



O₃ ANALYZER AUDIT

File No. DraftDate: March 11, 2008Performed by: A. Clark**Station**Name: Crescent HeightsLocation: Medicine HatFacility/Zone: PalliserOperator: FocusTemp: 21.5 CBarometric Press: 694 mmHg**Monitor**Make/Model: Teco 49i Serial No: 0713021144Inlet flow (scm): 715 / 700 Full Scale Range ppm: 0.5Last cal. Date: Feb 20/08 Old C.F. 0.9874O3 BKG: 0.5O3 COEF: 1.033**Calibrator**Calibration Method: Gas Dilution / GPTMake/Model: Dasibi 5008AMU #: 1751NO cylinder #: CAL 7879NO concentration ppm: 51.4

Ozone Setting	Calibrator Flow (scm)			Calculated Conc. (ppm)	Indicated Conc. (ppm)	% Difference	
	Air	Gas	Total			vs Audit Gas	Limits
0.0%	4899	 	4899	0.000	0.000		
0.30%	4899	 	4899	0.264	0.269	1.8%	± 15%
0.20%	4899	 	4899	0.157	0.161	2.4%	± 15%
0.15%	4899	 	4899	0.107	0.111	3.5%	± 15%
Absolute Average Percent Difference						2.5%	

Linear Regression Analysis: $y=mx+b$ (where x =calculated concentration, y =indicated concentration)Correlation Coeff.= 1.0000m (Slope)= 1.0172b (Intercept as % of full scale)= 0.2113**LIMITS**≥ **0.995****0.85-1.15**± **3% F.S.****Remarks:**



NO-NOx-NO2 Analyzer Audit

File No. Draft

Date: March 11, 2008

Performed by: A. Clark

Station: Name: Crescent Heights Location: Medicine Hat Operator: Focus
 Facility/Zone: Palliser Temp. 21.5C BP: 694 mmHg

Monitor: Make/Model: API 200E Serial No. 219
 Inlet flow (sccm): 446 / 75 Range ppm: 0.5
 Last cal. Date: Feb 20/08 Old C.F.'s NO: 1.0212
 NOx: 1.0144
 NO2: 0.9945
 NO Bkg -9.0
 NOx Bkg -5.5
 NO Coef 1.258
 NOx Coef 1.260
 NO2 Coef N/A

Calibration Method: Gas Dilution / GPT
Calibrator: Make/Model: Dasibi 5008 AMU# 1751
 NO cylinder # CAL 7879 NO conc. ppm 51.4 NOx conc. ppm 51.4

Calibrator Flows			Calc. Conc.		Indicated Concentration		% Difference vs Audit Gas	
Air	Gas	Total	NO (ppm)	NOx (ppm)	NO (ppm)	NOx (ppm)	NO	NOx
4892	0.00	4892	0.000	0.000	-0.001	-0.003	Limit ± 15%	
4860	39.42	4899	0.414	0.414	0.400	0.406	-3.0%	-1.1%
4927	20.17	4947	0.210	0.210	0.200	0.209	-4.1%	1.2%
4919	10.48	4929	0.109	0.109	0.102	0.106	-5.8%	-0.3%
Absolute Average Percent Difference							4.3%	0.1%

Linear Regression Analysis:

$y=mx+b$ (where x =calculated concentration, y =indicated concentration)

	NO	NOx	NO ₂	LIMITS
Correlation Coeff.=	<u> 1.0000 </u>	<u> 0.9999 </u>	<u> 1.0000 </u>	≥ 0.995
m (Slope)=	<u> 0.9794 </u>	<u> 0.9829 </u>	<u> 0.9932 </u>	0.85-1.15
b (Intercept as % of full scale)=	<u> -1.0252 </u>	<u> 0.0730 </u>	<u> 0.1741 </u>	± 3% F.S.

O ₃ Setting	Set Point	Flow Rate	Indicated Conc. (ppm)			NO Decrease	NO ₂ Increase	% Difference vs Audit Gas	
			NO	NOx	NO ₂				
0.0%	 	4899	0.399	0.408	0.008	 	 	 	%Dif Limit
0.30%	 	4899	0.135	0.406	0.271	0.264	0.263	-0.38%	± 15%
0.20%	 	4899	0.242	0.408	0.165	0.157	0.157	0.00%	± 15%
0.15%	 	4899	0.292	0.408	0.115	0.107	0.107	0.00%	± 15%
Absolute Average Percent Difference								-0.13%	

Converter Efficiency

Average Converter Efficiency 99.9%

Remarks:

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