



From:  
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Report 18-06866, Sampled on  
**3/2/2018**

Next Sample Due Quarterly, Approximately  
**6/2/2018**

To:  
Total Diving  
6356 Sherbrooke West  
Montreal, QC H4B 1M9  
CANADA

**TOTAL DIVING**  
IS IN COMPLIANCE WITH THE AIR/GAS QUALITY PORTION OF THE SPECIFICATION:  
**CSA STANDARD Z275.2-15 OCCUPATIONAL SAFETY CODE FOR DIVING OPERATIONS (H)**  
AS ANALYZED AND REPORTED ON THIS CERTIFICATE  
FOR THE SAMPLE DESCRIBED UNDER SECTION "SAMPLE & REPORT INFORMATION"



American Assn for Laboratory Accreditation  
1991: Certificate No. 322.01 Chemical Field of Testing

*R. A. Smith*  
Richard A. Smith, Laboratory Director

Analytical Test Methods		Media Sampled	Estimate of Uncertainty
Gases & Vapors	CAT-A-01 Gas Chromatography/Mass Spectrometry	Source Bottle: 775499	The average analytical uncertainty (k=2) is 98.8±2.4% (relative) at the specification limit for the ten compounds normally reported. For uncertainty information for a specific compound, contact Trace Analytics.
Oil & Particulate	CAT-A-03 Analytical Gravimetry	Ambient Bottle: 435000	
Particle Size	CAT-A-04 Optical Microscopy	Source Filter: 4152	
Pressure Dew Point	CAT-A-07 Gas Detector Tube	Detector Tube: Draeger 5-a/P	

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**Sample & Report Information**

**Results of Test: PASS**

Sampled For	Total Diving	Analytes	Source Results	Ambient Results	Specification <sup>1</sup> Allowable Limits
Sampled By	Valerie Menard	Oxygen, Volume %	20.8(Z)	20.9	20-22
Sampled On	3/2/2018	Nitrogen, Volume %	78.4	78.3	N/A
Received On	3/7/2018	Argon, Volume %	0.8	0.8	N/A
Analyzed On	3/7/2018	Nitrogen Plus Argon, Volume %	79.2	N/A	78-80
Sampled From	Stored Air	Carbon Monoxide (CO), ppmv	<0.3	6.6	3
Make	Jordair	Carbon Dioxide (CO <sub>2</sub> ), ppmv	406	450	600
Model	K15-3EV	Water Content (H <sub>2</sub> O), ppmv/Dewpoint, °F	<3.4 / <-91	N/A	27 / -63 (W)
Serial No.	82/23/6/01	Atmospheric Dew Point, °F (DT)	-86	N/A	N/A
Cylinder(s)	4	TVHC (including CH <sub>4</sub> ), ppmv	4.0	11.0	15
		Methane (CH <sub>4</sub> ) ppmv	1.8	1.9	10
		TVHC (excluding CH <sub>4</sub> ), ppmv	2.2	9.1	5
		Oil (condensed) & Particulate, mg/m <sup>3</sup>	<0.03	N/A	1
Hours	4370	Odor (provided by customer)	None/Slight	N/A	None/Slight
Sample Phase	Routine	Halogenated Hydrocarbons, ppmv	<0.1	N/A	5
Customer Comments		Atmospheric Dewpoint, °C	<-68	N/A	-53
		Pressure Dewpoint, °C	<-53	N/A	-5

**PASS**

(H) Compressed breathing air in cylinders and piping ≥ 15.3 MPa (2216 psig) shall have an atmospheric dew point ≤ 53°C (-63°F) or water vapor ≤ 27 mL/m<sup>3</sup> (ppm) and SHOULD have a pressure dew point ≤ 5°C (9°F) below the lowest temperature to which the cylinder or piping can be exposed during any time of the year at that geographic location. If an operating pressure is not provided, we will use 20.7 MPa (3000 psig) with the Greenspan water vapour enhancement factor applied.  
(W) Dew point is expressed in °F at one atmosphere pressure absolute.

(DT) Dew point is calculated at 1 atmosphere pressure (14.7 psia) from the detector tube reading.

(Z) Some Data Sheet information was not provided. For those fields requiring an entry to complete the report, we inserted default values.

Report Number 18-06866  
Customer ID 2292  
Date Reported 3/8/2018  
Frequency Quarterly  
Next Sample Due Approx. **6/2/2018**