

## Hatfield Town council Response to the Hertfordshire Mineral Local Plan consultation) March 2019

By Cllr Margaret Eames- Petersen

There are reasons which make the current Herts Mineral Local plan (HMLP) **unsound** due to choosing the "Hatfield Aerodrome quarry" at Ellenbrook as the Specific Site 1 (SS1) in the HMLP. There is evidence of a serious Bromate Plume under the NE side of this quarry site, making quarrying dangerous to the ground water, and chalk aquifer in Hatfield at this site. All three quarries SS1, SS2, SS3 lie in Hatfield close to residential housing so to choose all three quarries in one division of HCC is disproportionate.

There are serious risks to the ground water in Hatfield from the draw down effect, which are likely to ensue from Brett methods of digging to 16m into the Lower Mineral Horizon (LMH). Currently Brett are not considering restricting their mining to the Upper mineral Horizon (UMH) which would be less dangerous. They estimate the total sand and gravel yield from the Aerodrome quarry, both from the UMH (dry) and LMH (wet) to be 8.2 million tonnes.

However there is an alternative quarry site in Herts at Briggens Estate in East Herts (currently named Preferred Area 1) which does not have land contamination, is not next to residential housing and would provide more sand and gravel (10.2 million tonnes). We believe this is a far safer site for quarrying both for residents, and future water supplies and should be chosen as SS1.

We believe the " Aerodrome quarry" therefore should be withdrawn from the mineral plan as SS1 because of the serious bromate spillage under the site in the Chalk Aquifer, which has spread from Sandridge to Hatfield, to Essenden and now into the River Lee in East Herts (see fig 4) .



(Fig 1) Map of Bromate Plume, ( with Aerodrome Quarry) published by EA Jan2019,

The Aerodrome quarry should be removed on the grounds of the "precautionary principle" in planning terms. It is very worrying that the NE edge of the Quarry site appears already to be contaminated with Bromate (see fig 1). Data from the SLR (Brett's consultant hydro-geologists) boreholes on site, re bromate concentration, was requested by EA to show evidence of absence of contamination, but has not been made available to the EA, nor the latest ground water plan. This is worrying, despite EA requesting this since Nov 2018, and a further request made in Feb 2019.

There are 4 conditions of "soundness" required for the Herts Mineral Local Plan to be viable. One of these conditions is "justified" which means "an appropriate strategy taking into account reasonable alternatives and based on proportionate evidence".

We believe that the Plan is

1) **not "justified"** in that

- a) It is **disproportionate** to choose all 3 new quarries to be in one division of Hertfordshire County viz Hatfield, (a town with approx. 40,000 residents). 5000 residents live in the newly built estates of Salisbury village, and Hatfield Garden village (ex BA site) or Ellenbrook, very close to these sites. Children walking to Howe Dell school and elderly residents in these estates will be exposed to respirable-sized crystalline silica dust from the quarry , and extra PM2.5 pollution from the HGVs and Lorries accessing the quarry. This is likely to cause respiratory and coronary heart disease and worsen the health of residents in this area of Hatfield.

- b) There is a **more suitable alternative**, larger, safer, quarry possible at the Briggens site near Stanstead Abbots in East Herts, which could be SS1.
- 2) Not **“effective”** because if, during quarrying, bromate was detected to be drawn down into the LMH on the Quarry site, then EA have stipulated that **quarrying must cease**. This means that the total Mineral plan may not be **“Effective”** as the amount of sand and gravel required annually for the Mineral Plan **may not be deliverable over the plan period**. This SS1 Aerodrome quarry falls at these two hurdles, and jeopardises the Plan, so should be opposed as the SS1 site.

## Background

1) Three new "specific sites" for quarries have been proposed in the HMP for all Herts future sand and gravel. All 3 of these are in Hatfield, fairly close to each other, in Herts North division, near to residential housing, This will widen inequalities in health within Welwyn Hatfield borough and in Hertfordshire.

These are (page 27) :

- i) Aerodrome quarry (currently SS1)
- ii) Furze field quarry (SS2)
- iii) Coopers Green Lane quarry (SS3) .

Sand and gravel lies under a large swathe of Herts, and so there are other sites in Hertfordshire which could be mined, if landowners gave permission. Since the call for sites in 2016, the Briggens Estate Quarry has been proposed by Tarmac, with permission from the landowner, which would produce a higher volume of sand and gravel, than the Aerodrome quarry.

ii) & iii) above, would both be owned by CEMEX. They have mined the Hatfield quarry on either side of Coopers Green lane for the last 40 years (or more) fairly unobtrusively. Their methods are safer than Brett methods in terms of not disturbing the underlying bromate plume, because they only mine the upper mineral horizon (not the LMH).

CEMEX use conveyor belts producing less air pollution than using lorries for transport to their processing plant in Sandpit Lane/ Oaklands Lane in Smallford. Both the CEMEX new sites would only mine the Upper Mineral Horizon (UMH) and would be extensions of the current “Hatfield quarry”. These two sites are both under proposed building developments- for the Welhat Local plan and so quarrying would become part of the preparation of ground for new build, so preventing “sterilization”. This is not the case for the “Aerodrome quarry”, housing is not planned there. The two sites SS2 and SS3 have bromate 16m underground at quite high concentration, but Cemex will not disturb the LMH by their methods and so would not exacerbate the bromate plume.

2) There is a problem in 2019 with the Aerodrome quarry because of a serious underground historic bromate leak. This stems from dumped bromate in sumps from the Steetley Chemical works (1955-1980) in Sandridge, St Albans. It is thought the sumps have been leaking for over 40 years. The Bromate has now been found by EA to be under the North East edge of the Ellenbrook quarry site. A public inquiry required action in 2007, and instigated “remedial pumping” by Affinity Water from 2008-2018, to try to remove the Bromate from the chalk aquifer. However the remedial action of “scavenge pumping” at Bishops Rise Water Pumping station in Hatfield, has been found to be insufficient in 2018. The concentration of Bromate arriving at Bishops rise WPS has not decreased from 100 µg/l, which is what it was 10 years ago. So-the so called “remedial action” has not worked, but this has serious implications for the Aerodrome quarry, and further spread of the plume. The quarry is likely to breach Policy 14: Water Management on pg 52 (adverse impact on water quality)

When WHO drinking water standard for Bromate was issued in 2000, Bishops Rise water pumping station (wps) had to be switched off from supplying drinking water to Hatfield, due to contamination by Bromate. It has not yet been switched on again, as the contamination still exceeds the WHO threshold (10 µg/l). Hatfield residents are currently supplied water from South Mimms WPS, fed from 4 other sources including Essendon (WPS), Tyttenhanger and Roestock WPSs .

- 3) The Brett quarry proposal was encouraged by land-owners Arlington, who realised in 2007 that HCC needed sand and gravel for our HCC 15 year mineral plan for roads and houses in Herts. However this would deprive Hatfield of over half of the long- promised, Ellenbrook public park, promised to be landscaped in 2000, through a s106 agreement by Arlington alongside the BA site developments. The proposed quarry is located in said "Ellenbrook Public park" -and there is strong feeling by residents against this, for sake of the health and well-being of residents who currently use Ellenbrook fields for the "Park Run," every Saturday, walking dogs, kites and general recreation. Depriving the residents of this valuable green space for 32 years will breach Policy 18 (63) – **Protection of Amenity**- "proposal will not cause any unacceptable adverse impact or harm to amenity" viz Country Park. All Salisbury village, Ellenbrook and Smallford residents feel betrayed by Arlington. Owners of the new houses in Salisbury village have very small back gardens, because the Park with a current entrance in Barlow close, was promised for their recreation in 2000.
- 4) The methods proposed by Brett (unlike Cemex) are to dig deep to 16-18m underground, through a protective clay barrier to the wet Lower Mineral Horizon (LMH) which is in touch with the chalk aquifer. This is the layer where the bromate lies. It is very concentrated not far from the quarry in at Astwick Manor in Ellenbrook fields (see map- Fig 3).

These quarrying methods are therefore dangerous for risking drawing bromate in South and SW direction and contamination of previously untouched ground water which flows to other (clean) WPSs, Tyttenhanger and Roestock WPSs (only 0.9 miles away) currently supplying Hatfield water.



fig 2: Distance of current clean WPSs -Roestock from the proposed Quarry

Other Geologists including those in Affinity water have now made objections to the quarry. EA have asked relevant questions, and made stipulations that a) "no mineral is to be extracted from within the existing plume of bromate and bromide groundwater pollution". b) any activities close to the plume must not change the existing hydrogeological flow regime c) any activities close to the plume must not interfere with the remediation of bromide and bromate pollution. Ellenbrook fields (by Astwick Manor) is a key possible area for phase 2 remedial action for decontamination from Bromate (just announced in Jan 2019).

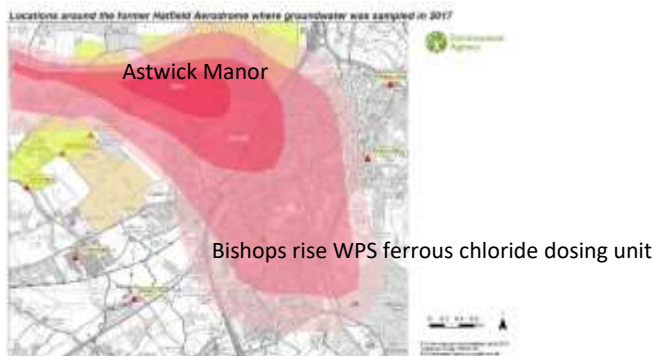


Fig 3: Bromate concentration under Hatfield (Astwick Manor 956µg/l)

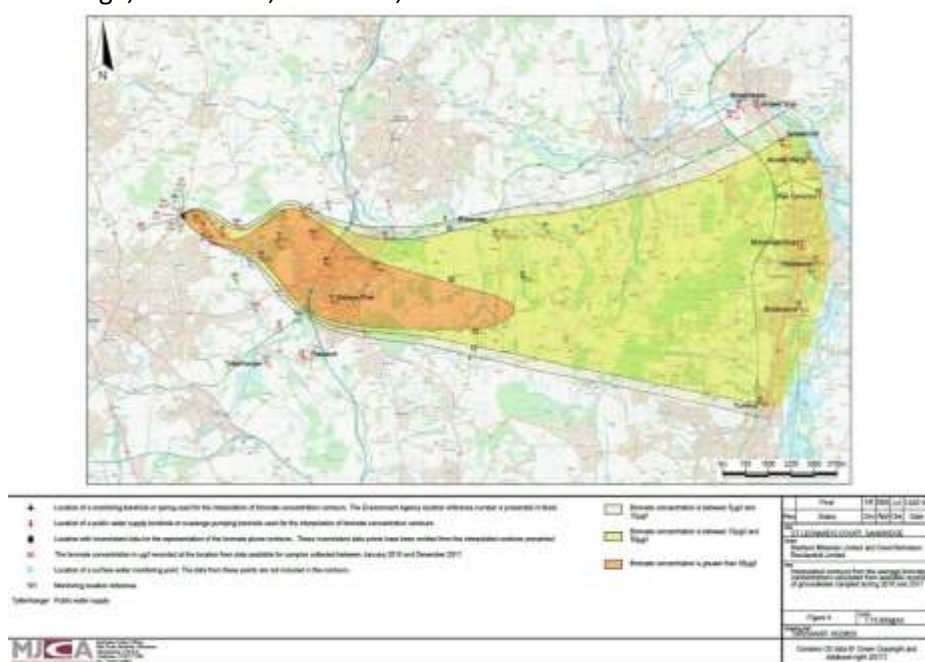
- 5) There is another quarry site in Hertfordshire. the Briggens Estate site East of Stanstead Abbots, Ware. This is allocated "Preferred area 1" in the HMP, but could produce larger amounts of sand and gravel (10.7 m tonnes) than Ellenbrook (8

m tonnes with wet gravel). It is not so close to residential housing and does not carry the risk of contaminating a public water supply.

Given this evidence we believe the HCC mineral plan should choose the preferential Briggens quarry site as SS1 from the outset for the Mineral plan .to supply the bulk of sand and gravel for Herts for the next 22 years, rather than the Ellenbrook site.

If the Upper mineral horizon alone was to be mined, then the Aerodrome quarry could become the back-up preferred area 1 site-as this would be considered safe, but the Briggens site should be the SS1 . The Herts Mineral Plan does not explain the danger of quarries which mine into the LMH in Hertfordshire constructed over a Bromate leak, in this case: **the worst bromate contamination in Europe.**

Fig 4 :Map showing The Bromate plume, now spread from St Leonards Court (previously Steetly chemical works) in Sandridge, to Hatfield, Essendon, and into the River Lee.



### In 2019- Ellenbrook fields is now a prime site for remediation

A priority for Hertfordshire, besides locating sand and gravel, is remediation of the Bromate plume to protect our future water supplies. Land decontamination of Bromate is paramount, to protect the water for Hatfield, Essendon, Hoddesdon, Broxbourne, the River Lee. (Given the last 10 years of scavenge pumping- has failed) .

This land at Ellenbrook fields is now a prime site for bromate remediation. The 2<sup>nd</sup> remedial plan (2019) proposed by EA, recommends removal of bromate nearer to the source, and in the high concentration zone. This could be Ellenbrook Fields near Astwick Manor (see fig 3). The aerodrome quarry extraction from the LMH (very close by) could jeopardise this action.

**Transport** The A1057 is already congested every morning, as there is no layby for a bus. Many cars, and lorries queue, idling their engines before 9am, behind a stopped bus. With the planned (dangerous) entrance to the Quarry on the A1057, Quarry Lorries are likely tip the PM2.5 air quality measure over the WHO limit on this road- and make it dangerous for school children crossing it ( Breach of Policies 20 and 21 pg 68 and 69) ,

## Conflicts of interest

The **Environmental Agency** who are dealing with future remediation of this serious contamination, have requested professional and interested parties to submit their remedial plans ready for July 2019. Their Consultation Document (the Draft Decision) sets out the intended decision of the Environment Agency (the Agency) to issue a second remediation notice (Second Notice) in respect of land at St Leonards' Court (SLCourt) and as to the contents of that notice. This Draft Decision is intended to be part of the consultation process initiated under s. 78H(1) of the Environmental Protection Act 1990 (EPA).

However as yet **no independent investigation has been conducted by EA of the risk of bromate contamination to further ground water** in Hatfield, which the Aerodrome quarry poses (over the next 32 years) given the current close proximity of the bromate plume to the site. There **are glaring conflicts of interest for Brett and SLR** as the applicant for the quarry in supplying **selected (and not complete) bromate readings** to HCC. They currently own the only boreholes within the quarry site, and have provided the only data on this critical site. EA and Affinity water have boreholes outside the site but they have not yet been given the current readings (from June 2019) within the site, and EA claim that they do not have funds yet to conduct their own independent investigation re the "safety" of ground water, and risk of contamination from bromate, if quarrying were to be permitted for the next 32 years. **But surely these funds should be required by HCC from Arlington, as the land owner, for EA to be able to verify transparently that this is now "not contaminated land" (to conform with the requirements of the NPPF para 178).** The evidence seems to suggest that Borehole 104 within the quarry site is, and has been, contaminated with bromate at 2µg/l or more.

We need Councils, without vested interests, and EA, to facilitate a transparent comprehensive investigation of the quarry site (as per NPPF 2009 para 178) by a competent, but independent professional body ASAP. in the interests of residents. Both Affinity Water and Brett have their own commercial interests, and have taken out a private agreement together, which have not necessarily guaranteed the safe protection of water for residents. Further bromate contamination of ground water, is possible in our currently clean aquifer leading to the water pumping station (WPS) at Roestock in Colney Heath. The catchment for the Roestock WPS is very close to the western boundary of the quarry.

## In summary

**An alternative site for the quarry is now proposed by Tarmac at Olive Farm, Briggens Estate (preference area 1) in Stanstead Abbots, and we have calculated by starting with this quarry site at the outset, enough sand and gravel would be available for the Mineral plan target, without risk of closure due to bromate contamination, for the next 30 years.**

The Ellenbrook Park site could possibly host a smaller top-up quarry in 40-200 years' time, once the bromate has been remediated, but the current proposed Aerodrome quarry, poses too high a risk to Hertfordshire's precious water supply. It would be at the expense of effective remediation of bromate, (affecting Essendon on East Herts water) and is disproportionate and unreasonable to impose the third new large quarry for Hertfordshire on the population of Hatfield. **It is so close to residential housing and University students, whose health would suffer detrimentally. This breach of Policy 18 (63) – Protection of Amenity- the first public park for Hatfield is not acceptable. A public health specialist, knowing families with multiple deprivation in Salisbury village, HCC cannot say that this proposal will not cause any unacceptable adverse impact or harm to amenity or to human receptors**

**Thank you for considering this paper.**

March 2019 Cllr Margaret Eames-Petersen