

Environment Agency – Mining Remediation Authority Mine Water Heat Schemes Application Process Timeline – 9 December 2024

This spreadsheet includes the:

1) **User Information and Key** to the process timeline

2) **The Environment Agency (EA) - Mining Remediation Authority Mine Water Heat Schemes Application Process Timeline.**

The timeline shows the typical process an applicant would need to complete when applying for a mine water heat scheme. The process has been divided into 5 stages - 1) pre- construction of boreholes, 2) construction of boreholes, 3) testing the boreholes and system, 4) pre-Operational Phase and 5) Operational Phase. The timeline shows these stages and the associated tasks with the typical times, duration and their interdependencies. The applicant must complete stages 1 to 4 before moving to the operational phase (stage 5) and they must complete each stage before they can move on to the next. Where there is insufficient information and/or the proposals are deemed unacceptable (i.e. high risk to the environment) the applicant may have to return to a previous task.

3) **Timeline Task Notes** - supplementary information providing further detail as to what form the task is, how long it is, what is included and/or expected to be included in each task

PLEASE NOTE:

The tasks can be either **milestones, processes or both.**

The timescales shown within the timeline are **indicative times only** for applicant/ operator planning purposes.

Decommissioning

All boreholes constructed that are found to be unsuitable for abstraction or reinjection shall be either decommissioned or converted to long term monitoring boreholes and shall be incorporated into the Mine Water Heat Access Agreement (MWHAA). None should be left open and abandoned. Decommissioning shall follow Mining Remediation Authority requirements and best practice.

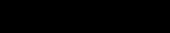
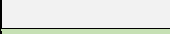
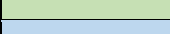

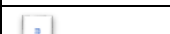


Terminology

For the purpose of this timeline and supporting notes the terms '*borehole*' and '*well*' are considered to mean the same.

The term '*Applicant*' is used by EA (for all EA related tasks) and could be an agent/ consultant working on behalf of the owner/ operator/ potential operator of the mine water heat scheme. All relevant parties will need to ensure they are fully informed of the process and stage which the application is at.

The term '*Applicant*' is used for all tasks related to Mining Remediation Authority processes until a MWHAA is entered into during stage 3. Once the MWHAA is entered into the term 'Operator' is used. The Applicant and Operator could be an agent/consultant/sub-consultant working on behalf of the owner/operator/potential operator.

This is the second working draft process timeline and is subject to change. Any feedback from users of this guide will be gratefully received. Please email: GWCL_NE@environment-agency.gov.uk and minewaterheatlicensing@miningremediation.gov.uk

Key	
	Stages in process
	Operator led tasks
	Tasks to undertake for the Environment Agency
	Tasks to undertake for the Mining Remediation Authority
	Summary of Stage
	Milestone
	Process

Environment Agency - Mining Remediation Authority mine water heat application process timeline 9 December 2024

ID	Task Name	Duration	Year 1												Year 2												Year 3												Year 4												Year 5													
			D	J	F	M	A	M	J	J	A	S	O	N	D	D	J	F	M	A	M	J	J	A	S	O	N	D	D	J	F	M	A	M	J	J	A	S	O	N	D	D	J	F	M	A	M	J	J	A	S	O	N	D	D	J	F	M	A	M	J	J	A	S
1	STAGE 1 (Pre-Construction of Boreholes)	Working Days	138 days																																																													
2	Pre-Application Enquiries	30 days	[Grey bar]																																																													
3	Applicant to submit a completed application form for a permit for the purpose of a mine water heat scheme (permit) to the Mining Remediation Authority.	1 day	[Blue diamond]																																																													
4	Applicant to submit a completed WR32 Groundwater Investigation Consent (GIC) form to the EA.	1 day	[Green diamond]																																																													
5	EA to assess WR32 and advise the applicant of the extent of Water Feature Survey (WFS).	10 days	[Green bar]																																																													
6	Mining Remediation Authority processes the application for a permit for the purpose of a Mine Water Heat scheme (permit).	30 days	[Blue bar]																																																													
7	Applicant to undertake an initial WFS.	65 days	[Grey bar]																																																													
8	Applicant to submit the initial WFS and updated Hydrogeological Conceptual Model to the EA.	1 day	[Green diamond]																																																													
9	EA to undertake technical assessment and draft GIC.	30 days	[Green bar]																																																													
10	EA to issue GIC to applicant, granting permission to drill boreholes and undertake well clearance.	1 day	[Green diamond]																																																													
11	Mining Remediation Authority issues permit(s)	1 day	[Blue diamond]																																																													
12	STAGE 2 (Construction of Borehole(s) and potential initial yield test)	Working Days	132 days																																																													
13	Applicant drills exploration and final boreholes	132 days	[Grey bar]																																																													
14	STAGE 3 (Testing the Boreholes and System)	Working Days	192 days																																																													
15	Applicant to request to vary GIC, allowing for pumping tests to be undertaken	1 day	[Green diamond]																																																													
16	Applicant to apply to EA for an environmental permit or register an exemption for the discharge/re-injection activity.	90 days	[Green bar]																																																													
17	Applicant to submit a completed application form and supporting documents for a Mine Water Heat Access Agreement (MWHAA) to the Mining Remediation Authority.	1 day	[Blue diamond]																																																													
18	EA to assess request to vary the GIC.	30 days	[Green bar]																																																													
19	Mining Remediation Authority completes initial review of application.	5 days	[Blue bar]																																																													
20	EA to issue GIC variation(s) to the applicant, granting permission(s) for pumping tests and system testing.	1 day	[Green diamond]																																																													
21	EA to issue an environmental permit for discharge or notify applicant of exemption registration.	1 day	[Green diamond]																																																													
22	Applicant to send a copy of the GIC to the Mining Remediation Authority	1 day	[Blue diamond]																																																													
23	Mining Remediation Authority completes a stage 1 technical assurance process of the application and terms of the MWHAA agreed with the applicant.	30 days	[Blue bar]																																																													
24	Mining Remediation Authority and applicant enter into MWHAA which incorporates Mining Remediation Authority permit(s).	5 days	[Blue bar]																																																													
25	Data Licence issued.	1 day	[Blue diamond]																																																													
26	Applicant to notify the EA of the pumping test programme at least 5 working days before the start of the pumping tests.	6 days	[Green bar]																																																													
27	Operator to notify the Mining Remediation Authority of the pumping test programme at least 10 working days before the start of the pumping tests.	10 days	[Blue bar]																																																													
28	Applicant to undertake pumping tests, monitoring and data analysis.	132 days	[Grey bar]																																																													
29	STAGE 4 (Pre-Operational Phase)	Working Days	132 days																																																													
30	Applicant to submit application for an abstraction licence to the EA.	1 day	[Green diamond]																																																													
31	Applicant to submit an application for a new environmental permit, or an application to vary an existing permit, to the EA, if required.	1 day	[Green diamond]																																																													
32	Operator to submit a completed application form and supporting documents to vary the MWHAA to the Operational Phase to the Mining Remediation Authority.	1 day	[Blue diamond]																																																													
33	Mining Remediation Authority to review the application and notify the Operator if it is complete or advise what further information is required.	10 days	[Blue bar]																																																													
34	EA to process, advertise and assess abstraction licence and environmental permit applications.	122 days	[Green bar]																																																													
35	EA to issue applicant with licence and permit where acceptable.	1 day	[Green diamond]																																																													
36	Mining Remediation Authority completes a stage 2 technical assurance process of the application and terms of the MWHAA agreed with the Operator.	123 days	[Blue bar]																																																													
37	Operator to send Mining Remediation Authority copies of the abstraction licence and environmental permit issued by the EA.	7 days	[Blue bar]																																																													
38	Mining Remediation Authority and Operator enter into an Operational Phase MWHAA.	1 day	[Blue diamond]																																																													
39	STAGE 5 (Operational Phase)																																																															
40	Operator begins long term mine water heat operation.		[Grey bar]																																																													
41	Decommissioning or Abandonment.		[Grey bar]																																																													

Task	Milestone Y/N	Process Y/N	Task description	Task type - advice / form	Clarification of process associated with task	Additional supporting information associated with task
1	N	Y			STAGE 1 (Pre-Construction of Boreholes)	
2	N	Y	Pre-Application Enquiries.	Pre-application Advice	<p>It is the applicant's responsibility to:</p> <ul style="list-style-type: none"> * Determine what permissions, licences and permits are required * Ensure the correct permissions are in place before works commence * Ensure these are complied with throughout the construction, testing and operational phases <p>A summary of the regulatory framework for coal mine water geothermal development across the UK has been compiled as part of the IEA Geothermal, Mine Water Energy Expert Group June 2023. https://iea-gia.org/areas-of-activity/geothermal-heating-and-cooling/mine-water-geothermal-energy-group/ In the knowledge sharing section of this page is a link to the Compilation of UK Regulations relating to Geothermal Energy utilisation of Coal Mine Workings.</p> <p>Guidance on open loop heat pump systems: apply to install one explains the environmental permit, consent and licence needed before you install a ground source or surface water source heating or cooling system.</p> <p>https://www.gov.uk/guidance/open-loop-heat-pump-systems-permits-consents-and-licences</p> <p>This will help the applicant/ developer assess the consent, permit and access costs and drilling/ pumping test needs at an early stage.</p> <p>Where heating/ cooling is only required during specific operational periods e.g., over winter or summer the applicant should consider the timing of applications and testing.</p> <p>It is recommended that an applicant undertakes pre-application enquiries.</p> <p>Whilst this may be a chargeable service, it should save time in the overall process. Compilation of UK Regulations relating to Geothermal Energy utilisation of Coal Mine Workings</p>	<p>Enquiries may include:</p> <p>Mining Remediation Authority The Mine Water Heat Licensing Team will: * Clarify the Mine Water Heat Access Agreement (MWHAA) process and requirements * Process any submitted applications. The Team can be contacted at minewaterheatlicensing@miningremediation.gov.uk.</p> <p>Environment Agency (EA) The Permitting Service: * Advise on abstraction licence and environmental permit (groundwater activity or discharge consent) requirements.</p> <p>Area teams: * Provide technical advice on pumping test requirements, monitoring and risk assessments.</p> <p>The EA have a presumption against consumptive schemes, meaning abstracted water shall be returned to the same aquifer.</p> <p>The Local Planning Authority (LPA) Planning permission may be required. If so, the Mining Remediation Authority will need this to be in place before entering into a MWHAA.</p> <p>Health and Safety Executive (HSE) If you intend to drill to a depth of 30m or more in a mining area, you must notify the HSE to meet the requirements of the Boreholes Sites and Operations Regulations (BSOR) 1995 Regulation 6(3). The HSE can be contacted at sheffield-ed.admin@hse.gov.uk.</p> <p>Natural Environment Research Council (NERC) If you intend to drill to a depth of more than 30m or for water related boreholes deeper than 15m, the NERC should be notified at ngdc@bgs.ac.uk.</p>
3	Y	N	Applicant to submit a completed application form for a permit for the purpose of a mine water heat scheme (permit) to the Mining Remediation Authority.	Form submission	<p>The application form can be found at https://www.gov.uk/government/publications/mine-water-heat-access-agreement</p> <p>This is a chargeable service and the Mining Remediation Authority will invoice the Applicant.</p>	<p>A permit to drill application requires submission of a gas risk assessment. This should include:</p> <ul style="list-style-type: none"> * A competent persons report for the borehole design * An initial hydrogeological conceptual model (either as a schematic section or drawing) and supporting notes prior to the drilling of boreholes. <p>By drilling boreholes an Operator can establish if they can connect with their target mine workings prior to applying for a Mine Water Heat Access Agreement. Data collected during drilling will also inform the development of a Mine Water Heat Scheme.</p> <p>We recommend that the Applicant undertakes tasks 3, 4 and 5 together.</p>

Task	Milestone Y/N	Process Y/N	Task description	Task type - advice / form	Clarification of process associated with task	Additional supporting information associated with task
4	Y	N	Applicant submits a completed EA WR32 Groundwater Consent (GIC) form to the EA.	Form Submission	<p>Applicant to complete, in full, the application form for a Groundwater Investigation Consent (GIC) and submit via email directly to EA area team (office) that covers the place where the proposed borehole will be drilled.</p> <p>Guidance on WR32 application form and details for area contacts can be found at https://www.gov.uk/government/publications/apply-for-consent-to-investigate-a-groundwater-source. This webpage includes area office/ team email addresses.</p> <p>The WR32 application form can be found at https://assets.publishing.service.gov.uk/media/64d221cbe5491a00134b59b8/Wr32-application-for-a-consent-to-investigate-a-groundwater-source_english.pdf</p>	<p>The GIC application should include as much information as possible including:</p> <ul style="list-style-type: none"> * the borehole design * the initial hydrogeological conceptual model (either as a schematic section or drawing) and supporting notes prior to the drilling of boreholes * expected groundwater contamination (due to being in poor quality water). <p>For ease and clarity the above could be the documents as submitted to the Mining Remediation Authority.</p> <p>GICs are currently free unless specialist technical review and/or advice is sought.</p> <p>It is recommended that the applicant undertakes task 3 and 4 together and notify the Mining Remediation Authority that they have applied for a GIC.</p>
5	N	Y	EA to assess WR32 and advise the applicant of the extent of the Water Feature Survey (WFS).	Technical Assessment	EA area team aim to review application and provide confirmation of next steps, for a Water Feature Survey (WFS), within 10 working days of receiving and logging the application.	
6	N	Y	Mining Remediation Authority processes the permit application	Technical Assurance		
7	N	Y	Applicant to undertake an initial WFS.	Technical Assessment	<p>Applicant identifies details of water dependent receptors that may be at risk from the proposed abstraction, and which may require monitoring during a pumping test.</p> <p>The length of time taken to complete a WFS can vary. We initially suggest a 3 month timescale is given.</p> <p>In cases where the source of supply is uncertain then this process starts in task 7 and is completed in task 15.</p>	<p>The purpose of a WFS is to identify receptors at risk from the abstraction and reinjection activities.</p> <p>The initial WFS will help the applicant to further develop the initial hydrogeological understanding and conceptual model in the form of a schematic section or drawing.</p> <p>The Hydrogeological Impact Appraisal for Groundwater Abstractions guidance for how to undertake a WFS and what other supporting information will be required can be found at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/291083/scho0407bmah-e-e.pdf</p> <p>Key environmental risks/ impacts have been reported in the EA's Chief Scientist Group's paper on Low Carbon Subsurface Technologies: identifying potential environmental impacts.gov.uk</p>
8	Y	N	Applicant to submit the initial WFS and updated Hydrogeological Conceptual Model to the EA.	Technical Submission	Applicant submits an initial WFS to the EA, with the updated Hydrogeological Conceptual Model (either as a schematic section or drawing).	
9	N	Y	EA to undertake technical assessment and draft GIC.	Technical Assessment	<p>The EA and Mining Remediation Authority require much of the same information to review the submissions. Therefore, the Operator should submit the same borehole design to both the EA and Mining Remediation Authority at the same time, and keep both parties informed of any changes made during the review.</p> <p>Informal discussions with the EA are recommended to enable an efficient process.</p>	<p>The EA need to be sure that any investigations will not have any damaging effects on other water sources and features, or on the general environment. The EA will identify which water features will need to be monitored.</p> <p>A GIC will be drafted including borehole design requirements and conditions. This must be the same as the design reviewed by the Mining Remediation Authority.</p>

Task	Milestone Y/N	Process Y/N	Task description	Task type - advice / form	Clarification of process associated with task	Additional supporting information associated with task
10	Y	N	EA to issue GIC to applicant, granting permission to drill boreholes, undertake well clearance and potential initial yield test.	Permission Obtained	<p>The GIC will typically be limited to drilling of the boreholes and removing the drill cuttings from the borehole (air lifting) due to the high degree of uncertainty that the proposed borehole(s) will hit the target workings/sandstones.</p> <p>Examples of issues which result in this uncertainty are:</p> <ul style="list-style-type: none"> * Geolocating the surface national grid reference when identifying target workings at depth * Complex mining hydrogeology * Difficulties that come with drilling in the geology of worked coalfields * Drilling methods and associated environmental and human health risks * Driller expertise. <p>There is an extended time period to allow suitable boreholes to be completed. These may be different to those within the initial proposal, if connection is not made with the planned target.</p>	<p>The GIC for drilling boreholes is valid for a year from the date of issue.</p> <p>Falling head tests, packer testing, short term initial yield testing, water level monitoring and water chemistry testing can be included within this consent, if required. Justification will be needed to gain prior approval from the EA.</p> <p>All water abstracted shall be discharged to sewer, with relevant consent, and or off site. No discharge to ground or groundwater is permitted at this stage.</p>
11	Y	N	Mining Remediation Authority issues permit(s)	Permission Obtained	<p>The Mining Remediation Authority and EA require much of the same information to review the submissions. Therefore, the Operator should submit the same borehole design to both the Mining Remediation Authority and EA at the same time, and keep both parties informed of any changes during the review.</p> <p>Informal discussions with the Mining Remediation Authority are recommended to enable an efficient process.</p> <p>Falling head tests, packer testing, short term initial yield testing, water level monitoring and water chemistry testing can be included within this permit.</p>	<p>The Permit to Drill is valid for 12 months from the date of issue.</p> <p>Permits to Drill will be issued after the GIC.</p>
12	N	Y	STAGE 2 (Construction of exploratory and final borehole(s) and initial yield test)			
13	N	Y	Applicant drills borehole(s)	Construction	Exploratory and final abstraction, discharge and/or observation (monitoring) boreholes are constructed.	
14	N	Y	STAGE 3 (Full testing the boreholes and system - includes discharge)			
15	Y	N	Applicant requests to vary GIC, allowing for pumping tests to be undertaken	Submission	<p>Applicant to e-mail EA area contact requesting variation to existing consent to allow for pumping tests to be undertaken. A new GIC form does not need to be submitted at this stage.</p> <p>Applicant to provide details of:</p> <ul style="list-style-type: none"> * Proposed pumping tests (step tests and constant rate), confirming abstraction and discharge rate(s) and duration * Copies of geological and construction logs, with water strikes and rest water levels annotated * Which boreholes are proposed for abstraction, discharge and monitoring boreholes * Proposed monitoring - water level, water quality, dissolved gas, temperature, pressures * A review and final version of the WFS once the source of water supply (target source) is confirmed from the borehole completion * Either an update of the hydrogeological conceptual model schematic (cross section and or picture) and understanding, or written confirmation that the data gathered to date is consistent with the conceptual model and understanding. <p>NOTE: Multiple variations maybe required depending on the hydrogeological complexity, pumping test and/or system testing regimes/ requirements. These will be determined by the EA area contact via email.</p>	We recommend the applicant undertakes tasks 15, 16 and 17 at the same time.

Task	Milestone Y/N	Process Y/N	Task description	Task type - advice / form	Clarification of process associated with task	Additional supporting information associated with task
16	N	Y	Applicant to apply to EA for an environmental permit or register an exemption for the discharge/re-injection activity.	Form Submission	<p>The Operator may need an Environmental Permit during construction and testing phases, depending on the water quality and quantity to be discharged. Please contact the EA to determine if the discharge requires a permit or if it would qualify for a low-risk exemption.</p> <p>Guidance on this exemption and the application form are found here: https://www.gov.uk/government/publications/registration-of-your-ground-source-heating-and-cooling-system.</p> <p>As a guide this step could take between 1 and 4 months.</p>	<p>Useful links:</p> <p>Guidance on open loop heat pump systems: https://www.gov.uk/guidance/open-loop-heat-pump-systems-permits-consents-and-licences</p> <p>Guidance for how to apply for an environmental permit: https://www.gov.uk/guidance/groundwater-risk-assessment-for-your-environmental-permit</p> <p>Application form and guidance for new ground source heating and cooling scheme: https://www.gov.uk/government/publications/new-ground-source-heating-and-cooling-scheme-form-and-guidance-notes.</p> <p>We recommend that the applicant undertakes tasks 15, 16 and 17 at the same time.</p>
17	Y	N	Applicant to submit a completed application form and supporting documents to the Mining Remediation Authority for a Mine Water Heat Access Agreement (MWHAA).	Form Submission	<p>Details on where to obtain an application form for a MWHAA can be found at https://www.gov.uk/government/publications/mine-water-heat-access-agreement</p> <p>This is a chargeable agreement and the Mining Remediation Authority will invoice the Applicant.</p> <p>The MWHAA will initially be for a short term, typically 12 months, to enable the Applicant to complete drilling and pumping tests during the Testing Phase.</p>	<p>Applicant to provide updated information to the Mining Remediation Authority following installation of the scheme boreholes. This is to include post construction borehole installation details including:</p> <ul style="list-style-type: none"> * A competent person's report for the completion of the boreholes which includes confirmation that the construction details including response zones are as set out in the design specification * A revised Gas Risk Assessment * A revised hydrogeological understanding and conceptual model (where the latter is in the form of a schematic section or drawing) to include borehole drilling, geological and construction logs. <p>We recommend that the Applicant undertakes tasks 15, 16 and 17 at the same time.</p> <p>The Mining Remediation Authority does not require an Applicant to enter into a MWHAA before this stage in the process. An application for a MWHAA can be made earlier in the process with any Agreement entered into including appropriate technical assurance requirements prior to each stage of the exploratory phase testing.</p>
18	N	Y	EA to assess request to vary the GIC	Technical Assessment	EA to review information submitted by applicant and draft revised GIC.	The EA needs to be sure that any investigations will not have any damaging effects on other water sources and features, or on the general environment. The EA will identify which water features will need to be monitored. A GIC will be drafted including borehole design requirements and conditions, if required.
19	N	Y	Mining Remediation Authority completes initial review of application.	Technical Assurance	<p>Mining Remediation Authority to review the submitted documents to establish whether all required documentation is included.</p> <p>Mining Remediation Authority will contact the Applicant within 10 workings days to confirm if the application is complete.</p>	A technical assurance process will not be completed at this stage. Once we start the technical assessment, we may need further clarity about the submission.
20	Y	N	EA to issue GIC variations(s) to the applicant, granting permission(s) for pumping tests and system testing.	Permission Obtained	<p>EA will issue updated consents for pumping test(s) to be undertaken.</p> <p>Consent will specify testing requirements and limitations.</p> <p>Process expected to take 15-30 working days.</p>	

Task	Milestone Y/N	Process Y/N	Task description	Task type - advice / form	Clarification of process associated with task	Additional supporting information associated with task
21	Y	N	EA to issue an environmental permit for discharge or notify applicant of exemption registration.	Permission Obtained	Applicant will be issued an environmental permit (groundwater activity permit) if one is required.	
22	Y	Y	Applicant to send a copy of the GIC to the Mining Remediation Authority	Submission	Operator to send the GIC to minewaterheatlicensing@miningremediation.gov.uk	With Operator agreement the EA can send the GIC to the Mining Remediation Authority at the time it is issued.
23	N	Y	Mining Remediation Authority completes a stage 1 technical assurance process of the application and agrees terms of the MWHAA with the Applicant	Assurance and Legal process	The Mining Remediation Authority will complete a stage 1 technical assurance process. This will review the proposals in regarding: * Gas risk * Ground stability * Impact on the mine water regime including water levels and water chemistry. The technical assurance process can run alongside the EA process to review the WFS. Once the GIC is issued the process of entering into a MWHAA can conclude.	
24	Y	N	CA and Applicant enter into a MWHAA which incorporates Mining Remediation Authority permit(s)	Permission Obtained	The MWHAA will initially be for 12 months to cover the Testing Phase.	The MWHAA allows the Applicant to occupy Mining Remediation Authority property and facilitates test pumping during the Testing Phase within the controls set. Should further exploratory phase time be required contact Operator to send the GIC to minewaterheatlicensing@miningremediation.gov.uk to establish if an extension of time is possible. The MWHAA will specify requirements to notify or submit additional information to the Mining Remediation Authority at stages throughout the process. This will include the requirement to notify the Mining Remediation Authority in advance of any abstraction, reinjection or test pumping from the boreholes. The granted permit boundary and permits for boreholes remaining open will be incorporated into the MWHAA. Once the MWHAA is entered into the responsibility for testing work transfers from the Applicant to the Operator.
25	Y	N	Data Licence issued	Document issued		
26	Y	N	Applicant to notify the EA of the pumping test programme at least 5 working days before the start of the pumping tests.	Submission (by email)	Applicant to email EA area team with pumping test start date.	

Task	Milestone Y/N	Process Y/N	Task description	Task type - advice / form	Clarification of process associated with task	Additional supporting information associated with task	
27	Y	N	Operator to provide the Mining Remediation Authority with 10 working days' notice of the start of pumping test	Submission	Applicant to email minewaterheatlicensing@miningremediation.gov.uk with pumping test start date.		
28	N	Y	Applicant to undertake pumping tests, monitoring and data analysis.	Pumping Tests	Applicant to undertake pumping test(s), monitoring and data collection and submit a Hydrogeological Impact Appraisal report (HIA) to the EA.	Applicant to undertake pumping tests and monitoring to assess sustainability of water resource and impacts to water dependent features and users and submit a report of the findings to the EA Area Groundwater Team and Mining Remediation Authority. This is an iterative process and will continue until there is sufficient information to understand and manage the risks. Applicant to inform the Mining Remediation Authority if any further changes to the pumping test programme and/or additional monitoring. If there are any changes this will need to be reviewed by the Mining Remediation Authority prior to the start of the pumping test. Applicant to review and update HCM (either as a schematic section or drawing) following each change to pumping test programme. Once all testing and assessment has been fully incorporated into the final HIA this report will support an application for a full abstraction licence.	
30	N	Y	STAGE 4 (Pre-Operational Phase)				
30	Y	N	Applicant to submit application for an abstraction licence to the EA	Form Submission	Applicant to submit: *The Part B8 Form for ground source heating and cooling schemes using the guidance notes *Completed HIA. Application Form Part B8 and Guidance Document to help complete the form can be found at - https://www.gov.uk/government/publications/new-ground-source-heating-and-cooling-scheme-form-and-guidance-notes .	Useful links: Apply for a water abstraction or impounding licence at https://www.gov.uk/guidance/water-management-apply-for-a-water-abstraction-or-impoundment-licence (application section ref to open looped GSHCs) https://www.gov.uk/guidance/open-loop-heat-pump-systems-permits-consents-and-licences (Apply for an Abstraction Licence section)	
31	Y	N	Applicant to submit an application for a new environmental permit, or an application to vary an existing permit, to the EA, if required.	Form Submission	Applicant to apply to the EA for an environmental permit for reinjection activity, if not already obtained. One application can be made, covering both abstraction and reinjection. Use the application form Part B8 for an environmental permit and full abstraction licence for a new ground source or surface water source heating and cooling scheme.	Form Part B8 (publishing.service.gov.uk) Guidance to undertaking an HIA can be found at https://www.gov.uk/guidance/groundwater-risk-assessment-for-your-environmental-permit	
32	Y	N	Operator to submit a completed application form and supporting documents to vary the MWHAA to the Operational Phase to the Mining Remediation Authority.	Form Submission	Operator to submit detailed project feasibility report including: * Information / assessment of the data from drilling, pumping and system tests to validate the current hydrogeological understanding, and ground stability (e.g. pressures) * Gas Risk Assessment * Design and specification of borehole design produced by a competent person.	Before operating the commissioned project the supporting gas, ground stability and HIA should be reviewed and updated where necessary. See supporting Guidance Note on information to be submitted.	

Task	Milestone Y/N	Process Y/N	Task description	Task type - advice / form	Clarification of process associated with task	Additional supporting information associated with task
33	Y	N	Mining Remediation Authority to review the application and notify the Operator if it is complete or advise what further information is required.	For Information	Mining Remediation Authority aims to review application and provide a response within 10 working days.	A technical assurance process will be completed following this stage and once this commences further clarity in relation to the submission may be required.
34	N	Y	EA to process, advertise and assess abstraction licence and environmental permit applications.	Technical Submission/ Assessment	EA National Permitting Service process the application. Most applications need to be advertised for 28 days. There may also be the need to consult other organisations such as Natural England depending on the risks posed by schemes. Abstraction licences and environmental permits are expected to be issued within 4 months. The EA will issue an environmental permit for the reinjection activity on the same day as an abstraction licence if one is required and not already obtained during testing phases.	The EA have a presumption against consumptive schemes, meaning abstracted water shall be returned to the same aquifer. This will require an Environmental Permit unless the low risk Ground Source Heating and Cooling (GSHC) discharge exemption applies. An environmental permit may or may not be required during construction and/or pumping test phases. Where permits are obtained during early phases, a variation to existing permits may be required.
35	Y	N	EA issue applicant with licence and permit where acceptable.	Permission Obtained		
36	N	Y	Mining Remediation Authority completes a stage 2 technical assurance process of the application and agrees terms of the MWHAA with the Operator	Assurance and Legal process	The CA will complete a technical assurance process to review the Operator's proposal in relation to gas, ground stability and any impact on mine water management controls and permits prior to issuing a Production Phase MWHAA. The Production Phase will typically be for 20 years. The technical assurance process can run concurrently with the EA process to issue a licence and permit. Once the licence and permit are issued the process of entering into an Access Agreement can conclude.	The CA and the Operator will agree the monitoring strategy and controls. These will be linked to the MWHAA and EA controls. We recommend that the Operator engages the Mining Remediation Authority and EA jointly through the process.
37	Y	N	Operator to send Mining Remediation Authority copies of the abstraction licence and environmental permit issued by the EA	Information Submission	Operator to send the Abstraction Licence and Environmental Permit to the Mining Remediation Authority at minewaterheatlicensing@miningremediation.gov.uk	With Operator agreement the EA can send the licence and permit to the Mining Remediation Authority at the time it is issued. The Mining Remediation Authority requires notification of the EA permissions prior to the production phase to enable consistency between the MWHAA and EA permissions.
38	Y	N	Mining Remediation Authority and Operator enter into an Operational Phase MWHAA.	Permission Obtained	Mining Remediation Authority and Operator sign and seal the legal agreement.	The MWHAA permits the Operator to occupy the mine working for a period up to 20 years within the controls set out within the MWHAA.

Task	Milestone Y/N	Process Y/N	Task description	Task type - advice / form	Clarification of process associated with task	Additional supporting information associated with task
39	N	Y			STAGE 5 (Operational Phase)	
40	N	Y	Operator begins long term mine water heat operation.	Operation	Operator to comply with conditions and requirements of issued licences, permits and agreements. Monitoring to be undertaken as specified, to required frequencies and report submission deadlines.	The timeline is based on the assumption that the abstraction is permitted under a two year short duration licence, as a minimum. The operator must stop abstraction/discharge (reinjection) and notify the relevant organisation if: * There is non compliance with any condition * A detrimental impact is observed that might be as a result of the operations.
41	Y	Y	Decommissioning or Abandonment.	Decommissioning	Operator must gain Mining Remediation Authority approval for decommissioning all boreholes and undertake the work when any boreholes are no longer in use or before vacating the site. Permissions must be revoked/surrendered where required.	Boreholes may be decommissioned at different stages throughout the process, for example if they become damaged or they are no longer required for the scheme. In these instances we recommend that the Operator contacts the Mining Remediation Authority for further advice at minewaterheatlicensing@miningremediation.gov.uk .