CERTIFICATE OF ANALYSIS

CASSEN

Client:	Ada Nguyen	**Work Order No.:**	2502295
Organization:	DCS Ltd	**Analysis Required:**	Open Characterization
Project Name:	St. Norbert	**CASSEN Method:**	M2401.R0
Date Submitted:	August 26, 2008	**GC/MS File:**	D22553
Date Analyzed:	August 26, 2008	**Sample ID:**	C07550
		Sample Volume:	13.14 L

Major Volatile Organic Compounds Detected

Rank	CAS Number	Tentative Identification	Retention Time (min)	Total Amount (ng)	Concentration (ug/m^3)
1	000111-90-0	Ethanol, 2-(2-ethoxyethoxy)-	25.82	690	53
2	000109-66-0	Pentane	6.33	360	27
3	000064-19-7	Acetic acid	12.11	300	23
4	000064-17-5	Ethanol	6.60	280	22
5	000100-52-7	Benzaldehyde	25.01	260	20
6	000067-64-1	Acetone	7.40	220	17
7	000066-25-1	Hexanal	18.11	220	16
8	000078-78-4	Butane, 2-methyl-	5.87	210	16
9	000100-51-6	Benzyl Alcohol	27.52	160	12
10	062199-06-8	Heptane, 5-ethyl-2,2,3-trimethyl-	25.62	150	12
11	000071-36-3	1-Butanol	13.78	110	8
12	000067-63-0	Isopropyl Alcohol	7.54	110	8
13	013475-82-6	Heptane, 2,2,4,6,6-pentamethyl-	24.22	110	8
14	000075-07-0	Acetaldehyde	5.21	77	6
15	040117-45-1	2,2,6,6-Tetramethylheptane	22.24	70	5
16	000124-19-6	Nonanal	27.89	70	5
17	006846-50-0	2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	37.88	70	5
18	000108-38-3	m-Xylene + p-Xylene	20.19	59	4
19	003944-36-3	2-Propanol, 1-(1-methylethoxy)-	19.59	58	4
20	000541-02-6	Cyclopentasiloxane, decamethyl-	27.11	57	4
21	000556-67-2	Cyclotetrasiloxane, octamethyl-	22.45	55	4
22	000107-83-5	Pentane, 2-methyl-	7.99	53	4
23	000106-97-8	Butane + 1-Propene, 2-methyl-	4.87	50	4
24	000872-50-4	2-Pyrrolidinone, 1-methyl-	28.08	50	4
25	000075-69-4	Trichloromonofluoromethane	6.25	48	4
26	000108-88-3	Toluene	16.31	48	4
27	000110-82-7	Cyclohexane	11.47	44	3
28	013151-34-3	Decane, 3-methyl-	25.36	39	3
29	052670-34-5	Octane, 2,3,6,7-tetramethyl-	26.67	39	3
30	000123-72-8	Butanal	10.26	37	3
31	000111-15-9	2-Ethoxyethyl acetate	21.60	36	3
32	000098-86-2	Acetophenone	27.95	34	3
33	000110-54-3	Hexane	8.92	32	2
34	017302-37-3	Decane, 2,2-dimethyl-	24.58	32	2
35	003522-94-9	Hexane, 2,2,5-trimethyl-	25.49	32	2

Total Volatile Organic Compounds (TVOCs)

	Total Amount (ng)	Concentration (ug/m^3)
Total Volatile Organics (TVOCs)	5700	440

Notes:

Rank is based on descending order of concentration.

CAS Number is the Chemical Abstracts Service registry number corresponding to the tentatively identified compound (first listed coeluting compound) listed beside it. The tentative identification and its corresponding CAS Number were obtained as the best possible match from the results of NIST Mass Spectral Library search.

Tentative Identification is based on the best match result of the mass spectral identification, results are not confirmed unless calibrated with reference standards.

Retention Time is the time that the VOC eluted from the column in the chromatogram.

Total Amount is the semi-quantitative estimate of the total mass of the VOC in nanograms detected in the sampling tube. The value depends on the VOC's response compared to selected reference compounds. **A total amount reported that is over 2000ng should be considered overloaded for the analysis.**

Concentration is the total amount of the VOC expressed in microgram per cubic meter, based on the air volume sampled. The air volumes used are those supplied to CTL. (N.A. = Not Available)

TVOCs result is the summation of the semi-quantitative concentrations of all the VOCs detected. It is useful as an indicator of indoor air quality.

CTL has established an *ISO17025* reporting policy that a maximum of 2 significant figures will be reported for test results.

This ***Certificate of Analysis*** shall not be reproduced except in full, without written approval of the laboratory. These analytical results pertain only to the samples as received. No responsibility or liability is assumed for the manner in which the results are used.

Analyst:_____ Date:_____

Queenie Yip, B.Sc., C.Chem., Chemist