THE ODOUR UNIT PTY LIMITED



2 Locomotive Street Eveleigh NSW 2015 Australian Technology Park Locomotive Workshop Suite 16012

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Form 22 - Field Ambient Odour Assessment Log Sheet

<u>nny, very light/light winds</u>	COMMENTS	None.							
WEATHER CONDITIONS: Sunny, very light/light winds	VDI 3940 INTENSITY SCALE 0-6	ò	0	0	0	0	0	0	
	ODOUR CHARACTER	•		•	ı		-	•	
Andrew Cantlay	ODOUR PRESENT Y/N	Z	z	Z	N.	x	N	N	
	WIND VELOCITY m/s	0.53.9	0.5 - 3.9	0.5 3.9	0.5 – 3.9	0.5 3.9	0.5 3.9	0.5 - 3.9	
DATE: 18/08/2009 ASSESSOR:	WIND DIRECTION	240 - 250	240 - 250	240 - 250	240 - 250	240 - 250	240 - 250	160 - 180	
	TIME	1327	1331	1335	1338	1342	1345	1348	
DATE	GRID REF. POSITION		161	3C	3B	3А	2D	2E	

Revision Date: 20.08.2008 Approved By: TJS

Issue Date: 19.09.2005 Issued By: NB Odour Measurement Manual

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COMMENTS							
	None.						
VDI 3940 INTENSITY SCALE 0-6	0	0	0	0	0	0	0
ODOUR CHARACTER	•		-	•	I	ł	P
ODOUR PRESENT Y/N	z	Z	Z	z	z	Z	z
WIND VELOCITY m/s	0.5-3.9	0.5 3.9	0.5 – 3.9	0.5-3.9	0.5-3.9	0.5 - 3.9	0.5 – 3.9
WIND DIRECTION	160 - 180	160 - 180	240 - 250	240 - 250	240 - 250	240 - 250	160 - 180
TIME	1355	1358	1400	1404	1406	[410	1414
GRID REF. POSITION	2B	SC	2A	ŝA	Ŋ	Ð	IM

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WEATHER CONDITIONS: Sunny, very light/light winds Andrew Cantlay ASSESSOR: 18/08/2009 DATE:

COMMENTS	The odour was detected adjacent to the southern fence line of the STP.	None.		
VDI 3940 INTENSITY SCALE 0-6	m	0		
ODOUR CHARACTER	Treated wastewater	I		
ODOUR PRESENT Y/N	Y	Z.		
WIND VELOCITY m/s	< 0.5	< 0.5		
WIND DIRECTION	230 - 310	CALM		
TIME	1423	1432		
GRID REF. POSITION	1B	IL		

Form 22 – Field Ambient Odour Assessment Log Sheet The Odour Unit Pty Ltd ACN 091 165 061

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Literature Review

Odour complaint data is seen as "...an appropriate means by which severity can be determined" and "....are an effective indicator of a problem" with regard to odour according to Sydney Water (Sydney Water, 2001).

A search and review of odour complaint data therefore formed the basis for the literature review that was carried out for this study and therefore involved searching state government websites such as Sydney Water and the DECC as well as Local Government websites such as The Hills Shire Council and Hornsby Shire Council for any information that related to "odour", "odour control", "odour complaints" and/or "Castle Hill STP/Sewage Treatment Plant".

Newspaper websites, such as The Sydney Morning Herald, The Daily Telegraph, The Australian, Hills News (The), Northern News and Rouse Hill Times, were also searched using similar keyword terms listed previously.

General search websites such as Google, Google Scholar and Bing were used as well for the same terms listed above.

Annual Reports released by Sydney Water, which are publicly available from the NSW Government Publications website, returned the only relevant information other than a tender request which briefly mentioned that an odour system had been installed some period before 2006.

The annual reports provide a summary of the total number of odour complaints received by Sydney Water with regard to sewage treatment plants, the wastewater system or other Sydney Water activites. The graph below shows the total number of odour complaints over a period of 5 years (2004-08) which is listed in an *Operating Licence Compliance Report* (Sydney Water, 2008). Based on the data presented in the graph there have been 1,044 odour complaints for all of Sydney Water's infrastructure and activities.



EPI 20 Total number of odour complaints generated from the sewage treatment plants or the sewerage system.

The compliance report also states that the majority of the odour complaints, for the period 2004-08, were in relation to capital works at the STPs. Specifically, trucks carrying biosolids at North Head STP and general plant odours from Shellharbour, Malabar, Glenfield and Warriewood. It is important to note that Castle Hill STP is not mentioned as a major contributor to the odour complaints within this compliance report and is actually not specifically mentioned in this report or any of the other annual reports that were available on the NSW Government publications website (2003-2006, 2008).

A personal communication was sought from Rod Mackenzie, a Senior Planner- P&R, Asset Planning of Sydney Water Corporation, to establish whether any odour complaints received by Sydney Water were due to Castle Hill STP and the numbers of complaints if any have occurred considering that the annual reports published by Sydney Water do not mention Castle Hill STP. Rod Mackenzie stated that there have been less than 10 odour complaints within the last 10 years for Castle Hill STP.

Conclusion

Based on the data collected from the literature review no specific mention of Castle Hill STP in terms of odour complaints was found in the publicly available information (i.e. Sydney Water annual reports). The personal communication from Rod Mackenzie of Sydney Water also provided some important information stating that there have been less than 10 odour complaints within the last 10 years for Castle Hill STP.

It is important to note that the field ambient odour assessments (FAOAs) were carried out during winter while summer could bring higher odour levels. The FAOAs showed that the majority of odour, characterized as a treated effluent (musty, mouldy, earthy, pond water) odour, was detected mostly along the creek line and along the fence-line of the plant. The odour would not be described as unpleasant.

It is unusual that a weak treated wastewater odour was detected in the residential area to the east of the plant in calm conditions considering that the odour would need to travel up the valley to the residential area. This could be due to a plume being moved by a slight wind (undetected by the assessor) and/or the presence of a secondary odour source (observed whilst conducting FAOAs) along the walking track. Odour detected to the south of the plant was not far from a similar secondary odour source and may also be an additional source of the odour experienced by the assessor. In conclusion, the information provided above suggests that additional housing to the west of the plant would be unlikely to be adversely impacted by odour from the sewage treatment plant at Castle Hill. If odour was experienced it would most likely be a treated wastewater odour which is in our opinion not cause for nuisance.