



# Remediation Notice relating to groundwater pollution from Contaminated Land at St Leonard's Court, Sandridge, Hertfordshire: A summary of consultation responses

Final Version

2 May 2019

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We improve the quality of our water, land and air by tackling pollution. We work with businesses to help them comply with environmental regulations. A healthy and diverse environment enhances people's lives and contributes to economic growth.

We can't do this alone. We work as part of the Defra group (Department for Environment, Food & Rural Affairs), with the rest of government, local councils, businesses, civil society groups and local communities to create a better place for people and wildlife.

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# 1. Introduction

## Background

St Leonard's Court, Sandridge, is a small residential development built in 1986-7. The land was previously used as a chemicals factory, manufacturing brominated compounds between approximately 1955 and 1980.

Historic contamination of this land has caused a plume of bromate and bromide in groundwater, stretching approximately 20 kilometres from the source, impacting public and private water supply abstractions, and discharging via natural springs into the River Lee.

## Current management

The pollution is currently managed by 'scavenge pumping', a process whereby the contaminated groundwater is pumped from a closed public water supply well, treated and discharged to foul sewer. Groundwater from the other public water supply abstractions is blended to ensure it meets drinking water standards. The affected private water supply abstractions are restricted in their use.

## Regulation

Under the Environmental Protection Act 1990, Part IIA (Part IIA) and associated contaminated land regulations, St Leonard's Court was determined as a contaminated land site by St Albans District Council on 20 June 2002. On 8 August 2002 it was designated a special site, thereby transferring responsibility for enforcement from the Council to the Environment Agency.

We identified the parties responsible for the pollution, called the Appropriate Persons under Part IIA, as two companies: Crest Nicholson Residential PLC (Crest) and Redland Minerals Limited (Redland). In 2005, we served a remediation notice on them. Both companies appealed against the notice. The appeal was heard at a public inquiry in 2007. The Secretary of State for the Environment issued a decision on 22 July 2009. This upheld the actions of the notice that the Environment Agency recommended to the Inspector at the appeal hearing, but slightly varied the division of responsibility between Crest and Redland (the First Notice). The First Notice is appended to the Consultation Document.

Crest and Redland have so far completed 11 of the 12 actions in the First Notice. The remaining action is the ongoing procurement of the interim scavenge pumping from the well that was closed for public water supply. This action will expire on 21 July 2019. We are working to ensure the interim scavenge pumping does not cease on this date, because it is essential in managing bromate and bromide concentrations at downstream public water supply wells.

## Consultation

The Appropriate Persons and the owners of any land to which the notice relates (the statutory consultees) received hard copies of the consultation document. This represented the start of a statutory consultation period on the next phase of remedial actions, as required by Section 78H(1)(b) of the Environmental Protection Act 1990.

The online consultation has allowed participation from others, including local interest groups, industry and academia.

## 2. How we ran the consultation

We ran the online consultation for 2 months from 7 January to 7 March 2019.

Participants were able to provide their comments on the consultation online at: <https://consult.environment-agency.gov.uk/hnl/land-contamination-at-st-leonards-court-sandridge/>, via email and post. Members of the public, Local Government, National Government, academics, landowners and others were notified of the consultation through emails and phone calls. The consultation was advertised online at GOV.UK and invited all to participate.

We received 8 responses to the online consultation in total, of which 4 were from Local Government, 1 from National Government, and 3 from community groups and members of the public.

The responses have been redacted and are appended to this consultation summary.

## 3. Next Steps

The online consultation is now closed.

The consultation for Statutory Consultees (Appropriate Persons and the owners of any land to which the notice relates) closed on 31 March 2019.

Responses from this online consultation and the statutory consultation will be used to inform the development of a second Remediation Notice or inform the Environment Agency's response to a Voluntary Remediation Statement, should the Appropriate Persons choose to submit one.

Individuals who wish to follow up their responses, or points made within this document, in more detail are welcome to contact us at

Environment Agency, Customers and Engagement, Alchemy, Bessemer Road, Welwyn Garden City AL7 1HE

or

[HNLenquiries@environment-agency.gov.uk](mailto:HNLenquiries@environment-agency.gov.uk)

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## Response ID BHLF-BWF1-MQKW-G

Submitted to **Remediation Notice relating to groundwater pollution from Contaminated Land at St Leonard's Court, Sandridge, Hertfordshire**  
Submitted by email on **07 March 2019 15:00:00 (UTC)**

### Introduction

#### 1 What is your name?

**Name:**

Public Health England

#### 2 What is your email address?

**Email:**

enquiries@phe.gov.uk

#### 3 What is your affiliation?

National Government

**Other affiliation:**

None

#### 4 Please provide us with your comments:

**Comments:**

Thank you for forwarding a copy of this consultation to the Centre for Radiation, Chemical and Environmental Hazards of Public Health England (PHE) on 8 January 2019.

Having reviewed the St Leonard's Court Consultation Document Part I and Part II, PHE has no specific comments to make regarding the actions and assessments included in the proposed remediation notice.

PHE would welcome the opportunity to comment on the potential impacts on human health and drinking water quality, if requested.

# Response ID BHLF-BWF1-MQKH-1

Submitted to **Remediation Notice relating to groundwater pollution from Contaminated Land at St Leonard's Court, Sandridge, Hertfordshire**  
Submitted by email **07 March 2019 17:02:01 (UTC)**

## Introduction

### 1 What is your name?

**Name:**

Hertfordshire County Council's Public Health service

### 2 What is your email address?

**Email:**

Jim.McManus@hertfordshire.gov.uk

### 3 What is your affiliation?

Local Government

**Other affiliation:**

None

### 4 Please provide us with your comments:

**Comments:**

Thankyou for the opportunity to respond to this consultation, which sets out the intended decision of the Environment Agency to issue a second remediation notice in respect of land at St Leonards' Court, and the contents of that notice.

This is the response from Hertfordshire County Council's Public Health service, following discussion with the County Council's Environment Department in its capacity as Flood Authority and Minerals Planning Authority.

In summary, we have no objection to the proposals outlined in this consultation. More specifically, there are a number of outlined proposals which we consider to be a sensible and pragmatic approach, and we support the conclusion that scavenge pumping at **XXX** continues in its current form with the addition of a further borehole for monitoring purposes.

Both the County Council and the Environment Agency are well aware of several matters of public concern in relation to the bromate and bromide contamination of the chalk aquifer in the Hatfield vicinity. We are satisfied that the scope of this consultation and subsequent remediation notice is not intended to address specific concerns around risks to drinking water, and proposals for quarrying activities in the local area.

We note that Public Health England have responded with no specific comments regarding the proposed remediation notice, but that they would welcome an opportunity to engage in further dialogue with regards drinking water – which we support.

# Response ID BHLF-BWF1-MQKG-Z

Submitted to **Remediation Notice relating to groundwater pollution from Contaminated Land at St Leonard's Court, Sandridge, Hertfordshire**  
Submitted by email on **07 March 2019 18:19:59 (UTC)**

## Introduction

### 1 What is your name?

**Name:**

Welwyn Hatfield Borough Council

### 2 What is your email address?

**Email:**

s.chivers@welhat.gov.uk

### 3 What is your affiliation?

Local Government

**Other affiliation:**

None

### 4 Please provide us with your comments:

**Comments:**

Please accept the following response from Welwyn Hatfield Borough Council (WHBC) to the above consultation. This response is an officer level response from the Directorate of Public Protection, Planning and Governance, and incorporates the views of both the planning and public health teams:

We have no planning objections to the continued remediation strategy proposed by the Environment Agency, and would support the strategy detailed in that it seeks to monitor and reduce the levels of bromate and bromide pollution of the groundwater within Welwyn Hatfield. It is expected that the location and operation of monitoring boreholes within Welwyn Hatfield will be agreed by the Environment Agency with the relevant landowners as previously.

Where new housing or other development involving significant excavation, or likely to impact groundwater, is being considered on land above the bromate plume the local planning authority will want to consult both the Environment Agency and WHBC Public Health team, to ensure that existing contamination can be mitigated against and will not be exacerbated.

Public Health and Protection at WHBC support the decision of the Environment Agency to serve a second remediation notice and the associated actions required within the notice.

WHBC is aware of a number of private water supplies, and provides information within this response to ensure that any actions bear in mind the risks of the bromate plume to these supplies;

Regulation 9 Supplies - Large supplies & supplies as part of a commercial or public activity

XXX, Welwyn Garden City, Hertfordshire , XXX

XXX, Hatfield, Hertfordshire, XXX

XXX, Welwyn , Hertfordshire, XXX

XXX, Woodcock Hill, Hertfordshire, XXX

Regulation 10 Supplies – other private supplies

XXX, Potters Bar , Hertfordshire, XXX

XXX, Hammonds Lane, Hatfield , XXX

XXX, Newgate Street Village , Hertfordshire, XXX

XXX, Welwyn Garden City, Hertfordshire, XXX

XXX, Welwyn Garden City, Hertfordshire , XXX

XXX, Hatfield, Hertfordshire, XXX

XXX, South Mimms, Hertfordshire, XXX

XXX, Brookmans Park, Hatfield, Hertfordshire, XXX

XXX, Hatfield , Hertfordshire, AL9 6DW

XXX, Newgate Street Village , Hertfordshire, XXX

XXX , Brookmans Park, Hatfield , Hertfordshire, XXX

XXX St Albans , Hertfordshire , XXX

In addition to this, the provision of the details of these supplies, if not already known by the Environment Agency, should help inform their responses for proposed developments at the proposed Hatfield Quarry site and development adjacent to the Hatfield Business Park which may, in relation to the bromate plume, have an impact on the supplies listed above.

Please do not hesitate to contact Simon Chivers in the first instance if you have any queries in relation to this consultation response.

# Response ID BHLF-BWF1-MQK2-B

Submitted to **Remediation Notice relating to groundwater pollution from Contaminated Land at St Leonard's Court, Sandridge, Hertfordshire**  
Submitted by email on **07 March 2019 18:17**

## Introduction

### 1 What is your name?

**Name:**

St Albans City and District Council

### 2 What is your email address?

**Email:**

andrew.scullion@stalbans.gov.uk

### 3 What is your affiliation?

Local Government

**Other affiliation:**

None

### 4 Please provide us with your comments:

**Comments:**

The Council welcomes the Environment Agency's consultation regarding the service of a second Remediation Notice with respect to groundwater pollution emanating from St Leonard's Court, Sandridge.

This location falls within the St Albans City and District and it was the Council, with the assistance of The Agency and Three Valleys Water, who designated St Leonard's Court as Contaminated Land under Part IIA of the Environmental Protection Act 1990 on 20th June 2002. The Agency took over enforcement responsibility on 8th August 2002 following its further designation as a 'Special Site' (EPA 1990, Part IIA) due to the groundwater contamination.

The Council supports The Agency's service of a second Remediation Notice on the 'Appropriate Persons' Crest Nicholson Residential PLC and Redland Minerals Limited.

It is clear from The Agency's consultation summary of the Planning Inspectorate's public inquiry report (23rd November 2007) and subsequently The Secretary of State's appeal decision (22nd July 2009) upholding The Agency's first Remediation Notice (served 8th November 2005), that it was always envisaged a further Remediation Notice or Notices would be required unless the issue resolved itself. The first Remediation Notice consisted of assessment actions and interim scavenge pump mitigation to manage the bromate and bromide pollution downstream of the source.

The Council notes the service of further Remediation Notices is permitted under The Secretary of State's EPA 1990, Part IIA Contaminated Land Statutory Guidance, April 2012.

The Council agrees with The Agency in it seeking to maintain the current interim scavenge pumping mitigation from Affinity Water's XXX pumping station following the expiry of the existing (first) Remediation Notice on 22nd July 2019. It also supports the investigation and implementation of further remedial actions to speed up remediation of the pollution.

The Council notes both Crest Nicholson Residential PLC and Redland Minerals Limited continue to voluntarily monitor the groundwater despite the requirement for this expiring in 2015.

The Council is in agreement for further monitoring of the groundwater to take place on land owned/managed by this Council. When the ongoing monitoring locations are finalised, please could The Agency notify the Council so we are aware of the locations and monitoring frequency.

We would welcome early discussions on the need for any consents, such as planning permission, from this Council for any potential treatment works or locations for additional scavenge pumping within our area.

The Council will assist The Agency regarding this matter as it is able to do so.

Thank you for your consultation on this matter.

## Response ID ANON-BWF1-MQKS-C

Submitted to **Remediation Notice relating to groundwater pollution from Contaminated Land at St Leonard's Court, Sandridge, Hertfordshire**  
Submitted on **2019-01-12 16:59:29**

### Introduction

#### 1 What is your name?

**Name:**

XXX

#### 2 What is your email address?

**Email:**

XXX

#### 3 What is your affiliation?

Other (please specify)

**Other affiliation:**

Ellenbrook Area Residents Association

#### 4 Please provide us with your comments:

**Comments:**

Bromate BRO3 is a slow-moving ion, so it is difficult to extract from the chalk aquifer. By tracking its path through the chalk aquifer – generally in a S.E. direction - it may be possible to force its extraction using the pump & treat method. \_\_\_\_\_Nicholas P. Cheremisinoff Ph.D.

A network of intercepts, pump & treat boreholes, targeted at the most intense parts of the plume will reduce the contaminate faster and more efficiently than only one at Bishops Rise PWS Hatfield.

A computer simulation of the plume would be a useful tool to position the extraction boreholes in the best possible location. By mapping we can get an idea of the amount of bromate salts left in the plume and the amount to extract. So far, we have only extracted 4 ½ tons of bromate at Bishops Rise in 15yrs.

To prevent unbalancing the delicate aquifer conditions during this extraction process it is imperative that no inclusion into the aquifer happens - this inclusion includes digging, drawing groundwater off and quarrying to the lower mineral horizon.

# Response ID ANON-BWF1-MQKP-9

Submitted to **Remediation Notice relating to groundwater pollution from Contaminated Land at St Leonard's Court, Sandridge, Hertfordshire**  
Submitted on **2019-03-06 23:51:08**

## Introduction

### 1 What is your name?

**Name:**

Margaret Eames-Petersen

### 2 What is your email address?

**Email:**

XXX

### 3 What is your affiliation?

Local Government

**Other affiliation:**

HCC and HTC, and Head of Public Health Intelligence, The Acorns Public Health Research

### 4 Please provide us with your comments:

**Comments:**

I represent residents in Hatfield Villages ward, and Hatfield North Division of Hatfield. I have studied the documents you have provided on the website and I met with Affinity Water, in June 2018 regarding the risk to disturbing the Bromate plume which the methods which Brett have proposed to use to quarry in the Ellenbrook fields area of the Business Park. This is called the "Aerodrome quarry" in the Mineral plan consultation of HCC. I believe this quarry should be suspended from the Mineral plan, on the grounds of the "precautionary principle", given there is another far safer site for quarrying in Hertfordshire, with an equal or more volume of sand and gravel available.

As a result of our meeting in June 2018, Affinity Water raised an objection to the "Aerodrome quarry" in August 2018. I and my residents are concerned how far the Bromate plume has spread to Essendon, Ware, and into the River Lee. Also that the concentration of bromate under Hatfield exceeds the WHO limit for drinking water in many of the boreholes across the Hatfield Business Park despite scavenge pumping at XXX for 10 years. Indeed the Bromate concentration in XXX itself appears undented after 10 years.

This appears to be the worst Bromate spill currently in Europe, and we believe there should be 3 simultaneous scavenge pumping sites in order to try to remove the amount of Bromate which appears to still be contaminating the chalk aquifer at St Leonard's court. We believe the 3 sites should be at Orchard Grange, Woodcok Hill, next door to Astwick Manor on Copper Green Lane (where there are available sewers) and at XXX as before.

I would support the case for using the site on the Business Park (in North Ellenbrook fields) next to Astwick Manor for remedial pumping to extract the bromate from the water.

These sites have been chosen because the bromate appears to more concentrated at the boreholes nearby to these sites, or pumping has already been started there. We hope this will achieve the remediation needed to decontaminate our water in the chalk aquifer over the next 10 years. EA should be given research expertise, to know the best method of remediation (including other possible chemical methods) to remove the Bromide and Bromate and to protect our precious water supply for Hatfield, for the future.

## Response ID ANON-BWF1-MQKJ-3

Submitted to **Remediation Notice relating to groundwater pollution from Contaminated Land at St Leonard's Court, Sandridge, Hertfordshire**  
Submitted on **2019-03-06 21:07:08**

### Introduction

#### 1 What is your name?

**Name:**

XXX

#### 2 What is your email address?

**Email:**

XXX

#### 3 What is your affiliation?

Individual

**Other affiliation:**

User of Affinity water supplied to Hatfield

#### 4 Please provide us with your comments:

**Comments:**

10 years of scavenge pumping have removed some of the bromate. The approach is extremely cautious in requiring costings and a four month time allowance before a further scavenge operation is required. Since Redlands and Crest are going to pay for this, what's the point in delay? The Orchard site should have converted to scavenge ages ago. And all sites well over the WHO limit should commence this. You are dealing with the biggest bromide spill in Europe- if scavenge pumping is all we have then it should be used to maximum effect. Just select a point at which it is unacceptable for a water source to have bromide - say 5 times the WHO limit and say that this means it has to be taken out of the supply system and converted to scavenge pumping.

## Response ID ANON-BWF1-MQKC-V

Submitted to Remediation Notice relating to groundwater pollution from Contaminated Land at St Leonard's Court, Sandridge, Hertfordshire  
Submitted on 2019-02-21 16:27:41

### Introduction

#### 1 What is your name?

**Name:**

simon thwaites - Clerk to Sandridge Parish Council

#### 2 What is your email address?

**Email:**

clerk@sandridge-pc.gov.uk

#### 3 What is your affiliation?

Local Government

**Other affiliation:**

Sandridge Parish Council

#### 4 Please provide us with your comments:

**Comments:**

At a meeting of Full Council held on February 13th, Sandridge Parish Council resolved that I write to request that treatment continues beyond the proposed deadline of July 2019. It is requested that treatment continues until the contamination has been eliminated beyond any doubt.