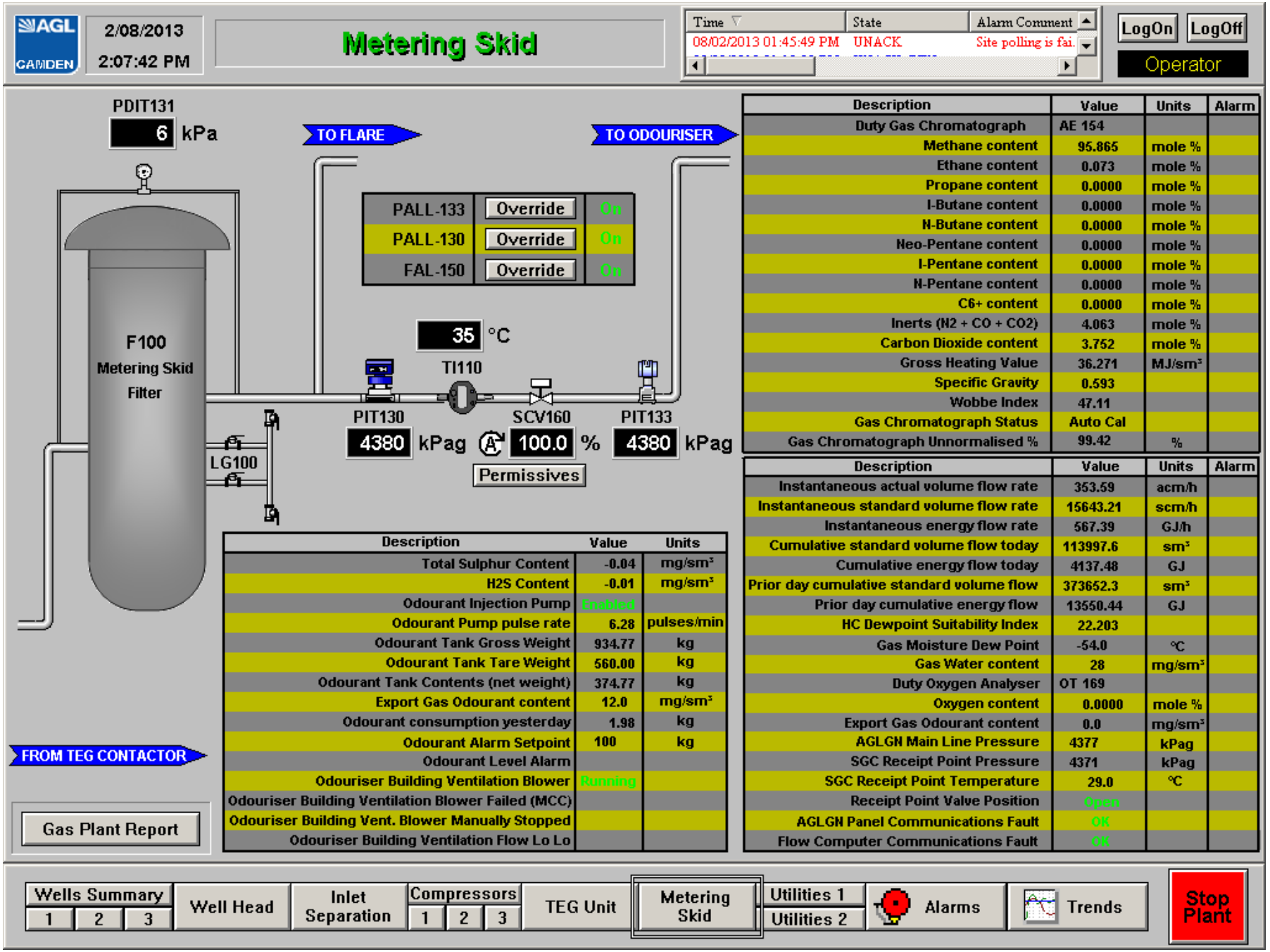
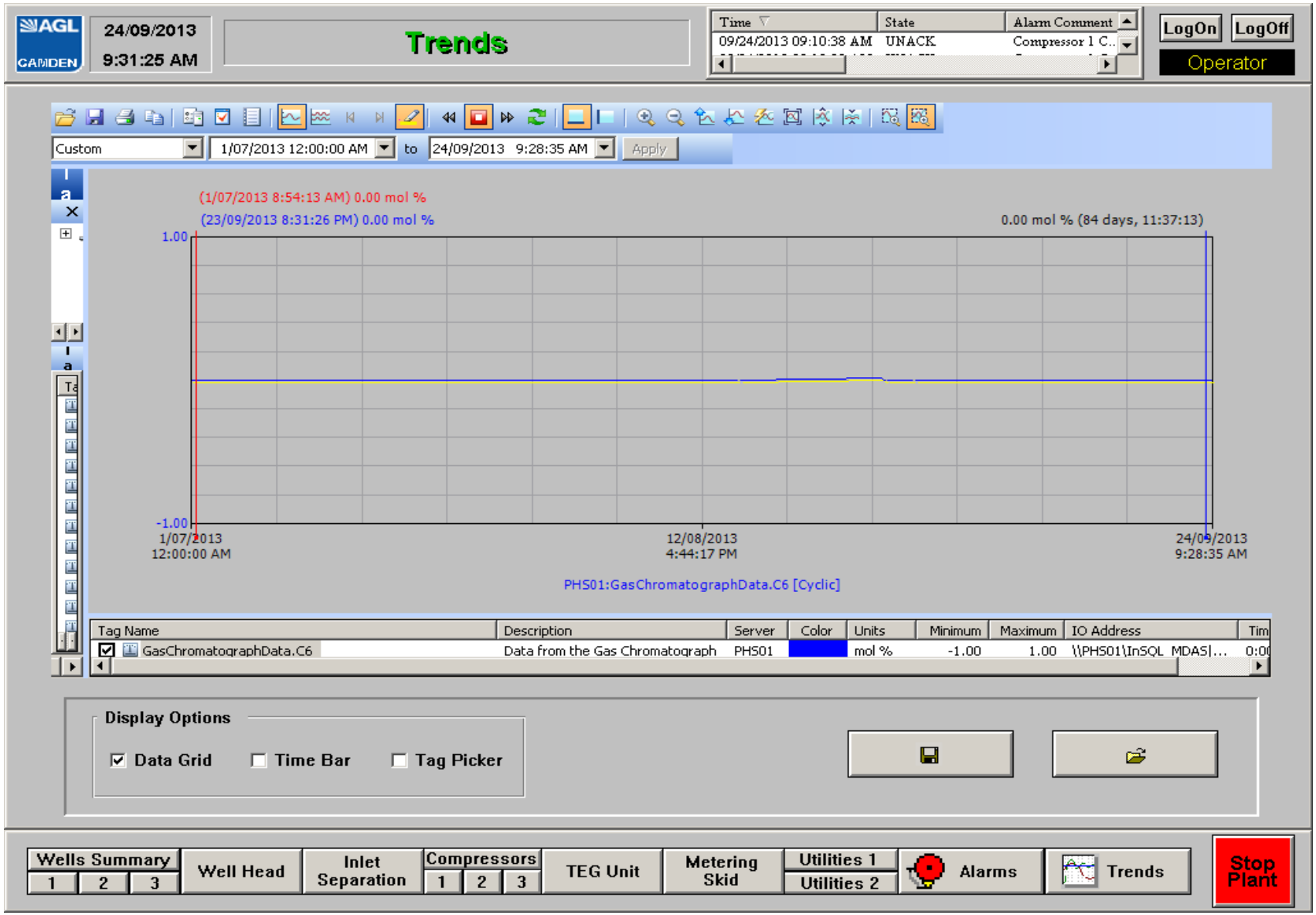
Appendix A Analytical Reports – Coal Seam Gas

Online Gas Monitoring Outputs


AGL
CAMDEN
2/08/2013
2:07:42 PM
Metering Skid
Time
State
Alarm Comment
08/02/2013 01:45:49 PM
UNACK
Site polling is fai.
LogOn
LogOff
Operator
PDIT131
6 kPa
TO FLARE
TO ODOURISER
PALL-133 Override On
PALL-130 Override On
FAL-150 Override On
35 °C
TI110
F100
Metering Skid
Filter
LG100
PIT130
4380 kPag
SCV160
100.0 %
PIT133
4380 kPag
Permissives
FROM TEG CONTACTOR
Gas Plant Report
Description Value Units Alarm
Duty Gas Chromatograph AE 154
Methane content 95.865 mole %
Ethane content 0.073 mole %
Propane content 0.0000 mole %
I-Butane content 0.0000 mole %
N-Butane content 0.0000 mole %
Neo-Pentane content 0.0000 mole %
I-Pentane content 0.0000 mole %
N-Pentane content 0.0000 mole %
C6+ content 0.0000 mole %
Inerts (N2 + CO + CO2) 4.063 mole %
Carbon Dioxide content 3.752 mole %
Gross Heating Value 36.271 MJ/sm³
Specific Gravity 0.593
Wobbe Index 47.11
Gas Chromatograph Status Auto Cal
Gas Chromatograph Unnormalised % 99.42 %
Description Value Units Alarm
Instantaneous actual volume flow rate 353.59 acm/h
Instantaneous standard volume flow rate 15643.21 scm/h
Instantaneous energy flow rate 567.39 GJ/h
Cumulative standard volume flow today 113997.6 sm³
Cumulative energy flow today 4137.48 GJ
Prior day cumulative standard volume flow 373652.3 sm³
Prior day cumulative energy flow 13550.44 GJ
HC Dewpoint Suitability Index 22.203
Gas Moisture Dew Point -54.0 °C
Gas Water content 28 mg/sm³
Duty Oxygen Analyser OT 169
Oxygen content 0.0000 mole %
Export Gas Odourant content 0.0 mg/sm³
AGLGN Main Line Pressure 4377 kPag
SGC Receipt Point Pressure 4371 kPag
SGC Receipt Point Temperature 29.0 °C
Receipt Point Valve Position Open
AGLGN Panel Communications Fault OK
Flow Computer Communications Fault OK
Description Value Units
Total Sulphur Content -0.04 mg/sm³
H2S Content -0.01 mg/sm³
Odourant Injection Pump Enabled
Odourant Pump pulse rate 6.28 pulses/min
Odourant Tank Gross Weight 934.77 kg
Odourant Tank Tare Weight 560.00 kg
Odourant Tank Contents (net weight) 374.77 kg
Export Gas Odourant content 12.0 mg/sm³
Odourant consumption yesterday 1.98 kg
Odourant Alarm Setpoint 100 kg
Odourant Level Alarm
Odouriser Building Ventilation Blower Running
Odouriser Building Ventilation Blower Failed (MCC)
Odouriser Building Vent. Blower Manually Stopped
Odouriser Building Ventilation Flow Lo Lo
Wells Summary 1 2 3
Well Head
Inlet Separation
Compressors 1 2 3
TEG Unit
Metering Skid
Utilities 1
Utilities 2
Alarms
Trends
Stop Plant


AGL
CAMDEN
24/09/2013
9:31:25 AM
Trends
Time
State
Alarm Comment
09/24/2013 09:10:38 AM
UNACK
Compressor 1 C..
LogOn
LogOff
Operator
Custom
1/07/2013 12:00:00 AM
to
24/09/2013 9:28:35 AM
Apply
(1/07/2013 8:54:13 AM) 0.00 mol %
(23/09/2013 8:31:26 PM) 0.00 mol %
0.00 mol % (84 days, 11:37:13)
1.00
-1.00
1/07/2013
12:00:00 AM
12/08/2013
4:44:17 PM
24/09/2013
9:28:35 AM
PHS01:GasChromatographData.C6 [Cyclic]
Tag Name
Description
Server
Color
Units
Minimum
Maximum
IO Address
GasChromatographData.C6
Data from the Gas Chromatograph
PHS01
mol %
-1.00
1.00
\\PHS01\InSQL MDAS|...
Display Options
Data Grid
Time Bar
Tag Picker
Wells Summary
1
2
3
Well Head
Inlet Separation
Compressors
1
2
3
TEG Unit
Metering Skid
Utilities 1
Utilities 2
Alarms
Trends
Stop Plant

General Gas Analysis

Cordeaux Gas Laboratory

Gas Analysis Report: 1202118 **Issue No.:** 1

Attention: A. Whiteside, N. Tumu

Sample Details: MP07 THP=42 CHP=190

bhpbilliton

Illawarra Coal Holdings
Cordeaux Mine Site
Picton Road Mt Keira West NSW 2500
PO Box 514 Unanderra NSW 2526
Ph: +61 2 4224 6298 Fax: +61 2 4224 6259

Sampled By: Unknown

Sampling Date: 16/02/2012 **Analysis Date:** 17/02/2012

Sampling Time: 10:15 **Analysis Time:** 10:55

Analyte	As Received Basis	Air Free Basis
oxygen	1.51 %v/v	- -
argon	0.203 %v/v	- -
nitrogen	5.74 %v/v	- -
methane	89.3 %v/v	96.5 %v/v
hydrogen	Not Detected	Not Detected
carbon monoxide	Not Detected	Not Detected
carbon dioxide	3.16 %v/v	3.41 %v/v
ethane	0.123 %v/v	0.133 %v/v
ethylene	Not Detected	Not Detected
propane	0.000993 %v/v	0.00107 %v/v
propylene	Not Detected	Not Detected
i-butane	Not Detected	Not Detected
n-butane	Not Detected	Not Detected
i-pentane	Not Detected	Not Detected
n-pentane	Not Detected	Not Detected

Excess N2: 0.12 % Air Contamination: 7.19 %v/v

Comments:
All results analysed as received, dry basis. Results normalised to 100%. Argon determined by difference. Air-free results calculated free of O_2, Ar and N_2.

Signed: ..... Date: 17/02/2012

Kris Whyte

Cordeaux Gas Laboratory

Gas Analysis Report: 1207084 **Issue No.:** 1

Attention: Aidan Barnes - AGL

Sample Details: KP6 1340Mm

bhpbilliton

Illawarra Coal Holdings
Cordeaux Mine Site
Picton Road Mt Keira West NSW 2500
PO Box 514 Unanderra NSW 2526
Ph: +61 2 4224 6298 Fax: +61 2 4224 6259

Sampled By: Unknown

Sampling Date: 12/07/2012 **Analysis Date:** 13/07/2012

Sampling Time: Unknown **Analysis Time:** 13:47

Analyte	As Received Basis	Air Free Basis
oxygen	0.763 %v/v	- -
argon	0.0821 %v/v	- -
nitrogen	3.68 %v/v	- -
methane	92.8 %v/v	97.2 %v/v
hydrogen	Not Detected	Not Detected
carbon monoxide	Not Detected	Not Detected
carbon dioxide	2.6 %v/v	2.72 %v/v
ethane	0.0625 %v/v	0.0654 %v/v
ethylene	Not Detected	Not Detected
propane	0.00987 %v/v	0.0103 %v/v
propylene	Not Detected	Not Detected
i-butane	Not Detected	Not Detected
n-butane	Not Detected	Not Detected
i-pentane	Not Detected	Not Detected
n-pentane	Not Detected	Not Detected

Excess N2: 0.84 % Air Contamination: 3.64 %v/v

Comments:
All results analysed as received, dry basis. Results normalised to 100%. Argon determined by difference. Air-free results calculated free of O_2, Ar and N_2.

Signed: ..... Murray Bull Date: 13/07/2012

Trace Level Gas Analysis

Australian Government

National Measurement Institute

REPORT OF ANALYSIS

Report No. VOC13_267

Client	:	AGL	**Job No. :**	AGLU01/130917
		PO BOX 67	**Quote No. :**	
		MENANGLE NSW 2568	**Order No. :**	
			Date Sampled :	12-Sep-2013
			Date Received :	17-Sep-2013
			Sampled by :	CLIENT
Attention	:	AARON CLIFTON		
Project Name	:			
Your Client Services Manager	:	DANNY SLEE	**Phone :**	(02) 9449 0111

Laboratory Reg. No. :	NV13/00802	**Method:**	VOC_01
Client Sample Ref. :	RPGP120913	**Date Analysed :**	18-Sep-2013
Matrix :	Air Canisters	**Canister No. :**	F1905
Description :	12.9.13 5:35 12.9.13 5:55	**Receipt Vac/Press ("Hg):**	-5
		Dilution :	20

Compound	LOR ppbv	Level ppbv	LOR ug/m3	Level ug/m3	CAS Number
Propene	2	<2	3	<3	115-07-1
Dichlorodifluoromethane	2	<2	10	<10	75-71-8
Chloromethane	5	<5	10	<10	74-87-3
1,2-Dichlorotetrafluoroethane	2	<2	10	<10	76-14-2
Vinyl chloride	2	<2	5	<5	75-01-4
1,3-Butadiene	2	<2	4	<4	106-99-0
Bromomethane	8	<8	30	<30	74-83-9
Chloroethane	2	<2	5	<5	75-00-3
Acrolein	2	<2	5	<5	107-02-8
Acetone	5	<5	10	<10	67-64-1
Ethanol	5	290	9	550	64-17-5
2-Propanol	2	<2	5	<5	67-63-0
Trichlorofluoromethane	2	<2	10	<10	75-69-4
1,1-Dichloroethene	2	<2	8	<8	75-35-4
Dichloromethane	5	<8	20	<30	75-09-2
1,1,2-Trichloro-1,2,2 trifluoroethane	2	<2	20	<20	76-13-1
Carbon disulfide	2	<2	6	<6	75-15-0
trans-1,2-Dichloroethene	2	<2	8	<8	156-60-5
1,1-Dichloroethane	2	<2	8	<8	75-34-3
Methyl-tert-butylether (MTBE)	2	<2	7	<7	1634-04-4
Vinyl acetate	2	<2	7	<7	108-05-4
2-Butanone (MEK)	2	<2	6	<6	78-93-3
cis-1,2-Dichloroethene	2	<2	8	<8	156-59-2
Hexane	2	71	7	250	110-54-3
Chloroform	2	<2	10	<10	67-66-3
Ethyl Acetate	2	<2	10	<10	141-78-6
Tetrahydrofuran	2	<2	6	<6	109-99-9
1,2-Dichloroethane	2	<2	8	<8	107-06-2
1,1,1-Trichloroethane	2	<2	10	<10	71-55-6
Benzene	5	<20	20	<50	71-43-2

Report No. VOC13_267

Carbon tetrachloride	2	<2	10	<10	56-23-5
Cyclohexane	2	74	7	250	110-82-7
1,2-Dichloropropane	2	<2	9	<9	78-87-5
Bromodichloromethane	2	<2	10	<10	75-27-4
Trichloroethene	2	<2	10	<10	79-01-6
1,4-Dioxane	2	<2	7	<7	123-91-1
Heptane	2	<10	8	<60	142-82-5
Methyl methacrylate	2	<2	8	<8	80-62-6
cis-1,3-Dichloropropene	2	<2	9	<9	10061-01-5
4-Methyl-2-pentanone (MIBK)	2	<2	8	<8	108-10-1
trans-1,3-Dichloropropene	2	<2	9	<9	10061-02-6
1,1,2-Trichloroethane	2	<2	10	<10	79-00-5
Toluene	2	<4	8	<20	108-88-3
2-Hexanone (MBK)	2	<2	8	<8	591-78-6
Dibromochloromethane	2	<2	20	<20	124-48-1
1,2-Dibromoethane	2	<2	20	<20	106-93-4
Tetrachloroethylene	2	<2	10	<10	127-18-4
Chlorobenzene	2	<2	9	<9	108-90-7
Ethylbenzene	2	<6	9	<30	100-41-4
Bromoform	2	<2	20	<20	75-25-2
m & p-Xylenes	5	<5	20	<20	108-38-3 / 106-42-3
Styrene	2	<6	9	<20	100-42-5
1,1,2,2-Tetrachloroethane	2	<2	10	<10	79-34-5
o-Xylene	2	<2	9	<9	95-47-6
4-Ethyltoluene	2	<2	10	<10	622-96-8
1,3,5-Trimethylbenzene	2	<2	10	<10	108-67-8
1,2,4-Trimethylbenzene	2	<2	10	<10	95-63-6
Benzyl Chloride	2	<2	10	<10	100-44-7
1,3-Dichlorobenzene	2	<2	10	<10	541-73-1
1,4-Dichlorobenzene	2	<2	10	<10	106-46-7
1,2-Dichlorobenzene	2	<2	10	<10	95-50-1
1,2,4-Trichlorobenzene	2	<2	10	<10	120-82-1
Hexachlorobutadiene	2	<2	20	<20	87-68-3
Naphthalene	2	<2	10	<10	91-20-3
Internal Standard: BCM (%Rec.)	1	108			74-97-5
Internal Standard: 1,4-DFB (%Rec.)	1	102			540-36-3
Internal Standard: MCB-d5 (%Rec.)	1	105			3114-55-4

Robert Crough
Chemist

Accreditation No. 198

20-Sep-13

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Australian Government

National Measurement Institute

REPORT OF ANALYSIS

Report No. VOC13_267

Client	:	AGL	**Job No. :**	AGLU01/130917
		PO BOX 67	**Quote No. :**	
		MENANGLE NSW 2568	**Order No. :**	
			Date Sampled :	12-Sep-2013
			Date Received :	17-Sep-2013
			Sampled by :	CLIENT
Attention	:	AARON CLIFTON		
Project Name	:			
Your Client Services Manager	:	DANNY SLEE	**Phone :**	(02) 9449 0111

Laboratory Reg. No. :	NV13/00803	**Method:**	VOC_01
Client Sample Ref. :	RPGP130913	**Date Analysed :**	18-Sep-2013
Matrix :	Air Canisters	**Canister No. :**	F1906
Description :	13.9.13 8:25 13.9.13 8:47	**Receipt Vac/Press ("Hg):**	-3
		Dilution :	18

Compound	LOR ppbv	Level ppbv	LOR ug/m3	Level ug/m3	CAS Number
Propene	2	<2	3	<3	115-07-1
Dichlorodifluoromethane	2	<2	9	<9	75-71-8
Chloromethane	5	<5	9	<9	74-87-3
1,2-Dichlorotetrafluoroethane	2	<2	10	<10	76-14-2
Vinyl chloride	2	<2	5	<5	75-01-4
1,3-Butadiene	2	<2	4	<4	106-99-0
Bromomethane	7	<7	30	<30	74-83-9
Chloroethane	2	<2	5	<5	75-00-3
Acrolein	2	<2	4	<4	107-02-8
Acetone	5	74	10	180	67-64-1
Ethanol	5	270	8	510	64-17-5
2-Propanol	2	<2	4	<4	67-63-0
Trichlorofluoromethane	2	<2	10	<10	75-69-4
1,1-Dichloroethene	2	<2	7	<7	75-35-4
Dichloromethane	5	<6	20	<20	75-09-2
1,1,2-Trichloro-1,2,2 trifluoroethane	2	<2	10	<10	76-13-1
Carbon disulfide	2	<2	6	<6	75-15-0
trans-1,2-Dichloroethene	2	<2	7	<7	156-60-5
1,1-Dichloroethane	2	<2	7	<7	75-34-3
Methyl-tert-butylether (MTBE)	2	<2	6	<6	1634-04-4
Vinyl acetate	2	<2	6	<6	108-05-4
2-Butanone (MEK)	2	<2	5	<5	78-93-3
cis-1,2-Dichloroethene	2	<2	7	<7	156-59-2
Hexane	2	68	6	240	110-54-3
Chloroform	2	<2	9	<9	67-66-3
Ethyl Acetate	2	<2	9	<9	141-78-6
Tetrahydrofuran	2	<2	5	<5	109-99-9
1,2-Dichloroethane	2	<2	7	<7	107-06-2
1,1,1-Trichloroethane	2	<2	10	<10	71-55-6
Benzene	5	<20	10	<50	71-43-2

Report No. VOC13_267

Carbon tetrachloride	2	<2	10	<10	56-23-5
Cyclohexane	2	76	6	260	110-82-7
1,2-Dichloropropane	2	<2	8	<8	78-87-5
Bromodichloromethane	2	<2	10	<10	75-27-4
Trichloroethene	2	<2	10	<10	79-01-6
1,4-Dioxane	2	<2	6	<6	123-91-1
Heptane	2	<10	7	<50	142-82-5
Methyl methacrylate	2	<2	7	<7	80-62-6
cis-1,3-Dichloropropene	2	<2	8	<8	10061-01-5
4-Methyl-2-pentanone (MIBK)	2	<2	7	<7	108-10-1
trans-1,3-Dichloropropene	2	<2	8	<8	10061-02-6
1,1,2-Trichloroethane	2	<2	10	<10	79-00-5
Toluene	2	<3	7	<10	108-88-3
2-Hexanone (MBK)	2	<2	7	<7	591-78-6
Dibromochloromethane	2	<2	20	<20	124-48-1
1,2-Dibromoethane	2	<2	10	<10	106-93-4
Tetrachloroethylene	2	<2	10	<10	127-18-4
Chlorobenzene	2	<2	8	<8	108-90-7
Ethylbenzene	2	<4	8	<20	100-41-4
Bromoform	2	<2	20	<20	75-25-2
m & p-Xylenes	5	<5	20	<20	108-38-3 / 106-42-3
Styrene	2	<4	8	<20	100-42-5
1,1,2,2-Tetrachloroethane	2	<2	10	<10	79-34-5
o-Xylene	2	<2	8	<8	95-47-6
4-Ethyltoluene	2	<2	9	<9	622-96-8
1,3,5-Trimethylbenzene	2	<2	9	<9	108-67-8
1,2,4-Trimethylbenzene	2	<2	9	<9	95-63-6
Benzyl Chloride	2	<2	9	<9	100-44-7
1,3-Dichlorobenzene	2	<2	10	<10	541-73-1
1,4-Dichlorobenzene	2	<2	10	<10	106-46-7
1,2-Dichlorobenzene	2	<2	10	<10	95-50-1
1,2,4-Trichlorobenzene	2	<2	10	<10	120-82-1
Hexachlorobutadiene	2	<2	20	<20	87-68-3
Naphthalene	2	<2	9	<9	91-20-3
Internal Standard: BCM (%Rec.)	1	103			74-97-5
Internal Standard: 1,4-DFB (%Rec.)	1	100			540-36-3
Internal Standard: MCB-d5 (%Rec.)	1	105			3114-55-4

Robert Crough
Chemist

Accreditation No. 198

20-Sep-13

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Australian Government

National Measurement Institute

REPORT OF ANALYSIS

Report No. VOC13_270

Client	:	AGL	**Job No. :**	AGLU01/130917
		PO BOX 67	**Quote No. :**	
		MENANGLE NSW 2568	**Order No. :**	
			Date Sampled :	12-Sep-2013
			Date Received :	17-Sep-2013
			Sampled by :	CLIENT
Attention	:	AARON CLIFTON		
Project Name	:			
Your Client Services Manager	:	DANNY SLEE	**Phone :**	(02) 9449 0111

Laboratory Reg. No. :	NV13/00802	**Method:**	VOC_03
Client Sample Ref. :	RPGP120913	**Date Analysed :**	18-Sep-2013
Matrix :	Air Canisters	**Canister No. :**	F1905
Description :	12.9.13 5:35 12.9.13 5:55	**Receipt Vac/Press ("Hg):**	-5
		Dilution :	20

Compound	LOR ppbv	Level ppbv	LOR ug/m3	Level ug/m3	CAS Number
Aliphatic					
TPH C5 - C6	200	970	700	3420	-
TPH >C6 - C8	200	<200	800	<800	-
TPH >C8 - C10	200	7750	1000	40600	-
TPH >C10 - C12	200	750	1000	4770	-
Aromatic					
TPH C6 - C8	200	<200	800	<800	-
TPH >C8 - C10	200	<200	1000	<1000	-
TPH >C10 - C12	200	<200	1000	<1000	-
BTEX					
Benzene	5	<20	20	<50	71-43-2
Toluene	2	<4	8	<20	108-88-3
Ethylbenzene	2	<6	9	<30	100-41-4
m & p-Xylenes	5	<5	20	<20	108-38-3 / 106-42-3
o-Xylene	2	<2	9	<9	95-47-6
Naphthalene	2	<2	10	<10	91-20-3
Internal Standard: BCM (%Rec.)	1	108	-	-	74-97-5
Internal Standard: 1,4-DFB (%Rec.)	1	102	-	-	540-36-3
Internal Standard: MCB-d5 (%Rec.)	1	105	-	-	3114-55-4

Notes:

LOR adjusted to reflect dilution.

Aliphatic bands are quantified using n-alkane standards.

Aromatic bands are quantified against target TO-15 aromatic standards.

Conversion to ug/m3:

Aliphatic TPH C5 to C6 (ref n-Hexane)

Aliphatic TPH >C6 to C8 (ref n-Heptane)

Aliphatic TPH >C8 - C10 (ref n-Nonane)

Aliphatic TPH >C10 - C12 (ref n-Undecane)

Aromatic TPH C6 to C8 (ref toluene)

Aromatic TPH >C8 - C10 (ref 1,2,3-Trimethylbenzene)

Aromatic TPH >C10 - C12 (ref m-diethylbenzene)

Robert Crough
Accreditation No. 198

20-Sep-13

Australian Government

National Measurement Institute

REPORT OF ANALYSIS

Report No. VOC13_270

Client	:	AGL	**Job No. :**	AGLU01/130917
		PO BOX 67	**Quote No. :**	
		MENANGLE NSW 2568	**Order No. :**	
			Date Sampled :	12-Sep-2013
			Date Received :	17-Sep-2013
			Sampled by :	CLIENT
Attention	:	AARON CLIFTON		
Project Name	:			
Your Client Services Manager	:	DANNY SLEE	**Phone :**	(02) 9449 0111

Laboratory Reg. No. :	NV13/00803	**Method:**	VOC_03
Client Sample Ref. :	RPGP130913	**Date Analysed :**	18-Sep-2013
Matrix :	Air Canisters	**Canister No. :**	F1906
Description :	13.9.13 8:25 13.9.13 8:47	**Receipt Vac/Press ("Hg):**	-3
		Dilution :	18

Compound	LOR ppbv	Level ppbv	LOR ug/m3	Level ug/m3	CAS Number
Aliphatic					
TPH C5 - C6	200	960	700	3380	-
TPH >C6 - C8	200	<200	800	<800	-
TPH >C8 - C10	200	6290	1000	33000	-
TPH >C10 - C12	200	650	1000	4160	-
Aromatic					
TPH C6 - C8	200	<200	800	<800	-
TPH >C8 - C10	200	<200	1000	<1000	-
TPH >C10 - C12	200	<200	1000	<1000	-
BTEX					
Benzene	5	<20	10	<50	71-43-2
Toluene	2	<3	7	<10	108-88-3
Ethylbenzene	2	<4	8	<20	100-41-4
m & p-Xylenes	5	<5	20	<20	108-38-3 / 106-42-3
o-Xylene	2	<2	8	<8	95-47-6
Naphthalene	2	<2	9	<9	91-20-3
Internal Standard: BCM (%Rec.)	1	103	-	-	74-97-5
Internal Standard: 1,4-DFB (%Rec.)	1	100	-	-	540-36-3
Internal Standard: MCB-d5 (%Rec.)	1	105	-	-	3114-55-4

Notes:

LOR adjusted to reflect dilution.

Aliphatic bands are quantified using n-alkane standards.

Aromatic bands are quantified against target TO-15 aromatic standards.

Conversion to ug/m3:

Aliphatic TPH C5 to C6 (ref n-Hexane)

Aliphatic TPH >C6 to C8 (ref n-Heptane)

Aliphatic TPH >C8 - C10 (ref n-Nonane)

Aliphatic TPH >C10 - C12 (ref n-Undecane)

Aromatic TPH C6 to C8 (ref toluene)

Aromatic TPH >C8 - C10 (ref 1,2,3-Trimethylbenzene)

Aromatic TPH >C10 - C12 (ref m-diethylbenzene)

Robert Crough
Accreditation No. 198

20-Sep-13

Australian Government

National Measurement Institute

REPORT OF ANALYSIS

Report No. VOC13_175

Client	:	AGL	**Job No. :**	AGLU01/130917
		PO BOX 67	**Quote No. :**	
		MENANGLE NSW 2568	**Order No. :**	
			Date Sampled :	12-Sep-2013
			Date Received :	17-Sep-2013
			Sampled by :	CLIENT
Attention	:	AARON CLIFTON		
Project Name	:			
Your Client Services Manager	:	DANNY SLEE	**Phone :**	(02) 9449 0111

Laboratory Reg. No. :	NV13/00802	**Method:**	VOC_01
Client Sample Ref. :	RPGP120913	**Date Analysed :**	18-Sep-2013
Matrix :	Air Canisters	**Canister No. :**	F1905
Description :	12.9.13 5:35 12.9.13 5:55	**Receipt Vac/Press ("Hg):**	-5
		Dilution :	20

Compound	Compound Number	Retention Time	Quality Match	Level % of Total >C_2	CAS Number
Propane	1	4.035	83	27	000074-98-6
Isobutane	2	4.534	78	11	000075-28-5
Butane	3	5.006	80	7	000106-97-8
Butane, 2-methyl-	4	6.583	90	3	000078-78-4
Pentane	5	7.357	86	2	000109-66-0
Heptane, 2,2,4,6,6-pentamethyl-	6	24.756	90	43	013475-82-6
Decane, 2,2,9-trimethyl-	7	25.516	72	1	062238-00-0
Heptane, 4-ethyl-2,2,6,6 tetramethyl-	8	25.658	59	2	062108-31-0
Decane, 2,6,7-trimethyl-	9	25.826	64	1	062108-25-2
Octane, 2,5-dimethyl	10	26.077	64	1	015869-89-3

Internal Standard	Internal Standard #
Methane, bromochloro-	1
Benzene, 1,4-difluoro-	2
Chlorobenzene-d5	3
Benzene, 1-bromo-2-fluoro-	4

Notes:

(1) Unknown compounds are qualitative
(2) Where possible, **compounds are tentatively identified using the WILEY275K or NIST mass spectral library.**
The certainty of identification is represented as the "Quality Match" (100 is the maximum).
(3) Only peaks of significant response by area are reported (up to a maximum of 10 compounds).
(4) The column used is a HP-VOV with oven program Initial : 35°C hold 5 min, 7°C/min to 140°C hold 0 min, 17°C/min to 220°C hold 8 min.
(5) Results reported as % of total (for compounds >C2).

Robert Crough
Accreditation No. 198

20-Sep-13

Australian Government

National Measurement Institute

REPORT OF ANALYSIS

Report No. VOC13_175

Client	:	AGL	**Job No. :**	AGLU01/130917
		PO BOX 67	**Quote No. :**	
		MENANGLE NSW 2568	**Order No. :**	
			Date Sampled :	12-Sep-2013
			Date Received :	17-Sep-2013
			Sampled by :	CLIENT
Attention	:	AARON CLIFTON		
Project Name	:			
Your Client Services Manager	:	DANNY SLEE	**Phone :**	(02) 9449 0111

Laboratory Reg. No. :	NV13/00803	**Method:**	VOC_01
Client Sample Ref. :	RPGP130913	**Date Analysed :**	18-Sep-2013
Matrix :	Air Canisters	**Canister No. :**	F1906
Description :	13.9.13 8:25 13.9.13 8:47	**Receipt Vac/Press ("Hg):**	-3
		Dilution :	18

Compound	Compound Number	Retention Time	Quality Match	Level % of Total >C_2	CAS Number
Propane	1	4.035	83	30	000074-98-6
Isobutane	2	4.539	72	12	000075-28-5
Butane	3	5.011	72	3	000106-97-8
Butane, 2-methyl-	4	6.590	91	2	000078-78-4
Pentane	5	7.365	80	3	000109-66-0
Heptane, 2,2,4,6,6-pentamethyl-	6	24.756	90	39	013475-82-6
Decane, 2,2,9-trimethyl-	7	25.511	59	0.4	062238-00-0
Heptane, 4-ethyl-2,2,6,6 tetramethyl-	8	25.659	64	2	062108-31-0
Decane, 2,6,7-trimethyl-	9	25.829	64	1	062108-25-2
Octane, 2,5-dimethyl	10	26.080	59	1	015869-89-3

Internal Standard	Internal Standard #
Methane, bromochloro-	1
Benzene, 1,4-difluoro-	2
Chlorobenzene-d5	3
Benzene, 1-bromo-2-fluoro-	4

Notes:

(1) Unknown compounds are qualitative
(2) Where possible, **compounds are tentatively identified using the WILEY275K or NIST mass spectral library.**
The certainty of identification is represented as the "Quality Match" (100 is the maximum).
(3) Only peaks of significant response by area are reported (up to a maximum of 10 compounds).
(4) The column used is a HP-VOV with oven program Initial : 35°C hold 5 min, 7°C/min to 140°C hold 0 min, 17°C/min to 220°C hold 8 min.

(5) Results reported as % of total (for compounds >C2).

Robert Crough
Chemist

Accreditation No. 198

20-Sep-13

Australian Government

National Measurement Institute

REPORT OF ANALYSIS

Report No. VOC13_269

Client	:	AGL	**Job No. :**	AGLU01/130917
		PO BOX 67	**Quote No. :**	
		MENANGLE NSW 2568	**Order No. :**	
			Date Sampled :	
			Date Received :	17-Sep-2013
			Sampled by :	
Attention	:	AARON CLIFTON		
Project Name	:			
Your Client Services Manager	:	DANNY SLEE	**Phone :**	(02) 9449 0111

Laboratory Reg. No. :	NV13/00727	**Method:**	VOC_01
Client Sample Ref. :		**Date Analysed :**	27-Aug-2013
Matrix :	Air Canisters	**Serial No. :**	F1905
Description :	CLEANLINESS CERTIFICATION	**Receipt Vac/Press ("Hg):**	
		Dilution :	1.0

Compound	LOR ppbv	Level ppbv			CAS Number
Propene	0.2	<0.2			115-07-1
Dichlorodifluoromethane	0.2	<0.2			75-71-8
Chloromethane	0.5	<0.5			74-87-3
1,2-Dichlorotetrafluoroethane	0.2	<0.2			76-14-2
Vinyl chloride	0.2	<0.2			75-01-4
1,3-Butadiene	0.2	<0.2			106-99-0
Bromomethane	1	<1			74-83-9
Chloroethane	0.2	<0.2			75-00-3
Acrolein	0.2	<0.2			107-02-8
Acetone	0.5	<0.5			67-64-1
Ethanol	0.5	<0.5			64-17-5
2-Propanol	0.2	<0.2			67-63-0
Trichlorofluoromethane	0.2	<0.2			75-69-4
1,1-Dichloroethene	0.2	<0.2			75-35-4
Dichloromethane	0.5	<0.5			75-09-2
1,1,2-Trichloro-1,2,2 trifluoroethane	0.2	<0.2			76-13-1
Carbon disulfide	0.2	<0.2			75-15-0
trans-1,2-Dichloroethene	0.2	<0.2			156-60-5
1,1-Dichloroethane	0.2	<0.2			75-34-3
Methyl-tert-butylether (MTBE)	0.2	<0.2			1634-04-4
Vinyl acetate	0.2	<0.2			108-05-4
2-Butanone (MEK)	0.2	<0.2			78-93-3
cis-1,2-Dichloroethene	0.2	<0.2			156-59-2
Hexane	0.2	<0.2			110-54-3
Chloroform	0.2	<0.2			67-66-3
Ethyl Acetate	0.2	<0.2			141-78-6
Tetrahydrofuran	0.2	<0.2			109-99-9
1,2-Dichloroethane	0.2	<0.2			107-06-2
1,1,1-Trichloroethane	0.2	<0.2			71-55-6
Benzene	0.5	<0.5			71-43-2
Carbon tetrachloride	0.2	<0.2			56-23-5
Cyclohexane	0.2	<0.2			110-82-7

Report No. VOC13_269

1,2-Dichloropropane	0.2	<0.2			78-87-5
Bromodichloromethane	0.2	<0.2			75-27-4
Trichloroethene	0.2	<0.2			79-01-6
1,4-Dioxane	0.2	<0.2			123-91-1
Heptane	0.2	<0.2			142-82-5
Methyl methacrylate	0.2	<0.2			80-62-6
cis-1,3-Dichloropropene	0.2	<0.2			10061-01-5
4-Methyl-2-pentanone (MIBK)	0.2	<0.2			108-10-1
trans-1,3-Dichloropropene	0.2	<0.2			10061-02-6
1,1,2-Trichloroethane	0.2	<0.2			79-00-5
Toluene	0.2	<0.2			108-88-3
2-Hexanone (MBK)	0.2	<0.2			591-78-6
Dibromochloromethane	0.2	<0.2			124-48-1
1,2-Dibromoethane	0.2	<0.2			106-93-4
Tetrachloroethylene	0.2	<0.2			127-18-4
Chlorobenzene	0.2	<0.2			108-90-7
Ethylbenzene	0.2	<0.2			100-41-4
Bromoform	0.2	<0.2			75-25-2
m & p-Xylenes	0.4	<0.4			108-38-3 / 106-42-3
Styrene	0.2	<0.2			100-42-5
1,1,2,2-Tetrachloroethane	0.2	<0.2			79-34-5
o-Xylene	0.2	<0.2			95-47-6
4-Ethyltoluene	0.2	<0.2			622-96-8
1,3,5-Trimethylbenzene	0.2	<0.2			108-67-8
1,2,4-Trimethylbenzene	0.2	<0.2			95-63-6
Benzyl Chloride	0.2	<0.2			100-44-7
1,3-Dichlorobenzene	0.2	<0.2			541-73-1
1,4-Dichlorobenzene	0.2	<0.2			106-46-7
1,2-Dichlorobenzene	0.2	<0.2			95-50-1
1,2,4-Trichlorobenzene	0.2	<0.2			120-82-1
Hexachlorobutadiene	0.2	<0.2			87-68-3
Naphthalene	0.2	<0.2			91-20-3
Internal Standard: BCM (%Rec.)	1	74			74-97-5
Internal Standard: 1,4-DFB (%Rec.)	1	70			540-36-3
Internal Standard: MCB-d5 (%Rec.)	1	88			3114-55-4

Robert Crough
Chemist

Accreditation No. 198

20-Sep-2013

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Australian Government

National Measurement Institute

REPORT OF ANALYSIS

Report No. VOC13_269

Client	:	AGL	**Job No. :**	AGLU01/130917
		PO BOX 67	**Quote No. :**	
		MENANGLE NSW 2568	**Order No. :**	
			Date Sampled :	
			Date Received :	17-Sep-2013
			Sampled by :	
Attention	:	AARON CLIFTON		
Project Name	:			
Your Client Services Manager	:	DANNY SLEE	**Phone :**	(02) 9449 0111

Laboratory Reg. No. :	NV13/00728	**Method:**	VOC_01
Client Sample Ref. :		**Date Analysed :**	26-Aug-2013
Matrix :	Air Canisters	**Serial No. :**	F1906
Description :	CLEANLINESS CERTIFICATION	**Receipt Vac/Press ("Hg):**	
		Dilution :	1.0

Compound	LOR ppbv	Level ppbv			CAS Number
Propene	0.2	<0.2			115-07-1
Dichlorodifluoromethane	0.2	<0.2			75-71-8
Chloromethane	0.5	<0.5			74-87-3
1,2-Dichlorotetrafluoroethane	0.2	<0.2			76-14-2
Vinyl chloride	0.2	<0.2			75-01-4
1,3-Butadiene	0.2	<0.2			106-99-0
Bromomethane	1	<1			74-83-9
Chloroethane	0.2	<0.2			75-00-3
Acrolein	0.2	<0.2			107-02-8
Acetone	0.5	<0.5			67-64-1
Ethanol	0.5	<0.5			64-17-5
2-Propanol	0.2	<0.2			67-63-0
Trichlorofluoromethane	0.2	<0.2			75-69-4
1,1-Dichloroethene	0.2	<0.2			75-35-4
Dichloromethane	0.5	<0.5			75-09-2
1,1,2-Trichloro-1,2,2 trifluoroethane	0.2	<0.2			76-13-1
Carbon disulfide	0.2	<0.2			75-15-0
trans-1,2-Dichloroethene	0.2	<0.2			156-60-5
1,1-Dichloroethane	0.2	<0.2			75-34-3
Methyl-tert-butylether (MTBE)	0.2	<0.2			1634-04-4
Vinyl acetate	0.2	<0.2			108-05-4
2-Butanone (MEK)	0.2	<0.2			78-93-3
cis-1,2-Dichloroethene	0.2	<0.2			156-59-2
Hexane	0.2	<0.2			110-54-3
Chloroform	0.2	<0.2			67-66-3
Ethyl Acetate	0.2	<0.2			141-78-6
Tetrahydrofuran	0.2	<0.2			109-99-9
1,2-Dichloroethane	0.2	<0.2			107-06-2
1,1,1-Trichloroethane	0.2	<0.2			71-55-6
Benzene	0.5	<0.5			71-43-2
Carbon tetrachloride	0.2	<0.2			56-23-5
Cyclohexane	0.2	<0.2			110-82-7

Report No. VOC13_269

1,2-Dichloropropane	0.2	<0.2			78-87-5
Bromodichloromethane	0.2	<0.2			75-27-4
Trichloroethene	0.2	<0.2			79-01-6
1,4-Dioxane	0.2	<0.2			123-91-1
Heptane	0.2	<0.2			142-82-5
Methyl methacrylate	0.2	<0.2			80-62-6
cis-1,3-Dichloropropene	0.2	<0.2			10061-01-5
4-Methyl-2-pentanone (MIBK)	0.2	<0.2			108-10-1
trans-1,3-Dichloropropene	0.2	<0.2			10061-02-6
1,1,2-Trichloroethane	0.2	<0.2			79-00-5
Toluene	0.2	<0.2			108-88-3
2-Hexanone (MBK)	0.2	<0.2			591-78-6
Dibromochloromethane	0.2	<0.2			124-48-1
1,2-Dibromoethane	0.2	<0.2			106-93-4
Tetrachloroethylene	0.2	<0.2			127-18-4
Chlorobenzene	0.2	<0.2			108-90-7
Ethylbenzene	0.2	<0.2			100-41-4
Bromoform	0.2	<0.2			75-25-2
m & p-Xylenes	0.4	<0.4			108-38-3 / 106-42-3
Styrene	0.2	<0.2			100-42-5
1,1,2,2-Tetrachloroethane	0.2	<0.2			79-34-5
o-Xylene	0.2	<0.2			95-47-6
4-Ethyltoluene	0.2	<0.2			622-96-8
1,3,5-Trimethylbenzene	0.2	<0.2			108-67-8
1,2,4-Trimethylbenzene	0.2	<0.2			95-63-6
Benzyl Chloride	0.2	<0.2			100-44-7
1,3-Dichlorobenzene	0.2	<0.2			541-73-1
1,4-Dichlorobenzene	0.2	<0.2			106-46-7
1,2-Dichlorobenzene	0.2	<0.2			95-50-1
1,2,4-Trichlorobenzene	0.2	<0.2			120-82-1
Hexachlorobutadiene	0.2	<0.2			87-68-3
Naphthalene	0.2	<0.2			91-20-3
Internal Standard: BCM (%Rec.)	1	80			74-97-5
Internal Standard: 1,4-DFB (%Rec.)	1	74			540-36-3
Internal Standard: MCB-d5 (%Rec.)	1	90			3114-55-4

Robert Crough
Chemist

Accreditation No. 198

20-Sep-2013

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QUALITY ASSURANCE CERTIFICATE VOC13_268
LABORATORY BLANK

Client	:	AGL	**Job No. :**	AGLU01/130917
		PO BOX 67	**Quote No. :**	
		MENANGLE NSW 2568	**Order No. :**	
			Date Sampled :	
			Date Received :	17-Sep-2013
			Sampled by :	
Attention	:	AARON CLIFTON		
Project Name	:			
Your Client Services Manager	:	DANNY SLEE	**Phone :**	(02) 9449 0111

Laboratory Reg. No. :	Lab Blank V176	**Method:**	VOC_01
Client Sample Ref. :		**Date Analysed :**	18-Sep-2013
Matrix :	Air Canisters	**Canister No. :**	H3194
Description :	Batch Blank	**Receipt Vac/Press ("Hg):**	
		Dilution :	1.0

Compound	LOR ppbv	Level ppbv	LOR µg/m3	Level µg/m3	CAS Number
Propene	0.1	<0.1	0.2	<0.2	115-07-1
Dichlorodifluoromethane	0.1	<0.1	0.5	<0.5	75-71-8
Chloromethane	0.3	<0.3	0.5	<0.5	74-87-3
1,2-Dichlorotetrafluoroethane	0.1	<0.1	0.7	<0.7	76-14-2
Vinyl chloride	0.1	<0.1	0.3	<0.3	75-01-4
1,3-Butadiene	0.1	<0.1	0.2	<0.2	106-99-0
Bromomethane	0.4	<0.4	2	<2	74-83-9
Chloroethane	0.1	<0.1	0.3	<0.3	75-00-3
Acrolein	0.1	<0.1	0.2	<0.2	107-02-8
Acetone	0.3	<0.3	0.6	<0.6	67-64-1
Ethanol	0.3	<0.3	0.5	<0.5	64-17-5
2-Propanol	0.1	<0.1	0.2	<0.2	67-63-0
Trichlorofluoromethane	0.1	<0.1	0.6	<0.6	75-69-4
1,1-Dichloroethene	0.1	<0.1	0.4	<0.4	75-35-4
Dichloromethane	0.3	<0.3	0.9	<0.9	75-09-2
1,1,2-Trichloro-1,2,2 trifluoroethane	0.1	<0.1	0.8	<0.8	76-13-1
Carbon disulfide	0.1	<0.1	0.3	<0.3	75-15-0
trans-1,2-Dichloroethene	0.1	<0.1	0.4	<0.4	156-60-5
1,1-Dichloroethane	0.1	<0.1	0.4	<0.4	75-34-3
Methyl-tert-butylether (MTBE)	0.1	<0.1	0.4	<0.4	1634-04-4
Vinyl acetate	0.1	<0.1	0.4	<0.4	108-05-4
2-Butanone (MEK)	0.1	<0.1	0.3	<0.3	78-93-3
cis-1,2-Dichloroethene	0.1	<0.1	0.4	<0.4	156-59-2
Hexane	0.1	<0.2	0.4	<0.5	110-54-3
Chloroform	0.1	<0.1	0.5	<0.5	67-66-3
Ethyl Acetate	0.1	<0.1	0.5	<0.5	141-78-6
Tetrahydrofuran	0.1	<0.1	0.3	<0.3	109-99-9
1,2-Dichloroethane	0.1	<0.1	0.4	<0.4	107-06-2
1,1,1-Trichloroethane	0.1	<0.1	0.5	<0.5	71-55-6
Benzene	0.3	<3	0.8	<10	71-43-2
Carbon tetrachloride	0.1	<0.1	0.6	<0.6	56-23-5
Cyclohexane	0.1	<0.1	0.3	<0.3	110-82-7

QUALITY ASSURANCE CERTIFICATE VOC13_268
LABORATORY BLANK

1,2-Dichloropropane	0.1	<0.1	0.5	<0.5	78-87-5
Bromodichloromethane	0.1	<0.1	0.7	<0.7	75-27-4
Trichloroethene	0.1	<0.1	0.5	<0.5	79-01-6
1,4-Dioxane	0.1	<0.1	0.4	<0.4	123-91-1
Heptane	0.1	<0.2	0.4	<1	142-82-5
Methyl methacrylate	0.1	<0.1	0.4	<0.4	80-62-6
cis-1,3-Dichloropropene	0.1	<0.1	0.5	<0.5	10061-01-5
4-Methyl-2-pentanone (MIBK)	0.1	<0.1	0.4	<0.4	108-10-1
trans-1,3-Dichloropropene	0.1	<0.1	0.5	<0.5	10061-02-6
1,1,2-Trichloroethane	0.1	<0.1	0.5	<0.5	79-00-5
Toluene	0.1	<0.3	0.4	<1	108-88-3
2-Hexanone (MBK)	0.1	<0.1	0.4	<0.4	591-78-6
Dibromochloromethane	0.1	<0.1	0.9	<0.9	124-48-1
1,2-Dibromoethane	0.1	<0.1	0.8	<0.8	106-93-4
Tetrachloroethylene	0.1	<0.1	0.7	<0.7	127-18-4
Chlorobenzene	0.1	<0.1	0.5	<0.5	108-90-7
Ethylbenzene	0.1	<4	0.4	<20	100-41-4
Bromoform	0.1	<0.1	1	<1	75-25-2
m & p-Xylenes	0.3	<1	1	<4	108-38-3 / 106-42-3
Styrene	0.1	<0.2	0.4	<1	100-42-5
1,1,2,2-Tetrachloroethane	0.1	<0.1	0.7	<0.7	79-34-5
o-Xylene	0.1	<0.2	0.4	<0.8	95-47-6
4-Ethyltoluene	0.1	<0.1	0.5	<0.5	622-96-8
1,3,5-Trimethylbenzene	0.1	<0.1	0.5	<0.5	108-67-8
1,2,4-Trimethylbenzene	0.1	<0.1	0.5	<0.5	95-63-6
Benzyl Chloride	0.1	<0.1	0.5	<0.5	100-44-7
1,3-Dichlorobenzene	0.1	<0.1	0.6	<0.6	541-73-1
1,4-Dichlorobenzene	0.1	<0.1	0.6	<0.6	106-46-7
1,2-Dichlorobenzene	0.1	<0.1	0.6	<0.6	95-50-1
1,2,4-Trichlorobenzene	0.1	<0.1	0.7	<0.7	120-82-1
Hexachlorobutadiene	0.1	<0.1	1	<1	87-68-3
Naphthalene	0.1	<1	0.5	<5	91-20-3
Internal Standard: BCM (%Rec.)	1	84			74-97-5
Internal Standard: 1,4-DFB (%Rec.)	1	84			540-36-3
Internal Standard: MCB-d5 (%Rec.)	1	96			3114-55-4

Robert Crough
Chemist

Accreditation No. 198

20-Sep-13

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Australian Government

National Measurement Institute

QUALITY ASSURANCE CERTIFICATE VOC13_268
CONTINUING CALIBRATION

Client	:	AGL	**Job No. :**	AGLU01/130917
		PO BOX 67	**Quote No. :**	
		MENANGLE NSW 2568	**Order No. :**	
			Date Sampled :	
			Date Received :	17-Sep-2013
			Sampled by :	
Attention	:	AARON CLIFTON		
Project Name	:			
Your Client Services Manager	:	DANNY SLEE	**Phone :**	(02) 9449 0111

Laboratory Reg. No. :	CC 10ppbv	**Method:**	VOC_01
Client Sample Ref. :		**Date Analysed :**	18-Sep-2013
Matrix :	Air Canisters	**Canister No. :**	H3187
Description :	Batch Continuing Calibration	**Receipt Vac/Press ("Hg):**	
		Dilution :	1.0

Compound	Recovery %	Meets Criteria	Lower Limit %	Higher Limit %	CAS Number
Propene	115	yes	70	130	115-07-1
Dichlorodifluoromethane	129	yes	70	130	75-71-8
Chloromethane	121	yes	70	130	74-87-3
1,2-Dichlorotetrafluoroethane	116	yes	70	130	76-14-2
Vinyl chloride	124	yes	70	130	75-01-4
1,3-Butadiene	100	yes	70	130	106-99-0
Bromomethane	72	yes	70	130	74-83-9
Chloroethane	123	yes	70	130	75-00-3
Acrolein	108	yes	70	130	107-02-8
Acetone	119	yes	70	130	67-64-1
Ethanol	84	yes	70	130	64-17-5
2-Propanol	82	yes	70	130	67-63-0
Trichlorofluoromethane	121	yes	70	130	75-69-4
1,1-Dichloroethene	105	yes	70	130	75-35-4
Dichloromethane	115	yes	70	130	75-09-2
1,1,2-Trichloro-1,2,2 trifluoroethane	118	yes	70	130	76-13-1
Carbon disulfide	115	yes	70	130	75-15-0
trans-1,2-Dichloroethene	107	yes	70	130	156-60-5
1,1-Dichloroethane	109	yes	70	130	75-34-3
Methyl-tert-butylether (MTBE)	70	no	70	130	1634-04-4
Vinyl acetate	72	yes	70	130	108-05-4
2-Butanone (MEK)	92	yes	70	130	78-93-3
cis-1,2-Dichloroethene	94	yes	70	130	156-59-2
Hexane	93	yes	70	130	110-54-3
Chloroform	109	yes	70	130	67-66-3
Ethyl Acetate	92	yes	70	130	141-78-6
Tetrahydrofuran	83	yes	70	130	109-99-9
1,2-Dichloroethane	104	yes	70	130	107-06-2
1,1,1-Trichloroethane	96	yes	70	130	71-55-6
Benzene	91	yes	70	130	71-43-2
Carbon tetrachloride	110	yes	70	130	56-23-5
Cyclohexane	72	yes	70	130	110-82-7

QUALITY ASSURANCE CERTIFICATE VOC13_268
CONTINUING CALIBRATION

1,2-Dichloropropane	92	yes	70	130	78-87-5
Bromodichloromethane	105	yes	70	130	75-27-4
Trichloroethene	90	yes	70	130	79-01-6
1,4-Dioxane	77	yes	70	130	123-91-1
Heptane	74	yes	70	130	142-82-5
Methyl methacrylate	71	yes	70	130	80-62-6
cis-1,3-Dichloropropene	77	yes	70	130	10061-01-5
4-Methyl-2-pentanone (MIBK)	71	yes	70	130	108-10-1
trans-1,3-Dichloropropene	71	yes	70	130	10061-02-6
1,1,2-Trichloroethane	97	yes	70	130	79-00-5
Toluene	74	yes	70	130	108-88-3
2-Hexanone (MBK)	72	yes	70	130	591-78-6
Dibromochloromethane	108	yes	70	130	124-48-1
1,2-Dibromoethane	92	yes	70	130	106-93-4
Tetrachloroethylene	95	yes	70	130	127-18-4
Chlorobenzene	112	yes	70	130	108-90-7
Ethylbenzene	95	yes	70	130	100-41-4
Bromoform	122	yes	70	130	75-25-2
m & p-Xylenes	96	yes	70	130	108-38-3 / 106-42-3
Styrene	81	yes	70	130	100-42-5
1,1,2,2-Tetrachloroethane	124	yes	70	130	79-34-5
o-Xylene	100	yes	70	130	95-47-6
4-Ethyltoluene	84	yes	70	130	622-96-8
1,3,5-Trimethylbenzene	93	yes	70	130	108-67-8
1,2,4-Trimethylbenzene	84	yes	70	130	95-63-6
Benzyl Chloride	129	yes	70	130	100-44-7
1,3-Dichlorobenzene	106	yes	70	130	541-73-1
1,4-Dichlorobenzene	105	yes	70	130	106-46-7
1,2-Dichlorobenzene	111	yes	70	130	95-50-1
1,2,4-Trichlorobenzene	93	yes	70	130	120-82-1
Hexachlorobutadiene	104	yes	70	130	87-68-3
Naphthalene	89	yes	50	150	91-20-3
Internal Standard: BCM (%Rec.)	130				74-97-5
Internal Standard: 1,4-DFB (%Rec.)	108				540-36-3
Internal Standard: MCB-d5 (%Rec.)	99				3114-55-4

Robert Crough
Chemist

Accreditation No. 198

20-Sep-13

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QUALITY ASSURANCE CERTIFICATE VOC13_268
LABORATORY DUPLICATE

Client	:	AGL	**Job No. :**	AGLU01/130917
		PO BOX 67	**Quote No. :**	
		MENANGLE NSW 2568	**Order No. :**	
			Date Sampled :	12-Sep-2013
			Date Received :	17-Sep-2013
			Sampled by :	CLIENT
Attention	:	AARON CLIFTON		
Project Name	:			
Your Client Services Manager	:	DANNY SLEE	**Phone :**	(02) 9449 0111

Laboratory Reg. No. :	NV13/00802	**Method:**	VOC_01
Client Sample Ref. :	RPGP120913	**Date Analysed :**	18-Sep-2013
Matrix :	Air Canisters	**Canister No. :**	F1905
Description :	Laboratory Duplicate	**Receipt Vac/Press ("Hg):**	-5
		Dilution :	20.0

Compound	LOR ppbv	Level ppbv	LOR ug/m3	Level ug/m3	CAS Number
Propene	2	<2	3	<3	115-07-1
Dichlorodifluoromethane	2	<2	10	<10	75-71-8
Chloromethane	5	<5	10	<10	74-87-3
1,2-Dichlorotetrafluoroethane	2	<2	10	<10	76-14-2
Vinyl chloride	2	<2	5	<5	75-01-4
1,3-Butadiene	2	<2	4	<4	106-99-0
Bromomethane	8	<8	30	<30	74-83-9
Chloroethane	2	<2	5	<5	75-00-3
Acrolein	2	<2	5	<5	107-02-8
Acetone	5	<7	10	<20	67-64-1
Ethanol	5	310	9	580	64-17-5
2-Propanol	2	<2	5	<5	67-63-0
Trichlorofluoromethane	2	<2	10	<10	75-69-4
1,1-Dichloroethene	2	<2	8	<8	75-35-4
Dichloromethane	5	<6	20	<20	75-09-2
1,1,2-Trichloro-1,2,2 trifluoroethane	2	<2	20	<20	76-13-1
Carbon disulfide	2	<2	6	<6	75-15-0
trans-1,2-Dichloroethene	2	<2	8	<8	156-60-5
1,1-Dichloroethane	2	<2	8	<8	75-34-3
Methyl-tert-butylether (MTBE)	2	<2	7	<7	1634-04-4
Vinyl acetate	2	<2	7	<7	108-05-4
2-Butanone (MEK)	2	<2	6	<6	78-93-3
cis-1,2-Dichloroethene	2	<2	8	<8	156-59-2
Hexane	2	74	7	260	110-54-3
Chloroform	2	<2	10	<10	67-66-3
Ethyl Acetate	2	<2	10	<10	141-78-6
Tetrahydrofuran	2	<2	6	<6	109-99-9
1,2-Dichloroethane	2	<2	8	<8	107-06-2
1,1,1-Trichloroethane	2	<2	10	<10	71-55-6
Benzene	5	<20	20	<50	71-43-2
Carbon tetrachloride	2	<2	10	<10	56-23-5

QUALITY ASSURANCE CERTIFICATE VOC13_268
LABORATORY DUPLICATE

Cyclohexane	2	78	7	270	110-82-7
1,2-Dichloropropane	2	<2	9	<9	78-87-5
Bromodichloromethane	2	<2	10	<10	75-27-4
Trichloroethene	2	<2	10	<10	79-01-6
1,4-Dioxane	2	<2	7	<7	123-91-1
Heptane	2	<10	8	<50	142-82-5
Methyl methacrylate	2	<2	8	<8	80-62-6
cis-1,3-Dichloropropene	2	<2	9	<9	10061-01-5
4-Methyl-2-pentanone (MIBK)	2	<2	8	<8	108-10-1
trans-1,3-Dichloropropene	2	<2	9	<9	10061-02-6
1,1,2-Trichloroethane	2	<2	10	<10	79-00-5
Toluene	2	<4	8	<10	108-88-3
2-Hexanone (MBK)	2	<2	8	<8	591-78-6
Dibromochloromethane	2	<2	20	<20	124-48-1
1,2-Dibromoethane	2	<2	20	<20	106-93-4
Tetrachloroethylene	2	<2	10	<10	127-18-4
Chlorobenzene	2	<2	9	<9	108-90-7
Ethylbenzene	2	<4	9	<20	100-41-4
Bromoform	2	<2	20	<20	75-25-2
m & p-Xylenes	5	<5	20	<20	108-38-3 / 106-42-3
Styrene	2	<4	9	<20	100-42-5
1,1,2,2-Tetrachloroethane	2	<2	10	<10	79-34-5
o-Xylene	2	<2	9	<9	95-47-6
4-Ethyltoluene	2	<2	10	<10	622-96-8
1,3,5-Trimethylbenzene	2	<2	10	<10	108-67-8
1,2,4-Trimethylbenzene	2	<2	10	<10	95-63-6
Benzyl Chloride	2	<2	10	<10	100-44-7
1,3-Dichlorobenzene	2	<2	10	<10	541-73-1
1,4-Dichlorobenzene	2	<2	10	<10	106-46-7
1,2-Dichlorobenzene	2	<2	10	<10	95-50-1
1,2,4-Trichlorobenzene	2	<2	10	<10	120-82-1
Hexachlorobutadiene	2	<2	20	<20	87-68-3
Naphthalene	2	<2	10	<10	91-20-3
Internal Standard: BCM (%Rec.)	1	104			74-97-5
Internal Standard: 1,4-DFB (%Rec.)	1	99			540-36-3
Internal Standard: MCB-d5 (%Rec.)	1	104			3114-55-4

Robert Crough
Chemist

Accreditation No. 198

20-Sep-13

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QUALITY ASSURANCE CERTIFICATE VOC13_271
LABORATORY BLANK

Client	:	AGL	**Job No. :**	AGLU01/130917
		PO BOX 67	**Quote No. :**	
		MENANGLE NSW 2568	**Order No. :**	
			Date Sampled :	12-Sep-2013
			Date Received :	17-Sep-2013
			Sampled by :	
Attention	:	AARON CLIFTON		
Project Name	:			
Your Client Services Manager	:	DANNY SLEE	**Phone :**	(02) 9449 0111

Laboratory Reg. No. :	Lab Blank V176	**Method:**	VOC_03
Client Sample Ref. :		**Date Analysed :**	18-Sep-2013
Matrix :	Air Canisters	**Canister No. :**	H3194
Description :	Batch Blank	**Receipt Vac/Press ("Hg):**	
		Dilution :	0.5

Compound	LOR ppbv	Level ppbv	LOR ug/m3	Level ug/m3	CAS Number
Aliphatic					
TPH C5 - C6	5	<5	20	<20	-
TPH >C6 - C8	5	<5	20	<20	-
TPH >C8 - C10	5	<5	30	<30	-
TPH >C10 - C12	5	<5	30	<30	-
Aromatic					
TPH C6 - C8	5	<5	20	<20	-
TPH >C8 - C10	5	<5	20	<30	-
TPH >C10 - C12	5	<5	30	<30	-
BTEX					
Benzene	0.1	<3	0.4	<10	71-43-2
Toluene	0.05	<0.3	0.2	<1	108-88-3
Ethylbenzene	0.05	<4	0.2	<20	100-41-4
m & p-Xylenes	0.1	<1	0.5	<4	108-38-3 / 106-42-3
o-Xylene	0.05	<0.2	0.2	<0.8	95-47-6
Naphthalene	0.05	<1	0.3	<5	91-20-3
Internal Standard: BCM (%Rec.)	1	84	-	-	74-97-5
Internal Standard: 1,4-DFB (%Rec.)	1	84	-	-	540-36-3
Internal Standard: MCB-d5 (%Rec.)	1	96	-	-	3114-55-4

Notes:

LOR adjusted to reflect dilution.

Aliphatic bands are quantified using n-alkane standards.

Aromatic bands are quantified against target TO-15 aromatic standards.

Conversion to ug/m3:

Aliphatic TPH C5 to C6 (ref n-Hexane)

Aliphatic TPH >C6 to C8 (ref n-Heptane)

Aliphatic TPH >C8 - C10 (ref n-Nonane)

Aliphatic TPH >C10 - C12 (ref n-Undecane)

Aromatic TPH C6 to C8 (ref toluene)

Aromatic TPH >C8 - C10 (ref 1,2,3-Trimethylbenzene)

Aromatic TPH >C10 - C12 (ref m-diethylbenzene)

Robert Crough
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20-Sep-13

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QUALITY ASSURANCE CERTIFICATE VOC13_271
CONTINUING CALIBRATION

Client	:	AGL	**Job No. :**	AGLU01/130917
		PO BOX 67	**Quote No. :**	
		MENANGLE NSW 2568	**Order No. :**	
			Date Sampled :	
			Date Received :	17-Sep-2013
			Sampled by :	
Attention	:	AARON CLIFTON		
Project Name	:			
Your Client Services Manager	:	DANNY SLEE	**Phone :**	(02) 9449 0111

Laboratory Reg. No. :	CC 10ppbv	**Method:**	VOC_03
Client Sample Ref. :		**Date Analysed :**	18-Sep-2013
Matrix :	Air Canisters	**Canister No. :**	H3187
Description :	Batch Continuing Calibration	**Receipt Vac/Press ("Hg):**	
		Dilution :	1.0

Compound	Recovery %	Meets Criteria	Lower Limit %	Higher Limit %	CAS Number
Aliphatic					
TPH C5 - C6	113	yes	60	140	-
TPH >C6 - C8	96	yes	60	140	-
TPH >C8 - C10	96	yes	60	140	-
TPH >C10 - C12	94	yes	60	140	-
Aromatic					
TPH C6 - C8	83	yes	60	140	-
TPH >C8 - C10	81	yes	60	140	-
TPH >C10 - C12	87	yes	60	140	-
BTEX					
Benzene	91	yes	60	140	71-43-2
Toluene	74	yes	60	140	108-88-3
Ethylbenzene	95	yes	60	140	100-41-4
m & p-Xylenes	96	yes	60	140	108-38-3 / 106-42-3
o-Xylene	100	yes	60	140	95-47-6
Naphthalene	89	yes	60	140	91-20-3
Internal Standard: BCM (%Rec.)	140				74-97-5
Internal Standard: 1,4-DFB (%Rec.)	108				540-36-3
Internal Standard: MCB-d5 (%Rec.)	99				3114-55-4

Notes:

LOR adjusted to reflect dilution.

Aliphatic bands are quantified using n-alkane standards.

Aromatic bands are quantified against target TO-15 aromatic standards.

Conversion to ug/m3:

Aliphatic TPH C5 to C6 (ref n-Hexane)

Aliphatic TPH >C6 to C8 (ref n-Heptane)

Aliphatic TPH >C8 - C10 (ref n-Nonane)

Aliphatic TPH >C10 - C12 (ref n-Undecane)

Aromatic TPH C6 to C8 (ref toluene)

Aromatic TPH >C8 - C10 (ref 1,2,3-Trimethylbenzene)

Aromatic TPH >C10 - C12 (ref m-diethylbenzene)

Robert Crough
Accreditation No. 198

20-Sep-13

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QUALITY ASSURANCE CERTIFICATE VOC13_271
LABORATORY DUPLICATE

Client	:	AGL	**Job No. :**	AGLU01/130917
		PO BOX 67	**Quote No. :**	
		MENANGLE NSW 2568	**Order No. :**	
			Date Sampled :	12-Sep-2013
			Date Received :	17-Sep-2013
			Sampled by :	CLIENT
Attention	:	AARON CLIFTON		
Project Name	:			
Your Client Services Manager	:	DANNY SLEE	**Phone :**	(02) 9449 0111

Laboratory Reg. No. :	NV13/00802	**Method:**	VOC_03
Client Sample Ref. :	RPGP120913	**Date Analysed :**	18-Sep-2013
Matrix :	Air Canisters	**Canister No. :**	F1905
Description :	Laboratory Duplicate	**Receipt Vac/Press ("Hg):**	-5
		Dilution :	20.0

Compound	LOR ppbv	Level ppbv	LOR ug/m3	Level ug/m3	CAS Number
Aliphatic					
TPH C5 - C6	200	1060	700	3730	-
TPH >C6 - C8	200	<200	800	<800	-
TPH >C8 - C10	200	8110	1000	42500	-
TPH >C10 - C12	200	820	1000	5240	-
Aromatic					
TPH C6 - C8	200	<200	800	<800	-
TPH >C8 - C10	200	<200	1000	<1000	-
TPH >C10 - C12	200	<200	1000	<1000	-
BTEX					
Benzene	5	<20	20	<50	71-43-2
Toluene	2	<4	8	<10	108-88-3
Ethylbenzene	2	<4	9	<20	100-41-4
m & p-Xylenes	5	<5	20	<20	108-38-3 / 106-42-3
o-Xylene	2	<2	9	<9	95-47-6
Naphthalene	2	<2	10	<10	91-20-3
Internal Standard: BCM (%Rec.)	1	104	-	-	74-97-5
Internal Standard: 1,4-DFB (%Rec.)	1	99	-	-	540-36-3
Internal Standard: MCB-d5 (%Rec.)	1	104	-	-	3114-55-4

Notes:

LOR adjusted to reflect dilution.

Aliphatic bands are quantified using n-alkane standards.

Aromatic bands are quantified against target TO-15 aromatic standards.

Conversion to ug/m3:

Aliphatic TPH C5 to C6 (ref n-Hexane)

Aliphatic TPH >C6 to C8 (ref n-Heptane)

Aliphatic TPH >C8 - C10 (ref n-Nonane)

Aliphatic TPH >C10 - C12 (ref n-Undecane)

Aromatic TPH C6 to C8 (ref toluene)

Aromatic TPH >C8 - C10 (ref 1,2,3-Trimethylbenzene)

Aromatic TPH >C10 - C12 (ref m-diethylbenzene)

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