



REPTILE TRANSLOCATION

PENDERYN SURFACE
MINE

CLIENT





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1 BACKGROUND

- 1.1 This report describes a mitigation strategy and the implementation of a rescue programme for common lizards within the 1ha extension of the current mining operations at Penderyn surface mine. The mine site is situated in a rural area to the east of the village of Penderyn, RCT.
- At central OS grid reference: SN 95818 09025
 - Postcode: CF44 9JY



2 IMPACT ASSESSMENT

Short and medium term impacts

- 2.1 An area of approximately 1ha is likely to be affected by ground clearance activities. Reptiles within this area will be at risk of injury and killing because of the works.
- 2.2 Works may also result in displacement of reptiles into surrounding areas, increasing pressure on habitats and food resources.

Long-term impacts

- 2.3 A small amount of reptile habitat, relative to the site, will be lost because of the works. The loss of this area will not greatly reduce the capacity of the site to support common lizards and is unlikely to result in population decreases.
- 2.4 Areas of retained reptile habitat will not be subject to disturbance from direct human activity, or predation and disturbance by cats and dogs, due to its remote, upland location.

Summary of impacts at the site level

- 2.5 The works on site may result in impacts on reptile in the zone of influence only, as a result of incidental killing and injury, and loss of habitats.

Summary of impacts in a wider context

- 2.6 The development proposals are unlikely to have any direct impacts on reptile populations within the wider area, although displacement of reptiles from the site may increase pressure on areas of reptile habitat within the surrounding area.



3 MITIGATION STRATEGY

3.1 This section outlines the mitigation strategy that was implemented to avoid conflict with legislation relating to reptiles. In summary, the strategy involves:

- Capture, exclusion and translocation of reptiles from the development area to receptor habitats.
- Post-development management of receptor habitats.

On Site Receptor Habitats

3.2 Although a proportion of the existing reptile habitat will be lost. Much of the retained surrounding habitat offers potential for reptiles. It therefore isn't necessary to provide additional areas of suitable reptile habitat, offsite. Reptiles that are captured will be translocated to an area to the west or east of site. A map showing the translocation areas is shown in *appendix 1*.

Capture, Exclusion and Translocation

3.3 Removal and exclusion of reptiles from the development area used the following methods:

Trapping and translocation

3.4 Reptile exclusion fencing was erected around the development area. All areas were trapped for reptiles. The area was trapped at a minimum density of 100 refugia/ha until results indicate that all reptiles have been removed (a minimum of 30 days, with a minimum 5 successive trapping days having been completed with no captures, depending on capture record and time of year). Trapping was only carried out in suitable weather conditions i.e. temperatures roughly between 9°C and 20°C and low winds. All captured reptiles were relocated outside the development area described above.

3.5 Efforts were made when capturing reptiles to ensure males, female and juvenile lizards are bagged separately, to try and limit fighting and fatalities during transport.

Habitat Mitigation

3.6 Short-term mitigation for the loss of suitable habitat will be by increasing the carrying capacity of the retained habitat by introducing stone pile (3m x3m) refugia (for winter hibernation). The refugia will be implemented



as part of the reptile re-location programme. An ecologist will identify and check the proposed site for species, such as nesting birds or reptiles, prior to any creation works being started, if any such species are confirmed an alternative site will be chosen or works delayed to avoid any impacts upon such species.



4 RESULTS

- 4.1 Artificial reptile refugia was deployed across the site on the 18th July 2016. The translocation was undertaken from the 15th Aug – 12th Oct 2016, with a total of 34 reptiles moved from the development area. Five days without capture was achieved in early October.
- 4.2 All but one of the reptiles were caught in a small area of good quality habitat on the western end of the fenced capture area (*see heat map of capture locations*). The remainder of the site was suboptimal habitat with large areas of short grass, heavily grazed by sheep. Most of the captures were juvenile lizards from this year, there were a small number of sub adults and fewer adults. Table 1 below summarizes the data from the translocation works.

**Table 4: Results table.**

	Suitable Visit N°	Temp °C	Cloud Oktas	Wind Beaufort	Results N° Lizards	Unsuitable	Notes	Male	Female	Juv	Sub
18/July/16							Mats placed out				
15/Aug/16	1	20	3	1	1					1	
16/Aug/16	2	17	4	1	1					1	
17/Aug/16	3	15	1	1	1					1	
18/Aug/16	4	15	1	1	1				1		
19/Aug/16						✓	Rain				
20/Aug/16							Quarry Shut				
21/Aug/16							Quarry Shut				
22/Aug/16	5	17	1	1	1					1	
23/Aug/16	6	19	3	1	1						1
24/Aug/16	7	15	3	1	1					1	
25/Aug/16	8	14	2	1	1						1
26/Aug/16	9	16	3	1	No catches						
27/Aug/16							Quarry Shut				
28/Aug/16							Quarry Shut				
29/Aug/16	10	16	1	1	1				1		
30/Aug/16	11	15	2	1	1						1
31/Aug/16	12	17	1	1	1						1
01/Sep/16	13	17	2	1	4			1	1	2	
02/Sep/16						✓	Rain				
03/Sep/16							Quarry Shut				



04/Sep/16							Quarry Shut				
05/Sep/16						✓	Rain				
06/Sep/16	14	17	3	1	1					1	
07/Sep/16	15	17	4	1	1					1	
08/Sep/16	16	18	3	1	1						1
09/Sep/16						✓	Rain				
10/Sep/16							Quarry Shut				
11/Sep/16							Quarry Shut				
12/Sep/16						✓	Rain				
13/Sep/16						✓	Rain				
14/Sep/16	17	19	1	1	1		Male found in area further east.	1			
15/Sep/16	18	17	1	1	1					1	
16/Sep/16	19	15	1	1	5			1		2	2
17/Sep/16							Quarry Shut				
18/Sep/16							Quarry Shut				
19/Sep/16	20	13	8	1	1					1	
20/Sep/16	21	13	8	1	1						1
21/Sep/16	22	14	8	1	1					1	
22/Sep/16	23	16	6	1	No catches						
23/Sep/16	24	16	5	1	No catches						
24/Sep/16							Quarry Shut				
25/Sep/16							Quarry Shut				
26/Sep/16						✓	Rain				
27/Sep/16						✓	Rain				
28/Sep/16						✓	Rain				
29/Sep/16	25	13	6	1	4				1	3	

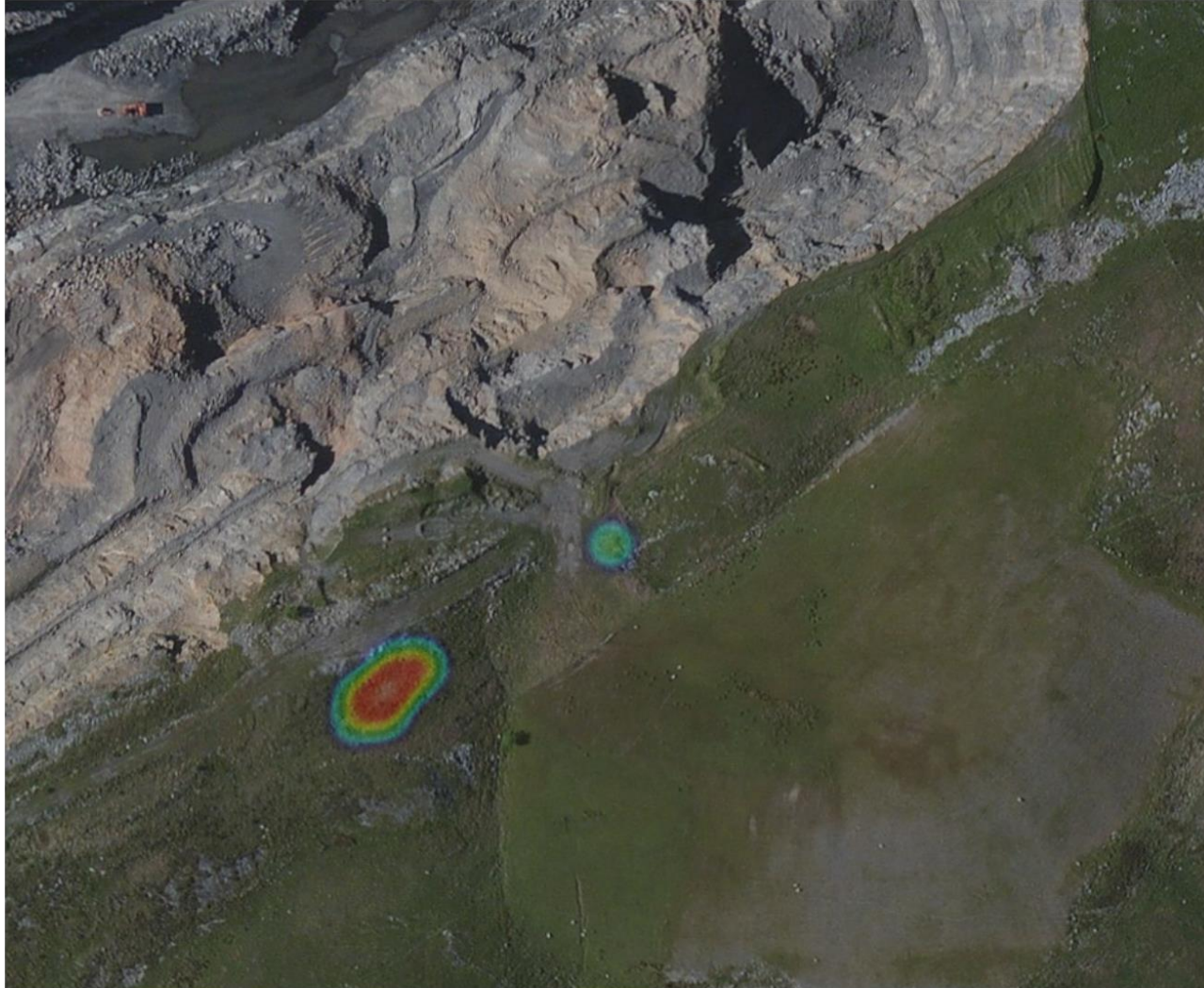


30/Sep/16						✓	Rain				
01/Oct/16							Quarry Shut				
02/Oct/16							Quarry Shut				
03/Oct/16	26	12	1	1	1						1
04/Oct/16	27	14	3	1	No Catches						
05/Oct/16	28	13	4	1	1						1
06/Oct/16	29	13	5	1	No Catches						
07/Oct/16	30	11	2	1	No Catches						
08/Oct/16							Quarry Shut				
09/Oct/16							Quarry Shut				
10/Oct/16	31	12	3	1	No Catches						
11/Oct/16	32	13	3	1	No Catches						
12/Oct/16	33	12	3	1	No Catches						
Total								3	4	17	10

Appendix 1: Map showing translation zones and reptile capture locations.



Appendix 1: Heat map of capture locations.



Appendix 2: Photographs of some translocated individuals.

Juvenile



Sub adult



Female



Male





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