



HORSE HILL
DEVELOPMENTS LTD

FACTS ABOUT HORSE HILL

What we ARE doing & what we ARE NOT doing

Dear Resident,

We thought an update about our work at Horse Hill would be appropriate as we progress the extended testing of the Horse Hill-1 well in pursuit of hydrocarbons from the Portland Sandstone and two Kimmeridge Limestone formations.

In addition, in light of a few misleading and mischievous rumours being circulated, we thought you would appreciate the facts, from the Horse Hill mouth, so to speak.

As you may be aware, we have recently submitted what is called a “Scoping Report” to Surrey County Council (SCC), which was published on Reigate & Banstead Borough Council’s website. This report is a broad document designed to begin a conversation with SCC about our next Horse Hill planning application, rather than setting in stone the final detail of our plans.

The Scoping Report can be found on the Horse Hill website:

<http://www.horsehilldevelopments.co.uk/ul/Horse%20Hill%20Production%20EIA%20Scoping%20Report%20051018.pdf>

Anti oil & gas protesters have predictably focussed on a few negatives in the report, including:

Drilling five more wells: We already have approval from SCC for two wells on the existing Horse Hill well pad and we are seeking their permission for four more, plus one water re-injection well. The re-injection well is considered best practise by the Environment Agency (EA) in order to return any produced water to where it came from. This water will be returned to the formation under low pressure.

Bigger site at Horse Hill: The site size will increase from 2.08 hectares to approximately 2.6 hectares with the additional land to the east of the existing well site. The land will accommodate hydrocarbon processing, power generation, storage and transportation facilities. Importantly, the size of the well pad remains the same, whether for one or seven wells. The size of the pad is fully in line with SCC’s latest planning approval of November 2017.

Gas flaring: During production, gas will not be flared. The solution gas separated from the oil will be used to generate electricity to power the site and go into the national grid. A back-up enclosed flare, like the one used during the current extended testing phase (a first for the UK onshore oil industry) will only be used as a temporary measure in case the power generator needs to be disconnected for maintenance.

The enclosed flare is designed to meet the Environment Agency’s “best available technology” standard. There is no visible flame with an enclosed flare and emissions are minimised via temperature control.

Noise: Each phase of development has the potential to generate some noise effect, but to describe it as “significant noise” is misleading. For the current work programme, we have installed noise monitors at various locations near to the site and will monitor those on a regular basis. We will do this again during the production phase.

HGV movements: The table below provides our actual forecast, averaging two two-way movements per day when the site has settled into its long-term steady production cycle:

Phase 3: Production & Well Management Programme HGV Movements	Hours of Operation			Duration	2-Way HGV Movements (In & Out)
	Mon – Fri	Sat	Sun/Bank Hols		
Production					
3.A: Installation of Production Equipment	08:00 – 18:30	09:00 – 13:00	None	3 Months	Maximum 5 per day
3.B: Production	08:00 – 18:30	09:00 – 13:00	None	4 Months	Maximum 16 per day
	08:00 – 18:30	09:00 – 13:00	None	24 Months	Maximum 12 per day
	08:00 – 18:30	09:00 – 13:00	None	48 Months	Maximum 8 per day
	08:00 – 18:30	09:00 – 13:00	None	60 Months	Maximum 4 per day
	08:00 – 18:30	09:00 – 13:00	None	104 Months	Maximum 2 per day
Well Management					
3.G.1: Workover (Mobilisation/Demobilisation)	08:00 – 18:30	09:00 – 13:00	None	1 Month	Maximum 10 per day
3.H.1: Sidetrack (Mobilisation/Demobilisation)	08:00 – 18:30	09:00 – 13:00	None	5 Months	Maximum 10 per day

Back-to-back wells: Protester groups continue to take out of context a comment made by Horse Hill director Stephen Sanderson in a television interview in 2016: “This type of oil deposit very much depends on being able to drill your wells almost back-to-back, so it becomes very much like an industrialised process.”

Protesters continue to mislead by stating this comment means we will turn the Horse Hill area into an industrial zone. Additional wells will be on the existing well pad and it is more efficient for the company, as well as less intrusive for residents, to conduct back-to-back drilling

activities. It makes sense for everyone to maximise production and efficiencies. There is nothing sinister in this expression. Any additional wells, if permitted, will be on the same existing well pad. It does not require extra space or land.

As always, this production development will be rigorously regulated by SCC, EA, the Health and Safety Executive and the Oil and Gas Authority (OGA).

Property prices: According to the website rightmove.co.uk, Charlwood has an overall average price of £453,640, higher than nearby Horley (£379,695). Overall, house prices in Charlwood over the last year were 15% up on the 2015 level of £395,696. We see no corollary between our activities and local house prices.

Fracking: Kimmeridge Limestone rock intervals are extensively naturally fractured in Horse Hill, enhancing the rock's ability to enable oil to flow into a well at good rates. Consequently, the well does NOT require the use of the unconventional oil-field process of massive hydraulic fracturing, commonly known as "fracking". We are not permitted to frack, we don't want to frack, and we don't need to frack.

Water supplies: Drilling activities will have zero impact on groundwater or local waterways and supplies. Even though there are no potable drinking water sources underlying or surrounding the site, it is our policy to drill any potential groundwater intervals using a water-based, non-toxic, bio-degradable, zero-hazard, drilling fluid made from modified plant starches. This fluid lubricates the drill bit during drilling through groundwater zones (usually those shallower than 300-400m). This drilling fluid is very similar to that used by UK water well drilling companies.

Zero discharge: Horse Hill's well pad is specifically designed and constructed to ensure that zero fluids, including rainwater, can discharge down into the ground beneath and adjacent to the site.

The pad has five liquid containment systems to ensure zero discharge and complete isolation of surface activities from the underlying and surrounding ground, including: both a man-made impermeable membrane and an impermeable natural clay-layer underlying the entire well pad, a membrane-lined perimeter ditch, impermeable concrete well cellars and bunding of all storage tanks and chemicals. Even rainwater from the site is not discharged locally during operations, but is collected by road tanker by an approved specialist waste company and sent to an EA approved disposal site.

Acidisation: There are many unfounded claims made about acidisation or acid-wash, which has been used safely in the global oil & gas and water industries for 120 years, and for over 50 years throughout the UK. This technique has been safely used over many years in a limestone oil reservoir in the Wytch Farm oil field.

At the Horse Hill well site, dilute acetic acid (90-95% water, essentially household vinegar) will flow at low pressure via the cemented steel casings solely to the limestone oil reservoir rocks, lying between half to over three quarters of a mile beneath the surface. The dilute acid dissolves small amounts of the limestone (rocks comprised of calcium carbonate) within only a few metres or less of the well bore.

This process enables the well bore to properly connect with the natural fracture system and permits greater fluid flow into the well bore. The reaction with the limestone neutralises the acid, forming water, benign salt and small volumes of carbon dioxide. Note that the dilute acid is NOT forced into the well to artificially fracture the limestone.

Local community payment: HHDL is committed to paying 6% of gross revenues to the local community (including business rates to SCC). We are in discussions with the industry advisory body, UK Onshore Oil & Gas (UKOOG) and HMRC to finalise the details of this scheme. At our estimated peak production rate and current oil prices, this royalty equates to around £5 million per year.

Earthquakes: Following the number of unexplained tremors in Surrey earlier in the year, earthquake-monitoring devices were installed at various nearby locations. A subsequent meeting organised by the OGA with various stakeholders and the British Geological Survey has concluded that there is no link between exploring for hydrocarbons and the tremors. This came as no surprise to us since there was no activity at Horse Hill during the majority of the tremors.

Why we need oil: Our daily lives in the UK currently require approximately 1.4 million barrels of oil per day for all our transportation (land, sea and air), plastics and essential chemicals. Until new technologies and materials become available to provide viable alternatives, we need oil & gas simply to survive and power the UK economy.

With the continuing rapid decline in UK offshore oil production, more than a third of this daily oil requirement is currently imported, and this is estimated to rise to over two thirds by 2030. Imports require extensive carbon emitting transportation from around the globe without the added benefits of direct and indirect jobs, supply chain and significant tax contributions of indigenous UK onshore oil.

Horse Hill Developments Ltd, October 2018
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