

Our Ref: C4931.42874 Solveco AMA March 17

28 April 2017

Solveco Pty Ltd

38 Links Road

St. Marys NSW 2760

Attention: Mr. Shane Brownless

Dear Shane

Re: Air Monitoring Assessment – Solveco Pty Ltd

1 INTRODUCTION

SESL Australia Pty Ltd (SESL) was engaged by Shane Brownless of Solveco Pty Ltd (Solveco) to conduct an Air Monitoring Assessment (AMA) of the Solveco facility located at 38 Links Road, St Marys, NSW (the site). This letter presents the results of the AMA, based on an investigation and sampling by SESL on Tuesday 21 March 2017.

SESL understands that Solveco requires an air monitoring assessment to be undertaken as part of their NSW EPA Environmental Protection Licence agreement.

This report represents the findings of an assessment into the compliance of the site against the Solveco site specific Environmental Protection Licence #5661. Refer to Appendix A – Environmental Protection Licence Criteria for details of analytes and investigation threshold limit values.

2 SCOPE OF WORKS

The investigation was limited to the area identified by Solveco as the location requiring monitoring (Point 1). The objectives of the AMA at this location was to:

- Monitor nominated emissions as per license requirements;
- Assess the volumetric flow rate in L/s;
- Assess of Volatile Organic Compound (VOC) emissions in mg/m^3 ; and
- The preparation of this report

The scope of the works for this assessment included placement of field monitoring equipment at Point 1, data analysis, interpretation of results against licensing criteria and the preparation of this report accordance with *Approved Methods for the*

Sampling and Analysis of Air Pollution in New South Wales (2007), and Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (2005).

The Environmental Protection License #5661 has been adopted as the assessment criteria for the site. Details of the site investigation, sampling and analysis undertaken together with the result calculations are outlined in the following sections of this report.

3 FIELD WORK AND CALCULATION RESULTS

The assessment of the average flow rate was undertaken using a TA440 Airflow Air Velocity Meter by measuring the velocity of the air exiting the exhaust outlet pipe and converted to volumetric flow. This was calculated using the known aperture surface area. The assessment of the average VOC emissions was undertaken using a PhoCheck Tiger PID unit by measuring the volumetric concentration of contaminants. Details of the calibration certificates can be seen in Appendix C.

The average flow rate recorded by the TA440 Airflow Velocity Meter was 0.11 m/s, calculated volumetrically across the 4" diameter exhaust outlet to be 0.89 L/s.

The PhoCheck Tiger PID unit was clean air calibrated outside the site, prior to entering and being placed in position above the exhaust pipe (Refer to PhoCheck Tiger PID data – Appendix B). The unit was set to a sampling interval of one (1) sample / minute. Samples were taken between 12:06pm to 13:10pm, with the relevant data being collected within the timeframe of 12:08pm and 13:05pm, when the sampling unit was within the vicinity of the exhaust vent.

The total average result over the monitoring period for VOCs was 6.62 mg/m³, full results tables are shown in Appendix B. The data indicated that the VOCs expelled were within the threshold value prescribed in the Environmental Protection Licence for the entire sample period.

It should be noted that the exhaust vent was under full load, as required by the EPL, at the time of the assessment.

Conclusions and Recommendations

The average and maximum average results for VOCs were within the threshold set in the Environmental Protection Licence #5661 at the time of sampling. This demonstrates that the quality of air exiting the exhaust pipe is meeting the requirements for VOC emissions as stipulated in the Environmental Protection License.

SESL AUSTRALIA PTY LTD



Adam Reid

Environmental Scientist



Ryan Jacka

Senior Environmental Scientist

Appendices:

Appendix A – Environmental Protection Licence Criteria

Appendix B – Field Data

Appendix C – Calibration Certificates

References:

- Department of Environmental and Conservation, NSW (2005). *Approved methods for the sampling and analysis of air pollutants in NSW.*
- Department of Environmental and Conservation, NSW (2007). *Approved methods for the modeling and assessment of air pollutants in NSW.*

Limitations

This report only covers the air quality conditions of the exhaust pipe at the time of sampling (12:12 – 13:16 on 20/01/15). Should there be any variation in the site processes or procedures, which influence the quality of air exiting the exhaust pipe beyond this date, further assessment will be required.

This assessment has been undertaken using the most applicable application for the site, and does not confirm entirely to the prescribed reference test method. The measurement of the air exhaust using the PHoCheck Tiger PID unit gives a directional volumetric measure of total VOCs and may have some interference from background emissions. As the PID was located inside the mouth of the exhaust pipe, the risk of interference is reduced, and not likely to lower the concentrations of VOC recorded. SESL has performed investigation and consulting services for this project as outlined in our discussions and in accordance with current professional and industry standards for environmental site assessment.

Despite all reasonable care and diligence, the conditions encountered and the concentrations of contaminants measured may not be representative of conditions at any other point on the site. In addition, site characteristics may change as a result of heterogeneity, chemical reactions and other events. These changes may occur subsequent to SESL's investigation and assessment.

SESL's assessment is necessarily based on the result of limited site investigations and upon the restricted program as described in this report. Neither SESL, nor any other reputable consultant, can provide unqualified warranties nor does SESL assume any liabilities for site conditions not observed, or accessible during the time of investigations.

No site investigations can be thorough enough to provide absolute confirmation of the presence or absence of substances, which may be considered contaminating, hazardous or polluting. Similarly, the level of testing undertaken cannot be considered to unequivocally characterise the degree or extent of contamination on the site. In addition, regulatory or guideline criteria for the evaluation of environmental air quality are frequently being reviewed and concentrations of contaminants which are considered acceptable at present may in the future be considered to exceed acceptance criteria.

This report and associated documentation and the information herein have been prepared solely for the use of the client. Any reliance assumed by third parties on this report shall be at such parties' own risk. Any ensuring liability resulting from use of the report by third parties cannot be transferred to

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Appendix A

■ WATER ■ MINING ■ SPORTS & RECREATION ■ HORTICULTURE & AGRICULTURE ■ ENVIRONMENTAL ■ ENGINEERING & GEOTECH ■ URBAN HORTICULTURE & LANDSCAPING

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Environment Protection Licence

Licence - 5661



U1.1 Proof of Performance of DCF Plant – Treatment of Dry Cleaning Waste - Four (4) Month Trial

The licensee may operate the plant and undertake associated processes for a trial period of four (4) months commencing 10 November 2014 until 20 March 2015 ("the trial period") for the purpose of demonstrating effectiveness of the DCF plant (chlorinated solvent waste treatment plant "the DCF plant") and associated pollution control equipment and processes in:

- a. Treating chlorinated liquid and sludge waste under various operating conditions/scenarios whilst mitigating environmental impacts; and,
- b. The recovery of halogenated and non halogenated solvents enabling their reuse by industry; and,
- c. Demonstrating that the solid waste generated by the plant:
 - i) is free of contaminants of concern enabling lawful reuse or landfill disposal; or,
 - ii) contain contaminants of concern which are appropriately immobilised by the process (confirmed by approved method for TCLP testing), or if the contaminants of concern are not immobilised by the plant's process provide details of proposed additional treatment which will enable lawful disposal to landfill.
- d. Demonstrating the performance of the air pollution control equipment (caustic scrubber and activated carbon filter) with test results demonstrating that air emissions from the plant comply with requirements (of Group 6) of the POEO Clean Air Regulations.

- U1.2
1. During the trial the licensee must first utilise all of the "old dry cleaning waste" currently stored on the premises **before other (additional) dry cleaning waste can be brought onto the premises for treatment in the DCF plant.**
 2. The DCF waste treatment plant must not exceed 80oC during treatment/processing of chlorinated waste.
 3. Treatment/processing of chlorinated solvent/sludge waste must only occur in the DCF waste treatment plant.
 4. The "exhaust" from the DCF plant, displaced vapours from storage/collection tanks and non condensed vapours (including odours) not recovered during treatment/processing of chlorinated waste by the DCF waste treatment plant must be contained and directed for treatment in the caustic scrubber then to the activated carbon filter before discharge to atmosphere.

U1.3 DCF Waste Treatment Plant Assessment Reports - Due 9 January 2015 and 10 April 2015

The licensee must forward to the EPA's Manager Hazardous Materials:

- Assessment report No.1 (due 9 January 2015) for halogenated waste treated during the (trial) period 10 November 2014 to 19 December 2014 inclusive; and,
- Assessment report No.2 (due 10 April 2015 for halogenated waste treated during the (trial) period 20 December 2014 to 20 March 2015 inclusive.

The reports must include detailed information addressing the matters in condition "U1.1" "a", "b", "c" and "d". Also, include results/information on the following during the respective treatment periods:

- Representative samples must be collected from no less than fourteen (14) waste treatment batches. From each batch representative samples must be collected from the untreated chlorinated waste, the resulting solvent (product) and any other liquids generated by the process, and the solid waste produced by the DCF plant.
- The samples must be analysed for contaminants of concern including, but not necessarily limited to: chlorinated solvents, heavy metals (cadmium, lead, nickel, chromium and mercury), TPH, PCBs, phthalates, BaP and pesticides.
- The solid waste produced by the DCF plant must be classified in accordance with the EPA's Waste Classification Guideline

Environment Protection Licence

Licence - 5661



- Air Emissions from the discharge of the activated carbon filter (discharge point to atmosphere) must be analysed whilst under full load with all waste treatment plant and equipment on the premises which discharge to the caustic scrubber and activated filter (i.e. DCF plant, ovens, pots and stills) are operating at full capacity.
- All sampling and analysis must be conducted in accordance with EPA approved procedures and protocols.
- All sample analysis must be conducted at laboratories which hold NATA certification to undertake analysis for the contaminants analysed.
- Details on procedures/protocols/monitoring equipment for determining activated carbon break-through (methods for determining when the granules are spent).

9 Special Conditions

E1 Financial assurance

E1.1 The licensee must maintain a financial assurance with a dollar value of no less than \$1,273,750 (one million two hundred and seventy three thousand seven hundred and fifty dollars).

E1.2 The financial assurance must be in the following form:

- a) An irrevocable and unconditional guarantee from a bank, building society or credit union in favour of the EPA for the amount of \$273,750; and
- b) Insurance cover being not less than \$1,000,000 (being one million dollars) in respect of any single claim whereby the insurer agrees to indemnify the insured and no other party, for the costs and expenses of carrying out incident clean-up and site remediation works required by conditions of this licence.

E1.3 The licensee must provide to the EPA within 5 working days of the issue of an unconditional undertaking as required by condition E1.1.1 (a) & (b), from time to time required by this licence, the original counterpart deed of unconditional undertaking.

E2 Site Remediation Work

E2.1 While the licensee's premises are being used for the purpose to which the licence relates, the licensee must:

- a) Clean-up any spill, leak or other discharge of any waste(s) or other material(s) as soon as practicable after it becomes known to the licensee or to one of the licensee's employees or agents;
- b) in the event(s) that waste(s) are unlawfully deposited on the premises, such waste(s) must be removed as soon as practicable or in accordance with any direction given by the EPA; and
- c) provide all monitoring data as required by the conditions of this licence or as directed by the EPA.

E2.2 Should a catastrophic event (whether or not the premises continue to be used for the purposes to which the licence relates) occur, the licensee must:

- a) make all efforts to contain all firewater on the licensee's premises;

Appendix B

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Instrument IRN	T000000D9299A
Session Number	3
Zone	1
Upper Alarm	0 mg/m3
Lower Alarm	0 mg/m3
Interval	60
Download date	Wednesday 22 March 2017 10:51:30 AM
Date Time	Isobutylene (mg/m3)
21/03/2017 12:08	12
21/03/2017 12:09	8.6
21/03/2017 12:10	8.5
21/03/2017 12:11	7.5
21/03/2017 12:12	8.4
21/03/2017 12:13	8.2
21/03/2017 12:14	7.8
21/03/2017 12:15	7.6
21/03/2017 12:16	7.1
21/03/2017 12:17	6.8
21/03/2017 12:18	6.5
21/03/2017 12:19	6.1
21/03/2017 12:20	6
21/03/2017 12:21	6.1
21/03/2017 12:22	6.6
21/03/2017 12:23	6.5
21/03/2017 12:24	6.8
21/03/2017 12:25	6.4
21/03/2017 12:26	6.3
21/03/2017 12:27	6.1
21/03/2017 12:28	7.3
21/03/2017 12:29	6.9
21/03/2017 12:30	6.5
21/03/2017 12:31	6.1
21/03/2017 12:32	5.9
21/03/2017 12:33	5.7
21/03/2017 12:34	5.5
21/03/2017 12:35	5.7
21/03/2017 12:36	6.2
21/03/2017 12:37	6.5
21/03/2017 12:38	6.1
21/03/2017 12:39	7.9
21/03/2017 12:40	7.1
21/03/2017 12:41	6.8
21/03/2017 12:42	6.2
21/03/2017 12:43	6
21/03/2017 12:44	5.8

21/03/2017 12:45	6.2
21/03/2017 12:46	7.7
21/03/2017 12:47	6.7
21/03/2017 12:48	6.9
21/03/2017 12:49	6.5
21/03/2017 12:50	6.2
21/03/2017 12:51	6
21/03/2017 12:52	5.8
21/03/2017 12:53	6.2
21/03/2017 12:54	6.3
21/03/2017 12:55	6.4
21/03/2017 12:56	6.3
21/03/2017 12:57	6
21/03/2017 12:58	6.4
21/03/2017 12:59	6.3
21/03/2017 13:00	6
21/03/2017 13:01	5.6
21/03/2017 13:02	5.7
21/03/2017 13:03	5.5
21/03/2017 13:04	5.7
21/03/2017 13:05	5.7

Model Numb TA440
 Serial Numbe TA4401221004
 Test ID: 4
 Test Abbrevi: Test 004
 Start Date: 21/03/2017
 Start Time: 9:19:14
 Duration (dd 0:01:00:05
 Log Interval (1:00
 Number of p 60
 Notes: Test 004

Reading Type Standard

Temperature 21.1deg C
 Pressure 1013.2hPa

Statistics	Channel:	Vel	T	H
	Units:	m/s	deg C	%rh
Average:		0.11	37.1	42.6
Minimum:		0.1	28.6	39
Date of Minir		21/03/2017	21/03/2017	21/03/2017
Maximum:		0.51	38.7	68.2
Date of Maxi		21/03/2017	21/03/2017	21/03/2017

Calibration	Meter:	24/01/2017		
Calibration	Sensor:	Vel	T	H
	Cal. Date	23/01/2017	23/01/2017	23/01/2017

Date	Vel	T	H
dd/MM/yyyy	m/s	deg C	%rh
21/03/2017	0.51	28.6	68.2
21/03/2017	0.1	31.5	59.6
21/03/2017	0.1	34.1	51.7
21/03/2017	0.1	35.1	49
21/03/2017	0.1	35.6	47.8
21/03/2017	0.1	35.9	46.7
21/03/2017	0.1	36.1	46.6
21/03/2017	0.1	36.3	45.4
21/03/2017	0.1	36.4	45.1
21/03/2017	0.1	36.5	45.2
21/03/2017	0.1	36.5	44.7
21/03/2017	0.1	36.6	44.5
21/03/2017	0.1	36.7	44.4
21/03/2017	0.1	36.9	44

21/03/2017	0.1	37.1	43.5
21/03/2017	0.1	37.3	42.7
21/03/2017	0.1	37.5	42.2
21/03/2017	0.1	37.6	41.6
21/03/2017	0.1	37.6	41.4
21/03/2017	0.1	37.6	40.8
21/03/2017	0.1	37.5	41.2
21/03/2017	0.1	37.6	41.3
21/03/2017	0.1	37.7	41.4
21/03/2017	0.1	37.9	41.3
21/03/2017	0.1	38	40.5
21/03/2017	0.1	38.1	40.2
21/03/2017	0.1	38.1	40.2
21/03/2017	0.1	38.2	39.9
21/03/2017	0.1	38.3	39.5
21/03/2017	0.1	38.3	39.4
21/03/2017	0.1	38.3	39.8
21/03/2017	0.1	38.4	40.2
21/03/2017	0.1	38.4	40
21/03/2017	0.1	38.5	39.4
21/03/2017	0.1	38.6	39.7
21/03/2017	0.1	38.7	39.7
21/03/2017	0.1	38.6	39
21/03/2017	0.1	38.6	39.3
21/03/2017	0.1	38.6	39.4
21/03/2017	0.1	38.4	39.4
21/03/2017	0.1	38.4	39.4
21/03/2017	0.1	38.3	39.5
21/03/2017	0.1	38.3	39.6
21/03/2017	0.1	38.1	39.5
21/03/2017	0.1	38	39.9
21/03/2017	0.1	37.8	40.3
21/03/2017	0.1	37.6	40.9
21/03/2017	0.1	37.5	41
21/03/2017	0.1	37.5	40.9
21/03/2017	0.11	37.4	40.7
21/03/2017	0.1	37.2	40.9
21/03/2017	0.1	37.1	41.6
21/03/2017	0.1	37	41.6
21/03/2017	0.1	37	42.3
21/03/2017	0.1	37	41.8
21/03/2017	0.11	36.9	41.5
21/03/2017	0.11	36.8	41.6
21/03/2017	0.1	36.6	42.4
21/03/2017	0.1	36.6	42.9

21/03/2017

0.47

35.3

44.5

Appendix C

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Airflow Air Velocity Meter Calibration Certificate

Report Number: AV206500

Page 1 of 3

Customer	Air Met Scientific
Address	7-11 Ceylon Road
	Nunawading VIC 3131
Contact	
Equipment	Airflow Air Velocity Meter
Model	TA440
Serial Number	TA4401221004
Calibration Date	24/01/2017
Condition as Received	As Left

ENVIRONMENTAL CONDITIONS


Ambient Temp	26°C
Humidity	38%RH
Barometric Pressure	990HPA

Uncertainty of Measurement

The uncertainty of Measurement values stated in this report are at a confidence level of 95% with coverage factor of $K = 2$

Kenelec Scientific Pty Ltd Certifies That :-

The above described instrument has been calibrated using standards with accuracies traceable to the standards held by the National Measurement Institute of Australia.

Procedures Followed:	LABP4
Approved Signatory:	
Date:	24-01-17

PID Calibration Certificate

Instrument PhoCheck Tiger
Serial No. T-111096



Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments			
Battery	Charge Condition	✓				
	Fuses	✓				
	Capacity	✓				
	Recharge OK?	✓				
Switch/keypad	Operation	✓				
Display	Intensity	✓				
	Operation (segments)	✓				
Grill Filter	Condition	✓				
	Seal	✓				
Pump	Operation	✓				
	Filter	✓				
	Flow	✓				
	Valves, Diaphragm	✓				
PCB	Condition	✓				
Connectors	Condition	✓				
Sensor	PID	✓	10.6 ev			
Alarms	Beeper	✓	Low	High	TWA	STEL
	Settings	✓	50ppm	100ppm		
Software	Version	✓				
Data logger	Operation	✓				
Download	Operation	✓				
Other tests:						

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Calibration gas and concentration	Certified	Gas bottle No	Instrument Reading
PID Lamp		98ppm Isobutylene	NATA	SY137	98.2ppm

Calibrated by:  Lin Wang

Calibration date: 13/03/2017

Next calibration due: 12/04/2017