage Cluster Areas (CAs) as described in

Reference to objection location in the document	Topic Identification	Response	Supporting evidence (Generally see Chapter 15 of the ES 'Cultural Heritage')
			paragraph 15.221.
Page 5 , “An outline for a new heritage park” Page 6, Point 9.17	An all-embracing masterplan, for a new heritage park, is necessary and should be a principal objective.	A heritage park (but not named as such) is a key element of the restoration strategy and since the implementation of the Ffos-y-fran scheme there has been: <ol style="list-style-type: none"> 1. A significant programme of archaeological investigations that will further support detailed design of the landscape restoration 2. Sarn Howell Scheduled Monument has been extended, as a result of the archaeological investigation findings 3. There has been conservation/reconstruction of one of the two original aqueducts across the Great Western Railway cutting – with repositioning within the Scheduled Monument to further promote a viable cultural visitor attraction. These undertakings have been a collaboration venture between Miller Argent, MTCBC and Cadw. 4. The restoration of Nant Llesg has been developed to link through to Ffos-y-fran to more comprehensively promote the cultural heritage of the historic landscape forming Gelligaer and Merthyr Commons. 	Chapter 15 of the Environmental Statement, paragraph 15.220, shows the objective of linking Nant Llesg landscape to that of FLRS, thus supporting the concept and objectives of there being a heritage park.

Representation 32 - Merthyr Tydfil County Borough Council

15.20 This representation from Merthyr Tydfil County Borough Council can be found at Appendix MA/NL/PA/A026.

Heritage

15.21 It is noted that in respect of the proposal's impact on cultural heritage assets, no objection is raised by the Design, Heritage and Conservation Officer for Merthyr Tydfil County Borough Council.

Representation 135 – Cadw

15.22 It is noted that on 4th November 2013, Cadw's Regional Inspector of Ancient Monuments and Archaeology (South East Wales) confirmed that:

"...GM624, Rhaslas Pond South Dam, meets the criteria to be designated as a Scheduled Monument. The scheduling process is nearing completion.

The application documents include references to the dam, including:

15.102 *'One feature is present within the survey area of the main Nant L1esg site that is regarded of possible national importance. This is the south embankment of Rhaslas Pond. Cadw is in the process of assessing Rhaslas Pond.'*

15.198 *Rhaslas Pond identified for 'special consideration the southern dam to be fully retained and then later conserved on gaining Scheduled Monument Consent'.*

15.47 *'The southern darn of Rhaslas Pond is regarded within the assessment as if it were a Scheduled Monument, given that Cadw have indicated that they will consider it for designation during the determination period of the planning application.'*

I can confirm that I have no concerns regarding the impact of the proposed development on Rhaslas Pond South Dam."

Nant Llesg Surface Mine

Incorporating Land Remediation

Chapter 16

Landscape and Visual Impact

Nant Llesg Surface Mine

Incorporating Land Remediation

Addendum to Planning Statement

Applicant's Response to Post-Application Representations

Chapter 16 – Landscape and Visual Impact

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16 Landscape and Visual Impact

Applicant's Response to Representations

- 16.1 The following is the Applicant's Response to representations that relate to landscape and visual impact. Reference is made to the Landscape and Visual Impact Assessment (LVIA) in ES Volume I Technical Assessments, Chapter 16.

Representation 2 - Caerphilly County Borough Council

Additional Information Required

CCBC Landscape Architect

Clearer photomontage for Viewpoint 2. The cloud cover on the picture casts a dark shadow over the land surface and makes interpretation of the impact of the proposed development difficult.

- 16.2 The photomontages provided of the view from Viewpoint 2 Public open space in Bryn-Carno, Rhymney, is intended to illustrate the assessment in the LVIA (ES Volume I Technical Assessments, Chapter 16). The location was visited and photographed on a number of occasions during the assessment process, but the photography from other occasions from there was not suitable. All the elements of the development described in ES Appendix MA/NL/ES/A16/002 'Viewpoint Details' are represented in the photomontage provided, which was prepared from computer generated imagery from the 3D computer models of the different phases of the development and a ground or terrain model of the area.
- 16.3 The assessment in the LVIA was made on the basis of visits to the site, to the viewpoint, and to other locations nearby. The viewpoint was chosen as representative of open views available to residents from this elevated part of Rhymney.
- 16.4 The rendered images generated from the modelling software, from which the photomontages were produced, are attached for reference at Appendices MA/NL/PA/A16/001 to MA/NL/PA/A16/005. That for Viewpoint 2 is shown at Appendix MA/NL/PA/A16/002. The details of the elements in each photomontage are clearly identifiable but in stylised representation, while the photomontage matches the modelled features to the prevailing lighting conditions.

The disposition maps show the location and contours of the Visual and Acoustic Screen Bunds and the overburden mound at various stages. However the scale of the plans means that neither the existing (adjacent landform) nor the proposed contour values (bund 1 mound) have been included. Is there a plan (s), available at a larger scale which clearly shows these contour values?

- 16.5 Enhanced drawings have been prepared to show the dispositions illustrated on the A3 Planning Application Drawings MA/NL/PA/004 to MA/NL/PA/008 with additional contours and values. A set of the enhanced drawings has been printed at A2 and submitted for the attention of the County Borough Landscape Architect under separate cover. The enhanced

drawings are numbered MA/NL/PA/045 to MA/NL/PA/049 and have been included in this composite response as A3 drawings.

To assist an assessment of the visual impact of the Overburden and Visual and Acoustic Screening bunds on residents of Fochriw and Rhymney are there any cross sections, wire frame drawings available, to aid interpretation? Particularly from photo viewpoints 1A, 23A and 3B.

16.6 The question refers to VP 23A, but it was later confirmed to relate to VPs 2 Public open space in Bryn-Carno, Rhymney, and 3A Queen's Crescent, Rhymney Conservation Area (John Forrester, Development Management Group, CCBC, email to Roger Leek of Leek & Weston Ltd, 09 January 2013).

16.7 The viewpoints referred to are all illustrated with photomontages:

- Viewpoint 1A is the view from the cattle grid on South Tunnel Road, Fochriw, showing the overburden mound. The visual and acoustic mound would be visible from Fochriw only obliquely and partly screened in the far right of the view;
- Viewpoint 2 is the view from the public open space in Bryn-Carno, Rhymney, from where both the overburden mound and the visual and acoustic mound would be visible;
- Viewpoint 3A is View from Queen's Crescent, Rhymney Conservation Area, from where both the overburden mound and the visual and acoustic mound would be visible on the skyline;
- Viewpoint 3B is View from Public open space, Rhymney Conservation Area, from where both the overburden mound and the visual and acoustic mound would be visible on the skyline.

16.8 The photomontages show the mounds after completion of their construction and establishment of grassing, and after their later removal, but not during construction or removal. The progress of their construction and removal is described in the LVIA as the basis of the assessment of effects. The screening mound would be constructed over a 4 month period and the overburden mound over a period of 4 years, as set out in the LVIA (ES para 16.126) and ES Appendix MA/NL/ES/A16/002 Viewpoint Details. The time period is broken down for the assessment as follows:

- Initial operations, year 1, during which the screening mound would be formed;
- Operations, years 1-6, the main period of formation of the overburden mound up to maximum void;
- Operations, years 6-9.5, from maximum void to final void, when the mounds would remain in place but would not be changed;
- Operations, years 9.5-14, during which the overburden mound would be removed and towards the end of which the screening mound would be removed to backfill the final void, and the landform of the site would be restored;
- Aftercare, years 15-19, a period of gradual incremental change as land cover was restored.

Wireline/Wireframe Drawings

- 16.9 Wireline/wireframe images were not used in preparing the photomontages, but the rendered images generated from the modelling software from which the photomontages were produced are included at Appendices MA/NL/PA/A16/001 to MA/NL/PA/A16/005.

Cross Sections

- 16.10 The drawings at Appendices MA/NL/PA/A053 to MA/NL/PA/A055 show the location of and sections through Viewpoints 1A, 2, 3A and 3B. A section through Viewpoint 23 has also been included for good measure.
- 16.11 Sections through Viewpoints 1A, 2, 3A and 3B show the existing ground contours and the overburden mound at the five dispositions identified in the original planning statement. As the sections show, the bulk of the material would be deposited into the overburden mound in Disposition 1 (Box-Cut) as depicted by the solid red line on the sections. The solid Blue line shows the maximum extent of the completed mound at Disposition 2 (Maximum Void) and Disposition 3 (Intermediate Void).
- 16.12 As the working void progressed eastwards, from Maximum Void to Intermediate Void, all excavated material would be taken to backfill the western side of the advancing void and no further material would be taken to the overburden mound. Consequently, no change in the profile of the overburden mound between Dispositions 2 and 3 would be apparent in the cross sections.
- 16.13 As the working void progressed towards the end of coaling, material would start to be brought back from the overburden mound to backfill the void. Disposition 4 (End of Coaling), depicted by the cyan dashed line in the cross sections, shows the partly removed overburden mound.
- 16.14 As depicted on the cross sections and described in the ES, the overburden mound would be removed in layers with the edges furthest from the surrounding communities being removed first. Excavations would progress over each layer with the outer edge nearest the communities remaining in place until last, thus screening the local communities from all but the last of the excavation works for that layer. The same procedure would be repeated for each layer as the mound reduces in height, thus minimizing the periods when excavations would be visible to the community.
- 16.15 Disposition 5 (Restoration), depicted by the magenta dashed line, shows a point in time approximately half way through the restoration of the mound, where the material would continue to be taken to fill the final void and to achieve the approved final landform for the restoration scheme. Again the outer edges of the mound nearest the communities would be removed last, screening all but the last of the excavation works for each layer from Rhymney and Fochriw.
- 16.16 The cross section through Viewpoint 23 demonstrates the screening effect of the Visual and Acoustic Screening Bund. As stated in the planning application, this screening bund would be completed within 4 months of the start of mining excavations and, as can be seen on this cross section, the entire excavation area would be screened by the bund from this viewpoint.
- 16.17 The cross sections at Appendices MA/NL/PA/A050 to MA/NL/PA/A052 include sight lines from the nearest and highest residential properties in Rhymney on A-A and from the nearest residential property in Fochriw on B-B. It can be clearly seen, as described in the LVIA in ES Chapter 16, para 16.126, that the formation of the initial outer screening bund on each level as the overburden mound is built would result in the effective screening of tipping and filling

operations that would subsequently take place behind those bunds. Similarly, the reverse process would be employed during removal of the overburden mound, where the outer face of the mound nearest the communities would be left in place until last to act similarly as a screening bund as each layer is removed. This would effectively screen the excavation operations that would take place behind those bunds. Only the relatively short construction and removal of these screening bunds on the edge of each layer would be visible from the surrounding communities.

Were alternatives to the paint treatment of the new Coal Washery Plant considered? If so, please provide the alternative proposals.

- 16.18 The proposal for the new Coal Washing Plant building now has planning permission (ref 13/0218/MIN). As noted in the description of the development in LVIA, paragraph 16.125 of the ES, the initially proposed building would be the largest single built element in the CDP and was recognised to have the potential to be prominent in views. The main mitigation measure proposed was the architectural treatment of the cladding of the main building, using a pattern of brown and olive colours to give the impression that it is a cluster of smaller built forms and to break up its appearance in views to a similar visual texture to the rest of the CDP.
- 16.19 In considering the potential for landscape and visual effects the treatment using two colours was developed. Two variations in colour shades had been considered, but the pattern proposed (and now consented) remained substantially the same through these variations.

Representation 3 - Caerphilly County Borough Council

8. A footprint map is required showing lighting lux levels on site and effect on the surrounding areas.

The proposal

- 16.20 As set out in greater detail in paragraphs 1.102 to 1.106 below, lighting of the operational areas would consist of:
- On the storage mounds, within the cut at each working face and each coaling area: small mobile units, about 9m high with 4 x 1000w clear halogen bulbs, angled towards the working area, facing into the site and away from residential areas; a maximum of 3 of these units on the tip at any one time;
 - Within the working void and to light major junctions on the haul roads: larger semi permanent lighting sets, 13m high, with 8 x 400w clear halogen bulbs, directed vertically downwards;
 - Around the workshop, truck park and barrel wash area: 2 or 3 of the 13m high units with 8 x 400 w cleared halogen bulbs, directed vertically downwards;
 - Apart from the lighting of major road junctions within the working void (as set out above), the haul roads would not be lit and vehicles making their way between working areas and other parts of the site would rely on their headlights.
- 16.21 A “footprint map” of the spread of light is provided as Drawing MA/NL/ES/16/022, and the lighting effects considered below.

Guidance for lighting

16.22 General guidance for proposals which include artificial lighting is found in 'Planning Policy Wales' (edition 7, 2014) which states in regard to light pollution (paragraph 13.13.2):

'There is a need to balance the provision of lighting to enhance safety and security to help in the prevention of crime and to allow activities like sport and recreation to take place with the need to:

- protect the natural and historic environment including wildlife;
- retain dark skies where appropriate;
- prevent glare and respect the amenity of neighbouring land uses; and
- reduce the carbon emissions associated with lighting.'

And at paragraph 13.14.2:

'Local planning authorities should adopt policies for lighting, including the control of light pollution, in their development plans.'

16.23 In terms of a quantitative assessment of light spill, the generally accepted method for assessing obtrusive light into windows is the 'Environmental Zone Criteria' developed by the Institute of Lighting Professionals.

16.24 This is summarised in Table PSA16.1 below.

Table PSA16.1 Environmental Zone Classification

Category	Description	Examples
E0	Dark landscapes	UNESCO Starlight Reserves, IDA Dark Sky Parks
E1	Intrinsically dark landscapes	National Parks, Areas of Outstanding National Beauty, etc
E2	Low district brightness areas	Village or relatively dark outer suburban urban locations
E3	Medium district brightness	Small town centres or suburban locations
E4	High district brightness areas	Town/city centres with high levels of night-time activity

16.25 For each Environmental Zone, recommended obtrusive light limits for exterior lighting installations have also been determined:

Table PSA16.2 Obtrusive Light Limitations for Exterior Lighting Installations

Environmental Zone	Max Sky Glow ULR ^(a) (%)	Light Trespass (into Windows) E_v (lx) ^(b)		Source Intensity I (kcd)		Building Luminance Pre-curfew
		Pre-curfew ^(d)	Post-curfew ^(e)	Pre-curfew ^(d)	Post-curfew ^(e)	Average L ^(c) (Cd.m ⁻²)
E0	0	0	0	0	0	0
E1	0	2	1 ^(*)	2.5	0	0
E2	2.5	5	1	7.5	0.5	5
E3	5.0	10	2	10	1.0	10
E4	15.0	25	5	25	2.5	25

- NOTE:**
- (a) Upward light ratio of the installation - maximum permitted percentage of luminaire flux for the total installation that goes directly into the sky.
 - (b) Vertical Illuminance measured flat at the glazing at the centre of the window.
 - (c) Luminance.
 - (d) Typically considered to be between 07:00 and 23:00
 - (e) Typically considered to be between 23:00 and 07:00
 - (*) Permitted only from public road light installations

16.26 Based on a desktop review of the site and aerial photography of the closest houses to the site, it is likely that the area in the vicinity of the site should be classified '**E2 – Low district brightness**'. Environmental Zone E2 is considered representative of dark outer suburban locations, with the lighting characteristics specified in Table PSA16.1. For the majority of the works, plotting a fixed lux contour plot would not be possible.

Modelling and assessment

- 16.27 Initial worst case modelling has been undertaken of 4x1000 w bulbs mounted on 9m columns, as specified by Miller Argent (email to John Forrester, Development Management Group, CCBC, 17/01/2014) as being the typical worst case scenario at the site, with lighting angled at 25 degrees to equate to lighting being directed towards site works and away from residential receptors. Other lighting within the void, at major road junctions and around the workshop truck park and barrel wash area, lighting on the overburden mound and lighting of major road junctions is likely to be less intrusive than this worst case scenario, due to less light being generated and the lighting being angled directly downwards. The worst case modelling has been assumed for each point source for the purposes of assessment, notwithstanding that it would over-estimate the effect of light on surrounding areas.
- 16.28 The normal extent of the working area to be lit by each of the worst case point light sources would be about 30m x 30m;
- 16.29 Based on this worst case modelling, it seems very unlikely that the ILP Environmental Zone E2 pre-curfew criteria of 5 lux (the standard for which light into windows is generally assessed at times before 23:00) will be exceeded as a result of point sources of any lighting used in the

- construction or operation at the site at surrounding residential receptors which are generally 500m from any site works.
- 16.30 Plot 1 on Drawing MA/NL/ES/16/022 shows that backwards light spill from these columns is unlikely to exceed the 5 lux pre-curfew criteria at distances of over approximately 10m at locations behind the columns. Even as a worst case scenario, if the lighting columns were all facing the residential units, light levels would be below 5 Lux at a distance of approximately 117m, also shown on Plot 2 on Drawing MA/NL/ES/16/022. As the nearest residential receptor is approximately 500m away, there is unlikely to be any negative impact.
- 16.31 In addition, the visual and acoustic screening bund and the method of working of the overburden mound with bunds formed on the outer edges of the working area first will serve to further mitigate light spill from any installations within the working void or on the overburden mound (other than when the outer faces of the overburden mound are being formed).
- 16.32 Given the results of initial worst case modelling, it is concluded that there are unlikely to be any effects from lighting that would be material to the decision to grant planning permission.

Representation 8 - Fochriw and Pentwyn Residents Association (FPRA)

- 16.33 The written objection of the Fochriw & Pentwyn Residents Association can be found at Appendix MA/NL/PA/A010.

Visual Impact

- 16.34 The main issues relevant to the landscape and visual considerations are:
- The visual impacts of the proposed development would extend “*for miles and miles*”, including Brynmawr, Brecon Beacons, long distance footpaths;
 - The surrounding VILL, SLA and National Park areas would be affected;
 - The overburden mound at 50m height would block sunlight and screen views of sunsets and night sky from Fochriw;
 - The “*artist’s impression*” provided in the photomontages of the overburden mound is misleading, showing it grassed over and not during formation and removal.

Findings of LVIA

Extent of visual effects

- 16.35 A comprehensive visual effects assessment of the proposed development was carried out and described in LVIA, ES paragraphs 16-47 to 16-52 and 16-190 to 16-206. Zones of Theoretic Visibility (ZTV) were generated by computer to identify the geographic extents within which views might be available of the features of the proposed development. Viewpoints within the ZTV were identified for study, 23 in total, representing the range of views available to: people in nearby communities; users of public rights of way and recreational amenities; visitors to Country Parks, and views from other valued landscapes, such as the Brecon Beacons

National Park and registered historic landscapes, as well as people in the industrial estate and travellers along the roads of the area.

- 16.36 The ZTVs show a pattern of visibility reflecting the topography of the area. The main areas from which the overburden mounds would be visible extend in a broad band along the Rhymney Valley, including the settlements to east and south-east, and onto the uplands immediately to the north; in smaller areas on the ridges rising to the south and the more distant ridges to the east and north-east of Tredgar, and in the more distant uplands to east and north-east. Details of the viewpoints studied, with descriptions of the changes in the views due to the proposed development and an assessment of the effects of those changes, are set out in ES Appendix MA/NL/A16/002.
- 16.37 The study area for the visual effects assessment was agreed with CCBC during the scoping consultations as 5km from the site boundary and the findings of the LVIA confirmed that, even at the phases of greatest change due to the development, visual effects beyond this distance would be Minor or Negligible. These are not considered to be significant.

Assessing significance of effects

- 16.38 ES Chapter 16 paragraphs 16.5 – 11 explain the background to the methodology used in the assessment: the assessment was carried out under GLVIA2 but was completed after publication of GLVIA3. As advised by the Landscape Institute, the assessment was completed using GLVIA2 guidance. Since publication of GLVIA3, the process has been refined so that a statement is made as to which of the effects assessed are significant or not significant. GLVIA3 para 3.34 advises:

“When more distinction between levels of significance is required (beyond significant/not significant) a word scale for degrees of significance can be used (for example a four point scale of major/ moderate/ minor/negligible). Descriptions should be provided for each of the categories to make clear what they mean, and with a clear explanation of which categories are considered to be significant and which are not. It should also be made clear that effects not considered to be significant will not be completely disregarded.”

- 16.39 In ES Chapter 16, degrees of significance are assigned to the effects identified, ranging from Major to Negligible. For the purposes of identifying whether an effect is significant or not significant, the effects assessed are judged in accordance with the following principles:
- Effects assessed as Major which are also long term, whether beneficial or adverse, are considered to be **significant** and likely to be key factors in the decision-making process;
 - Effects assessed as Moderate and which are long term, whether beneficial or adverse, **may be considered significant** and are likely to be important in the decision-making process;
 - Other effects are considered **not significant**; they may influence, but are unlikely to be important to, the decision-making process.

Designated landscapes

- 16.40 The effects on the VILL, SLA, and Brecon Beacons National Park were assessed on both their landscape and on the visual amenity of visitors to these areas in the LVIA. Effects on the

VILL were identified as visual effects, summarised in Table 16-17 of ES Chapter 16 under the heading “Views from valued landscapes”, as follows:

“In the views from the east in which the remedial and landscape enhancement works would be visible, their visual effect was assessed as Moderate, beneficial, over the baseline condition in the long term for viewers from the Rhymney conservation area, and Minor, beneficial, for the more elevated views in valued landscapes ...”

- 16.41 Assessment of changes throughout the various phases for viewers from valued landscapes, making specific reference to the VILL, can be found in ES Appendix MA/NL/ES/A16/002 Landscape & Visual Impact Assessment: Viewpoint Details, which is summarised in Table 16-17 in Chapter 16 of the ES. The relevant viewpoints are: 1A, 1B, 6, 9 and 10.
- 16.42 Effects on Brecon Beacons National Park were considered by reference to the relevant LANDMAP aspects (Table 16-10, ES Chapter 16) and the effects on views available to National Park visitors. The National Park boundary is more than 2km from the site boundary and the LVIA found that effects on the cultural and visual & sensory aspects of the landscape would be Minor at this distance. Effects on visual amenity would be no more than Moderate adverse during phases of greatest change, reducing to Minor at over 5km distance (LVIA ES para 16.199).
- 16.43 The land to the north of the A465 is a Special Landscape Area (SLA), rising towards the Brecon Beacons National Park and the visual effects were assessed as Moderate to Minor, medium term, at most, for the parts of the SLA nearest the site (LVIA ES para 16.269).

Overburden mound

- 16.44 The overburden mound would be some 500m to the north of Fochriw and would have sloping sides which would not cast shade on or screen views either of the sunset (which would be to the west) or of the night sky from Fochriw.
- 16.45 The photomontages provided with the LVIA illustrate the views at “Maximum void” and “Final void”, that is, years 6 and 12 of the operations respectively, when grass would have been established on the overburden mound. Table 16-7 of Chapter 16 of the ES describes the progress of the works and the changes/effects associated with the overburden mound. The cross section in the drawing in Appendix MA/NL/PA/A052 shows the relationship of the overburden mound to residential properties in Fochriw. Its location to the north and the sloping sides would prevent it from casting shade or screening the night sky over Fochriw.

Representation 14 - Friends of the Earth Cymru (FoE)

- 16.46 The representation from Friends of the Earth Cymru (FoE) can be found at Appendix MA/NL/PA/A013. The following points are made regarding issues within their representation.

Landscape and Visual Considerations

Summary of objection

- 16.47 The main issues relevant to the landscape and visual considerations are:

- (1) It would conflict with Local Development Plan policy in affecting tourism detrimentally *“as a result of visual scarring”* and *“loss of access to common land and popular walking areas”* (para 2.5, reiterated in para 4.3 in regard to health and well-being);
 - (2) It would negatively affect the amenity of residents in neighbouring communities, particularly in Fochriw and Pontlottyn, due (amongst other things) to *“light and visual pollution”* (para 2.8);
- 16.48 Section 5 is headed *“Impacts on landscape visual amenity and Brecon Beacons National Park”*.
- (3) Concern that the *“cumulative impact of Nant Llesg and other proposals on the southern fringe of the BBNP has not been given proper consideration in the assessment”*, although the ES conclusion of negligible impact on the visual amenity of users of the BBNP is noted;
 - (4) It is acknowledged in para 5.4 that *“remediation and not mining operations is proposed”* in the area designated as Visually Important Local Landscape (VILL) and *“an operational boundary is established to prevent any minor extensions to workings within this landscape designation”*.

Findings of LVIA

(1) Visual scarring and loss of access to common land

- 16.49 The conclusions of the visual effects assessment of the development are summarised in ES Chapter 16 LVIA, paragraphs 16.297 – 298, the main points of which, relevant to tourism assets, are:
- The main areas from which the soil storage, screening and overburden mound would be visible are along the Rhymney Valley and the uplands immediately to the north;
 - Once constructed, the overburden mound would screen visibility of the operational voids from the south and south-west
 - The screening mound would screen the void in views from, especially, Rhymney;
 - For people using **rights of way and access land** near the site, which are also tourism resources, the effects during the phases of greatest change while the overburden mound is created and removed would be Major, adverse and medium term, reducing to Moderate once the overburden mound is constructed, and Minor at other times;
 - Views are available from some **public open spaces, local recreational facilities and golf courses** but the greatest visual effects assessed, during the phases of greatest changes, would be no more than Moderate, adverse
 - **Travellers along the roads** in the visual study area are generally assessed as of low sensitivity, but there would be direct open views of the site available from Fochriw Road and South Tunnel Road, raising their sensitivity to Moderate. Generally the visual effects were assessed as Minor or Moderate, adverse during the main operational phases, and Minor or Negligible during initial operations and restoration aftercare. From Fochriw Road, the view would include the built facilities

and coal processing facility, with Moderate to Major visual effect during the main operations and Moderate to Minor during initial operations and Negligible during restoration aftercare.

- Where the **remedial and landscape enhancement works** would be visible, their visual effect was assessed as Moderate, beneficial, in the long term for viewers from the Rhymney conservation area, and Minor beneficial in more distant elevated views, represented by viewpoints at Bryn Carno and Ras Bryn Oer.

16.50 In regard to access to common land, the LVIA concluded (ES para 16.295) that additional areas of land are included in the proposals that could be used for public access while the common land within Nant Llesg would not be available. The potential to upgrade the landscape in these areas was recognised, through boundary hedge management and planting up gaps, repairing stone walls in poor condition and for benefit to the community in the long term from increased or easier public access to the countryside.

(2) Lighting and visual pollution

16.51 An assessment was included in the LVIA of the effect of lighting of the scheme on the lighting and darkness characteristics of the area (ES Chapter 16, Table 16-11).

16.52 In relation to Fochriw, the LVIA characterised it as an area of "*Low Distinct Brightness, set within Intrinsically Dark upland*" and found that the greatest effect on the lighting and darkness characteristics would be Moderate medium term during Phases 1-2, Box Cut to Maximum Void, and during other phases, Minor or Negligible. After restoration, the darkness and light character of this area would be restored.

16.53 Pontlloftyn was included in the Rhymney Valley settlements and roads area of "*High to Medium Distinct Brightness*". The LVIA found that the darkness and light character of this area would not itself be changed, but the view from it of the Intrinsically Dark upland of the site would change to include moving vehicle lights and scattered point lights. Once formed, the overburden and screen mounds would screen the operational areas and the site would appear Intrinsically Dark. After restoration, the view of the Intrinsically Dark upland of the site would be restored.

16.54 In regard to visual effects, the LVIA assessed the effects on residents in neighbouring communities, represented by viewpoints 1, 2, 5, and 7 (ES Appendix MA/NL/ES/A16/002). In summary, the assessment found that the greatest effect would be for residents within 2km of the site (which would include Fochriw and Pontlloftyn), with direct open views, the development would cause Major, adverse effects, especially during years 1-6 and 9.5-14, when the overburden mounds were being formed during the early phases of excavations, and later removed to fill the final void. The effects will be mitigated by working the outer faces of each bench first during construction of the overburden mound and last during removal. The effects in these phases are reduced to Moderate for residents with oblique or indirect views and for more distant residents and at other phases no more than Moderate for nearer viewers. For the very near residents in Fochriw, once formed, the overburden mound would screen other operational areas of the site from view. After year 14, the open character of the site in views from Fochriw would be restored with removal of the overburden mound.

16.55 Further details of the results of initial modelling of lighting of operational areas are set out in response to Representation 3 above and included in the ES addendum. It is concluded that there are unlikely to be effects that are material to the decision whether to grant planning permission.

(3), (4) Designated landscapes

- 16.56 The effects on the Brecon Beacons National Park, SLA, and VILL were assessed in the LVIA, both effects on their landscape characteristics and character, and on the visual amenity of visitors to these areas.
- 16.57 Effects on Brecon Beacons National Park were considered by reference to the relevant LANDMAP aspects (LVIA Table 16-10, ES Chapter 16) and the effects on views available to national park visitors (LVIA Appendix MA/NL/ES/A16/002 Viewpoint Details, Tables A16/003/3 and A16/003/4, ES Chapter 16).
- 16.58 The Brecon Beacons National Park boundary is more than 2km from the site boundary and the LVIA found that effects on the cultural and visual & sensory aspects of the landscape would be Minor. Effects on visual amenity would be no more than Moderate adverse during phases of greatest change, reducing to Minor at over 5km distance (LVIA para 16.199).
- 16.59 The land to the north of the A465 is a Special Landscape Area (SLA), rising towards the Brecon Beacons National Park and the visual effects were assessed as Moderate to Minor, medium term, at most, for the parts of the SLA nearest the site (LVIA para 16.269).
- 16.60 Effects on the VILL were identified as visual effects, summarised in Table 16-17 in Chapter 16 of the ES under the heading “*Views from valued landscapes*”, as follows:
- “In the views from the east in which the remedial and landscape enhancement works would be visible, their visual effect was assessed as Moderate, beneficial, over the baseline condition in the long term for viewers from the Rhymney conservation area, and Minor, beneficial, for the more elevated views in valued landscapes ...”*
- 16.61 Assessment of changes throughout the various phases for viewers from valued landscapes making specific reference to the VILL are in ES Appendix MA/NL/ES/A16/002 Landscape & Visual Impact Assessment: Viewpoint Details, which is summarised in Table 16-17 in the ES. The relevant viewpoints are: 1A, 1B, 6, 9, and 10.
- 16.62 Cumulative effects were also assessed and the LVIA concluded (ES para 16.299) that, cumulatively with Trecatti Landfill Site, Cwmbargoed Disposal Point and Ffos-y-fran Land Reclamation Scheme, the additive visual effect would vary with the relative importance of the sites in views, the angle of view and distance from Nant Llesg. The cumulative visual effects on BBNP were assessed in ES para 16.232:
- “Combined additive visual effects would occur for viewers in the uplands to the north-west between 1 and 3km distant, extending to the Brecon Beacons National Park boundary, where the voids and overburdens mounds of both developments [i.e. Nant Llesg and FLRS] would be theoretically visible. In the views from the uplands to the north, Trecatti Landfill and FLRS sites were noted as visible and contributing together to Moderate visual intrusion. Cumulative visual impact resulting from the addition of the Nant Llesg development is not likely to be more than Minor to Moderate and medium to long term, for the period when the features of the two surface mine operations would be in existence together.”*

Representation 16 – Rhymney Area Residents Group (RARG)

- 16.63 The representation from Rhymney Area Residents Group can be found at Appendix MA/NL/PA/A014. The following points are made regarding the issues raised.

Landscape and Visual Impact Assessment (LVIA)

- 16.64 The main issue raised by RARG that is relevant to the landscape and visual considerations is: *"If this open cast development is allowed to take place the beautiful setting of this village [Bute Town] could be completely destroyed."*

Response/Findings of LVIA

- 16.65 The LVIA identifies Bute Town in several contexts: as a Conservation Area 350m north-east of the site containing 3 rows of listed terrace houses; as the start or end point of the Rhymney Valley Ridgeway Walk; as part of the cycle route NCR46; and in relation to the nearby Bute Town Pond. Effects on Bute Town are also assessed in regard to air quality (ES Chapter 12), noise (ES Chapter 13), cultural heritage (ES Chapter 15), and as a tourist facility (ES Chapter 6).
- 16.66 Bute Town is a planned village built in 1825-30 containing 3 rows of listed terraces (Middle Row, Collins Row and Lower Row) to provide quality housing for workers in the local ironworks.
- 16.67 The description of the landscape context of viewpoint 13 at Bute Town Pond (ES Appendix A16 Table A16/003/ 2) notes its location:
- "...to the west of Bute Town (a conservation area with listed buildings)... There is a strong sense of openness, and the pond is a relatively large and dominant feature in the local context. The elevation provides distant panoramic views of the surrounding uplands and an overview of Rhymney in the left of the view and down the Rhymney valley to the south. Busy roads in the immediate surroundings intrude on the potential tranquillity of the pond and its local context. It is a popular local recreation amenity"*.
- 16.68 In the LANDMAP assessment, Bute Town lies within Historic Landscape (HL) and Cultural Landscape (CL) areas evaluated High and a Visual & Sensory (VS) area evaluated Low. The description of the HL Area, CynonHL701, notes that *"although the coherence of the aspect area has been significantly impacted by modern housing and industrial development, the Rhymney Valley remains a diverse, historically important communications corridor with evidence of human activity dating back to the Neolithic period"*. The CL area, CynonCL045, is extensive covering Rhymney Sirhowy Ebbw Valleys, *"because of the similarity of their contemporary cultural essence, predominantly regeneration activity: new-build housing, business and industrial parks, designated green spaces, creation of country parks from derelict land as local leisure amenities, and improvements to roads and traffic systems. The latter are especially injurious to the landscape, but help to reinforce the all-pervasive culture of regeneration"*. The VS area is CynonVS193 Rhymney, its low evaluation explained as due to *"little to distinguish village in upland valley setting apart from moderate sop [sense of place] (75% criteria low)"*. (ES Appendix A16, Tables 3 – 5)
- 16.69 Bute Town, as noted, was a model village to accommodate workers in the local ironworks and its historic industrial landscape context has been lost in the process of regeneration and with modern urban and transport developments, as described in the LANDMAP HL and CL descriptions.
- 16.70 The potential for the effects complained of by RARG in relation to the amenity of the setting of the village, are addressed in the ES under effects on landscape and visual amenity.
- 16.71 As regards visual amenity, the changes in the context and view from the Bute Town Pond area are described in the Nant Llesg ES at Appendix MA/NL/A16/002 Table A16/003/ 3 and

assessed in Table A16/003/ 4 as Major adverse during the periods of greatest change and Major to Moderate during the main period of operations. There would be no further change during years 6-9.5. After restoration, the fieldscape in the northern part of the site, extending through the middle ground of the view, would be restored with new planting of hedgerows and woodland bands rising up the slope and stone walls on the upper slopes. The Bent Iron would be reinstated on the high point in the view. Taken together with the long term growth of the additional woodland planting proposed, this was assessed as a Moderate beneficial effect on the visual amenity.

- 16.72 Views towards the site from within Bute Town itself are restricted, because of the orientation of the buildings, screening by buildings within and vegetation on the southern edge of the village. Views are available from the sitting area on the edge of the village, at the west end of Middle Row, and from the west end of Lower Row, which would be similar to the view from Bute Town Pond, although interrupted by nearer features on the southern edge of Bute Town.

Representation 17 - Bedlinog & Trelewis Environment Group (BTEG)

- 16.73 The representation from Bedlinog & Trelewis Environment Group can be found at Appendix MA/NL/PA/A015. The following points are made regarding the issues raised in relation to landscape and visual impact.

- 16.74 BTEG expressed concern about the possibility of landscape destruction along the route from Bedlinog to Merthyr Tydfil and Dowlais. The LVIA in Chapter 16 of the ES deals with travellers along roads at paragraphs 16.196 to 16.197:

“16.196 Travellers along the roads in the visual study area are generally assessed as having Low sensitivity to changes in their view, but Fochriw Road and South Tunnel Road are just beyond the site boundaries and there would be direct open views of the site available from them, raising their sensitivity to Moderate. Generally the visual effects were assessed as Minor or Moderate, adverse medium to long term during the main operational phases, and Minor or Negligible during initial operations and restoration aftercare.

16.197 From the north-west of the site on Fochriw Road, however, the view would include the built facilities and coal processing facility to be located between the excavation and overburden mound areas, raising the visual effect to Moderate to Major during the main operations and Moderate to Minor during initial operations or Negligible during restoration aftercare.”

- 16.75 This is reflected in Table 16-17 ‘Summary of Visual Effects Assessment’ under the visual receptor ‘Travellers along Roads’ and further analysis is provided at paragraphs 16.235 to 16.243 of the ES.

- 16.76 Viewpoint 8 of the LVIA also relates to travellers along this route. The sensitivity of road users is assessed as Moderate and the impact is assessed in Table A16/003/4 of the ES Appendix MA/NL/ES/A16/002 as follows:

ES Table A16/003/4 Assessment of Visual Effects (Extract)

Viewpoint	Assessment Phase	Assessment
Viewpoint 8	Preliminary Operations, Remedial Operations (Year 1, Years 1-2) Short Term	Moderate to Minor, Adverse
	Phases 1-2: Box Cut to Maximum Void (Years 1-6) Medium Term	Moderate to Major, Adverse
	Phases 3-4: Maximum Void to End of Coaling, including progressive restoration of Phases 1-3 (Years 6-11) Medium Term	Moderate to Major, Adverse
	Phases 4-5 Restoration and Backfilling & progressive restoration of Phases 3-4 (Years 12-14) Medium Term	Moderate to Major, Adverse
	Aftercare (Years 15-19) Medium Term	Negligible

Representation 20 - Green Valleys Alliance (GVA)

16.77 The Green Valleys Alliance representation can be found at Appendix MA/NL/PA/A018.

16.78 The main issues relevant to landscape and visual considerations are:

- (1) The mine development will have an adverse effect on the visual amenity of the area, contravening MTAN2 para 182;
- (2) The screening mound would itself be a "*significantly intrusive element*" in the landscape (para 16.1);
- (3) The effects during formation and removal of the mounds are not represented in the photomontages and the proposed vegetative cover would be ineffective during removal in particular, due to "*overspill of material over the edges*" (para 16.2);
- (4) Duration of effects:
 - The Major adverse visual effects assessed for Fochriw residents would last for "*the entirety of the operations*" (para 16.7);
 - Paragraphs 16.8-16.13 quote the conclusions of visual effects assessment in the LVIA, but state the effects quoted would be for a period of 10.5 years or for the life of the mine for residents of Fochriw.

Response/Findings of LVIA

(1) MTAN2 and (4) Duration of effects

- 16.79 Para 182 of MTAN2 states that “*adverse visual impact must be kept to an acceptable level*” and goes on to set out the consideration that should be taken into account in assessing visual effect. These include magnitude of change, by reference to “*the compatibility of the project with the surrounding landscape, duration of impacts, scale of development, and reversibility*”. Assessment of significance is described as involving a “*greater degree of subjective opinion*” and takes into account “*The quality, importance and rarity of special landscape elements, ability of the landscape to accommodate change, change in local and regional context, and the history of the landscape*”.
- 16.80 As noted in the LVIA in the ES (para 16.63-66), MTAN2 provides guidance in Appendix N on best practice in carrying out the LVIA, which has been adhered to in the LVIA for Nant Llesg (ES para 16.254-257).
- 16.81 The Major adverse visual effects assessed were associated with the periods of greatest change arising from the development: during formation of the screening mound over a short period in year 1, formation of the overburden mound in years 1-6, and removal of the overburden mound in years 9.5-14, that is for periods of 5.5 and 4.5 years separated by a period of 3.5 years when there would be no further change in these features and the effects would be less (LVIA para 298). These effects would be mitigated by the construction of the outer faces of the mounds first and the removal of the outer faces last. These effects would be experienced by residents of Fochriw with direct open views, walkers on a short distance of the nearest part of the Rhymney Valley Ridgeway Footpath, and people using rights of way and access land near the site (LVIA ES para 298, bullets 3, 5).
- 16.82 Elsewhere, the visual effects would be Moderate or less, including for residents of Fochriw with oblique views and residents of and visitors to Rhymney; people using other rights of way and access land, public open spaces, local recreational facilities and golf courses; travellers along local roads.
- 16.83 Para 16.6 of the Objection refers to Major or Major to Moderate visual effect in the operational area of the site, assessed at ES para 16.292, but this is in fact an assessment of effect on landscape character.

(2) Effect of screening mound

- 16.84 The LVIA found there would be adverse visual effects from formation of the screening mound over a short period in year 1 and during its removal during year 14. The effects would be mitigated by construction of benches with the outer faces being formed first and removed last. The form of the mound and the grass cover once formed would reduce its visual impact, which would vary depending on the relative elevation, distance and angle of view, but, after formation, are assessed as no greater than Moderate. Its form, extent and scale are related to the benefit of screening the excavation void from sensitive views especially in Rhymney (and screening of acoustic effects) (LVIA ES para 16.48 and ES Chapters 4 and 13).

(3) Formation and removal of the mounds are not represented in the photomontages: vegetative cover would be ineffective

- 16.85 The photomontages show the mounds after completion of their construction and establishment of grassing and after their later removal, but not during construction or removal. The progress of their construction and removal is however described in the LVIA as the basis of the assessment of effects in ES Appendix MA/NL/ES/A16/002 Viewpoint Details, Table A16/003/3 and ES Table 16-7. ES Para 16.126 of the LVIA, makes it clear that the mounds would be constructed in several layers, and the outer face of each layer would be grassed as work proceeds so that at any time only the layer being formed (or removed) would be “*bare earth*”:
- First an outer bund to each layer is built up towards the outside of the site, with backfilling continuing behind. This will screen the operations from views from outside the site. The procedure would be reversed during removal.
 - The overburden mound would remain in place for 3.5 years and the outer slopes would be grass seeded as work proceeds as well as the finished top surface. As the grass became established, the degree of potential intrusion would reduce.
 - After formation of the overburden mound, soil storage mounds and screening mounds, they would remain in place for the medium term, as elements in the landscape, but would screen other operational areas of the site from view.

Representation 26 - United Valleys Action Group (UVAG)

- 16.86 This is the second representation of the United Valleys Action Group, which encompasses the issues raised in their original submission (Representation 7), which was also referred to in the questions raised by CCBC at Representation 2 above.
- 16.87 Representation 26 can be found at Appendix MA/NL/PA/A020.
- 16.88 It is noted that Representations 23 by Environment Pollution Management Ltd and 27, 28, 29, 30 and 31 by Jim Davies form part of this representation. The Applicant's response to each is provided individually under the respective headings.

Landscape and Visual Impact

- 16.89 UVAG object to the proposal in their letter dated 13 December 2013 (ref 26) and enclose a report setting out the reasons for their objection on a number of topics, including Light Pollution (pp26-27) and Adverse Visual Impact (p28-29). In regard to Light Pollution and Visual Impact, the comments in this report expand on those of November 2013. Below, some of the response by WYG of November 2013 is repeated and expanded where necessary to deal with the additional comments in UVAG's December 2013 representation.
- 16.90 UVAG state that previously submitted comments on the CDP proposal are included in pages 66-69, “*because of the parallel planning submission for the CDP expansion*” included in the Nant Llesg application.

Summary of representation/objection

(1) Light Pollution

16.91 The main issues relevant to the landscape and visual considerations are:

- There would be significant light pollution from the Nant Llesg mining operation, exacerbated by the elevated location of the site relative to Rhymney;
- The bright site lighting will shine down on to Rhymney, similar to the effect of FLRS on Merthyr Tydfil;
- Loss of view of the night sky above Nant Llesg from Rhymney;
- Lighting on the overburden mounds during tipping;
- The impossibility of mitigation due to topography;
- Light pollution from the remediation works in the east of the site;
- Existing high lighting levels at CDP and likelihood of increased levels for the Nant Llesg proposal.

(2) Adverse Visual Impact

16.92 The main issues are:

- The proposed mining operations would result in reversing the greening of the hillside achieved over many years by CCBC, reclaimed from its mining and industrial past
- The remediation works in the east of the site cannot be justified by 15 years of coal mining operations and its adverse effects
- The photomontages represent *“a very green and pleasant mining operation” ... “for the largest part of the operation these spoil tips will be being tipped on and built so will be black not green”;*
- *“The acoustic bund won't be complete until a good number of years ... and will be worked on right up until the end of the mining operations”.*

(3) Cwmbargoed Disposal Point

16.93 Two main issues are raised in relation to the CDP proposal: light pollution and visual impact:

- Expanding of lighting at the CDP
- Disagreement with description of lighting at Nant Llesg as *“scattered point lights”*
- Adverse visual impact of the proposed new building, which would be imposing and dominate views.

Findings of LVIA

(1) Light Pollution

- 16.94 The LVIA dealt with the potential for effects on landscape character and visual amenity from the lighting of the proposed development, using guidance published by Institute of Lighting Engineers (ILE) and the former Department of Communities and Local Government. It identified the areas of different darkness and lighting characteristics over the site and its context (ES paragraphs 16.53 to 16.57) as the basis for assessing the effects arising from the development. The changes arising during the various phases of the development and the effects on the areas of different existing darkness levels are set out in ES Table 16-11 Assessment of lighting effects.
- The assessment concluded (ES paragraphs 16.149 to 16.151) the change in darkness characteristics would be from Intrinsically Dark in the site itself to Low Distinct Brightness, varying with the phases of the operations, with Low to Medium Distinct Brightness at the built and support facilities in the west of the site. There would not be light spillage over Rhymney as the operations would be screened by the screening bund to be constructed in the first 4 months and otherwise would be intermittent visibility of point and vehicle lights. The Intrinsically Dark character of the site and its appearance in views from surrounding areas would be restored with completion of landscape restoration.
- 16.95 See also para 1.20 - 1.27 above and the ES addendum where the categorisation of baseline lighting conditions is analysed and the results of initial modelling of proposed lighting of operational areas are detailed. It is concluded that there are unlikely to be lighting effects that are material to the decision to grant planning permission.
- 16.96 The very bright lighting at the CDP is from the floodlights at the railway sidings and train loading area (LVIA Table 16-7, ES Chapter 16), which will not change as part of the Nant Llesg proposals. The additional facilities at the CDP for the Nant Llesg proposals would only require low level lighting as at present.

(2) Adverse Visual Impact

- 16.97 The LVIA first examined the landscape of the site and its surroundings, identifying areas of different character within the site study area. Effects of the development on landscape character were assessed by reference to these identified areas and their distinct characteristics. Effects on visual amenity were assessed by reference to the groups of people in the area with views of the site:
- Residents within the surrounding communities and scattered dwellings in the wider area
 - Visitors to Rhymney town centre
 - Users of promoted footpath or cycle route, public rights of way generally and access land
 - Users of recreational amenities, local community facilities, golf course, etc.
 - Users of public open spaces, sitting areas, etc.

- Visitors to Country Parks, and views from other valued landscapes, such as the national park and registered historic landscapes
 - Views from the industrial estate and views of travellers along the roads of the area.
- 16.98 The mining operations would not extend into the areas of remediation and the existing woodland planting, which is developing into noticeable landscape features along the valley side on the east of the site, would not be affected.
- 16.99 The landscape remediation and improvements and their effects are set out in LVIA ES paragraphs 16.130 to 16.135:
- Surface treatment and remediation of land to the east and south of the operational area of the site would be carried out in the first two years and would have long term landscape and amenity benefits;
 - The remedial and landscape enhancement works on the valley side to the east would be apparent to viewers from the Rhymney conservation area and more distant elevated views, from Bryn Carno and Ras Bryn Oer;
 - Early treatment of the eastern, southern and western margins of the site would provide additional access and information to improve people's connection with landscape, wildlife, and heritage early in the development timeframe.
- 16.100 The landscape restoration proposals, summarised in LVIA ES paragraphs 16.136 to 16.137, are put forward as a comprehensive restoration strategy for the whole site which would be implemented progressively as operations proceeded. It would deliver benefits to the landscape in removing despoliation and integrating future land uses with enhanced public access and amenity for local communities, nature conservation and cultural heritage, with a landscape character appropriate to the location and context.
- 16.101 With regard to the time periods of formation and removal of screening and overburden mounds (ES 3.83-3.94, LVIA 16.140-142):
- The screening mound would be formed in a 4 month period in year 1 of operations. Once formed, it would be grass seeded and would remain without further change until year 14, when it would be removed in the final phase of backfilling the final void.
 - Formation of the overburden mound would start later in year 1, as excavations commenced. It would be added to in layers over the following 5.5 years. An outer face would be formed first to screen operations behind it and each layer would be grassed as it was formed, so at any time in these 5.5 years, only the layer under construction would appear dark and activity would be intermittently visible.
 - Material would be removed from the overburden mound to backfill the void from year 9.5. An outer screening bund would be retained as material is removed in layers and removed at the end before proceeding to remove material from the next layer, reversing the process of formation. Activity and a dark appearance would be intermittently visible during the process of removal.

(3) Cwmbargoed Disposal Point

- 1.96 The existing lighting at the CDP and the proposed lighting is dealt with above in paragraphs 1.27 to 1.29.
- 16.97 As noted in the description of the development in LVIA ES para. 16.125, the proposed coal wash building would be the largest single built element in the CDP and was recognised to have the potential to be prominent in views. The main mitigation measure proposed was the architectural treatment of the cladding of the main building, using a pattern of brown and olive colours to give the impression that it is a cluster of smaller built forms and to break up its appearance in views to a similar visual texture to the rest of the CDP.
- 16.98 The LVIA included a visual impact assessment of the new building and related plant and found the greatest degree of effect to be for views from nearby access land, where the changes in the CDP would result in Moderate, short term adverse visual effect, during construction, and Moderate, long term, during operation.
- 16.99 The proposal for the new Coal Washing Plant already benefits from planning permission (Planning Reference: 13/0218/MIN).

Representation 120 - Nelson Community Council

- 16.100 The Community Council resolved:
- “... to support the local Protest Group in objecting to the scale of this development on grounds of its environmental impact, its impact on the visual amenity and to also object on its potential to impact on Nelson residents along the rail link from the site to Ystrad Mynach, due to the increased frequency and larger capacity of trains to be used to transport materials from the site.”*
- 16.101 The Council's general comment with regard to the impact on visual amenity is taken by the applicant to refer to the visual amenity of people in the surrounding landscape in general. This has been assessed in detail in Chapter 16 of the ES and the findings for each of the viewpoints used in the assessment are set out in Table A16/003/ 4 'Assessment of Visual Effects' in Appendix MA/NL/ES/A16/002 of the ES.

Representation 139 - Caerphilly County Borough Council Neil Daniels (Lighting)

1. What type of lighting is to be used during the construction of the storage mounds and within the excavation area? It is assumed that the bright point lights / flood lights will be used producing a white rather than yellow light. Is this correct?

- 16.102 On the storage mounds we will use small mobile units that are about 9m high. These units have 4 x 1000w clear halogen bulbs. In winter the earliest these would be turned on would be 4:00-4:30pm and they would be turned off on completion of the works at 7:00pm. In summer they would not be used. Miller Argent have experimented with yellow and orange lighting at FLRS (primarily for use in foggy conditions) but for safety reasons have reverted to clear lighting to get the required light levels in the operational areas. These units are angled towards the working area facing in to the site and away from residential areas.
- 16.103 Within the void there would be the same small units at each working face and each coaling area.

- 16.104 There would also be larger semi-permanent lighting sets, 13m high, with 8 x 400w clear halogen bulbs (directed vertically downwards) within the working void and used to light up the major junctions on the haul roads.
- 16.105 In winter the earliest these lights would be turned on would be 4:00-4:30pm and they would be turned off on completion of the works at 7:00pm. In summer these would not be used. Working currently continues until 10:00pm on Ffos-y-fran, three hours longer than is proposed at Nant Llesg.
- 16.106 Although not associated with the storage mounds or excavation area, there would also be two, possibly three, of the taller 13 m high units with 8 x 400 w clear halogen bulbs around the workshop, truck park and barrel wash area. These would stay on throughout the night for security reasons, but being directed vertically downwards, would not emit glare towards the surrounding areas. The visual and acoustic screening bund and overburden mound would screen these lighting sets from the major residential areas of Rhymney, Fochriw and Pontlottyn.

2. What would be the normal extent of the working area to be lit by these point light sources when constructing the storage mounds i.e. 25-50m runs or areas i.e. 50m²? Is it likely that the number of lights used to light a working area would be 2-3 or 7-10 for example?

- 16.107 There would be one of the 9 m high with 4 x 1000 w clear halogen bulbs mobile lighting units at each tipping point but only one of these is likely to be on the edge of the mound at any one time with the others being towards the central area of the mound. There would be a maximum of 3 of these units on the mound at any one time. The extent of working area lit by each of these units would be about 30m x 30m.
- 16.108 Paragraph 16.124 of the Nant Llesg ES, under the heading 'Mitigation measures adopted as part of the project' provides the following statement:

"Lighting: Through choice of lighting, the spread of light can be limited and light focused on the working areas to reduce the potential intrusion on Dark areas."

- 16.109 See also paragraphs 1.20 - 1.27 above regarding assessment of light levels and paragraphs 1.11 to 1.26 of the ES addendum.

3. It is assumed that the haul roads will not be lit and that vehicles will make their way between working areas and parts of the site relying on their headlights. Is this correct?

- 16.110 This assumption is correct. Apart from the lighting of major road junctions within the working void, as mentioned above, the haul roads will not be lit and vehicle will make their way between working areas and other parts of the site relying on their headlights.

Representation 142 - Blaenau Gwent County Borough Council

- 16.111 Blaenau Gwent County Borough Council (BGCBC) set out concerns about the planning application in their letter of 5th March 2014. The letter deals with a number of topics, including landscape and visual impact.

Summary of representation /objection

16.112 The main issues relevant to the landscape and visual considerations are:

- (1) BGCBC's landscape officer advises the proposal will have significant visual impact across the Heads of the Valleys landscape areas for a period of some 14 years.
- (2) He notes in relation to the cumulative assessment that:
 - The assessment did not include the Circuit of Wales (CoW), Heads of the Valleys dualling and (unspecified) wind turbine applications;
 - Sensitive receptors within Blaenau Gwent are considered to be Parc Bryn Bach, Circuit of Wales, cycle routes, rights of way, open access land and Special Landscape Areas;
 - The impacts on these receptors would be "*of relatively lower significance*" due to distance, but would be adverse and "*significant enough to raise objection*";
 - Policies of the Blaenau Gwent LDP require that there is no unacceptable adverse impact on sensitive landscapes and no unacceptable adverse visual impact.
- (3) In conclusion:
 - BGCBC has "*concerns*" with the cumulative impact study in respect of the omission of the CoW, the Heads of the Valleys dualling and a number of turbine permissions, and regarding the adverse impacts on sensitive receptors in BG, while acknowledging they will be for a "*limited period*", BG recognises that they may be "*addressed by planning conditions or agreements*";
 - Restoration of the site must be secured.

Response/Findings of LVIA

(1) Significant visual impact across the Heads of the Valleys landscape

- 16.113 The LVIA found that effects on the wider landscape context, assessed by reference to the five LANDMAP aspects, would be Minor adverse long term for Visual & Sensory areas over 2km from the site, i.e. the landscape within Blaenau Gwent. The effects of the remediation and restoration proposals on the wider landscape would be Minor to Moderate beneficial in the long term, or not noticeably different from the present. (ES para 16.294)
- 16.114 The LVIA considered cumulative visual effects on travellers on the A465. The A465 traverses the cumulative Zone of Theoretical Visibility (ZTV) of Nant Llesg with FLRS. However, observation on site showed that the road is frequently in cutting, or banks have been formed along the southern edge of the highway, which screen views towards the Nant Llesg site from vehicles, except taller goods or commercial vehicles. Views available would be glimpsed views, which would limit the importance of the site features in the view, and travellers along roads are generally assessed as of low sensitivity to changes in their view. (ES para 16.236, Table 16-3)

(2) Cumulative landscape and visual impact assessment

- 16.115 The criteria for projects to be included in a cumulative effects assessment are:
- Existing (relevant) developments and those under construction;
 - Those with consent but not yet constructed;
 - Those the subject of a valid planning application, when it may be expected that sufficient detail is available to enable the effects to be assessed and there is some certainty about what the project would comprise if consented and constructed.
- 16.116 CoW was accompanied by an Environmental Statement, as required by BGCBC in their Screening Opinion of 19th July 2011. The planning application for the Parc Bryn Oer Wind Farm proposals was also accompanied by an Environmental Statement. Sufficient detail should therefore be available within these ESs to enable the effects of the developments to be identified and assessed. Sufficient certainty also appears to exist about what the projects would comprise if consented. It is however appropriate to consider their cumulative effects.
- 16.117 The likely significant cumulative effects have been reviewed below, drawing on the assessments in the CoW ES as appropriate. However, Planning permission for the Pen Bryn Oer Wind Farm was subsequently refused in April 2014 and it has therefore been excluded from the review. (CCBC Planning Ref: 13/0483/FULL).

Cumulative landscape and visual impact assessment: Nant Llesg

- 16.118 The ES for the Nant Llesg proposal (NL ES) followed guidance on best practice for cumulative landscape and visual impact assessment (CLVIA) in Minerals Technical Advice Note 2: Coal 2009 (MTAN2) Appendix G. This advises that the appropriate spatial boundaries for the study area should be defined in relation to the distance the environmental effects travel (G3). The assessment of cumulative impacts should be based on available data (and further survey work if needed) and should focus on the most important environmental aspects (G4, G5). Having established the baseline, the assessment should identify past and future projects and their environmental effects and assess interactions between them and the project (G5) (NL ES para 16.67).
- 16.119 Assessment study areas were defined and agreed through the scoping process with Caerphilly County Borough Council (CCBC) and Natural Resources Wales: for the landscape assessment, up to 5 kilometres of the site, modified by topographic features to extend to the ridges to west, south and east and the rising land to the north (NL ES Drawings MA/NL/ES/16/001 and 002). As demonstrated on these figures, the topographic features modified the landscape context study area to a distance of about 3.5km to the north-east, beyond which is the site of the proposed Circuit of Wales. For the visual impact and the cumulative landscape and visual impact studies, the study area extended up to a distance of 5 kilometres from the site boundary. (NL ES para 16.13). Effects on visual amenity beyond this distance would not be significant - see the discussion at paragraphs 16.34 - 16.35 above.
- 16.120 The "*other developments*" to be included in the CLVIA were agreed through the scoping process to include developments taking place within 5 kilometres of site or likely to take place during or extending beyond the lifetime of the development. These include (NL ES para 16.207):
- The operational Ffos-y-fran Land Reclamation Scheme (FLRS)

- Cwmbargoed Disposal Point (CDP)
- Merthyr Industrial Services landfill operations (MIS)
- Trecatti Landfill Site
- NET Wood Pellet Plant, Rhymney.

- 16.121 In the request for a scoping opinion submitted on 31st December 2011, CCBC were asked to indicate whether other developments should be included, but no suggestions were made in the scoping opinion (dated 13 March 2012). It made reference to the then proposed wind turbines immediately adjacent to the site (now within the site), but the planning permission for the proposal by Eco2 on the inert landfill site north of South Tunnel Road subsequently expired.
- 16.122 The majority of the Circuit of Wales site lies beyond the 5km cumulative impacts study area, only its western edge extends into the study area, and the whole of the site lies beyond the zone of influence of the site, defined by topographic features¹. The western end of the current phase of A465 Dualling is also at the limit of the zone of influence of the site. The previously dualled section lies to the north of the site and was described as part of the baseline, noting its effects on the landscape character from movement, sounds of traffic, and lighting.
- 16.123 The CLVIA considered effects on the immediate and wider landscape context. Effects on Blaenau Gwent are summarised in NL ES para 16.269: *"The boundary of Blaenau Gwent is 1.5km to the east of the site at its nearest point, but is generally more than 2km distant. The ridges that are followed by the county boundary act as visual barriers in the ZTV of the proposed development, so that visual impacts are limited to areas where the elevation of the land allows views to the site, represented by VPs 11 on the Rhymney to Tredegar Road and 19 on the Sirhowy Valley Walk. The greatest visual effect assessed was for the nearer VP11, Moderate to Minor, medium term, and Minor for more distant views. (VP11 also represents views from a SLA.)"*
- 16.124 VP 11, on the Rhymney to Tredegar Road, is about 0.5km west of the Blaenau Gwent boundary and 1.6km east of the site. It represents views from a ridgeline within the Special Landscape Area, of users of access land and of travellers between Rhymney and Tredegar. VP 19 Sirhowy Valley Walk represents views from the long distance footpath and an area with a high LANDMAP Visual and Sensory evaluation, and is just over 5km from the site. VP12 on NCR 46 in Parc Bryn Bach represents viewers on the national cycle route and the country park, both with a SLA, for which the visual effects of the Nant Llesg development were assessed as Moderate adverse during the periods of greatest change during overburden formation and removal and Moderate to Minor adverse during the main period of operations.
- 16.125 The cumulative visual assessment considered views available to people at different locations, including:
- Residents;
 - Travellers on A465 Heads of the Valleys Road;

¹ The general 5km landscape context study area was modified by topographic features: the ridges to west, south and east and the rising land to the north, which restrict the zone of influence on the landscape context of the site. These are shown on Drawing MA/NL/ES/16/002 in the NL ES.

- Users of public rights of way, access land and cycle routes, including those extending into Blaenau Gwent: NCR46 and Sirhowy Valley Walk LDFP;
 - Visitors to Parc Bryn Bach;
 - Visitors to Special Landscape Areas.
- 16.126 The assessment found that, for residents within 2km with direct open views, the development would cause Major, adverse medium term effects, intermittently and especially when the overburden and screening mounds were being formed and later being removed, reducing to Moderate for residents with oblique or indirect views and for more distant residents. The screening mound on the eastern and north-eastern sides of the excavation area, formed in the first 4 months, would screen views of the excavation area from most of Rhymney, and partial screening from more elevated points on the east of Rhymney to Princetown area. For other residents, the visual effects would be Negligible or none in this phase.
- 16.127 For users of public rights of way and recreation resources within 1km, the effects during these phases would be Major, adverse and medium term, reducing to Moderate medium term. At intermediate distances, the effects would be reduced to Moderate during the phases of greatest change and Negligible during initial operations and restoration aftercare. The assessment found that for more distant viewers to the east, north-east and south-east – extending into Blaenau Gwent – where the Nant Llesg void and overburden mound and the FLRS overburden mounds (but not the void) would be theoretically visible, the combined additive visual effects of Nant Llesg with FLRS would be Negligible. (NL ES para 16.233).

Cumulative landscape and visual impact assessment: CoW

- 16.128 An outline planning application for the Circuit of Wales development proposal was submitted on 15th February 2013 to Blaenau Gwent CBC.
- 16.129 The assessment of cumulative landscape and visual effects of the proposed CoW is found in the CoW ES chapters 13 LVIA and 21 Cumulative Impacts. The LVIA took a 10km study area for both landscape and visual impacts. It does not include the Ffos-y-Fran development, and existing development within the study area, although the Archaeology chapter does. The CLVIA in chapter 13 assesses the cumulative effects of the CoW proposal with a number of planning applications for wind turbines within 5km of the CoW site.
- 16.130 Paragraph 13.4.19 of the CoW ES notes that *“the extent of potential visibility [of the CoW proposal] increases to the south and east of the site ... Between 5km and 10km, visibility extends predominantly to the ridgelines running south ... The full extent of visibility to the west is around Merthyr Common at approximately 7km”*. Figure 13.8 of the CoW ES, ZTV and Viewpoint Locations, shows that the Nant Llesg site is at the limit of the ZTV to the south-west, lying between 6 and 8km from the centre of the ZTV.
- 16.131 The LVIA for the CoW used a viewpoint near Rhaslas Pond (Viewpoint 09) and found that:
- There are open views of the site in the far distance, which is viewed against Carno Forest, defining the south-eastern boundary of the site. Due to the distance of the viewpoint from the site, the site forms only a small proportion of the view experienced from this location (CoW ES p 383);
 - The planned development once completed would be a permanent but insignificant change within the context of the view due to the distance of the viewpoint from the development resulting in only a small and minor change within the wider

panoramic view that is experienced from this location ... Residual effects from this viewpoint are considered to be not significant due to the screening and filtering of views by the proposed planting on site. (CoW ES p 384)

16.132 The conclusion of the CoW ES regarding cumulative landscape and visual effects of it and the A465 Dualling is:

- With respect to the Dualling of the A465 (Tredegar to Brynmawr) and The Works both schemes have commenced development. The planning consent associated with these schemes considers that neither scheme has unacceptable significant detrimental impact. (CoW ES para 21.5.4)

16.133 The overall conclusion of the CoW ES regarding cumulative effects is:

- This chapter provides a summary of the environmental impacts associated with the Circuit of Wales, and also sets out when these potential impacts will be cumulatively experienced. Paragraph 13.7.2 states that "*the cumulative landscape and visual impact of proposed development along the National Parks southern boundary and within the study area is considered to be **not significant***", during either the construction or operational phases. Rather it is considered that through its economic benefits it will have a positive cumulative impact on the local area.
- The chapter also sets the Circuit of Wales within the context of other prominent local developments and development proposals and concludes that the cumulative impact of the development alongside existing identified prominent local development will not result in a significant cumulative impact. (CoW ES para 21.6.1)

Cumulative landscape effects: Nant Llesg, CoW and A465 Dualling

16.134 The CoW assessment concluded it would not have significant cumulative effects with the A465 Dualling or with other "*prominent local development*" and, at over 5km from Nant Llesg, it would not have a cumulative landscape effect with it either. The Nant Llesg LVIA found that the main sources of cumulative landscape effects would be likely to be with the FLRS development, being similar in scale, with similar characteristics, and in close proximity, resulting in a medium to long term, Major landscape effect on the landscape context.

16.135 As summarised in Chapter 16 of the ES at Table 16- 17 'Summary of Visual Effects Assessment', the LVIA found for resident viewers within 2km with direct open views and users of PRow and recreation resources within 1km, the development would cause Major, adverse medium term effects, intermittently when the overburden and screening mounds were being formed and later being removed, but from more than 5km from the site the visual effects would be no more than Minor, adverse, medium term, during these phases of greatest change. The level of effect from more than 5km is not considered to be significant – see the discussion at paragraphs 1.34 - 1.35 above. At intermediate distances, the effects would be Moderate during these phases and Negligible during initial operations and restoration aftercare.

16.136 The NL ES found that for more distant viewers to the east, north-east and south-east – extending into Blaenau Gwent – where the Nant Llesg void and overburden mound and the FLRS overburden mounds (but not the void) would be theoretically visible, the combined additive visual effects of Nant Llesg with FLRS would be Negligible. (NL ES para 16.233) Again, these levels of effect are not significant - see the discussion at paragraphs 1.34 - 1.35 above.

- 16.137 The CoW ES concluded in relation to Viewpoint 09 near Rhaslas pond on the western side of the Nant Llesg site, that the CoW development “*once completed would be a permanent but insignificant change within the context of the view due to the distance of the viewpoint from the development*”. The Nant Llesg site as viewed from the Circuit of Wales site, would be a temporary, albeit long term, negligible element in the view, confirmed by NL ES representative viewpoint VP 18. Similarly, the change would not be significant in the context of the view, due to the distance from the viewpoint – see the discussion at paragraphs 1.34 - 1.35 above relating to significance.

Temporal cumulative effects: Nant Llesg, CoW and A465 Dualling

- 16.138 CoW ES paragraph 13.4.26 states that “*the anticipated year for full completion for the Circuit of Wales is 2021 which constitutes an 8 year construction period based on the planned year of commencement of 2013. The anticipated core construction phase for the primary motorsports area is two years, aiming for completion with a major event in 2015. By 2015, key structures will include the grandstands, paddock, pit area, camping area, medical centre and dirt oval. A number of retail units, brand centres, and 4* hotel will be in place*”.
- 16.139 The proposed Nant Llesg development would be a temporary albeit long term development, the coaling operations completed within 11 years, backfilling and restoration within 14 years with aftercare continuing for a further 5 years. If consent were granted for the Nant Llesg proposal and development commenced in 2014, then coaling operations would cease in 2025 and backfilling and restoration would be completed in 2028, when the openness of the upland of Merthyr and Gelligaer Common would be restored and restoration of the land cover and landscape features would be under way across the area (NL ES para 16.252). At this point, the Ffos-y-fran LRS and Cwmbargoed Disposal Point developments would also have ceased and their sites been restored. After that, the developments at the Circuit of Wales, the Trecatti Landfill Site and the completed A465 dual carriageway, would continue to be in operation.

Conclusion

- 16.140 These levels of cumulative landscape and visual effect are **not considered to be significant** and it is not considered that these levels of effect could justify objection to the planning application on cumulative landscape or visual impact grounds, or to qualify as “*unacceptable*”.

(3) BGCBC Conclusions

- 16.141 In response to the conclusions in BGCBC's Representation, the proposal for Nant Llesg includes a mitigation strategy for addressing potential adverse landscape and visual effects, set out in ES paragraphs 16.122 – 16.135. A comprehensive restoration scheme is also put forward, and described in detail in ES Chapter 3.

Nant Llesg Surface Mine

Incorporating Land Remediation

Chapter 17

Waste

Nant Llesg Surface Mine

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Chapter 17 – Waste

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17 Waste

17.1 The following is the Applicant's Response to representations that relate to waste.

Representation 25 - Terra Consult

- 17.2 This report forms part of Representations 20, 21 and 26 by the Green Valleys Alliance, Richards & Appleby and the United Valleys Action Group. The Applicant's response to issues raised in the report is set out below.
- 17.3 The principle objectives of the Waste Chapter (Chapter 17 of the Nant Llesg ES) are to consider the constraints relating to waste for the scheme by developing a baseline, identifying potential waste streams, and including an assessment of the proposed scheme to identify any significant waste impacts within the area.
- 17.4 Miller Argent fundamentally disagrees with UVAG's contended inadequacy of the sampling of the MIS landfill site. The 2012 Quantum Ltd ground investigation involved analysis of material from 14 No. trial pits and 3 No. boreholes, which provides sufficient data for the purposes of assessing likely potential waste streams and waste classifications for the carrying out of an assessment of the likely environmental effects of the Nant Llesg project as a consequence of disturbing and dealing with the waste material in the MIS landfill site.
- 17.5 Trial pits were chosen as the main method of investigation as they allow detailed examination of waste in three dimensions, it is easy to obtain samples, and excavations/excavated material can be photographed providing a visual representation of the waste; all of which would assist in the characterisation of the waste. It is rare for trial pits to extend significantly below 3.5m unless the material into which the excavator is digging is exceptionally stable, for example a stiff clay. The trial pit logs indicate that the waste on this site was unstable and therefore it was likely to have been unsafe to proceed any further with the trial pits. The 3 boreholes were equally spaced to allow deeper material to be sampled along the length of the landfill.
- 17.6 The ground investigation was designed in consultation with NRW who gave prior approval to the specification. The ground investigation was also designed and undertaken in full compliance with both BS10175:2011 (Investigation of potentially contaminated sites – Code of practice) and with the agreement of Natural Resources Wales. The MIS landfill site is narrow and therefore the ground investigation was designed in a roughly triangular non-targeted grid on approximately 50m spacing which would fall within a typical "*Exploratory Investigation*" as detailed in BS10175:2011 (Investigation of potentially contaminated sites – Code of practice). It is considered that this spacing is sufficient to reduce uncertainty in knowledge of the site and is sufficient to fulfil regulatory and legislative requirements.
- 17.7 All sampling locations are shown in the Quantum Factual Report, and sampling depths, types, descriptions and photos are provided in Annex 2 of this report at ES Appendix MA/NL/ES/A17/001.

- 17.8 As stated in section 17.98 *“Exact volumes and areas of waste material to be excavated from the MIS landfill and removed from site for treatment and/or disposal will be dependent on discussions with NRW regarding the surrender of the landfill permit.”*

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Chapter 18 – Health and Wellbeing

Nant Llesg Surface Mine

Incorporating Land Remediation

Chapter 18

Health and Wellbeing

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18 Health and Wellbeing

18.1 The following is the Applicant's Response to representations that relate to health and wellbeing.

Representation 1 - Caerphilly County Borough Council (1)

25. It has been reported that chest complaints have increased in the last three years at Prince Charles Hospital, especially in children and older people, since Ffos-y-Fran started. Does CCBC (via the local health board) intend to independently investigate the health impacts of the proposed mining operation and validate the applicants submitted HIA?

18.2 This representation has three distinct elements to respond to:

- a response to a "reported" increase in chest complaints;
- clarification on how health and hospital admission data is routinely and independently collected; and
- the validation of the HIA.

Chest Complaints

18.3 The representation suggests a potential increase in chest complaints, and makes an unsupported inference that this is due to mining activity, but does not provide any evidence to support the assertion that requires investigation beyond what has already been reported in the HIA.

18.4 To clarify the assertion of "reported chest complaints", further information is required, specifically:

- Who has reported this, in what capacity and how (is this a medically qualified observation)?
- What type of chest complaints is this in relation to? Chest complaint is too wide a category, and could be respiratory or cardiovascular with different aetiology and risk factors including viral and bacterial agents (not relevant to this application).
- Is the type and rate of chest complaint the same for the children and older people noted, or are they unrelated ailments with different risk factors?
- Is this a catalogued statistical increase in specific ailments and hospital admissions, or a subjective account of non-clinical symptoms?

- If this is a catalogued clinical increase, evidence will be available for further analysis.
- If this is a subjective account, what is the point of reference forming the basis for the observed rate of change for the reported chest complaints (i.e. what is the basis for the observed change, and is this for a specific ailment within a specific group during a specific period)?

18.5 In the absence of such information within the representation, the “reported” increase in chest complaints is unsupported; it is not possible to separate the associated risk factors that might aid in identifying or attributing a potential causal mechanism; nor is it possible to appropriately consider wider confounding factors (including, genetic predisposition, age, socio-economic deprivation, lifestyle etc.).

18.6 In contrast, as detailed in Section 3.35 of the HIA and replicated below, the independent and routinely updated Patient Episode Database for Wales has been reviewed to define the community health profile and forms the basis to the assessment.

18.7 As replicated below, Table 3.6 of the HIA clearly summarises the total respiratory and cardiovascular recorded hospital admission data (which could be broadly interpreted as chest complaints) for Caerphilly, Blaenau Gwent and Merthyr Tydfil, contrasted against the national trend.

HIA Table 3.6 Respiratory Disease Hospital Admissions per 100,000

Hospital Admissions per 100,000 (2010/11)	Caerphilly	Blaenau Gwent	Merthyr Tydfil	Wales
All respiratory disease	1,617	1,787	2,095	1,405
Pneumonia	263	359	336	238
COPD	277	310	273	184
Asthma	141	141	127	119
All cardiovascular disease	1485	1582	1861	1379

COPD = chronic obstructive pulmonary disease

18.8 As stated, in Section 3.35 of the HIA, under the heading of all respiratory disease, pneumonia is the most common complaint in Blaenau Gwent and Merthyr Tydfil. It is important to understand that pneumonia is commonly caused from biogenic agents (i.e. a bacterial or viral infection, fungi, yeasts, or protozoa), none of which are associated with mining activities.

18.9 Chronic obstructive pulmonary disease (COPD) is the second most common complaint locally, and is the name for a collection of lung diseases including chronic bronchitis, emphysema and chronic obstructive airways disease. Although some cases of COPD can be caused by fumes, dust, air pollution and genetic disorders, the main cause of COPD is smoking.

18.10 As detailed in Section 3.44 of the HIA, the results of the Welsh Health Survey 2007 show that local smoking prevalence remains higher than the national trend, is closely associated with existing socio-economic deprivation, is indicative of the hospital admission rates noted above, and remains a key reason for the gap in life expectancy between deprived and relatively affluent communities.

18.11 Asthma is the third most common respiratory complaint, and although higher than the national trend, levels remain relatively consistent locally, and are closely associated with socio-economic deprivation and poor lifestyle choices.

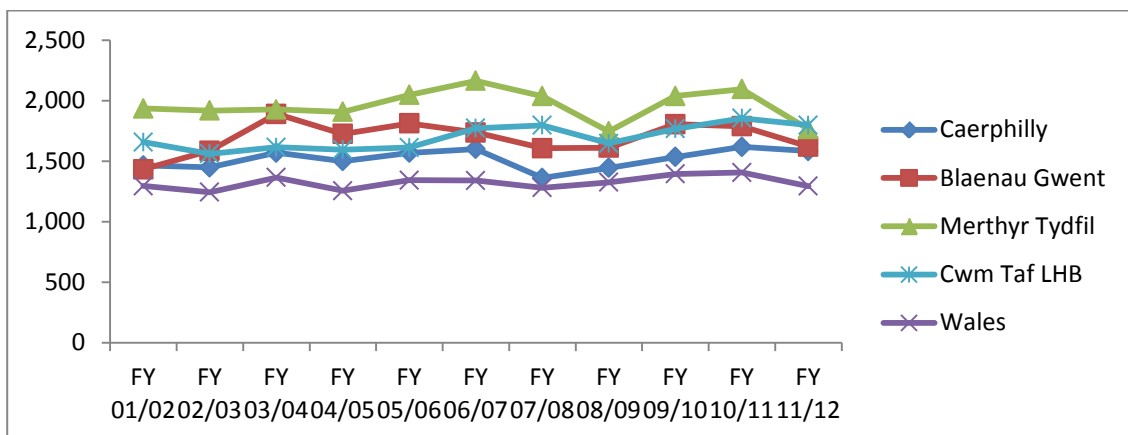
18.12 It is important to note that although the cause for asthma remains unclear, a number of stimuli that can trigger asthma symptoms other than poor air quality include the following:

- infections (particularly colds, coughs, and chest infections);
- pollens and moulds (with higher rates during hay fever season);
- exercise;
- certain drugs (including aspirin and some anti-inflammatory drugs);
- smoking and cigarette fumes;
- other fumes and chemicals (fumes from paints, solvents and pollution);
- emotion (an asthma attack can be triggered by emotional distress, or laughing);
- allergies;
- house dust mite; and
- in rare cases some foods.

18.13 On the above basis, and as recognised by the Local Health Board (LHB), the underlying factors for current burdens of poor health are associated with socio-economic deprivation, and poor lifestyle choices.

18.14 Figure 3.10 of the HIA also provided trend data for total respiratory hospital admissions from 2001 to 2010. Since then, and as shown below in Figure PSA18.1, the independent and routinely collected hospital admission data has been updated to include 2011/12.

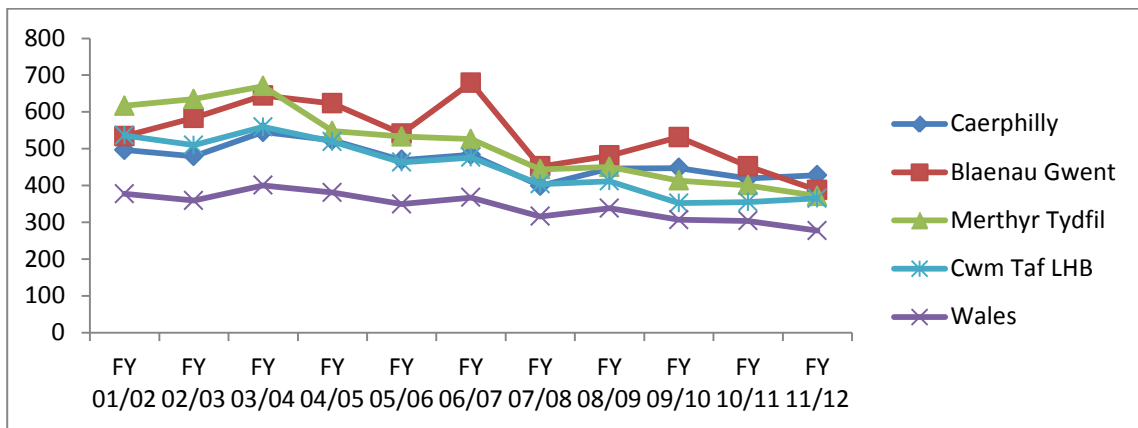
Figure PSA18.1 All emergency respiratory disease admissions 2001/2 to 2011/12, per 100,000 population, age-standardised



Source: Table 3.10 of the Health Impact Assessment modified to include the 2011/2012 data set. Appendix MA/NL/ES/A18/001 of the ES

- 18.15 As shown above in figure PSA18.1, while variation is expected for health endpoints with multiple risk factors, the total respiratory hospital admission trend since 2001 remains relatively consistent, with Caerphilly and Blaenau Gwent being in keeping with the Cwm Taf Local Health Board (LHB) rate for the region.
- 18.16 Caution is recommended when attempting to associate a trend from this dataset to the commencement of mining activities at FLRS in 2007, as there will always be natural variation; and it combines all respiratory hospital admissions, including those that either have no causal mechanism attributable to mining activities and/or have wider risk factors (e.g. pneumonia, COPD and Asthma).
- 18.17 When further interrogating the hospital admissions data to consider asthma and COPD with potential causal mechanisms that could credibly be associated with current operations, it is the case that rates have been on the decline since 2001; are the lowest they have been for over a decade; that Blaenau Gwent, Merthyr Tydfil and the Cwm Taf LHB currently have rates lower than Caerphilly, and the gap from the national rate is closing.

Figure PSA18.2 Asthma and COPD emergency admissions 2001/2 to 2011/12, per 100,000 population, age-standardised



Source: Asthma and COPD Emergency Admissions 2001/2 to 2011/12, per 100,000 population, age-standardised. Cymru Information Services. Health Maps Wales. Available at www.healthmapswales.wales.nhs.uk

- 18.18 This is contrary to the representations unsupported suggestion of an increase in chest complaints, indicating that local respiratory health is in fact, improving. When further considering that the Ffos-y-Fran mine was downgraded from a medium to a low dust risk within its permit to operate from Caerphilly Borough Council (2012) and Merthyr Tydfil Borough Council (2013), and continues to operate within environmental standards set to protect health, there is neither evidence of an increase in chest complaints, nor a sufficient causal mechanism to infer an adverse health impact from current operations.
- 18.19 On the above basis, as reported in the HIA, and further supported through a review of the independent and routinely updated Patient Episode Database for Wales, while life expectancy and health is improving, local respiratory health remains lower than the national trend, and is closely associated with pockets of socio-economic deprivation, poor lifestyles and risk taking behaviour. A similar trend is also evident for cardiovascular health.

Routine and independent monitoring of health and hospital admission data

- 18.20 The representation enquires as to whether CCBC intends to independently investigate the health impacts of the proposed mining operation through the monitoring of health data via the Local Health Boards.
- 18.21 While it is not possible to comment on CCBC's behalf; health and hospital admissions data are routinely and independently collected and disseminated by Public Health Wales and the Patient Episode Database for Wales, and are already at the disposal of all local authorities to monitor health improvements at a local, regional and national level (as evident through documents such as the Caerphilly Borough Council Health Needs Assessment).
- 18.22 Although this is the case, it is not necessary in this instance, as a far more effective monitoring process is already established through the regulatory planning and permitting process.
- 18.23 To clarify, it is the mandate of the local authority to continue to monitor local air quality surrounding the site to ensure compliance with standards set to protect health. Where standards are not met, the local authority has the power to take enforcement action, including the power to retract the permit to operate and cease all activities at the site.
- 18.24 The use of air quality standards set to preclude health outcomes is a far more proactive and precautionary approach which enables mitigation to be implemented and activities halted, when necessary, before any health disorder is manifested.
- 18.25 This also removes much of the genetic, social, cultural, lifestyle and environmental confounding factors that make it difficult to attribute health endpoints to a specific activity.
- 18.26 In this instance, and as detailed in the HIA, Ffos-y-fran and Cwmbargoed Disposal Point are classified by Merthyr Tydfil County Borough Council and Caerphilly County Borough Council as low risk sites under the Integrated Pollution and Permitting Control procedures and no conditions or consents have been breached. It is also important to recognise that Miller Argent proposes a proactive Environmental Management System that, subject to consent, will be operated at Nant Llesg to ensure that air quality standards continue to be met, without waiting for local authority intervention.
- 18.27 On the above basis, not only has no evidence been presented to support a suggested increase in chest complaints since the start of Ffos-y-fran; but statistics indicate the contrary, and there is also no evidence of a causal mechanism, where air quality standards continue to be met, and current operations have been downgraded to a low dust risk. Subject to consent, the operation of the proposed Environmental Management System will ensure standards set to protect health will continue to be met.

Independent verification of the HIA

- 18.28 The representation requests an independent validation of the submitted HIA.
- 18.29 It should be noted that the Wales HIA Support Unit (WHIASU) has influenced the HIA from the onset of the project, informing the initial scoping exercise; supporting the development of the community profile; informing the selection of appropriate assessment protocols; informing the development of the final Health Action Plan (HAP) through to a final external review applying their adopted HIA review criteria.

18.30 The WHIASU conclude that:

'Overall, the quality of the health and wellbeing elements of the HIA is sound and the HIA has been well executed'. (Appendix MA/NL/PA/A18/001)

18.31 On this basis, a fully qualified, independent expert body defining HIA practice throughout Wales has already reviewed the HIA, and found it sound and well executed.

Representation 2 - Caerphilly County Borough Council

Additional Information Required

Wales Health Impact Assessment Support Unit.

18.32 See explanatory letter from the Wales Health Impact Assessment Support Unit at Appendix MA/NL/PA/A18/001, which is referred to in the Applicant's Response to Representation 6 by the Wales Health Impact Assessment Support Unit, below.

Representation 6 – Wales Health Impact Assessment Support Unit

- ***The HIA should consider the impacts on health and wellbeing and the wider determinants of health more comprehensively. If Screening took place then this should be referred to and the completed matrix and subsequent decisions included as an appendix. Similarly for the Scoping stage***
- ***The vulnerable groups considered to be affected by the proposal should be listed within the report. The inclusion of a screening or scoping note would cover this.***
- ***Cumulative impacts should be considered more comprehensively as part of the HIA or cross referenced.***
- ***All cross references should be accompanied by a link to the relevant document or section in the ES.***
- ***With regards to consultation, any HIA participatory workshop should be reflective of all the community and organisational stakeholders and not be so limited in nature. A Community Forum was established and is still in existence. However, there is no description of its members or link to any information about this group or how members were identified.***
- ***There should be focus groups and an explanation as to how these were decided on and how participants were identified. This applies to any interviews which take place (within the realms of data protection). Any evidence and findings from these should be described or summarised in the HIA report.***
- ***WHIASU is referred to as the 'Welsh Health Impact Assessment Support Unit' throughout. This should read 'Wales' not 'Welsh',***

- 18.33 The Applicant's response is as follows.
- 18.34 The WHIASU review of the submitted HIA was intended to test the process, outputs and recommendations of the HIA, and concluded the HIA to be sound and well executed.
- 18.35 The additional comments listed above were intended for the RPS HIA practitioners to highlight how their practice and that of the Planning Officers may be further improved if required to undertake future HIA in Wales, and does not constitute a request for further information on this application.
- 18.36 To clarify this misunderstanding, Dr Eva Elliott, Director of WHIASU and Liz Green, Principal HIA Development Officer, issued a formal position statement, available at Appendix MA/NL/PA/A18/002, which sets out the following:

"A comprehensive quality review was completed by the Wales Health Impact Assessment Support Unit (WHIASU) of the health impact assessment contained within the Environmental Statement supplied to it for the proposed Nant Llesg open cast mining development, Caerphilly. WHIASU used the respected HIA review tool 'The review package for Health Impact Assessment reports of development projects' (Ben Cave Associates, 2009) to critique the HIA report.

The Unit supplied the findings of this review in a summary document which was shared with local communities, the local authority and Local Health Board, colleagues in Public Health Wales and the developer appointed consultants. Within this document a section was included which was headed 'suggested improvements'.

This was information for the consultants and the developer, and to highlight to them how their practice may be further improved if required to undertake one again in Wales in the future. It also highlights the same to Planning Officers.

Overall, WHIASU found that the quality of the HIA itself is sound, assesses the majority of the health impacts well and is of a good standard in its assessment of the proposed Nant Llesg development".

- 18.37 On the above basis, no further information has been requested by the WHIASU, and this representation is addressed through the formal WHIASU position statement.

Representation 8 - Fochriw and Pentwyn Residents Association (FPRA)

- 18.38 The written objection of the Fochriw & Pentwyn Residents Association can be found at Appendix MA/NL/PA/A010. The following responses refer to health and wellbeing issues raised in that submission.

Health

- 18.39 The health section of the FPRA written objection focuses on three key elements:
1. that a Health Impact Assessment (HIA) has not been provided and is required to inform the planning application and decision making process;

2. that local communities express a relatively high burden of poor health, are considered sensitive to environmental impacts and must be taken into account within the planning application and decision making process; and
3. that perceived risks are important and need to be considered within the planning application and decision making process.

18.40 As detailed below, and by way of cross reference, all three points were addressed within the planning submission.

1. Health Impact Assessment

- 18.41 In keeping with best practice, a HIA was commissioned by Miller Argent at the onset of the project to investigate and address the potential impact of the proposed Nant Llesg Surface Mine, including land remediation.
- 18.42 The scope and focus of the HIA was defined and iteratively refined through engagement with key stakeholders: initially through the formal EIA scoping exercise with statutory consultees; and subsequently through a separate HIA scoping exercise and health themed workshop with key health stakeholders and local communities. This was then further informed via an integrated engagement strategy, where the HIA team attended every public exhibition.
- 18.43 The HIA benefited from iterative input from the Wales HIA Support Unit in the discussion and implementation of appropriate assessment protocols and influence on the development of the final Health Action Plan (HAP).
- 18.44 The assessment scope focused on the key health issues raised during formal consultation and informal engagement (including those raised by the FPRA), and implemented an integrated approach with the Environmental Statement, to ensure that the HIA is based upon realistic changes in environmental and socio-economic conditions that are directly attributable to the proposed project.
- 18.45 It is important to note that all of the health concerns raised by FPRA are addressed within the HIA appended to the Environmental Statement and submitted to the planning committee for consideration.
- 18.46 Finally, the HIA was subject to external review by a fully qualified, independent expert body defining HIA practice throughout Wales (the WHIASU), and found the HIA to be "*sound and well executed*".
- 18.47 For further information on the HIA please refer to Appendix MA/NL/ES/A18/001 of the ES.

2. Existing burden of poor health and local community sensitivity.

- 18.48 As detailed in the HIA, evidence suggests that different communities have varying susceptibilities to health impacts and benefits as a result of social and demographic structure, behaviour and relative economic circumstance. A community profile therefore not only forms the basis to exposure response modelling, but also provides a means to consider how potential health pathways identified in the project profile might act disproportionately upon certain communities and sensitive/vulnerable groups.

- 18.49 In this instance, the community profile makes use of available demographic, health and health care data (complementing the socio-economic profile given in the ES) to form the basis to the assessment.
- 18.50 As detailed in the HIA although health is improving in the area, there are localised areas of health deprivation that strongly correlate with high levels of socio-economic deprivation and low educational attainment. Specific health challenges noted within the CCBC Health Needs Assessment include the need to tackle poor health behaviours to address the core health issues in the area, and the need to address antisocial behaviour.
- 18.51 The HIA has considered such factors, the existing burden of poor health and relative sensitivity in its assessment and also through the mitigation and community support initiatives within a bespoke Health Action Plan (HAP) geared towards supporting CCBC in addressing the core underlying health issues in the area.
- 18.52 On the above basis, and as detailed in the HIA, local community circumstance and relative sensitivity have already been taken into account within the refinement of the proposed project, the scope and focus of the HIA, and to inform mitigation and wider community support initiatives.
- 18.53 For further information please refer to the HIA at Appendix MA/NL/ES/A18/001 of the ES.

3. Perceived Risk

- 18.54 Whilst it is agreed that perceived health risks need to be thoroughly investigated and addressed to remove unnecessary stress and anxiety, it is incorrect for the FPRA to infer that a perceived risk has equal detrimental effect on health as an actual risk.
- 18.55 As detailed in the HIA, the proposed project has the potential to engender community concern about a number of perceived health impacts. Such subjective and intangible factors are generally not effectively addressed through the regulatory assessment process, which concentrates on changes in environmental and socio-economic conditions directly attributed to what is proposed, and is structured to comply with planning requirements and expectations to manage actual risk.
- 18.56 For this reason, non-regulatory required assessments such as HIA are increasingly and voluntarily commissioned to proactively investigate, assess and address local concerns and fears through the factual dissemination of scientifically robust information.
- 18.57 In this instance, the HIA provides an assessment of the health pathways associated with the proposed project and applies a robust scientific evidence base for each assessment protocol. The HIA is therefore intended to inform decision making, but is also intended as a source of information to help alleviate local community concerns and perceived risk through the assessments provided; through the engagement performed; and through the recommendations within the Health Action Plan (HAP) to raise awareness, address fears and help address local community circumstance.
- 18.58 For further information please refer to the HIA at Appendix MA/NL/ES/A18/001 of the ES.
- 18.59 On the above basis, all three points raised by the Fochriw & Pentwyn Residents Association are already addressed within the planning submission.

Representation 9 – Aneurin Bevan Health Board

- 18.60 The representation of the Aneurin Bevan Health Board can be found at Appendix MA/NL/PA/A011. The following responses refer to that submission.

Health Impact Assessment (HIA)

- 18.61 The Health Board has requested further clarification on the HIA, its compliance with Wales HIA guidance and its place within the Planning Application. The Applicants response is as follows:
- 18.62 The primary stage of the HIA was to prepare and issue a HIA scoping statement to key health stakeholders to comment and agree upon the proposed approach, process, methods and necessary outputs of the assessment. In this instance, the draft HIA scoping document was issued to Caerphilly County Borough Council, the Aneurin Bevan Health Board and the WHIASU, and supplemented by a HIA scoping meeting with the Aneurin Bevan Health Board and Welsh HIA Support Unit on 22nd June 2012.
- 18.63 The proposed HIA approach, process, methods and necessary outputs were accepted, and additional iterative communication and input from the WHIASU was agreed throughout the course of the HIA. Following further refinement of the proposed development and HIA through consultation, an additional meeting was held with the WHIASU to feedback progress and initial results, seeking input on the final assessment and Health Action Plan.
- 18.64 The HIA has since been submitted as part of the planning application (Environmental Statement Appendix MA/NL/ES/A18/001 - Health Impact Assessment), and has since been reviewed and appraised by the WHIASU that defines HIA guidance in Wales (Appendix MA/NL/PA/A18/001). The conclusion of the WHIASU is that:
- 'Overall, the quality of the health and wellbeing elements of the HIA is sound and the HIA has been well executed'.*
- 18.65 The WHIASU review also includes a section on 'suggested improvements'. These are constructive comments to improve upon the high standard already achieved during future HIA, and not to be mistaken for the need for further HIA work on this application. The comments were addressed in a letter from RPS to CCBC on 6th March 2014 (Appendix MA/NL/PA/A18/003).
- 18.66 It is understood that the suggested improvements are intended to aid RPS (the Applicant's HIA consultants) and Planning Officers in enhancing future HIAs in Wales. In his letter to CCBC (copied to WHIASU), Dr Buroni of RPS provides the following additional commentary on the 'suggested improvements', including actions he will personally take on future HIAs:

"1) The HIA should consider the impacts on health and wellbeing and the wider determinants of health more comprehensively. If screening took place this should be referred to and the completed matrix and subsequent decisions included as an appendix. Similarly for the Scoping Stage.

In regards to screening, the HIA was required to comply with the guidance set out in the Welsh Assembly Government's Minerals Technical Advice Note (Ref.1) (MTAN-2), on this basis, screening wasn't necessary, and we proceeded straight to the HIA scoping stage. As detailed in Section 1.17 of the HIA, although guidance indicates scoping to be a single task, in practice, scoping is iterative over the course of the HIA

process, in which formal engagement and informal feedback from local communities and stakeholders provide the means to further refine the scope and focus of the assessment to best address local community concerns. The primary stage of the HIA was to develop a draft HIA scoping statement defined through a review of the available project information, the previous Ffos-y-fran HIA and health literature, and issued to key health stakeholders for comment, including Caerphilly County Borough Council, the Aneurin Bevan Health Board and the Wales HIA Support Unit (WHIASU) (a copy of the final HIA Scoping Statement is provided in the HIA as Appendix A), and a HIA Scoping meeting held with such health stakeholders. Such input defined the health determinants initially focused upon, which were then supplemented through stakeholder and public consultation.

2) The vulnerable groups considered to be affected by the proposal should be listed within the report. The inclusion of a screening or scoping note would cover this.

Local community sensitivity and vulnerability were discussed during the HIA scoping exercise with key health stakeholders and then further investigated within the community profile to ascertain specific vulnerabilities to the health pathways directly attributed to the proposed development. The approach is different from the WHIASU Guidance, but has proven effective in making sure HIA are bespoke to projects and local community circumstance. In this instance, and as detailed in Section 3 of the HIA, given local socio-economic and health burdens, the entire community was regarded as vulnerable/sensitive to potential health outcomes from environmental health pathways that may compound effects from existing local circumstance. On this basis, the HIA applied conservative assessment protocols assuming the entire community were experiencing the highest burdens of poor health. The Health Action Plan also accounted for local circumstance and vulnerability addressing local barriers to benefit uptake, and including a series of community support initiatives to help address the underlying cause for existing health burdens.

3) Cumulative impacts should be considered more comprehensively as part of the HIA or cross referenced.

The HIA does make reference to how cumulative impacts are applied and to the cumulative assessment section within the ES, but does not seek to repeat this section. It is appreciated however, that more commentary and cross referencing to the ES would have been of value, and will be applied on future HIA.

4) All cross referencing should be accompanied by a link to the relevant document or section in the ES

The HIA has sought to fully cross reference to all source documents, and improve signposting within the HIA itself through the provision of Table 2.1. In future, we will seek to further improve such cross referencing between the HIA and ES, and include an ES contents referencing table.

5) With regards to consultation, any HIA participatory workshops should be reflective of all the community and organisational stakeholders and not be so limited in nature. A community Forum was established and is still in existence. However, there is no description of its members or link to any information about this group.

The HIA workshop was but one tier of the wider consultation strategy designed to be as open and inclusive as possible. It is rarely possible to hold a HIA workshop that accurately reflects all of the community and organisational stakeholders. For this reason it was determined appropriate to have a HIA workshop and iterative consultation with key health stakeholders and then send the HIA team to every

exhibition to gain representative community input. The composition and terms of reference of the Community Forum was not reported in the HIA, as its formation preceded the HIA, and subject to planning, will be maintained until the end of the project. That being said, more information on the forums composition and role would have been informative, and will be included within all future HIA.

6) There should be a focus group and an explanation as to how these were decided and how participants were identified. This applies to any interviews which take place (within the realm of data protection). Any evidence and findings from these should be described or summarised in the HIA report.

In this instance the scope, focus, approach and necessary outputs were defined through initial HIA scoping with key health stakeholders (including PHW and the WHIASU), and iteratively thereafter. The scope and focus of the HIA was then further defined through consultation, with the outputs recorded within the Statement of Community Consultation. It is appreciated, however, that the HIA methodology section could expand upon the integrated approach taken to comply with the regulatory planning process.

7) WHIASU is referred to as the 'Welsh Health Impact Support Unit' throughout. This should read 'Wales' not 'Welsh'.

I do apologise for this and will make sure it does not happen again."

Dr Buroni's letter concluded:

"Given the attached letter from WHIASU clarifying matters and the information provided to them in my comments above, I trust you can appreciate the true intent and purpose of the suggested improvements. The suggestions were constructive and well received and we look forward to continuing to work closely with WHIASU in the future to improve the HIA process."

18.67 The above fully addresses the improvements suggested by WHIASU regarding the future production of HIAs and explains how the iterative nature of consultation and the approach of integrating the HIA and EIA processes have been designed and applied to meet the requirements for HIA.

18.68 Given the level of misunderstanding, Dr Eva Elliott, Director of WHIASU and Liz Green, Principal HIA Development Officer, subsequently issued a formal position statement, available at Appendix MA/NL/PA/A18/002, which sets out the following:

"A comprehensive quality review was completed by the Wales Health Impact Assessment Support Unit (WHIASU) of the health impact assessment contained within the Environmental Statement supplied to it for the proposed Nant Llesg open cast mining development, Caerphilly. WHIASU used the respected HIA review tool 'The review package for Health Impact Assessment reports of development projects' (Ben Cave Associates, 2009) to critique the HIA report.

The Unit supplied the findings of this review in a summary document which was shared with local communities, the local authority and Local Health Board, colleagues in Public Health Wales and the developer appointed consultants. Within this document a section was included which was headed 'suggested improvements'.

This was information for the consultants and the developer, and to highlight to them how their practice may be further improved if required to undertake one again in Wales in the future. It also highlights the same to Planning Officers.

Overall, WHIASU found that the quality of the HIA itself is sound, assesses the majority of the health impacts well and is of a good standard in its assessment of the proposed Nant Llesg development”.

- 18.69 On the above basis, no further information has been requested by the WHIASU, and this representation is addressed through the formal WHIASU position statement.

Representation 14 - Friends of the Earth Cymru (FoE)

- 18.70 The representation from Friends of the Earth Cymru (FoE) can be found at Appendix MA/NL/PA/A013. The following points are made regarding issues within their representation.

Health, Wellbeing and Amenity:

- 18.71 Friends of the Earth (FoE) express their concern for potential impacts from air quality, noise and lighting impacts upon neighbouring communities already experiencing a high burden of poor health. As detailed in the Health Impact Assessment (HIA) even when applying highly conservative assessment parameters, such health pathways are not of a concentration or exposure sufficient to quantify any measurable adverse health outcome. For more details, please refer to the full HIA appended to the ES (MA/NL/ES/A18/001).
- 18.72 FoE further express their concern that amenity issues (access to open land with associated physical, mental and social health benefits) are not addressed in the HIA Executive Summary. This health pathway is addressed within Section 5 under the heading of Socio-Cultural and Lifestyle within the full HIA appended to the ES (MA/NL/ES/A18/001).

Socio-Cultural and Lifestyle

- 18.73 The Applicant's response to the Socio-Cultural and Lifestyle aspects of the FoE representation can be found in Chapter 4 'Social Impact' under Representation 14 'Friends of the Earth Cymru'.

Representation 16 – Rhymney Area Residents Group (RARG)

- 18.74 The representation from Rhymney Area Residents Group can be found at Appendix MA/NL/PA/A014. The following points are made regarding the issues raised.

Health and Wellbeing

- 18.75 The health concerns raised in this response are similar to those raised during consultation and have been applied to both inform the refinement of the proposed development and its subsequent assessment through the regulatory planning process.

- 18.76 As detailed in the HIA, concerns of air quality, noise, access, visual impact and their potential impact upon health are primarily addressed through design, where following consultation, the mining area was significantly pulled away from the settlement boundary. As a consequence, the industrial estate to the east of the site will now be at a minimum 500m from the coal excavation area, while the nearest residential property in Rhymney will be a 689m from the coal excavation area.
- 18.77 The overburden mound will be no less than 500m from any settlement boundary. These changes increase the remediation area at a cost to the mining area, but are intended to address the concerns raised by local communities regarding proximity.
- 18.78 A visual and acoustic bund has also been included to address concerns about potential visual and noise disturbance impacts on wellbeing in north Rhymney, while 153.28ha of land will be made available for public access for the duration of the scheme (81ha of which will also be available to commoners as grazing land) to address concerns raised regarding potential impacts upon access to common land. This land is adjacent to the existing common.
- 18.79 Furthermore, the 153.28ha of additional land that will be available for public access for the duration of the Nant Llesg scheme will be in addition to the access maintained over the major part of the 111.66ha of early remediation land throughout the life of the site. Public access land will be provided from the onset of the project.
- 18.80 Following the refinement to the proposed development, the HIA, guided by community and stakeholder input further investigated any potential health impact upon local communities.
- 18.81 The core community health concern raised during public engagement is the potential risk from changes in air quality. Following a review of the available scientific evidence base and based on an exposure response assessment of worst case hypothetical scenarios applying the highest burdens of poor health in the area, it is concluded that changes in concentrations of air pollutants (PM₁₀, PM_{2.5} and NO₂) will be of minor significance. Total concentrations would remain within air quality standards set to protect health and would not be of a magnitude sufficient to quantify any significant adverse health outcome during the mining and remediation stages of the proposed project.
- 18.82 Such a conclusion is consistent with the findings from FLRS, where monitoring data has remained within all air quality standards set to protect health since the start of operations.
- 18.83 Concerns of dust impacts were also voiced. The proposed project seeks to draw from and build upon the experience and dust management best practice established at FLRS. It is noted that the monitoring of meteorological conditions to define daily site operations in combination with extensive dust suppression and mitigation, and the temporary stoppage of operational activities during high dust generation risk has led to the FLRS being downgraded from a medium to a low dust risk within its permit to operate from Caerphilly Borough Council (2012) and Merthyr Tydfil Borough Council (2013).
- 18.84 Following mitigation, and the provision of additional dust monitoring stations, potential dust impacts are predicted to also be minor, and not of a level to result in any measurable adverse health outcome.
- 18.85 Miller Argent will also continue to investigate every dust complaint lodged, and if validated, meteorological monitoring data will be used to establish the likely source of the problem. Miller Argent will continue to further refine operational activities and mitigation to address/manage such complaints.

- 18.86 On the above basis, the health concerns raised by Rhymney Area Residents Group are already addressed through design and assessed in the HIA.

Representation 26 - United Valleys Action Group (UVAG)

- 18.87 This is the second representation of the United Valleys Action Group, which encompasses the issues raised in their original submission (Representation 7), which was also referred to in the questions raised by CCBC at Representation 2 above.
- 18.88 Representation 26 can be found at Appendix MA/NL/PA/A020.
- 18.89 It is noted that Representations 23 by Environment Pollution Management Ltd and 27, 28, 29, 30 and 31 by Jim Davies form part of this representation. The Applicant's response to each is provided individually under the respective headings.

Health and Wellbeing

- 18.90 The UVAG health objection includes:
- 1) physiological health risk concerns from changes in exposure to fine particulates (PM_{2.5} and Diesel exhaust); and
 - 2) a sentence on psychological impacts from 'incessant noise and the utter helplessness of local residents unable to affect the situation'.
- 18.91 As detailed below, and by way of cross reference, these concerns have been addressed within the planning submission and through the regulatory planning process.

1) Physiological health impact from fine particulates.

- 18.92 As detailed in Section 5 of the HIA (MA/NL/ES/A18/001), air pollutant concentrations at all modelled receptors are predicted to remain within air quality standards set to protect the environment and health. These standards are based upon the current scientific evidence base that applies a conservative approach to address potentially sensitive communities and receptors. However, such a broad population approach does not always account for particularly high burdens of poor health, as experienced in this instance; and as demonstrated in the UVAG objection, does not always fully allay local community concerns, who require more information on what the potential outcome is to health (as opposed to assessing to a standard set to protect health).
- 18.93 To address these issues, the HIA includes a series of conservative exposure response assessments to test the air quality standards, accounting for local burdens of poor health. These exposure response assessments draw from detailed air quality dispersion modelling within the ES and apply the UK Department of Health's Committee on the Medical Effects of Air Pollutants (COMEAP) risk ratios for PM₁₀ and PM_{2.5}. It is important to note that the HIA not only applies the COMEAP PM_{2.5} risk ratio endorsed by the SNIFFER report referred to by the UVAG, but also the far higher risk ratio developed in the US. Even when applying the US risk ratio (more than double that recommended by COMEAP and SNIFFER), the findings demonstrate that the proposed project will not have a measurable adverse health impact on local communities during any of the Dispositions, or from cumulative impacts.

- 18.94 In regards to the UVAG health concern from diesel emissions, as detailed in the HIA the key atmospheric emissions associated with road traffic are nitrogen oxides (NO_x) and particulate matter. As set out in the ES, the impact of exhaust emissions from the coal trucks and other Nant Llesg traffic are localised, likely only to affect areas adjacent to the road. As such, vehicle emissions are not anticipated to impact upon residential receptors, and their contribution is already accounted for within the dispersion modelling and previous exposure response assessments which demonstrated no measurable risk to health.
- 18.95 On the above basis, the HIA has already investigated and applied the information suggested by the UVAG to quantify the risk to health from changes in fine particulates (PM₁₀ and PM_{2.5}), including a far more precautionary assessment protocol.
- 18.96 For further information please refer to the HIA at Appendix MA/NL/ES/A18/001 of the Nant Llesg ES.

2) *Psychological impacts from incessant noise and the utter helplessness of local residents unable to affect the situation.*

- 18.97 The UVAG express concern that the proposed development would result in incessant noise with the potential to cause psychological impacts.
- 18.98 Detailed noise and vibration modelling has been carried out and is presented in the noise and vibration and blasting chapter of the ES. The HIA summarises this data and provides a qualitative appraisal of how local communities may respond to noise during the life of the site, including to noise from transport movements (road and rail).
- 18.99 MTAN2 recommends that noise from coal working should not be more than 10 dB higher than the background noise at a sensitive property, or limited to 55dB L_{Aeq, 1hr}, whichever is the lower. The MTAN2 noise limits will be met at all relevant locations during Dispositions 1 - 5.
- 18.100 Although noise will be audible in surrounding areas, potential noise impacts are predicted to be of negligible or minor significance in the Rhymney area. The increase in noise at Fochriw and some isolated properties to the north of the site is predicted to be of minor or moderate significance.
- 18.101 Given that noise will only be generated during working hours, remains within standards set to protect health, and is assessed to be of a negligible to moderate significance, potential health outcomes would be limited to potential day time annoyance.
- 18.102 Changes in road vehicle noise directly attributed to the proposed project are not of a magnitude or nature (timing, character and duration) to present a significant source of community exposure, and hence would not result in sleep disturbance, cognitive impacts or significant annoyance.
- 18.103 The majority of coal will be exported from the Cwmbargoed Disposal Point by train using the existing freight line located to the south of the site. The trains will be similar to those used for FRLS and as such will create similar noise levels. As reported in the Noise and Vibration Chapter 13, the total number of night-time movements including the additional coal trains is within the range given by the World Health Organisation. These changes in noise due to the additional coal train movements are considered to be of either negligible or low significance.
- 18.104 The blasting impact assessment in the ES models the potential vibration and air overpressure at sixteen receptor sites including five residential properties that are in close proximity to the

- boundary of the site. The results of the blasting impact assessment indicate that blasting operations would be well within the vibration and air overpressure limits set out in MTAN2. Vibration predictions for the nearest residential buildings to the site were almost below the human perception threshold of 0.50 mms^{-1} and well below the MTAN2 maximum vibration limit guide of 6 mms^{-1} .
- 18.105 On this basis, impacts from blasting are not of an order of magnitude sufficient to quantify any adverse health outcome (such as on cognitive performance or annoyance).
- 18.106 With regard to the ability of local communities to influence the project, please note that the proposed project has been significantly influenced and refined through community consultation and feedback.
- 18.107 As detailed in the HIA and the Public Consultation Statement that accompanied the planning application, the consultation process included a range of events and initiatives aimed at reaching and engaging with residents across local communities bordering the site. The programme of events included five public exhibitions, a community forum, stakeholder workshops and a further discrete stage of consultation specific to the HIA, comprising iterative engagement with key health stakeholders (including ad hoc input from the WHIASU), a telephone interview with Richards & Appleby Ltd, and engagement with local schools.
- 18.108 The primary influence of engagement upon the proposed project was to significantly pull the mining area away from the settlement boundary, such that the industrial estate to the east of the site will now be at a minimum 500m from the coal excavation area, while the nearest residential property in Rhymney will be 689m from the coal excavation area.
- 18.109 The overburden mound will be more than 500m from any settlement boundary. These changes increase the remediation area at a cost to the mining area, but are intended to address the concerns raised by local communities regarding proximity.
- 18.110 A visual and acoustic bund has also been included to address concerns about potential visual and noise disturbance impacts on wellbeing in north Rhymney.
- 18.111 153.28ha of land will be made available for public access for the duration of the scheme (81ha of which will also be available to commoners as grazing land) to address concerns raised regarding potential impacts upon access to common land. This land is adjacent to the existing common. This temporary public access land will be provided from the onset of the project, and is in addition to much of the early remediation areas that will remain available for public access during and after the early remediation works.
- 18.112 On the above basis, community engagement and feedback has defined the proposed project such that the bulk of community concerns have been addressed through design. The residual impacts were then tested and further addressed within the ES and HIA.
- 18.113 For further information please refer to Appendix MA/NL/ES/A18/001 of the Nant Llesg ES.

Nant Llesg Surface Mine

Incorporating Land Remediation

Chapter 19

Sustainability and Climate Change

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Chapter 19 – Sustainability and Climate Change

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19 Sustainability and Climate Change

- 19.1 The following is the Applicant's Response to representations that relate to sustainability and climate change.

Representation 2 - Caerphilly County Borough Council

Additional Information Required

Details of the calculations or the emissions sequestration factors in the EIA which forms the basis of the decision that the requirement to plant 30 hectares of woodland would make the activity carbon neutral (refer to MA/NL/ES/A19/001 - Sustainability and Carbon Statement).

- 19.2 The calculation is derived from the formula explained in Paragraph 225 of Mineral Technical Advice Note 2: Coal (MTAN2). The paragraph is set out below:

"225. Seams extracted by surface workings themselves emit methane, although proportionately less than underground workings as the gas reduces towards the coal outcrop. The release of climate change gases, such as methane, from the extraction of coal, should be considered by the MPA. Applicants should mitigate the carbon produced by the extraction process, making the extraction operation itself carbon neutral. 0.5m³/t may be typical average methane for shallow virgin coal, individual seams show lateral variations from 0.1 to 0.002 m³/t per 100m distance, and deeper coal contains significantly greater quantities (Wardell Armstrong, 1996). 1m³ of methane has a mass of 680g, and this is therefore a reasonable assessment of the mass of carbon. It is estimated that growing temperate forest incorporates about 70 tonnes of carbon per hectare per year. Therefore, and in very broad terms, an opencast site producing 100,000 tonnes of coal per year could make this carbon neutral by planting an additional half-hectare of trees."

- 19.3 The 30 hectares of woodland proposed in the application is simply derived by applying the factor of 0.5 ha of trees for every 100,000 tonnes of coal to be mined. This is a precautionary interpretation of the requirement in Paragraph 225 of MTAN2. The average coal production per annum is 600,000 tonnes per annum over ten years and on a stricter interpretation the requirement is only 3 hectares of trees. As such the provision of 30 hectares to maintain carbon neutrality adopts a precautionary interpretation.

Representation 5 – Natural Resources Wales

- 19.4 NRW made the following statement in their response on 10th December 2013:-
- Carbon calculation – NRW note that there is a carbon calculation of the project but cannot see a calculation of the potential carbon losses caused through disturbing the peat resource itself

- 19.5 Paragraph 10 of MTAN 2 requires applications for coal working to “*demonstrate that actions to reduce carbon emissions from the extraction and transport of coal are included in the proposals*”. There is also potential for methane to be released as the seams are extracted by surface workings, and paragraph 225 of MTAN 2 recommends that “*applicants should mitigate the carbon produced by the extraction process, making the extraction operation itself carbon neutral*”.
- 19.6 This is explained in paragraphs 6.2 to 6.5 of Appendix MA/NL/ES/A19/001 ‘Sustainability and Carbon Statement’ of the Environmental Statement, along with a review of relevant international and national guidance on addressing impacts on climate change of proposed projects like the proposed Nant Llesg Surface Mine, including Land Reclamation. Following this guidance, the focus of the climate change chapter in the sustainability and climate change statement is to consider opportunities for minimising carbon and other greenhouse gas emissions, setting out how the GHG emissions have been reduced during the extraction and transport of coal, and how the carbon potentially emitted during the extraction process has been mitigated. The only quantification that has been carried out is in relation to the potential emission of methane during the extraction process, following the methodology defined in MTAN 2.
- 19.7 However, the appraisal of carbon emissions associated with the project has identified the potential to release carbon emissions through the degradation of peat. As stated at paragraph 24.26 of the Sustainability and Carbon Statement, “*during the extraction process it is anticipated that soil stripping activities could result in the potential release of carbon emissions through the degradation of peat, if the soils are not appropriately handled, stored and managed*”. Following the approach, as defined above, to focus on methods to reduce carbon emissions associated with the extraction activities, the Sustainability and Carbon Statement sets out the proposed soil handling methodology that has been developed for the site’s peaty soil (see paragraph 24.26). Further work and research has been undertaken to clarify the proposed soil management and remediation strategies to be implemented on site and further details are contained in Chapter 9 Agricultural Land Use and Soils of the Second ES Addendum.
- 19.8 The proposed soil handling methodologies follow best practice guidance and have incorporated relevant principles to ensure that soil from the project is appropriately managed in order to reduce the potential for carbon emission release.
- 19.9 A calculation of the potential carbon emissions associated with the potential degradation of peat as a result of the soil stripping operations at Nant Llesg can be found in the Sustainability and Carbon Statement Addendum, appended to the ES Addendum (Appendix MA/NL/ES/A19/002).

Representation 26 - United Valleys Action Group (UVAG)

- 19.10 This is the second representation of the United Valleys Action Group, which encompasses the issues raised in their original submission (Representation 7), which was also referred to in the questions raised by CCBC at Representation 2 above.
- 19.11 Representation 26 can be found at Appendix MA/NL/PA/A020.
- 19.12 It is noted that Representations 23 by Environment Pollution Management Ltd and 27, 28, 29, 30 and 31 by Jim Davies for the United Valleys Action Group form part of this representation. The Applicant’s response to each is provided elsewhere in this addendum under the relevant topic/chapter headings.

Sustainability

- 19.13 A review of the UVAG representation would summarise their key concerns as:-
1. The principle of using coal as a source of electricity is against the need to tackle greenhouse gas production (summary of points made on pages 44-45)
 2. Supplying coal to Aberthaw would be no better than supplying it from overseas. "The supply source for Aberthaw's fuel is quite secure and increasing imports won't increase the carbon footprint of Aberthaw as it is getting most of its coal from overseas anyway" (3rd para page 45)
 3. "All dates will see a scenario of Aberthaw closing down well before Nant Llesg ends" (1st para page 46)
 4. TATA Steel is at risk of a "downturn in the steel market" and "the Environmental Statement does not provide enough information on the new customers and new markets that could use the CDP's extended and enhanced facilities" (page 54)
- 19.14 As stated in para 6.5 of the Sustainability and Climate Change Statement (Appendix MA/NL/ESA/A19/001 of the ES), this project is consistent with the Energy White Paper (DTI, 2007) which confirms, in section 5.4, that "*coal will continue to play a significant role in global electricity generation for the foreseeable future, partly because it is the most abundant global fossil fuel but also because it brings security of supply benefits*". The Energy White Paper (DTI, 2007) also references the security of supply benefits when considering the future role of coal.
- 19.15 By supplying coal to Aberthaw, both the shorter transportation distance and the use of rail as the mode of transport both result in reduced carbon emissions when compared to the importation of coal.
- 19.16 The need for coal from Nant Llesg is set out in Chapter 20 'Need for the Coal' of this Planning Addendum, and addresses the third and fourth points of the UVAG representation. This identifies a possible European market for some of the coal from Nant Llesg. It is acknowledged that if the coal was exported, whilst the coal would be transported to the port by rail, the overall length of the journey would mean the claimed carbon reductions that would result from Nant Llesg, which was compared to use of imported coal, would not necessarily arise.

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Chapter 20

Need for the Coal

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20 Need for the Coal

20.1 The following is the Applicant's Response to representations that relate to the need for the coal.

Representation 1 - Caerphilly County Borough Council

5. When does the Miller-Argent contract with Aberthaw end and have to be re-negotiated? This is part of our concern for the sustainability of the customer for the Nant Llesg coal. They have a very good price/agreement with RWE nPower at the moment and it may not be so lucrative if renegotiated.

6. What is the coal tonnage per annum that the applicant proposes to supply to Aberthaw from Nant Llesg over and above that which is already being supplied from Ffos-y-fran? A question of whether they are a sustainable customer.

7. What is the coal tonnage per annum that they propose to supply to TATA Steel, Port Talbot from Nant Llesg (both metallurgical coal, and heating coal), over and above that which is already being supplied from Ffos-y-fran? A question of whether they are a sustainable customer.

Representation 2 – United Valleys Action Group

20.2 The United Valleys Action Group raise similar issues and suggest principally that:

- **Aberthaw Power Station will not have a significant continuing need for coal from Nant Llesg;**
- **TATA Steel at Port Talbot will have little interest in sourcing coal or coke from Nant Llesg; and**
- **Because of the importance of climate change, there is 'no future for coal'.**

20.3 The points raised by the above representations principally fall into three categories:-

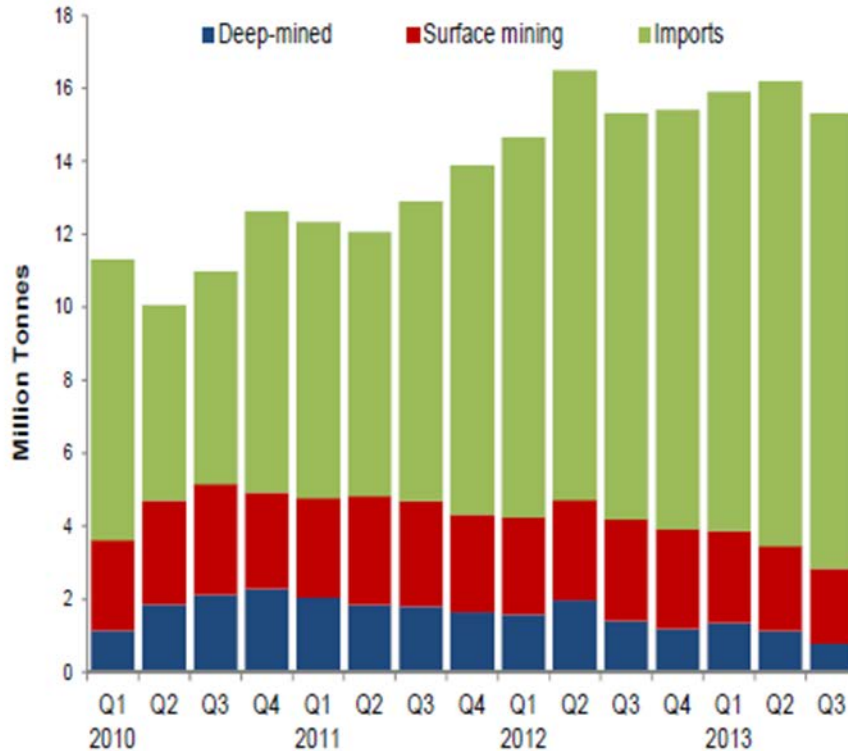
- i. There is insufficient demand or need for coal;
- ii. Policies in relation to climate change act against the application; and
- iii. Miller Argent is unable to show a market for its coal.

20.4 The points are addressed below under the appropriate headings.

The Demand and Need for Coal

- 20.5 This issue is comprehensively addressed in Chapter 15 of the Planning Statement. It would be inappropriate to repeat the terms of that chapter here but it does establish:-
- i. demand for FLRS coal has consistently met or exceeded the estimates given at the time of its planning permission (at just under 1 million tonnes per annum) and demand continues to exceed the ability of FLRS to supply sufficient coal;
 - ii. coal imports have exceeded UK coal production since 2003 and in 2012 represented 70% of supply;
 - iii. 85% of UK coal demand is for steam coal, i.e. for the specific type of coal present at FLRS and NLSM;
 - iv. existing operational surface mines have a total remaining coal reserve of less than 1 year's supply of UK consumption;
 - v. even allowing for an increasing proportion of imports, the Coal Authority estimates that UK coal production will continue to decline (and to be increasingly replaced by imports) and that all existing coaling by operational surface mines will be complete by September 2021. Given the decline in production and the lead time inherent in any new supply, commitments to new capacity are urgently required now;
 - vi. this also applies in Wales where FLRS (the largest surface mine reserve in Wales) and other authorised and consented reserves are projected to be exhausted by 2021;
 - vii. in addition to demand from traditional power generation sources, there is increasing demand from the UK steel and cement industries for the use of steam coal as an ingredient in the steel and cement making processes.
- 20.6 The policy implications of this are addressed further below but it is clear that there is an urgent and compelling need case. Without further significant consents, the demise of the Welsh coal mining industry is imminent, with obvious implications for the Welsh economy, the local economy, employment and sustainability – with indigenous coal production increasingly replaced by imports.
- 20.7 The Planning Statement contains statistics for coal production, supply and demand up to the first half of 2013. Those statistics can now be updated, as follows:-
- i. provisional figures for the 3rd quarter of 2013 show that coal production fell to a new record low in the UK of 2.8 million tonnes. This was 32% lower than the third quarter of 2012 but it is not due to a lack of demand (see below) – rather it resulted from the closure of several collieries/companies since December 2012 including Aardvark (ATH Resources), Maltby, Daw Mill and Scottish Resources Group. The progressive closure of UK capacity is apparent;

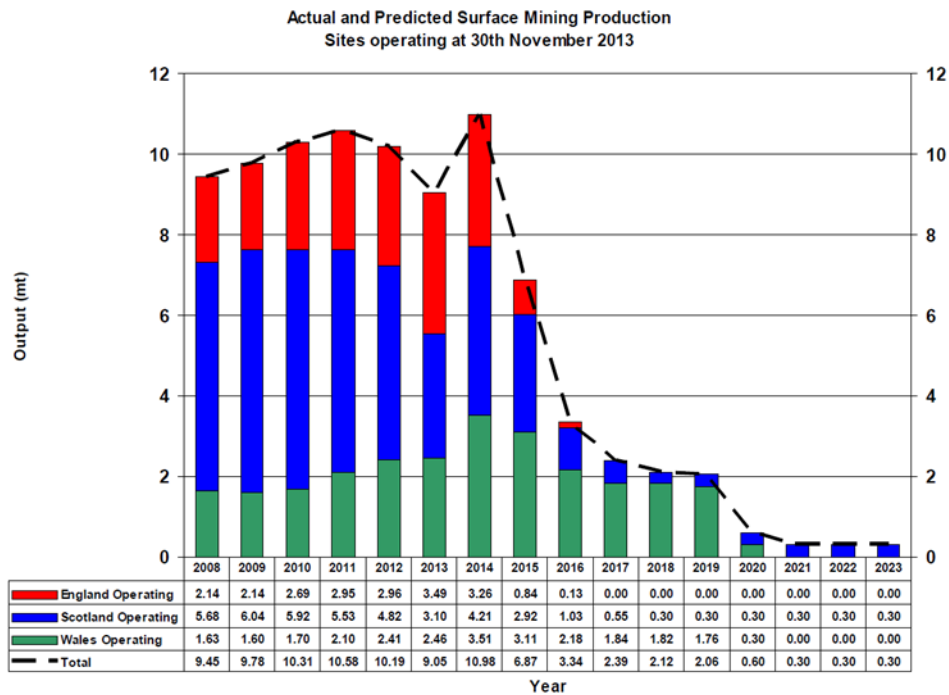
- ii. imports of coal in the third quarter of 2013, however, were 12% higher than in the third quarter of 2012 at 12.5 million tonnes. The picture of declining UK production and increasing imports is shown below:-



Source: Energy Trends, Coal Statistics, www.gov.uk

- iii. if annual output of Welsh surface mines continued at the most recent recorded rate (based on monthly rates achieved in November 2013 - an annual equivalent of 3.53 million tonnes per annum) that rate of production would exhaust remaining consented Welsh capacity (14.8 million tonnes) in 4 years (Coal Authority monthly data, December 2013).
- iv. total UK consumption/demand was reported in the Planning Statement for 2011 (PS Table 15.2) at 51.5 million tonnes. That figure could now be updated for 2012 to show demand of 64.206 million tonnes, i.e. demand has increased.

20.8 This picture is graphically demonstrated in the following graph which updates figures in the Planning Statement.



Source: MS Access Report: Coal Authority Monthly Data plus
Graphs: Printed 16th December 2013

20.9 Before examining the circumstances of Aberthaw or Tata Steel, it is important to recognise that these figures demonstrate beyond any doubt that both the UK and Wales have a grossly inadequate supply of coal. Documented demand from a range of sources substantially exceeds documented supply so that the country is increasingly reliant on imports. All the industry trends demonstrate that this is likely to worsen as indigenous supply is exhausted.

20.10 Statistics released by the Department of Energy and Climate Change in July 2013 confirm that coal accounted for 39% of the electricity generated in the UK in 2012, compared with 29% in 2011. At periods of peak demand coal accounted for 50% of electricity generation. Energy imports also reached a record level – inconsistent with national objectives to achieve security of energy supply.

20.11 Coal remains a critical element of the UK energy mix. A recent report from the Association of Coal Importers confirms that:-

“Coal-fired electricity is the most secure and flexible low-cost capacity on the system; and with coal less than half the price of gas it is a key element in managing energy bills, fuel poverty and UK energy competitiveness.” (Appendix MA/NL/PA/A20/001: ‘Coal - from security to sustainability’; Coallmp 2013)

20.12 Coal, of course, is only part of the necessary energy mix but assertions that it is about to be replaced by other sources of supply are misplaced. As set out above, demand for coal has risen, not fallen and the potential of other sources of supply must not be over-estimated.

Whilst coal supplied 39% of the electricity generated in the UK in 2012, “others” (including renewables) were responsible for only 13% according to figures published by DECC and new nuclear capacity has been further delayed. Dwindling consented coal reserves and an increasing reliance on imports represent threats to electricity prices, to the UK economy and to sustainability objectives. They also threaten the UK’s security of supply. Ofgem’s most recent Electricity Capacity Assessment Report confirms:-

“.....our assessment suggests that the risks to electricity security of supply over the next six winters have increased since our last report in October 2012. This is due in particular to the deterioration of the supply-side outlook. There is also uncertainty over projected reductions in demand. We continue to expect that margins will decrease to potentially historically low levels.....”

Policy

- 20.13 Again, relevant policy is addressed in Chapter 15 of the Planning Statement. Whilst objectors may wish policy to be different, the chapter confirms that relevant policy provides the following-
1. Minerals Planning Policy Wales (MPPW) requires an adequate supply of minerals to be provided for the benefit of prosperity and sets out a number of key principles which include the requirement for planning authorities to have a positive approach to providing for the working of minerals that meet society’s needs;
 2. MTAN2 (paragraph 13) confirms that “*the Government believes that it is right to make the best use of UK energy resources including coal reserves...*”
 3. The Energy White Paper confirms that coal will continue to play a significant role in energy generation for the foreseeable future and that it is important that we maximise energy recovery from remaining coal reserves;
 4. Coal will continue to be part of the UK’s diverse energy mix at least until 2050 (NPS- EN1 paragraph 2.2.6).
- 20.14 National Policy Statement EN-1 places particular emphasis on the importance for the UK of security of energy supplies and requires decision makers to place “*substantial weight*” on the need for energy in their consideration of applications. Similarly, MPPW expects each mineral planning authority to ensure it makes an appropriate contribution to meeting local, regional and UK needs.
- 20.15 It is apparent, therefore, that it would be contrary to national policy to reject the development of indigenous coal reserves on the basis either the coal is not required or that the country should rely upon the importation of coal from overseas. This approach is confirmed in the NPPF for England which expects mineral planning authorities to source mineral supplies indigenously and in Planning Policy Wales (PPW) which requires the application of the proximity principle, i.e. solving problems locally rather than passing them on to other places or to future generations.
- 20.16 There is also, of course, a strong body of planning policy which supports the steel industry and the economy of Wales. Policies make it clear that maintaining a vibrant economy is nationally important. These policies should be uncontroversial and are set out fully from paragraph 15.83 of the Planning Statement. Consistent, up to date and authoritative policy

confirms the national importance of supporting the major Welsh industries. Unsurprisingly, manufacturing is recognised as a “*vital*” part of the economy.

- 20.17 Since the submission of the Planning Statement there has been no change in the policy documents relied upon. Policy makers, of course, are fully aware of the importance of climate change and are obliged to consider those issues as part of the overall framework of national policy. Those policies continue to recognise the importance of coal to the sustainable future of the UK and Wales – the policies on which the Planning Statement relies remain up to date and they continue to carry full weight.

Demand

- 20.18 Against the background described above, it is apparent that there is a national need for the NLSM coal and that its production would be directly consistent with national policy. Objections question whether there is a demand and also question whether it is economic for NLSM to be developed. With respect, those are principally matters for the applicant. With coal demand very substantially exceeding supply, it is apparent that any coal producer has a variety of potential markets.
- 20.19 In the case of NLSM, the position is explained in Chapter 15 of the Planning Statement. The principal market for FLRS coal has been Aberthaw Power Station, although FLRS coal has always only been a proportion of the larger coal consumption at Aberthaw. In particular, coal from FLRs and NL is needed to blend with other, non-compliant, coal. The Planning Statement recognises a doubt about the long term future of Aberthaw power station in the light of requirements of EU Directives (paragraph 15.102). Recent announcements in relation to Aberthaw suggest that it will continue to operate at least until 2023, albeit at reduced consumption. Alternatively, RWE have made public announcements to the effect that a final decision on the future of the power station will be taken in 2015. In other words either major investment will be made in order to extend its life substantially or the power station will continue until 2023, albeit at reduced consumption. As RWE's letter of support for the application makes clear, the availability of supply from a consented Nant Llesg would be a significant factor in its decision to make major investment in new technology at Aberthaw or not. RWE has since written to the county borough council in July 2014, providing an up-date on its continuing investment at Aberthaw and confirming that:

“....we expect to be a sustainable customer for the Nant Llesg coal into the mid 2020's and beyond.” (See exchange of correspondence at Appendices MA/NL/PA/A20/002 and MA/NL/PA/A20/003)

- 20.20 In addition, the Planning Statement makes clear the increasing demand for Nant Llesg coals in the steel making process at Port Talbot and other Tata Steel UK steel production plants. The representations from UVAG question the strength of Tata Steel's need for coal and argue that its future demand could be met from imports (despite the conflict of that approach with national policy). However, there has been no change in Tata Steel's interest in the Nant Llesg coal since the submission of the application. Whilst Tata Steel may have long term plans for sourcing its own coal, these do not relate to Welsh Dry Steam Coal required for its metallurgical process.
- 20.21 In addition, the applicants have been approached by exporters, the Fergusson Group and a copy of their letter of 8 January 2014 can be found at Appendix MA/NL/PA/A20/004. It confirms European demand for the specification of Welsh steam coal, from major EU steel producers and an interest in contracting for 250-300,000 tonnes per annum in the short term

with a view to increasing that to a minimum of 500,000 tonnes. Exports would support the Welsh economy and balance of payments.

- 20.22 Given the clearly documented national shortage of coal and the special qualities of the FLRS and NLSM coal, there can be no doubt about the continuing demand for the application proposals.

Nant Llesg Surface Mine

Incorporating Land Remediation

Chapter 21

Planning Policy

Nant Llesg Surface Mine

Incorporating Land Remediation

Addendum to Planning Statement

Applicant's Response to Post-Application Representations

Chapter 21 – Planning Policy

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21 Planning Policy

21.1 The following is the Applicant's Response to representations that relate to planning policy.

Representation 8 - Fochriw and Pentwyn Residents Association (FPRA)

21.2 The written objection of the FPRA can be found at Appendix MA/NL/PA/A010. The following responses refer to issues raised in that submission.

Council and Assembly Strategy Conflicts

21.3 The Residents Association have undertaken a review of policy contained in the Caerphilly Local Development Plan (LDP), and have sought to argue that the proposed development "will be in direct conflict with several council policies as well as some Welsh Assembly area strategies".

21.4 A detailed review of planning policy is set out in Chapter 17.0 of the Planning Application Statement which accompanied the Nant Llesg submission. In view of the detailed analysis undertaken and the conclusions reached, this response does not seek to provide a detailed rebuttal of each and every issue raised. Nevertheless, comments on some of the key issues are set out in the schedule produced in para 21.12 below, noting in particular, important omissions and the selective approach to planning policy undertaken by the Residents Association.

The approach to decision taking

21.5 The required approach to decision taking is set out in Section 38 (6) of the Planning and Compulsory Purchase Act 2004. This requires that applications for planning permission should be determined in accordance with the development plan unless material considerations indicate otherwise. Material considerations include planning policies of the Welsh Government (reference paragraph 3.1.2 of Planning Policy Wales (PPW) November 2012).

21.6 In considering whether a proposal is in accordance with the development plan (and Welsh Government Policy) it is not necessary for a proposal to accord with each and every policy in a development plan, since there will be instances where policies pull in different directions. This principle has been established in *R v Rochdale MBC ex parte Milne* (2000) where it was stated by Sullivan J that:

"It is not at all unusual for development plan policies to pull in different directions. A proposed development may be in accord with development plan policies which, for example, encourage development for employment purposes, and yet be contrary to policies which seek to protect open countryside. In such cases there may be no clear cut answer to the question: is this proposal in accordance with the plan?"

“The local planning authority has to make a judgement bearing in mind such factors as the importance of the policies which are complied with or infringed, and the extent of compliance or breach”.

- 21.7 In *City of Edinburgh Council v Secretary of State for Scotland* (1997), Lord Clyde stated in similar terms that:

“in the practical application of Section 18.8 (38[6]), it will obviously be necessary for the decision maker to consider the development plan, identify any provisions in it which are relevant to the question before him and make a proper interpretation of them... there may be some points in the plan which support the proposal but then may be some considerations pointing in the opposite direction. He will require to assess all of these then decide whether in the light of whole plan the proposal does or does not accord with it.”

- 21.8 Sullivan J in the Rochdale case, having referred to the City of Edinburgh Council case, concluded that:

“in the light of that decision I regard as untenable the proposition that if there is a breach of any one policy in a development plan a proposed development cannot be said to be ‘in accordance with the plan’. Given the numerous conflicting interests that development plans seek to reconcile... it would be difficult to find any project of any significance that was wholly in accord with every relevant policy in the development plan... for the purposes of Section 54A (38[6]) it is enough that the proposal accords with the development plan considered as a whole. It does not have to accord with each and every policy therein”

- 21.9 Similar comments were made by Ouseley J in *R v London Borough of Camden*, where it was stated that:

“it may be necessary for a council in a case where policies pull in different directions to decide which is the dominant policy: whether one policy compared to another is directly as opposed to tangentially relevant, or should be seen as the one to which the greater weight is required to be given... There is a real risk (in a) suggestion that each individual relevant policy had to be examined against the proposal, and the implication that a breach of one necessarily shows a proposal out of accord with a development plan would impose a legalistic straitjacket upon an appraisal which cannot sensibly be made in such a manner”.

- 21.10 The exercise undertaken by the FPRA in seeking to identify individual policies which they allege the proposal does not accord with is thus not the correct approach to decision making. A more general planning policy analysis is required which identifies the overall thrust of policy in the development plan, and which reaches a balanced view between potentially competing interests. Moreover, and importantly, the FPRA have failed to identify the wider expression of planning policy set out in PPW and Minerals Planning Policy Wales (MPPW) which are acknowledged to be material considerations in the determination process (ref LDP paras 0.43 – 0.45 and paras 17.9 – 17.51 of the Planning Statement which accompanies the Nant Llesg Submission).

Fochriw and Pentwyn Residents Association Comments

- 21.11 It is not the intention of this response to be unduly critical or disparaging of the content of the FPRA comments, but importantly it should be noted that the comments
- (i) Provide only selective and partial extracts from the LDP;
 - (ii) Do not recognise wider planning policy set out in PPW and MPPW, notwithstanding the cross reference to these documents in the LDP; and
 - (iii) Make no attempt at an overall policy balance between competing interests.
- 21.12 In this context, the schedule below provides a brief response to the alleged 'Council and Assembly Strategy conflicts', albeit noting that, despite the title, no reference is made to "Assembly (Welsh Government) Strategy".

FPRA Comment	Response
LDP 'Purpose' (para 0.9)	The FPRA quote just one of the 4 defined 'purposes', where two of the others are to provide developers with guidance on acceptable locations for development (in this case the coal safeguarding areas), and stimulating the use and development of land.
LDP Sustainability Appraisal (para 0.20)	The FPRA stress the importance of the word " <i>protection</i> ", but reference to the full quotation highlights the need for a balance of economic and social justice criteria with environmental issues.
LDP Community Strategy Themes (para 0.63)	The FPRA comments omit reference to the " <i>regeneration theme</i> " and the opportunities for paid work.
LDP Vision Statement (para 0.89 – 0.91)	The FPRA comments omit reference to one of the three key concepts which is " <i>regeneration delivered in a well balanced and sustainable manner</i> ", and where the Plan seeks to balance environmental, economic and community interests and needs...

FPRA Comment	Response
Policy SP8	<p>The quotation from section 1.68 similarly emphasises the need to balance the need for coal against the potential impact of such development on the landscape and on sites of ecological interest.</p> <p>In relation to the change to the SINC boundary, this was fully justified in terms of the ecological interest in the locality, and such a change would not have been sanctioned without the supporting evidence which was provided.</p>
Policy SP10	<p>The comments include a quotation from LDP para 1.72, but para 1.73 goes on to confirm that “<i>change is inevitable and opportunities for growth and development in the Borough need to be provided</i>”, but in a way which protects, conserves enhances and manages features in the natural and built environment: a ‘balanced’ approach is required.</p>
Policy SP11 and para 1.75	<p>The FPRA contend that the proposal would be in direct conflict with this policy and supporting paragraphs, but reference to the proposed scheme highlights the attention which has been paid to the reclamation works to enhance safety in the common area (remediation of disused mine shafts and adits); the safeguarding of rights of way during the development; and the provision of an enhanced network as part of the restoration scheme.</p>
‘Countywide Policies’ LDP Section B	<p>There is an important preamble to the ‘countywide policies’ which confirms that the policies do not repeat national policy, but it is important that full account is taken of national planning policy (ref LDP paras 0.43 – 0.45 and 2.3). The lack of any reference to national planning policy, particularly minerals planning policy is a major omission in the FPRA comments. These issues are however addressed in the Planning Statement (paras 17.9 – 17.51).</p>

FPRA Comment	Response
<p>Policy CW2</p>	<p>The FPRA alleges that the development would be in direct opposition to two of the four aims of this policy. This is not accepted (see para 17.110 of Planning Statement). More importantly, the policy needs to be read in conjunction with national planning policy (MPPW) which recognises that extraction can only take place where the mineral is found to occur; it is transitional and cannot be regarded as a permanent land use; effects on local communities need to be mitigated to acceptable limits; and the land needs to be reclaimed to a high standard which brings discernible benefits (MPPW para 5). The Nant Llesg scheme complies with these national planning policy requirements (see also Planning Statement paras 17.24 – 17.17.2 et seq).</p>
<p>Policy CW4</p>	<p>It is not accepted that the development would be “<i>in breach of all of the aims of the policy</i>” since the policy expressly provides for a balance to be struck in considering whether the need for the development outweighs the ecological importance of the site, and the extent to which harm is minimised by mitigation measures, and offset as far as practicable by compensation measures.</p> <p>The mitigation and compensation measures are discussed in chapter 8 of the ES (and within Chapter 5 of the Planning Statement), with particular reference to the Bryn Caerau Biodiversity Conservation Area and the on-site mitigation measures at the application site. In interpreting and applying policy CW4, the on-site mitigation and substantial off site compensatory measures are important in terms of balancing the need for the development against harm. (See also the comments below in response to the NRW comments and the opportunity to provide additional compensatory measures).</p>
<p>Policy CW7</p>	<p>The policy relates to open space within settlements and is not relevant to the Nant Llesg proposal.</p>

FPRA Comment	Response
Policy CW15	<p>The policy needs to read in conjunction with the supporting text set out in paras 2.33 and 2.34, which confirm that proposals for the working of minerals will be considered in the context of national guidance together with countywide policies and appropriate site specific policies contained within the LDP. The primary policy relating to mineral extraction is contained in MPPW, which is cross referenced in the LDP in paras 0.43-0.45.</p>
LDP paras 3.5 and 3.7	<p>It is alleged that the development would be in direct conflict with the Heads of the Valleys Regeneration Strategy, but para 3.11 makes specific reference to the fact that <i>“the Upper Rhymney Valley offers the most significant potential in terms of energy production within the county borough due to the presence of coal resources at Nant Llesg.....The plan seeks to balance the merits of....potential development of minerals in this area against the objective of safeguarding the landscape from further degradation and, where possible, securing landscape enhancement.”</i></p> <p>This is the correct balance which the Nant Llesg scheme seeks to achieve, in the context of an express LDP acknowledgement of the potential for coal extraction at Nant Llesg.</p>
LDP para 3.28	<p>The FPRA highlight an extract from para 3.28 that the <i>“safeguarding of the (coal) resource does not indicate any presumption in favour of working”</i>.</p> <p>This sentiment is not disputed, nor has it been in the analysis of planning policy set out in the Application Statement. Nevertheless, the safeguarding of the coal resource acknowledges the potential for it to be worked, subject to environmental safeguards. This is what the design of the Nant Llesg scheme has sought to achieve, and the Planning Statement invites positive conclusions to be reached regarding the merits of the overall scheme (ref paras 17.117 – 17.128).</p>

FPRA Conclusions - Council and Assembly Strategy Conflicts

- 21.13 The FPRA statement concludes that the “*proposal seems to be at great odds with the Local Development Plan*”. However, the analysis presented is selective, and focuses solely on environmental protection policies. It does not acknowledge or address wider issues of the benefits of coal recovery, land remediation, employment, other socio economic benefits, community benefits, mitigation and compensation measures, and the restoration scheme. Moreover, and importantly, the analysis does not consider national planning policy which is a material consideration in the determination of the planning application, and where national minerals policy lends further weight to the acceptability of the scheme.

Representation 14 - Friends of the Earth Cymru (FoE)

- 21.14 The representation from Friends of the Earth Cymru (FoE) can be found at Appendix MA/NL/PA/A013. The following points are made regarding issues within their representation.

Planning Policy Issues

- 21.15 Friends of the Earth Cymru raise a number of planning policy issues, drawing upon national policy set out in PPW, MPPW, and MTAN1, and policy in the Local Development Plan (LDP). Many of the points raised reflect interpretation and opinions drawn from the policies, and it is not the purpose of this response to provide a point by point rebuttal, since such gainsay is unlikely to be constructive. Rather, comments are made upon what are perceived to be the key issues. However, as an overview, it should be noted that:

- i) All policy documents and policies referred to have been comprehensively addressed within chapter 17.0 of the Planning Statement, from which reasoned conclusions have been drawn.
- ii) The FoE response relies upon very selected extracts from the policy documents, and alleged conflict with a small number of individual policies. Important elements of national policy and guidance are omitted from the FoE response. The objective appears to be to simply identify isolated policies which are allegedly contravened, rather than policies which might favour the development, most notably the socio economic benefits of the development which PPW requires to be given “*equal consideration*” to environmental issues in the decision making process. No attempt is made in the FoE response to arrive at a balanced judgement of competing interests, which is the key approach required by national policy, notably the ‘twofold test’ set out in MPPW under the first two bullet points of paragraph 62 and reiterated by MTAN2 at paragraph 45.
- iii) The FoE response invites the Planning Authority to conclude that the development is contrary to the LDP, based upon the selective analysis of planning policy which is undertaken. However, as above, this is not the correct approach to decision making since it is likely that in all projects of any significance there will be instances where policies pull in different directions. It is therefore not necessary for a proposal to accord with each and every policy in a development plan. A much wider and more balanced judgement is required which considers the importance of the policies which are complied

with or infringed, and the extent of compliance or breach. (See separate response to the FPRA, and the case law referred to).

- iv) Policies associated with coal extraction designed to protect the environment and amenity recognise that all mineral extraction schemes will give rise to some degree of impact, and it is not the case advanced by Miller Argent that the Nant Llesg scheme will avoid environmental and amenity effects altogether. However, the requirement of planning policy is not to eliminate all impact, but rather to ensure that effects on local communities are "*minimised*" (MPPW paragraph 10); maintained within "*acceptable limits*" (MPPW paragraph's 5 and 7); and with "*no lasting environmental damage*" (MPPW paragraph 45). These requirements necessitate a balanced judgement of whether the acknowledged impacts have been effectively minimised; whether the mitigation and compensation measures result in compliance with defined "*acceptable limits*", and whether the restoration scheme avoids long term damage. It is thus not the case that impacts are to be equated with automatic non-compliance with environmental policy.

- 21.16 Subject to these general comments (and without accepting the various allegations of non-compliance with policy, properly interpreted), the key issues raised in the FoE response are commented upon below, with the paragraph or chapter numbers from the FoE response provided for ease of cross reference.

Response to Friends of the Earth Cymru comments

"Extension" of Ffos-y-Fran (FoE paragraph 1.4)

- 21.17 The application has not been advanced on the basis that it would be an extension to Ffos-y-Fran Land Reclamation Scheme (FLRS) and, as a result, no reliance has been placed upon the general preference for extensions set out in MTAN2, paragraph 53. In any event, the preference is heavily qualified, and it is apparent that all applications, whether they be for extensions or new sites, need to be considered on their merits.

The "red line" application boundary (1.4)

- 21.18 The FoE response raises concern that the red line application site boundary is wider than the proposed area of operation, and they contend that there is little justification for this. The rationale for including peripheral areas within the application site boundary is set out clearly within the Planning Statement, which explains the benefits associated with the short term land remediation and landscape screening works which would be undertaken within the defined areas (ref Planning Statement paragraphs 2.17 – 2.25).

Uncertainty over works to be undertaken in the remediation area (1.5)

- 21.19 There is no uncertainty associated with the nature of the works to be undertaken within the defined area, and there is no substance in the FoE suggestion that additional mining works would be undertaken in these areas (ref Planning Statement Chapter 6).

Indirect effect on jobs (2.6)

- 21.20 The FoE response makes reference to a report prepared by the Welsh Economy Research Unit of Cardiff University (WERU) on behalf of the 'Green Valleys Alliance, and conclusions purportedly set out in that study of "*neutral employment, or at worst a significant net loss*" attributable to the Nant Llesg scheme. However, it appears that the authors of the WERU report have not reviewed the content of the Nant Llesg Application documents since alleged uncertainty over employment and time periods etc. are clearly set out in the Planning Statement (reference Chapter 16). The WERU report makes no reference to the economic benefits associated with employment at the Nant Llesg site, from which it can be inferred that the benefits are either accepted, or the WERU analysis is flawed in not reviewing and assessing the economic/employment information accompanying the Nant Llesg application. In any event, no firm conclusions are drawn in the WERU report. The conclusions, simply highlight the presence of a number of firms close to the Nant Llesg site that "*could be negatively affected*", where "*future inward investment projects...could (be) affected*" and that "*were any existing inward investors to leave the area... this would have serious socio economic repercussions*" (CBS Section 5). However, this is no more than conjecture, and the report contains no evidence to support these hypothetical outcomes. Further discussion of the WERU report and its conclusions is set out in Chapter 5.
- 21.21 The FoE refers in Paragraph 2.7 to the potential for the creation of 3000 jobs in the waste recycling and home energy efficiency sector. There is no evidence to suggest that such jobs are an alternative to Nant Llesg, or that they could only be delivered if Nant Llesg does not proceed. On the contrary, and as an example, it can be implied from independent expert report prepared by Wright and Slater on behalf of Miller Argent in respect of Richards and Appleby that there is no reason why that particular factory cannot co-exist with Nant Llesg. There is no reason why that example would not apply to other firms and businesses in the area. The lack of objection from the majority of business interests in the area should be noted that regard.

Residential development at Fochriw (2.8)

- 21.22 It is alleged that the development would prejudice the delivery of a small scale housing allocation at Fochriw, and the viability of Fochriw itself. There is no evidence to support this allegation and no attempt has been made to balance their perceptions against the benefits of the scheme. Such benefits include the remediation of historic mine dereliction and historic contaminated minewater flows to the River Rhymney; drainage works to the historic Fochriw Tips to alleviate silting of the nearby Cwm Darran country park lake; ecological and amenity enhancements to the common land north of Fochriw; economic benefits and job creation in the area; and the extensive mitigation and compensation measures built into the scheme to minimise any potential impact on Fochriw.

The adequacy and enforceability of the Bryn Caerau Farm compensation area (Section 3)

- 21.23 The application acknowledges that it is not possible to fully mitigate the ecological effects within the confines of the Nant Llesg site. In identifying the compensation area it has not been claimed as part of the application that it would fully mitigate for the effects, and there has been no attempt to exaggerate the significance of the compensation area. The policy requirement is to minimise harm by mitigation measures and "*offset as far as practicable by compensation measures*" (LDP Policy CW4). For reasons set out in the Planning Statement

(Chapter 14) and the accompanying Habitat Enhancement Plan (and ES Chapter 8), it is not accepted that a proposal is “*wholly inadequate*” or that it “*would do nothing to mitigate the harmful effects*”. The Habitat Enhancement Plan and compensation area represent a carefully considered scheme designed to deliver ecological enhancements consistent with the advice in TAN5. The scheme is readily capable of being enforced by a Section 106 agreement, as proposed in the Planning Statement (ref paragraph 14.9).

- 21.24 In any event, since the submission of the FoE representation, further compensation for the effects of the scheme in the form of a contribution to the Montgomeryshire Wildlife Trust for the restoration of 50 ha of peatland habitat, or alternatively, if deliverable, an equivalent local scheme, has been introduced, by way of further compensation. This is considered to be sufficient to ensure that there would be a benefit to biodiversity on restoration of the scheme and a balance of biodiversity despite the loss of habitats resulting from the land take and operation of the scheme. The scheme will thus bring about significant benefit in the longer term.

Landscape Impacts (5.0)

- 21.25 These issues are considered in detail in the ES, and, as paragraph 5.4 of the FE representations note, the proposed works within the boundary of the ‘Visually Important Local Landscape’ (policy NH2) are confined to remediation operations. Planning conditions can readily enforce the details of the proposals set out in the submitted scheme and prevent any coaling operations encroaching into the landscape designation.

Minerals Buffer Zone (6.0)

- 21.26 The FoE representations acknowledge that the scheme has been designed to avoid coal working within the defined buffer zone (LDP policy MN1), and again this can be enforced by planning conditions.

Climate Change

- 21.27 Issues associated with climate change and emissions are fully acknowledged in the application documents, but it is important to recognise that objectives to reduce carbon emissions are not to be equated with a cessation of the use of coal. In practice, despite initiatives to increase the contribution of renewable energy, if the UK’s increasing energy demands are to be met, then there is no prospect of alternative sources completely replacing the use of coal for energy production in the foreseeable future. Furthermore, even in the unlikely event that renewable sources or nuclear energy were to replace all need for coal for energy purposes in the near future, it must also be appreciated that there is a need for coal for steel production. The coal provides the carbon element in the steel, rather than being used for energy purposes. These issues are considered in detail in Chapter 15 of the Planning Statement, with additional comments on localised emissions set out in the ‘Carbon Statement’ submitted as an appendix to the ES.

Local Development Plan Policy SP1

- 21.28 The points made by FoE in Section 2 (paras 2.3 – 2.10) of their representation have also been made by the Green Valleys Alliance. The Applicant's response is as follows:
- 21.29 As set out in Chapter 6 of the ES (paragraphs 6.30 to 6.37 inclusive) extensive consultation was undertaken with Caerphilly CBC and other stakeholders in relation to the effects on recreational and leisure resources during the mining operations and as a result of the restoration of the land. In relation to the temporary loss of urban common, CCBC agreed that the provision of temporary areas for public access would provide suitable alternative resources during the lifetime of the project and that proposals for linear routes for walkers and horse riders would provide appropriate resources. These discussions were undertaken against the background of extant policies in the Local Development Plan adopted in November 2010.
- 21.30 The effect on the surrounding area, taking into account any mitigation adopted as part of the project, in relation to visual impact, noise, tourism, employment, health and well-being, is set out in the ES and its addenda.

Representation 138 – Natural Resources Wales (21/2/14)

- 21.31 The NRW letter and accompanying comments is set out at Appendix MA/NL/PA/A028 and provides a detailed response to the potential effects of the development on a number of ecological receptors. These matters are addressed separately in the relevant topic chapters of this Addendum to the Planning Statement and the Addenda to the ES.
- 21.32 However, the context to the NRW holding objection is founded upon the advice set out in Welsh Government Technical Advice Note 5: Nature Conservation and Planning (TAN5). For reasons set out below, the interpretation placed by NRW on the content of TAN 5 is not considered to provide an accurate representation of national planning policy relating to minerals planning and the appropriate approach to mitigation and/or compensation.
- 21.33 The basis of the NRW response as set out on page 14 of their comments, is that:
- (i) *“TAN5 looks for development to provide a net benefit for biodiversity with no significant loss of habitats or populations of species, locally or nationally.....”*
 - (ii) *“In providing comments for the scoping of the EIA, both EAW and CCW requested that the project should be seeking enhancements and a net gain for biodiversity. However, the project appears to only be seeking to maintain the status quo.....”*
 - (iii) *“The accepted general principal when dealing with habitat loss/restoration is that it should be on a like for like basis. There is a disparity between the habitat types occurring on the Nant Llesg site and those at the Bryn Caerau (compensation site)”...and NRW recommend “that compensation is also sought elsewhere.....”*
- 21.34 In considering these comments it is important to place them properly in the context of National Planning Policy, as follows:

Minerals Planning Policy Wales (MPPW: December 2000)

- 21.35 MPPW requires that “*wherever possible*” mineral working should avoid any adverse environmental impact and that “*where this is not possible adverse effects should be mitigated to acceptable limits*” (reference paragraphs 5 and 7). There is thus no requirement to eliminate impacts, but a recognition that by virtue of the nature of mineral extraction, there will be inevitable environmental impacts which should be minimised and mitigated.
- 21.36 MPPW further notes that “*land needs to be reclaimed to a high standard and to a beneficial after-use, and that it should bring discernible benefits to communities and/or wildlife.*” (reference paragraph 5). The issue of benefits thus needs to be considered in a broad context. There is no absolute requirement to deliver biodiversity benefits particularly where, as is the case with Nant Llesg, there are other discernible community benefits.
- 21.37 MPPW sets out key objectives for mineral developments which, inter alia, are to ensure that effects on the environment, “*must be minimised*” and thereafter ameliorated to an “*acceptable standard*”. These objectives are translated into key principles, of which one is to “*limit the environmental impact of mineral extraction*” (reference paragraph 10). The emphasis is thus on limiting impact rather than a requirement for enhancements.
- 21.38 MPPW sets out specific requirements for mineral extraction in areas of importance to the natural heritage, including National Parks, AONB's, SPA's SAC's Ramsar sites, SSSI's and National Nature Reserves (reference paragraphs 21-25). It also provides advice on locally designated areas (paragraph 26) which are relevant to the SINCS on part of the Nant Llesg site, with the important emphasis that “*the degree of protection should be commensurate with their relative importance to the biodiversity of the area concerned*”. Thus, in planning terms, a locally designated SINC attracts the lowest level of designation protection, and requirements and expectations for protection should be “*commensurate*” with and proportional to this local designation.
- 21.39 In broader terms, the MPPW requirement for restoration is that schemes “*should provide the means to at least maintain and preferably enhance the long term quality of the land....taken for mineral extraction*” (reference paragraph 48). The criticism of NRW that the Nant Llesg scheme, as was originally applied for, **only** sought to maintain the overall balance in biodiversity, is thus misplaced in the context of the underlying policy requirement to maintain, but to enhance if possible.

Mineral Technical Advice Note 2: Coal - January 2009 (MTAN2)

- 21.40 Advice in MTAN 2 in relation to the enhancement of biodiversity and nature conservation is primarily restoration-led, with advice being provided on the preparation of aftercare conditions and best practice for reclamation. Advice on sites of regional or local significance promotes the use of planning conditions to prevent harm to biodiversity and seeks to prevent “*significant harm*” to locally designated sites, with development resulting in a net benefit to biodiversity “*wherever possible*” (reference paragraph 89).

Planning Policy Wales, Edition 6 - February 2014 (PPW)

- 21.41 This theme is followed in PPW with a requirement to “*minimise the adverse effects on wildlife where conflict of interest is unavoidable*” (reference paragraph 5.2.3). PPW also highlights the protection afforded to statutorily protected sites, and implicitly the lesser importance of non-statutory designations with the policy emphasis that “*local planning authorities should have regard to the relative significance of international, national and local designations in considering the weight to be attached to nature conservation interests and*

should take care to avoid placing unnecessary constraint on development" (reference paragraph 5.3.2). The further policy requirement is that *"such (non-statutory) designations should not unduly restrict acceptable development"* (reference paragraph 5.3.11).

Technical Advice Note 5: Nature Conservation and Planning - September 2009 (TAN 5)

- 21.42 TAN 5 similarly addresses the distinctions and separate policy requirements relating to international and nationally designated sites (reference sections 5.2 – 5.4), with separate advice relating to locally designated sites set out in Section 5.5. The requirement in relation to locally designated sites is for developers to *"avoid harm where possible"* and *"where harm is unavoidable it should be minimised by mitigation measures and offset as far as possible by compensation measures designed to ensure there is no reduction in the overall nature conservation value of the area"* (reference paragraph 5.5.3). The Nant Llesg development scheme has been formulated in accordance with these principles.
- 21.43 Unavoidable harm has been *"minimised"* by mitigation measures in addition; significant compensation measures have been included through nature conservation and biodiversity enhancement at Bryn Caerau and the recently proposed additional funding towards the Pumlumon Project in Mid Wales, which provides a net balance in biodiversity during the working of the site and, with the proposed restoration strategy for the Nant Llesg scheme, provides a net increase in restored wet heath/bog habitats and significant net ecological benefit when all impacts, mitigation and compensation are taken into account.
- 21.44 Other potential projects have been suggested by CCBC in the local area that aren't yet sufficiently developed for Miller Argent to subscribe to. Nevertheless, they have potential for alternative local biodiversity improvements if they develop during the working of the Nant Llesg scheme. These could be considered as an alternative to the Pumlumon Project if the local planning authority prefers to secure more local net gains.
- 21.45 These provisions are designed to offset harm *"as far as possible"* recognising that (i) It is not possible to recreate all habitat types present at Nant Llesg on a 'like for like' basis, and (ii) it is not a policy requirement to do so.
- 21.46 The conclusion of the ecology and nature conservation impact assessment is that, 'in either event, whether funding was provided to the Pumlumon Project or local projects within Caerphilly, there would be a benefit to biodiversity on restoration of the scheme and a balance of biodiversity despite the loss of habitats resulting from the land take and operation of the scheme'.

Conclusions

- 21.47 The policy requirements of MPPW, PPW, MTAN2 and TAN5 can be contrasted with the aspirations of NRW in their consultation response and the isolated references in TAN5 to *"net benefits for biodiversity"*, *"enhancements"* and *"net gain for biodiversity"*. Properly interpreted, these references are not absolute policy requirements of TAN5 or of other elements of national planning policy set out in MPPW and PPW.
- 21.48 The scheme has been designed to *"minimise effects"* so far as is possible. The effects would be mitigated *"to an acceptable standard"* and within *"acceptable limits"*.
- 21.49 The offsite compensation measures at Bryn Caerau, together with support for Pumlumon or alternative sites within the county borough if preferred by CCBC, are not designed to replicate all habitat types, but to offer targeted enhancements which offset effects *"as far as*

- possible*". Overall benefit in biodiversity in the long term and balance during the operation of the scheme has been achieved within the policy framework of ensuring "*no reduction in the overall nature conservation value of the area*". The individual biodiversity elements may differ, but the test is associated with the overall nature conservation value rather than individual components.
- 21.50 The measures proposed are proportionate and commensurate with the relatively low level of protection afforded to locally designated sites. Whilst there are acknowledged to be adverse effects on certain habitats, the policy requirement is not to maintain all habitats '*on a like for like basis*' as intimated by NRW, but rather to ensure "*there is no reduction in the overall nature conservation value of the area*".
- 21.51 Whilst NRW expressed disappointment that the scheme promoted with the application only sought to maintain the overall balance of biodiversity and 'the status quo', this NRW stance is inconsistent with the requirements of planning policy. Enhancement and net gains for biodiversity may be desirable "where possible" but they are not obligatory elements of planning policy, particularly in relation to effects on locally designated sites where the local designation "should not unduly restrict acceptable development". Nevertheless, and notwithstanding these policy issues, the introduction of the Pumlumon project (or other local biodiversity projects) as additional compensation more than satisfies planning policy, and would secure not only long term gains, but a balance of biodiversity during the operation of the scheme.
- 21.52 It will be for the Planning Authority to interpret policy in determining the Nant Llesg planning application. It is however submitted that the policy requirement in respect of nature conservation is met during the operation of the scheme and exceeded in the long term.
- 21.53 It will also be for the Planning Authority to balance the assessment of effects on nature conservation interests against other wider issues. The original Planning Application Statement concluded that the overall balance of need against environmental effects weighs heavily in favour of permission being granted. In reaching that conclusion it was acknowledged that there would be a negative biodiversity impact during the operation of the mine (notwithstanding the mitigation and compensation incorporated into the scheme), but a biodiversity balance in the long term. With the inclusion of further mitigation and compensation as set out in the Addenda to the Planning Statement and ES, these biodiversity conclusions have been updated to a balance during operations and a now anticipated benefit in the long term. In these circumstances, the planning balance now weighs more heavily in favour of planning permission being granted.



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