

HPAR6004 - Strata Florida Diary: 28-04-2025 – 09-05-2025.

Strata Florida (Image 1; Appendix 1: 31) was an impressive medieval abbey first founded in 1164 and established by Cistercian monks, it was the final resting place for generations of Welsh princes and a place of pilgrimage (Appendix 1: 9) for centuries (Austin, 2022, p.2; Cadw, 2025). The information inputted into the diary looks at the different landscapes of the abbey mines (Image 1d), what became known as the bumpy field behind the exhibition centre (Image 1c), which also may have been where the original blueprint of the abbey was, and the pathway on the south side of the abbey shown in Image 2, in the direction of (Image 1b). This was done through observations, planning, sketching and recording.

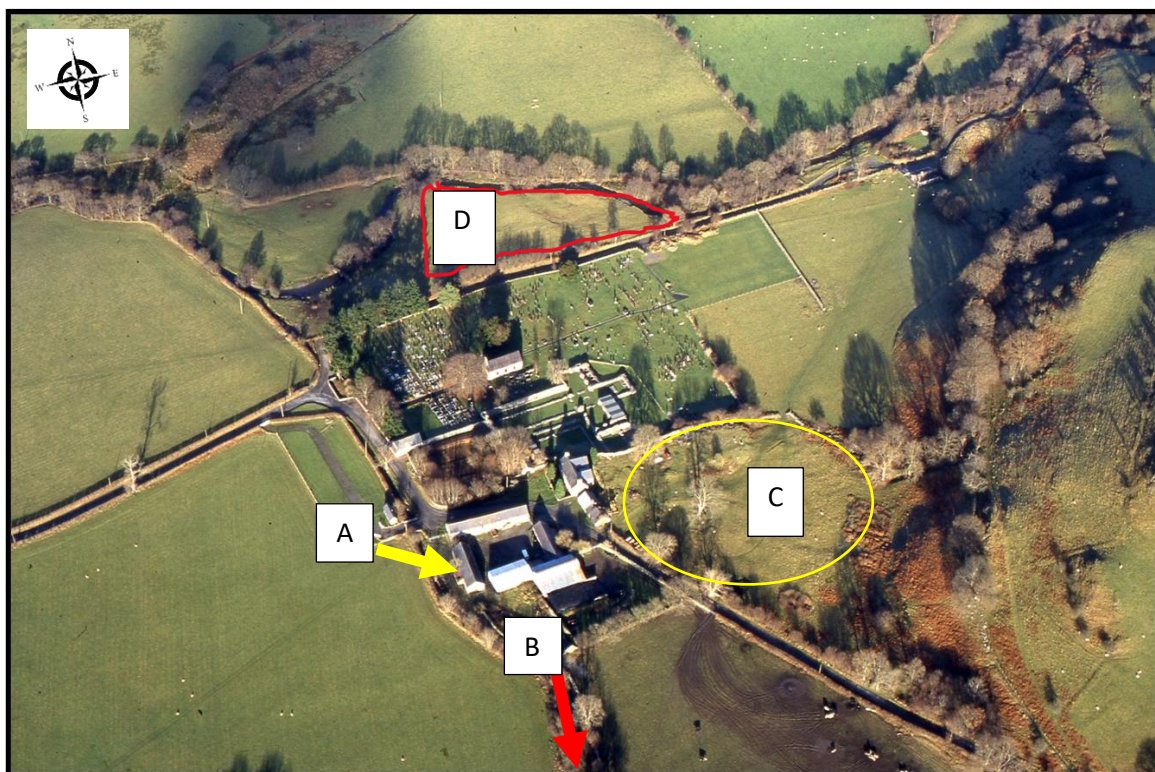


Image 1: Aerial photograph of Strata Florida displaying areas A – D that was observed, sketched and surveyed (Austin, 2022, p.2).

Health and safety and permission forms completed, we left the busy town of Lampeter on the (A482) (Map 1) and turned right for Tregaron (A485) on one of the roads that lead to Aberystwyth. Passing Glan Denys on the left, where William Julian Cayo-Evans the founder of the Free Wales Army in the 1960s was born (Geograph, 2008) in the lower-lying land that rises into the edging hills. Passing a tower on the hill in view on the right-hand side, called the Derry Ormond Tower which was designed by C.R. Cockerell and was part of a substantial mansion in 1824-27 that is now long gone

of buildings which look as if most need some sort of repair, especially their roofs, maybe due to age or possibly the harsh winter conditions.

The Strata Florida Monastic church (St. Mary's), farmhouse and buildings of Mynachlog Fawr, exhibition centre and shed where our equipment and belongings were stored (Appendix 1: 11, 13-15, 17) are on low-lying land with hills all around, secluding it (Appendix 2: 5, 6) in a flat-bottomed glacial valley (Pritchard, 2014, p. 3). Cars were entering the carpark and the cyclists encountered in the shop were from Llandovery, in comparison to visitors in carts (Appendix 1: 10) or on foot, back when the Abbey was in its glory (Appendix 1: 32a–c).

Cistercian Pathway/Old Road



Image 4: Dried up stream (Own Image, 30-04-2025).



Image 5: Wooden bridge over the river (Own Image, 30-04-2025).



Image 6: Pathway relating to rapid site survey (Own Image, 30-04-2025).

After a de-brief in the shed, we walked through the courtyard, behind the buildings, through the gate and along a path that initially had buildings on the left then a hedge (Appendix 1: 24, 27-30) and on the

right a dried-up stream with only the stones showing, a thin blue plastic pipe (Appendix 1: 25, 26) and partial well-made stone wall showing along where the stream would have once flowed. Lined with a hedge made up of hawthorn, hazel, brambles, ferns, wildflowers such as celandines, dock leaves, stinging nettles and more (Appendix 1: 2d, 5b-d). Further along the path, we went through the gate over a wooden bridge (Image 5) that crossed the Glasffrwd River (Appendix 1: 1a-c) flowing East to West, it would have once fed the now dried-up stream (Image 4). Then up a small steep bank where a path was indented into the landscape forming a T-junction. A narrower path (two paces wide) led straight onto the Abbey Woods, to its left was a slighter wider path (five paces) lined in trees not more than 100 years old. We spent the day doing a rapid site survey of the whole section of the pathway (Image 6 and Appendix 1: 3a-d), recording initial observations, regarding the trees, ground, banks, where the walls may have been and what they look like, as well as pacing the measurements to get an approximate scale. The length of the path was 114 paces before a short, steep drop at the other end. The trees that lined the path on either side were oak, hazel, beech and ash and there was a flowering apple tree (Appendix 1: 2a-c, 2f-i) at the end of the path on the right-

hand side just before the steep uneven bank going down to an open flatter wooded area, which was possibly remnants of the orchard that once grew on the slopes of the abbey (Austin, 2022, p.42, 69).



Image 9: Stone from the wall in the middle of the path (Own Image, 30-04-2025).



Image 10: Frog in the bank (Own Image, 30-04-2025).



Image 11: Rabbit droppings (Own Image, 30-04-2025).

The bank on the left-hand side was higher and wider (three paces), and beyond the bank on the same side there were scattered reeds and trees. Although bone dry now this was probably quite a wet area at one point, and the bank may have been put there to keep animals off the path and enclosed in the field or just to separate the boggier area. The bank on the right (two paces

wide) was lower and full of stones, some lying in the middle of the path (Image 9; Appendix 1:4a-d) and was once probably as robust as the walls surrounding the abbey. The Cistercian monks would have walked the mountain paths (Austin, 2022, p.56) which would have only needed to be narrow, the width of the path we surveyed suggested it may have been a more substantial road for transporting animals or designed for carts (Appendix 1: 10) rather than for monks on foot. A cuckoo and many different sounding smaller birds fill the air with their song, alongside the noise of the sheep, bees and a host of woodland creatures such as frogs (Image 10) and there is evidence of rabbits (Image 11), there are also bluebells amongst a variety of other wildflowers, mosses and grasses present (Appendix 1:5a, 6-8).

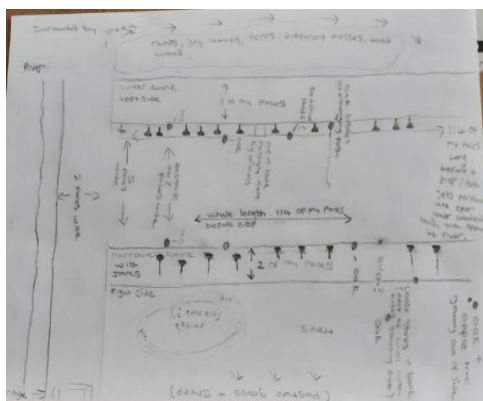


Image 12: Drawing of path with hatching lines indicating the direction of the slope (Own Image, 30-04-2025).

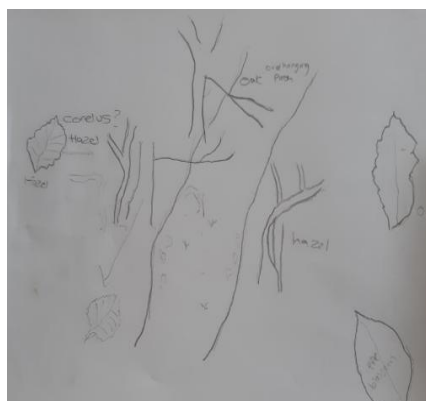


Image 13: drawing of the path with the position of some of the trees overhanging and outline of some of the leaves (Own Image, 30-04-2025).

It was difficult to know what to include when depicting the site features, so I ended up drawing several different sketches to hopefully combine them to include everything observed (Images 12, 13).

“The Bumpy Field”

Initially photographing the features in the field (Appendix 1:33-38h, 40) as well as a badger skull that was found (Appendix 1:39), then drawing a quick sketch with hachure lines to indicate the steepness of the lumps and bumps (Appendix 2: 1, 2), provided a visual representation of the slopes. Using denser short hachures for the steeper slopes and lighter and longer ones with wider spaces for gentler slopes to demonstrate the rugged terrain (Sanders, 2025).



Image 14: sketch of the bumpy field with measurements (Own Image, 02-05-2025).

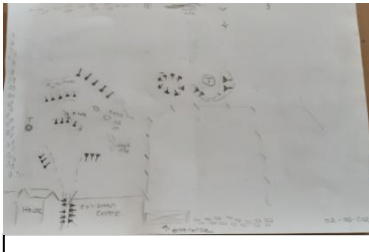


Image 15: Sketch of the bumpy field with Hachure lines and horseshoe feature around the tree (Own Image, 02-05-2025).

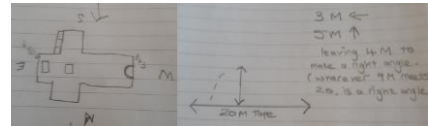


Image 16: Direction of the Abbey (Own Image, 02-05-2025).

Image 17: Measurements for a right angle (Own Image, 02-05-2025).

Measuring the distance of my paces with a tape measure, with two of my paces equal to 95cm, I



Image 18: Setting up the dumpy level across from the tree (Own Image, 02-05-2025).

Image 19: Some of the group laying down the tapes to get a right angle (Own Image, 02-05-2025).

paced the distance along the boundary wall separating the bumpy field from the graveyard (Appendix 1: 1), this was 125 paces (approximately 63 meters), from the gate to the tree was 41 paces (approximately 20 meters), from the tree to the end of the field, or where the trees lay across the floor on the east side of the field, it was 77 paces (approximately 39 meters), and finally across the field was 90 paces, approximately 45 meters (Images 14 and 15). Whilst trying to find out what direction the buildings and features were facing, Quentin Drew explained that the Arch was the West Gate, (Image 16) and the Alter was to the east

which the abbey mines were north and it was south towards the pathway or old road (Appendix 1: 17, 23).

We used the dumpy level (Appendix 1: 41a-c) to measure the height above sea level of a horse-shoe style feature around the tree (Appendix 1: 33, 37a-d). We used a rock by the entrance of the field (Appendix 1: 43a-b) as a temporary benchmark of 100 meters above sea level.



Image 20:
Plan showing
the baseline
and
intersections
on either side
(Own Image,
08-05-2025).



Image 21: Re-aligning the
reference points (Own
Image, 08-05-2025).



Image 22: Laying
down of tapes to
get a right angle
(Own Image, 08-
05-2025).

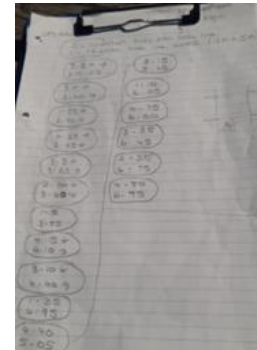


Image 23:
Measurements
where dumpy level
readings were
taken (Own Image,
08-05-2025).

Max set the dumpy level up (Image 18) levelling it by centring the bubble on the side. Looking through the dumpy level at the measuring staff placed on top of the stone, we read the measurement that lines up with the cross and remembered each red block is worth 5cm and not 1 to calculate the Back Site measurement, which was added to the Temporary Benchmark to get the Instrument height (Appendix 3a). For the features, readings were taken on the highest and lowest points plus either side of the features and recorded in the Fore-site Column, then taken away from the Instrument Height to get the Actual Height of the ground of the features measured (Civil Guidelines, 2025). Some of the group got the measuring tapes (Appendix 1: 42a, 42b), outstretching one on the flattest part as a baseline (east to west) on the right-hand side of the tree (Image 25) and another north to south, using the 3-4-5 Pythagoras method to get a right angle (Images 3, 17, 19). Measurements of the lower and higher points of the features were taken to plot on the scaled drawing (Image 23, Appendix 1:37e, 41a; Appendix 2:4; Appendix 3b). To complete a scaled drawing of “The Bumpy field”, site reference SF/2025, we used Perma-trace with graph paper underneath to a scale of 1/50 to get a fuller picture of the contours of the field (Image 24). In a group with Lilly, Remi and Kaylee we retook the measurements of the reference points with the dumpy level (anthill on one side and post on the other) to realign them on the Perma-trace as the drawing had been started the day before (Images 20 and 21), and the baseline had to be put down again as it had been moved (Image 22), which also changed the Back Site and Instrument Height measurements (Appendix 3c).

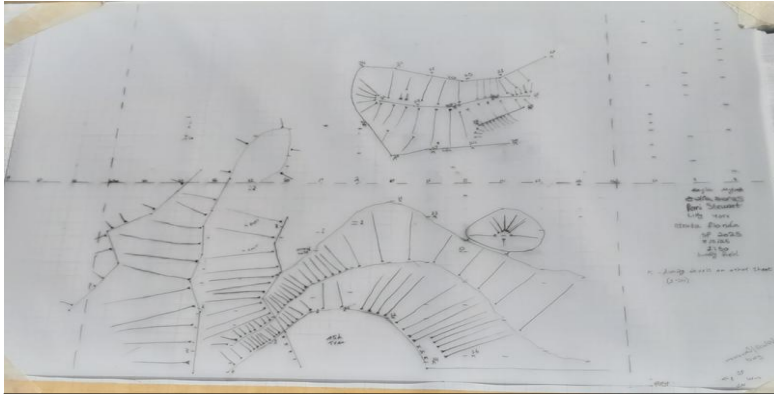


Image 24: Final Map of the area around the tree, Site code SF/2025 (Own Image, 09-05-2025).



Image 25: Tree where measurements were recorded (Own Image, 09-05-2025).

Lead/silver/zinc mines

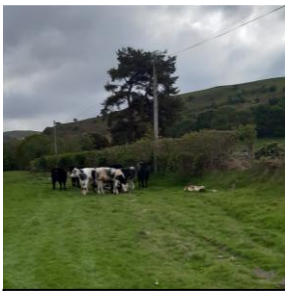


Image 26: Cows in the first field we walked through after leaving the Strata Florida road (Own Image, 05-05-2025).



Image 27: 19th century building before the steep field (Own Image, 05-05-2025).



Image 28: Looking down the hill with Strata Florida just out of sight to the right where the yellow arrow is pointing (Own Image, 05-05-2025).



Image 29: Rocky sloping field with large deep dips (Own Image, 05-05-2025).

We walked down from Strata Florida through the field (Image 26-33; Appendix 1: 44) and across the river Teifi, up the steep hill (Image 28; Appendix 1: 45-46b) to a field with big dips in the ground and stoney outcrops (Images, 29, 31, 33; Appendix 1: 47a-n, 49; Appendix 2: 7). At the top of the field there is a fence that runs across (west-east) separating the field from the slopes above covered in trees. Starting at the top of this field on the east side and looking at both the field we were in and the field with the trees above, there was a clear indent in the ground that followed the boundary of the field. It came through the corner where there was the start of what looked like a wall underneath the fencing and ran directly down the field, following the boundary and semi-filled in ditch to the nineteenth-century ruins of a building containing a partial water wheel below (Image 27;

Appendix 1: 45). Back at the top of the sloped field and the other side of the fence was what looks like an old road (Appendix 2: 8), however, it may have been a leet to channel water for one of the activities associated with processing the rock. Three-quarters of the way across the fenced boundary it looked as if there was an entry point coming into the field that was directly in line with two dips or possibly collapsed mines and an adit at the bottom (Appendix 1: 48; Image 30). The adits would have been used to look for veins of quartz and remnants can still be found all over the field (Image 32) or maybe, in lower positions, as drainage channels (Austin, 2022, p.86; Sables, 2015, p.16).



Image 30: Adit (Own Image, 05-05-2025).



Image 31: Dips in the field above the adit of the way across the field (Own Image, 05-05-2025).



Image 32: Quartz (Own Image, 05-05-2025).



Image 33: Stoney outcrop (Own Image, 05-05-2025).

Rapid site surveys using hachures and sketches are useful if time at a site is limited and can give an overview of approximate information, whereas using the dumpy level to plot the measurements of each feature was more time-consuming but much more accurate at giving an overview of the features being depicted. Photographs were useful however it was difficult identify or remember some of the features in them, therefore I found videos with a talk-over were slightly more helpful.

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Appendix 1: Photographs from the site visits.

Pathway/Old Road



Image 1a:
Glasffrwd river
(Own Image, 30-04-2025).

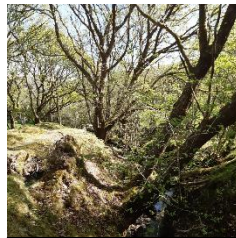


Image 1b:
Glasffrwd river
(Own Image, 30-04-2025).



Image 1c:
Glasffrwd river
(Own Image, 30-04-2025).



Image 2a: Trees
on the path
(Own Image, 30-04-2025).



Image 2b: Small
Oak tree (Own
Image, 30-04-2025).

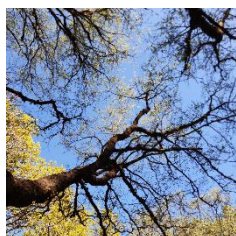


Image 2c: Trees
on the path
(Own Image, 30-04-2025).



Image 2d: Ferns
on the path
(Own Image, 30-04-2025).



Image 2e: Apple
blossom on a
tree growing
next to an oak
just off the path
(Own Image, 30-04-2025).



Image 2f: Trees
on the path
(Own Image, 30-04-2025).



Image 2g: Trees
on the path
(Own Image, 30-04-2025).



Image 2h:
Leaves from the
path (Own
Image, 30-04-2025).

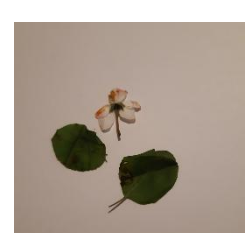


Image 2i: Apple
blossom (Own
Image, 30-04-2025).



Image 3a:
Path/Old Road
(Own Image, 30-04-2025).



Image 3b:
Path/Old Road
(Own Image, 30-04-2025).



Image 3c:
Path/Old Road
(Own Image, 30-04-2025).



Image 3d:
Path/Old Road
(Own Image, 30-04-2025).



Image 4a: Loose rocks on the path (Own Image, 30-04-2025).



Image 4b: Stones on the outer edge of path/ old road (Own Image, 30-04-2025).



Image 4c: Loose rocks on the path (Own Image, 30-04-2025).



Image 4d: Rock covered in moss on the path (Own Image, 30-04-2025).



Image 5a: Bluebells (Own Image, 30-04-2025).

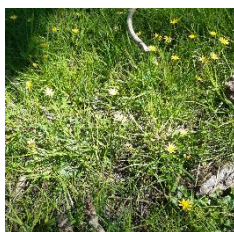


Image 5b: Celandines (Own Image, 30-04-2025).



Image 5c: Dandelions (Own Image, 30-04-2025).



Image 5d: Daisies (Own Image, 30-04-2025).



Image 6: Lady bird (Own Image, 08-05-2025).



Image 7: Black feather on the floor (Own Image, 30-04-2025).



Image 8: Bug on my bag (Own Image, 30-04-2025).

Strata Florida



Image 9:
The Pilgrim on the hill (Own Image, 08-05-2025).



Image 10: Cart in the car park (Own Image, 08-05-2025).



Image 11:
Mynachlog Fawr farmhouse (Own Image, 08-05-2025).



Image 12:
Entrance into Strata Florida (Own Image, 08-05-2025).



Image 13: Toilets next to open pastures with sheep (Own Image, 08-05-2025).



Image 14:
Mynachlog fawr buildings (Own Image, 08-05-2025).



Image 15: Farm building (Own Image, 08-05-2025).

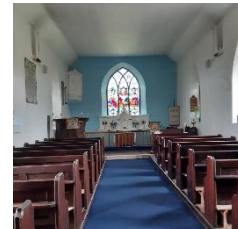


Image 16: Inside St. Mary's church (Own Image, 08-05-2025).

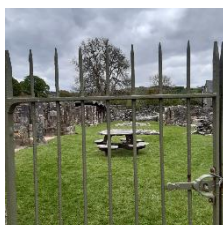


Image 17: Strata Florida abbey (Own Image, 08-05-2025).

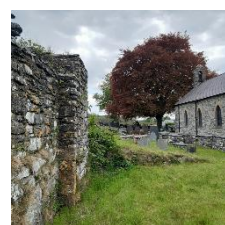


Image 18: Wall separating the graveyard from the "bumpy field" (Own Image, 08-05-2025).

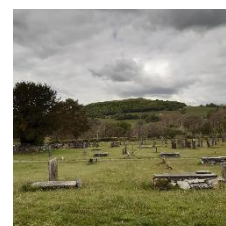


Image 19:
Graveyard (Own Image, 08-05-2025).



Image 20:
Church and graveyard (Own Image, 08-05-2025).

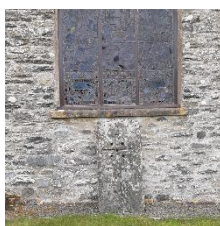


Image 21: 9th century stone outside St Mary's church (Own Image, 08-05-2025).

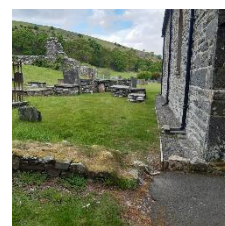


Image 22: Side of church and graveyard (Own Image, 08-05-2025).

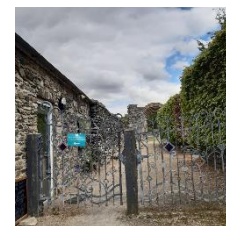


Image 23: Gates into the West Arch of the Abbey (Own Image, 08-05-2025).

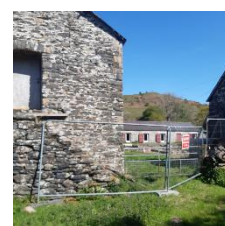


Image 24: Strata Florida buildings (Own Image, 08-05-2025).



Image 25: Dried up stream with blue pipe (Own Image, 30-04-2025).



Image 26: Dried up stream (Own Image, 30-04-2025).



Image 27: Medieval style building (Own Image, 30-04-2025).



Image 28: Lichen on the walls (Own Image, 30-04-2025).

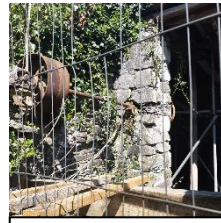


Image 29: Pre electric machinery (Own Image, 08-05-2025).



Image 30: Hedge (Own Image, 30-04-2025).



Image 31: Poster at Strata Florida (Own Image, 09-05-2025).



Image 32a: Painting showing monks and workers at Strata Florida (Own Image, 09-05-2025).



Image 32b: Painting showing monks and workers at Strata Florida (Own Image, 09-05-2025).



Image 32c: Painting showing monks and workers at Strata Florida (Own Image, 09-05-2025).

The Bumpy Field



Image 33: Tree with horse-shoe feature (Own Image, 09-05-2025).

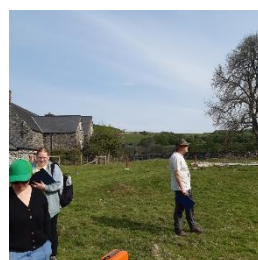


Image 34: The Bumpy field (Own Image, 09-05-2025).



Image 35: Wall separating the bumpy field from the graveyard (Own Image, 09-05-2025).

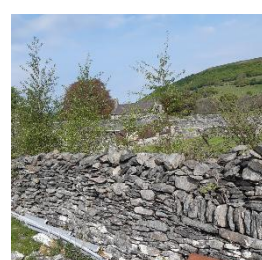


Image 36: Wall separating the bumpy field from the graveyard (Own Image, 09-05-2025).



Image 37a: Steep roots of tree (Own Image, 09-05-2025).



Image 37b: Observing the features around the tree (Own Image, 09-05-2025).



Image 37c: Features around the tree (Own Image, 09-05-2025).



Image 37d: Features around the tree (Own Image, 09-05-2025).



Image 37e: Lumps and bumps around tree (Own Image, 09-05-2025).



Image 38a: Flattened surface where the base line was laid (Own Image, 09-05-2025).



Image 38b: Bumpy Field (Own Image, 09-05-2025).



Image 38c: Bumpy Field (Own Image, 09-05-2025).



Image 38d: Bumpy Field (Own Image, 09-05-2025).

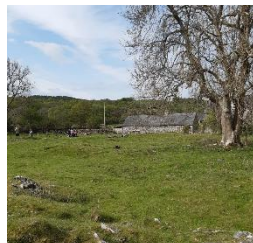


Image 38e: Bumpy Field (Own Image, 09-05-2025).



Image 38f: Bumpy Field (Own Image, 09-05-2025).



Image 38g: Bumpy Field (Own Image, 09-05-2025).



Image 38h: Bumpy Field (Own Image, 09-05-2025).



Image 39: Badger skull (Own Image, 09-05-2025).



Image 40: Rocks in the bumpy field (Own Image, 09-05-2025).



Image 41a: Gareth and Max measuring the features (Own Image, 09-05-2025).



Image 41b: Using the dumpy level to get the height above sea level (Own Image, 09-05-2025).



Image 41c: Using the dumpy level (Own Image, 09-05-2025).



Image 42a: Measuring the features (Own Image, 09-05-2025).



Image 42b: Measuring the features (Own Image, 09-05-2025).



Image 43a: Temporary benchmark (Stone) (Own Image, 08-05-2025).



Image 43b: Temporary benchmark (Stone) (Own Image, 08-05-2025).

Abbey Mines



Image 44: Calf's in the field (Own Image, 05-05-2025).



Image 45: Building at the start of the Mine field (Own Image, 05-05-2025).



Image 46a: Strata Florida mines (Own Image, 05-05-2025).



Image 46b: Strata Florida mines (Own Image, 05-05-2025).



Image 47a: Sloping lead mine field North of Strata Florida (Own Image, 05-05-2025).



Image 47b: Strata Florida mines (Own Image, 05-05-2025).



Image 47c: Lumps and bumps of the abbey mine field (Own Image, 05-05-2025).



Image 47d: Strata Florida mines (Own Image, 05-05-2025).



Image 47e:
Abbey mine
field (Own
Image, 05-05-
2025).



Image 47f:
Strata Florida
mines (Own
Image, 05-05-
2025).



Image 47g:
Strata Florida
mines (Own
Image, 05-05-
2025).



Image 47h:
Strata Florida
mines (Own
Image, 05-05-
2025).



Image 47i:
Strata Florida
mines (Own
Image, 05-05-
2025).



Image 47j: Dips
creating a zig zag
pattern down to
the 19th century
building below
(Own Image, 05-
05-2025).



Image 47k:
Field where
Strata Florida
mines are
(Own Image,
05-05-2025).



Image 47l:
Strata Florida
mines (Own
Image, 05-05-
2025).



Image 47m:
Field where
Strata Florida
mines are (Own
Image, 05-05-
2025).



Image 47n: Zig-
zag pattern in
the ground
(Own Image,
05-05-2025).



Image 48:
Inside the adit
(Own Image,
05-05-2025).



Image 49:
Rocks on the
surface of the
ground (Own
Image, 05-05-
2025).

Appendix 2: Sketches and Notes

Sketches and notes for the bumpy field

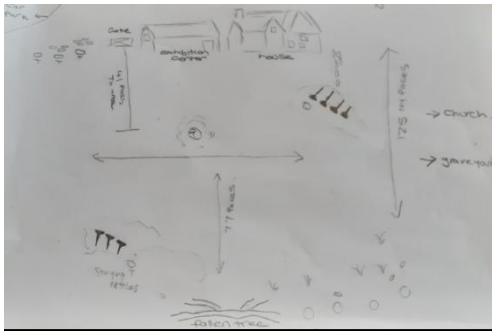


Image 1: Sketch of the bumpy field with measurements (Own Image, 02-05-2025).



Image 2: Sketch of the bumpy field with hachure lines and horseshoe feature around the tree (Own Image, 02-05-2025).

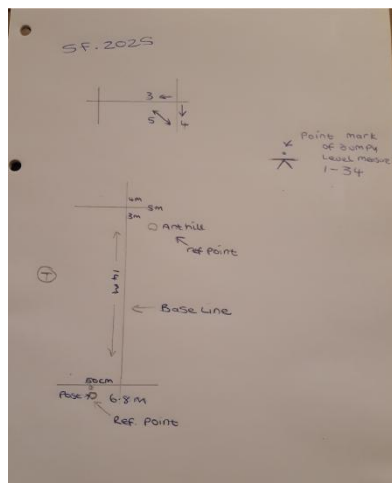


Image 3: Notes on base line layout, benchmark symbol (top right) and 3, 4, 5 right angle (top left) (Own Image, 09-05-2025).

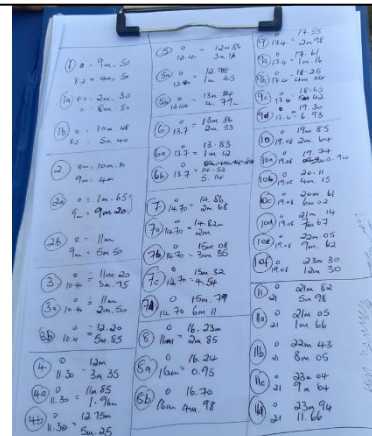


Image 4: Measurements of where dumpy level readings were taken (Own Image, 02-05-2025).

Sketches of Strata Florida

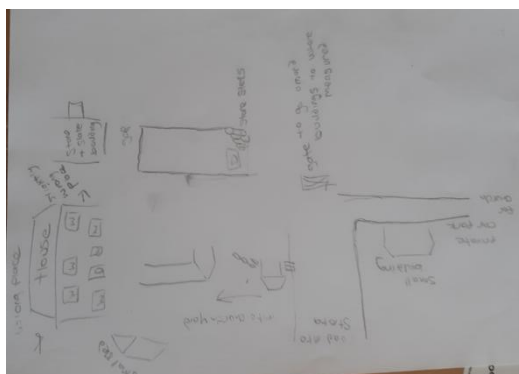


Image 5: Sketch of the buildings of Strata Florida (Own Image, 08-05-2025).

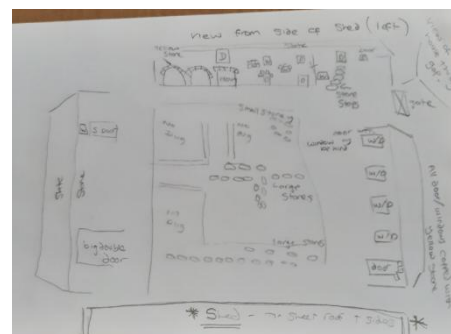


Image 6: Sketch of the buildings of Strata Florida (Own Image, 08-05-2025).

Sketches of the Abbey Mines

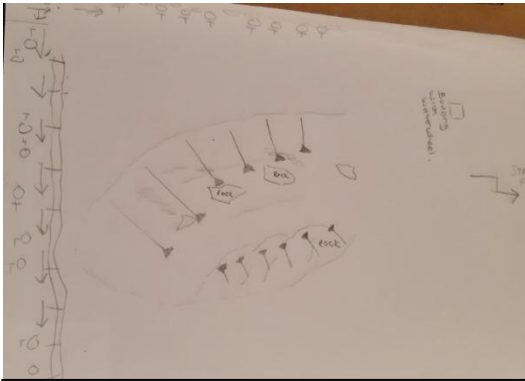


Image 7: Shape of stoney outcrop in field (Own Image, 05-05-2025).

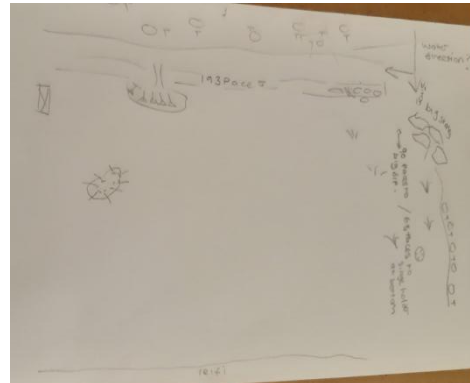


Image 8: Sloped field with mines (Own Image, 05-05-2025).

Appendix 3: Data Collection and Results

3a: Dumpy level readings

Dumpy level readings with Max, Kay, Lilly and Gareth: 02-05-2025					
	Temporary benchmark (M)	Back site (M)	Instrument Height (M)	Foresight (M)	Reduced level (M)
	100	1.71	101.71		
1	100	1.71	101.71	1.57	100.14
1a				1.58	100.13
1b				1.57	100.14
2				1.25	100.46
2a				1.51	100.2
2b				1.54	100.17
3				1.22	100.49
3a				1.43	100.28
3b				1.69	100.02
4				1.2	100.51
4a				1.47	100.24
4b				1.73	99.98
5				1.28	100.43
5a				1.5	100.21
5b				1.72	99.99
6				1.26	100.45
6a				1.52	100.19
6b				1.74	99.97
7				1.24	100.47
7a				1.42	100.29
7b				1.46	100.25
7c				1.53	100.18
7d				1.73	99.98
8				1.44	100.27
8a				1.57	100.14
8b				1.59	100.12
9				1.47	100.24
9a				1.64	100.07
9b				1.5	100.21
9c				1.56	100.15
9d				1.65	100.06
10				1.57	100.14
10a				1.67	100.04
10b				1.58	100.13
10c				1.62	100.09
10d				1.6	100.11
10e				1.81	99.9
10f				1.92	99.79
11				1.76	99.95
11a				1.81	99.9
11b				1.8	99.91
11c				1.74	99.97
11d				1.88	99.83
12				1.64	100.07
12a				1.71	100

12b				1.82	99.89
13				1.6	100.11
13a				1.74	99.97
	T.B.M (M)	B.S (M)	Col. (M)	F.S (M)	R.E level (M)
13b	100	1.71	101.71	1.84	99.87
14				1.59	100.12
14a				1.83	99.88
14b				1.85	99.86
15				1.6	100.11
15a				1.78	99.93
15b				1.77	99.94
16				1.65	100.06

3b: Measurements

Measurements for the features around the tree in the “Bumpy Field” with Lilly, Remi and Kaylee 09-05-2025.				
23M				
Ant Hill	1.90			
Other side of Ant Hill	2.70			
22M	4.70	1		
	4.90			
	5.35			
	5.90			
	6.40			
	6.70	2		
M.D 1M (21M)		3M from Baseline		
	0.25			
	0.50	3		
	1.65			
	2.60			
	3.65			
	4.80			
	5.30			
	6.00			
	6.60			
	6.90	4		
M.D 1M – 20M	1.70	5		
	2.10			
	3.50			
	5.00			
	5.90	6		
M.D 1M (19M)	1.90	7		
	2.60			
	3.80			
	4.30			
	4.80	8		
M.D 1M (18M)	1.50	9		
	1.60			
	3.20			

	4.10			
	4.70	10		
M.D 1M (17M)	0.70	11		
	3.00			
	5.00	12		
M.D 1M (16M)	1.30	13		
	3.00			
	4.50			
	5.00			
	6.70	14		
M.D 1M (15M)	0.50			
	2.20			
	2.60	15		
	3.70			
	4.50			
	6.20	16		
M.D 1M (14M)	1.00			
	2.00			
	2.70			
	5.00			
	6.20			
M.D 1M (13M)	1.80			
	3.20			
	3.70			
	6.00			
	0.10			
	1.30			
	3.50			
	6.30			
1M the other side of the tape – 11.5	1.00			
	1.25			
	2.00			
	2.30			
	2.65			
	3.80			
	5.60			
	6.50			
	0.80			
	1.75			
	3.40			
	3.80			
	4.40			
	5.50			
	6.10			
	0.40			
	2.00			
Post to baseline 7M Down, 50 cm across				

3c: Second set of dumpy level readings

The second set of Dumpy level readings with Lilly, Remi and Kaylee 08/09-05-2025.					
	T.B.M (M)	B.S (M)	I.H (M)	F.S (M)	R.E level (M)
	100	1.63	101.63		
1			101.63	1.02	100.61
2				1.42	100.21
3				1.38	100.25
4				1.34	100.29
5				1.41	100.22
6				1.00	100.63
7				1.47	100.16
8				0.64	100.99
9				1.42	100.21
10				0.63	101
11				1.54	100.09
12				1.1	100.53
13				1.5	100.13
14				1.23	100.4
15				1.45	100.18
16				1.54	100.09
17			101.63	1.48	100.15
18				1.5	100.13
19				1.44	100.19
20				1.71	99.92
21				1.23	100.4
22				1.23	100.4
23				1.48	100.15
24				1.7	99.93
25				1.24	100.39
26				1.23	100.4
27				1.61	100.02
28				1.3	100.33
29				1.16	100.47
30				1.47	100.16
31				1.34	100.29
32				1.24	100.39
33				1.39	100.24
34				1.54	100.09