

## Hydrocarbons production at Lodge Farm, Clapp Gate, Appleby, Scunthorpe

### Noise level measurements 7 June 2021

All measurements were conducted in accordance with the Noise Management Plan reference 4694.09 dated 14 May 2020. This email report confirms that noise monitoring around the Lodge Farm site showed there to be no excess over the conditioned noise limits for night-time hydrocarbons production.

During the evening and night of Monday 7 to Tuesday 8 June 2021 normal production was in progress at the site. This entailed the flow of oil from the wellhead into the separator system, with no pumping. The only rotating equipment in operation was the portable generator in the north-eastern corner of the compound: this was necessary for lighting, electrical power to the control room and security cabin, and for process instrumentation and control purposes.

Noise monitoring took place at locations representative of the closest neighbours to the site, as set out in the Noise Monitoring scheme. These are:

R1	Lodge Farmhouse/Rowlands
R2	The Smithy/North/South Cottage
R3	Decoy Cottage
R4	Broughton Grange Cottage
R5	Broughton Grange

The measurement locations used were (1) near Lodge Farm, at OS grid coordinates 496171E, 410998N; (2) the patch of grass to the east of South Cottage, as previously used on the project, at 496286E, 410984N; (4) at the side of the B1208 Broughton Road, 496596E, 410406N; (5) near the main gate to Broughton Lodge, 496893E, 410317N. It was not possible to gain any access close to Decoy Cottage (3) but it was unlikely that the sound levels near that property would have been significantly different from those at (2), (4) and (5).

A Rion sound level analyser type NL-52 was used for all measurements. It was subject to calibration checks by means of a type NC-74 electronic calibrator and had been subject to a laboratory calibration within the previous two years. It was either hand-held or mounted on a tripod, with its microphone 1.2m above ground level.

The weather was dry but cloudy. At first there was no measurable wind, but later there was an occasional south-westerly breeze of between 1 and 2 ms<sup>-1</sup> which was sufficient to rustle leaves on the trees. The air temperature was 17°C. This was acceptable for noise monitoring purposes, and after the usual calibration checks the first measurements began at 23:00h.

It quickly became evident that the very few activities audible were unrelated to the well site. There were occasional distant movements of road traffic, and occasional faint sounds from what was apparently rail-freight marshalling associated with the steelworks a few kilometres to the west. The lighting generator referenced above was not audible at any noise monitoring location.

The maximum equivalent continuous A-weighted sound level over any five-minute period, at any of the locations surveyed, was 34dB. This was very comfortably within night-time noise limit of 42dB (Condition 8 of the applicable planning permission).

The maximum fast response instantaneous sound level  $L_{AFmax}$  never exceeded 70dB.

The results are tabulated below. They clearly demonstrated that the conditions limiting noise from the production site were being complied with.

17 June 2021

Sound levels during normal production on site

location reference	times h	$L_{Aeq,5min}$ dB	$L_{A90,5min}$ dB
R1	23:14 – 23:19	30	28
	23:19 – 23:24	30	27
R2	23:00 – 23:05	30	27
	23:05 – 23:10	31	28
R4	23:31 – 23:36	32	30
	23:36 – 23:41	32	30
R5	23:51 – 23:56	34	32
	23:56 – 00:01	33	30