

Environmental Screening Advice Note

Screening completed by		Joshua Gittins		
		11/03/2022		
Project Name	Havan Me	tal Mine Remedi	ation	
Location	Havan Me Cambrian Ceredigior	tal Mine, Mountains า	Grid reference	SN 730 880
Senior User	Peter Star	nley	Senior User Post Title	Metal Mines Programme Lead
Project Manager	Dayne Jar	nieson	Project Manager Post Title	Projects Delivery
Community Risk Register Area (for FRM projects)	-		Strategic Context e.g. CFMP / SMP Policy, RBMP	Water Framework Directive – Leri
Set out the backgro	ound, scop	e, description, a	and objectives o	f the project (information from project mandate)



Background

The Havan mine site (SN730880) is located within the Cambrian Mountains in Ceulanamaesmawr, Ceredigion, Wales approximately 1 km west of the Nant-y-Moch Reservoir, 6 km north of the A44 and 7 km east of Tal-y-bont. The site Red Line Boundary can be seen in Annex 1. The mine extends from the quarry (SN 73134 88078) located at the highest eastern most end of the site, downgradient approximately 500m along the Nant y Maes-mawr with an approximate footprint of approximately 5 hectares (Ha).

Havan mine has been abandoned since the early 1900s, the mine extracted ores of galena, sphalerite and malachite which are rich in lead (Pb), zinc (Zn) and copper (Cu) respectively. The first recorded working was in 1620 under Caninog or Bwlch Canigog; a century later in 1702, the mine was worked by the Job Sheldon & Co. who raised several hundred tons of Pb ore. Production was frequently halted and re-started; the mine was further worked during the following periods 1850-54, 1857, and 1863-5, 1897-1900.

Contaminated mine water from this site has been identified by the Coal Authority and NRW as being a contributor to WFD failures (Reasons for Not Achieving Good Status). However, the below WSP report determines that the risk of the mine in terms of the prioritisation matrix should be downgraded to Amber rather than Red, pending further investigations into long-term loadings and the feasibility of mine water treatment.

20220202_WSP_Hav an_DskStdyInterpRep

Regardless, there area safety concerns regarding the geohazards outlined in the WSP report above that require addressing. Due to this, investigations into water quality improvements will be appraised as part of the overall project to improve mine safety.

Scope & Objectives

The following works are being considered for this site:

- Engineered channel to contain water course for full length of site, circa 350m. Engineered channel to prevent water entering mine system at various points along the site.
- Regrade of spoil material in vicinity of Adit no. 5 to reduce possibility of failure of material.
- Blow out prevention works at Adit no. 5, which is currently blocked. Likely to consist of drilling above adit, dewater of mine



water, excavation of adit portal, construction of new secure adit portal to allow free flow of water from the mine.

This screening has been undertaken based on the above potential works, provided by the PM in the following email:

RE_ Metal Mine Programme - Environ

Environmental Screening

	Environmental Desk Based Assessment	Follow up Action Required	Who will carry out the follow up action?	Action Tracker
Key environmental receptors	Population & Human Health Adit No.5 is the primary discharge point for contaminated water across the site – this flow drains into Nant Y Maes Mawr, an upstream headwater of the River Leri. There are no inhabited residential properties near to the site as it is located in a remote part of the Cambrian mountains. Human health risks exist on-site due to indirect exposure to contaminated waters and sediments and	 Population & Human Health (Recreation) The Project Manager (PM) should consider any works-phase impacts on visitors using the area recreationally. Appropriate working hours to be agreed (for contractor or in-house Operations team) with the Ceredigion County Council (CCC) in advance to mitigate any issues relating to construction disturbances. Minimise the footprint and confirm any construction compound requirements. The closest properties (if any) to the access roads to site should be informed of the plans. Engage any relevant landowner(s) early, to ensure considerate traffic planning and minimise disruptions. Consult with CCC PRoW officer regarding the work's impact on any footpaths which run close to the potential scheme, if temporary diversions are necessary. 	PM	To be completed by PM to document whether action has been completed. Advice Note should then be used as supporting document when applying for project approval (e.g. submissions to Project Approval Board / Programme

direct risk from			Board).
geohazards, such as			
collapse or blow out.			
The scheme is			
located west of a B			
road running		РМ	
alongside Nant Y			
Moch reservoir.			
Access to the site is			
limited.			
Nearby Public Rights			
of Way (PRoW)			
footpaths exist			
adiacent to the mine			
sites.			
Biodiversity,			
Fisheries & Invasive	Biodiversity, Fisheries & Invasive Non-Native Species		
Non-Native Species	It is recommended that a Preliminary Ecological Appraisal be		
There are no National	undertaken by appropriately gualified ecologists to determine		
Site Network	whether the protected and priority species recorded by the LRC are		
designations within	still within the vicinity and to confirm whether there are no Invasive		
1.5 km of the site.	Non-Native Species present. This will inform more detailed Phase II		
However, there are	Habitat or Protected Species surveys that might be required		
two Sites of Special	(dependent upon findings). During this phase, also consult CCC		
Scientific Interest	regarding any TPOs. The surveys undertaken should also consider		
approx. 1km north	provisions of the Birds Directive 2009. A Habitats Regulations		
(Mwyngloddfa Nant-	Assessment (HRA) is unlikely to be required for these works. Consult		
y-cagl – Eaglebrook	with the local Environment Team		
mine) and east	(CeredigionEnvironmentTeam@cyfoethnaturiolcymru.gov.uk) about		
(Mwyngloddfa	the survey work.		
Brynyrafr) of the site.			

The site is also	Finally, the scope should include INNS/Biosecurity, including a		
located within the	Biodiversity Risk Assessment (EIA regs) and any necessary		
Dyfi UNESCO	provisions relating to Invasive Alien Species Order 2019 (seek		
Biosphere reserve.	advice of Enforcement and Permitting;		
	permittingservice@cyfoethnaturiolcymru.gov.uk).		
There is the potential			
for the area of the			
proposed scheme to			
support protected			
and notable species.			
There is recorded			
evidence of priority &			
protected mammals			
(e.g. European Water			
Vole, Western Barn			
Owl and Sand			
Grimmia). There is			
potential for			
nationally important			
metalliferous lower			
plants to be present,			
as recorded during		РМ	
the WSP survey –			
see WSP report			
section 2.3			
(Designations).			
,			
It is anticipated that			
some additional local			
vegetation clearance			
be necessary to			
improve access to			
the site.			
	The site is also located within the Dyfi UNESCO Biosphere reserve. There is the potential for the area of the proposed scheme to support protected and notable species. There is recorded evidence of priority & protected mammals (e.g. European Water Vole, Western Barn Owl and Sand Grimmia). There is potential for nationally important metalliferous lower plants to be present, as recorded during the WSP survey – see WSP report section 2.3 (Designations). It is anticipated that some additional local vegetation clearance be necessary to improve access to the site.	The site is also located within the Dyfi UNESCO Biosphere reserve. There is the potential for the area of the proposed scheme to support protected and notable species. There is recorded evidence of priority & protected mammals (e.g. European Water Vole, Western Barn Owl and Sand Grimmia). There is potential for nationally important metalliferous lower plants to be present, as recorded during the WSP survey – see WSP report section 2.3 (Designations). It is anticipated that some additional local vegetation clearance be necessary to improve access to the site.	The site is also located within the pyfi UNESCO Biosphere reserve. There is the potential for the area of the proposed scheme to support protected and notable species. There is recorded evidence of priority & protected mammals (e.g. European Water Vole, Western Barn Owl and Sand Grimmia). There is potential for nationally important metalliferous lower plants to be present, as recorded during the WSP survey – see WSP report section 2.3 (Designations). It is anticipated that some additional local vegetation clearance be necessary to improve access to the site.

		PM	
Land (eg land take) Surrounding land-use is a primarily upland scrub with some low- grade grazing land west of the site and forestry to the north and east. As mentioned, there are some B roads connecting the site to the surrounding area and Nant-Y-Moch Reservoir. Areas the opposite side of the reservoir are registered Common Land.	Consider the Local Development Plan.		
System would require land-take.			
Soils (eg organic matter, erosion, compaction, sealing)	<u>Geology & Soils</u>		
The site is located with the Carn Owen Geological Conservation Review	If a construction compound is necessary, then it should be minimal (in terms of footprint) any land used must be restored to its previous land-use and soil quality. Every effort should be made to protect surface and groundwater from contamination during any	РМ	

Site (GCRS). The	groundworks and construction (fuel leaks etc.) – follow <u>GPP5</u> and		
SSSI~1km north of	use correct materials storage procedures. The hydrogeological		
the mine site is	baseline and vulnerability is recorded in the VVSP report included in		
designated for its	the introduction. Further sampling of groundwater and mine		
geological Interest	discharge may be required to understand the temporal changes in		
(Eaglebrook mine)	quality/metal loading.		
and is also a GCRS.	I ne large cost of contaminated spoll waste disposal should be		
Madal viele veine	accounted for during options appraisal. A better geotechnical		
Metal-rich mine	understanding of the site should be gained early on in the project –		
waste is likely to be	Speak to Nick Rogers (Geoscience for scoping).		
on-sites. Mitigation to			
prevent the			
mobilisation of			
contaminated line			
required during			
works			
WOINS.		PM	
Water (eg			
hydromorphological			
changes, quantity			
and quality)			
The streams and			
rivers that drain the			
mine site join the	Water (inc Water Framework Directive (WFD)		
upper Leri which is			
classified as an	WFD Preliminary Assessment (screening) may be required – see		
Overall Moderate	NRW WFD Assessment Operational Guidance Note. Also, an		
Status WFD river	Ordinary Watercourse consent is likely required. Geomorphology		
waterbody. East of	(oliver.lowe@cyfoethnaturiolcymru.gov.uk) require consultation		
the site, The Nant Y	regarding the engineered channel works and any SMNR	PM	
Moch reservoir is an	opportunities to improve/restore the river environment and/or work		
overall Moderate	with natural processes (WWNP).		
Status WFD lake			

waterbody and a	Water quality and sediment management - particularly during		
Drinking Water	construction – is crucial. The sediment and water quality		
Protected Area lake.	management procedures should be outlined clearly in the project		
	Method Statement. Local Environment Team require consulting on		
<u>Air</u>	this. Further, the works must not increase flood risk and should be		
There are no Air	planned and timed to minimise the risk of flooding affecting		
Quality Monitoring	construction – ideally, the construction plant (and any materials)		
Stations situation	should be stored outside of the floodplain.		
near the proposed			
project site.	Geomorphology's comments suggested the current scope of work	PM	
	will unlikely meet WFD and SMNR objectives - options should be		
Any fine sediment	considered such as sealing the mines, infilling any drainage		
from the spoil tips or	ditches/channels created and restoring the natural vegetative surface		
groundworks are	in an attempt to reduce and restore the natural hydrology – thereby		
likely to contain	reducing runoff over the contaminated site and permitting natural		
heavy metals.	processes to clean and filter that water that does become		
	contaminated. Further, the upper catchment hydrological dynamics		
<u>Climate (eg</u>	require clarification in relation to drainage, groundwater and historical		
<u>greenhouse gas</u>	channel geomorphology – they recommend engaging a		
emissions, impacts	hydromorphologist early in the project.		
<u>relevant to</u>			
adaptation)	Air		
The Carbon neutrality	Dust suppression would be required if construction is undertaken		
of these works should	during a dry period as the mobilised dust may contain significant		
be considered via	quantities of heavy metals.	EAT	
design and offset			
Met earbon			
be sought through			
appropriate			
appropriate			
unland vegetation			
นุ่มสาม ของอเล่แบบ.			

Landscape

The site is located within the Upland Ceredigion Historic Landscape. This site would also form part of the wider midwales historic metal mining landscape character.

Cultural Heritage

There are no Listed Buildings within the vicinity. The Carn Owen (Cerrig yr Hafan) Scheduled Monument (SM) located along the northern boundary of the site. There are no conservation Ares within 500 m of the site. There is a significant

risk of unknown archaeology being present at site.

Material Assets

Minimal utilities are expected in the area,

Climatic Factors

Project designers should consider potential opportunities for better local climate change adaption (e.g. minimise GHG emissions, using low-carbon material, offset tree/shrub planting for shade and green engineering options rather than materials with high carbon footprints as well as taking opportunities to restore the natural environment so as to increase carbon sequestration) and sustainable resource management. Any water storage or channel capacity design should account for potentially increasing volumes of water related to more extreme rainfall events.

<u>Landscape</u>

Consultation with NRW Landscape Architect (<u>Marianne.jones@cyfoethnaturiolcymru.gov.uk</u>) is required surrounding the landscaping and reprofiling of the spoil tips, in addition to the watercourse engineering. For awareness, this project area may be covered by the 'Summit to Sea' project across the Dyfi catchment looking at re-wilding and wider improvements to the natural environment - <u>Where and why?</u> | <u>Summit To Sea (summit2sea.wales)</u> РM

	but a search must be undertaken to confirm. Correct waste management procedures should be undertaken, especially in relation to contaminated mine spoil. The PM should be familiar with any necessary waste	<u>Cultural Heritage</u> Listed Building Consent should not be required. Early involvement from/consultation with Cadw is required due to the risk of the works impacting the SM at Carn Owen – Scheduled Monument Consent may be required. Dyfed Archaeological Trust (DAT) should be consulted.		
	licencing requirements and contractor checks must be done	<u>Material Assets</u> Progress a utilities search of the project area. Consult with local NRW (Environment Team) and Waste licencing		
Likely consenting route	Depending on the design permission – Consult the once the full scope of we applicable EIA legislation	team. The Waste licencing team can advise on the Definition of Waste (Code of Practice and Exemptions). gn/nature scale on the scheme, the project may require planning ne Local Planning Authority (LPA; i.e. CCC) for a Screening Opinion works have been determined. An EIA Screening Opinion under the on will need to be obtained to determine whether a statutory EIA and	PM	

Other approvals required	Environmental Statement is required, the screening decision should then be advertised by the appropriate authority. If a Statutory EIA is not required, the scheme will still require an Environmental Constraints and Opportunities Record (ECOR), Environmental Constraints and Opportunities Plan (ECOP), and EAP in accordance with NRW Operational Guidance Note 87 – Undertaking Environmental Assessment of Internal Projects. - Scheduled Monument Consent - Public Right of Way Temporary Diversion Order - Ordinary Watercourse Consent	PM	
Environmental opportunities	 The proposed project should consider the Sustainable Management of Natural Resources and any environmental constraints highlighted above. To maximise the multiple benefits delivered by the proposed scheme, the following suggestions are important should be considered: WFD mitigation measures to avoid status deterioration and should seek to positively work towards the WFD objectives for the waterbody – as above – consult with area WFD Lead (Helen Millband) and local element specialists (e.g Hydromorphology – Oliver Lowe, Fisheries – Richard Pierce) for advice and delivery, and report findings; Seek assistance and review necessary mitigation measures to deliver actions proposed by the Prioritised Improvement Plants (Natura 2000 associated sites, like this SAC); Identify SMNR opportunities through the restoration of natural forms and WWNP; Naturalised channel geomorphology to foster flow attenuation, ecological refuge and riparian flora/fauna growth through artificial floodplain connectivity; There are also opportunities for tree and/or shrub planting to promote ecological integrity for better biodiversity, and provide potential Natural Flood Management properties; and Finally, educational gains could be delivered (as discussed in the Population and Human Health section of this screening). 	PM	Ensure any benefits delivered are reported to the benefactor and to the communications team for publicising.

A map of the Red Line Boundary and a map highlighting some of the scheme constraints has been included within Annex 1. Record of all consultation responses can be found within Annex 2.

Screening Conclusion

- Following a review, the Environmental Assessment Team (EAT) have determined that this project has potential to be medium environmental risk because of the nature of the receiving environment, the scale of the proposal and/or the complexity or profile of the project.
 - Environmental Assessment Team (EAT) should be included in the project team for the Initial Assessment stage to allow environmental consideration of the options appraisal process and to advise on environmental risk management for the project. The Project Manager should inform EAT of the project programme as early as possible in order that EAT can seek to secure resource to support this project.

HANN WOS hvni ps

Annex 1: Site Red Line Boundary & Constraints map

Site Red Line Boundary.



Constraints map for Haven metal mine site.

Annex 2: Parties consulted in the screening

Name Fu	nction	Date issued	Response received	Comments Received	Action taken to address

					comments
Alice Pyper	Dyfed Archaeological Trust	18/03/2022	-	-	EAT chased response 07/04/2022 – email here: RE_ Screening Advice Note - Havan Metal M
Geoscience	Geoscience	18/03/2022	25/03/2021	RE_ Consultation_ Screening Advice Not	Comments integrated into SAN.
Oliver Lowe	Geomorphology	18/03/2022	30/03/2022	RE_ Consultation_ Screening Advice Not	Comments integrated into Water section of this document.
Ceredigion Environment Team	Environment/ecology	18/03/2022	-	-	PM to chase involvement from local Environment Team
Marianne Jones	Landscape	18/03/2022	28/03/2022	RE_ Consultation_ Screening Advice Not	N/A
Helen Millband	WFD	18/03/2022	-	Discussed on call – highlighted the risk of metals to the lower catchment WFD status – supports remediation work.	PM to include Helen as consultee for options appraisal & baseline assessment.