**Environment and Sustainable** Resource Development

**Operations Division** Air Monitoring and Audit Center 4946 89 Street N.W. Edmonton, Alberta T6E-5K1 Canada Telephone: 780-427-7888 www.alberta.ca

Date: October 18, 2013

File No(s). 2011 – 270A / 292A

Mr. Darren Morissette Executive Director Peace Airshed Zone Associtation (Paza) P.O. Box 21135 Grande Prairie, AB T8V 6W7

Dear Mr. Morissette:

Please see attached audit summary for all audit findings from the audits recently conducted on the Paza ambient air monitoring stations.

Please note that the  $H_2S$  failure at Valleyview was addressed immediately following the audit. A review of the data and calibration documents is required to see when the change occurred. The contractor's system was compared to ESRD's and found to only differ by 2% lower compared to ESRD audit results. The analyzer was re-calibrated immediately following the audit.

The Falher station sample manifold requires updating:

- The sample lines do not extend into the ½" tubing.
- The air flow passing through the manifold does exceed the 3 times the total flow of all analyzers. The flow was measured at 1300 sccm and the total flow of the analyzers was 1345 sccm.
- The  $\frac{1}{2}$ " tubing does extend past the opening of the stainless steel manifold cane. It also • does not have a protective covering over the opening of the sample cane.

ESRD recommends a glass sample manifold be installed to ensure samples lines are in the sample flow, that there is adequate flow to meet the excess flow requirement as stated in the AMD and that a proper sample cane with a protective cover be installed outside the shelter. See attached photos.

An unsafe condition was noted at the Falher station. The one side of the station does not have the wheels touching the ground or any support blocking. The station is being held in the air by the stabilizer jacks. These jacks are not designed to work in this fashion. ESRD recommends that at minimum, support blocking be placed under the wheels to prevent any damage occurring. See attached photos.

The Sunset House station experienced a power failure a couple of days prioir to the audit. As a result of this power failure only 2 of the analyzers were functioning upon arrival. A power bar

that supplied power to the Oxides of Nitrogen, Ozone and Particulate analyzers had tripped and they were not operational upon arrival. The power bar was reset and the analyzers allowed to warmup before commencing an audit of these analyzers. Only the Oxide of Nitrogen analyzer was not fully stable therefore the analyzer will not be considered audited this trip.

The Teom particulate analyzer at Sunset House did not have the transducer  $K_o$  value in the control unit software but did contain a lower calibrated  $K_o$  value. This lower calibrated  $K_o$  value did not pass the audit. This unit requires further servicing to ensure proper data collection of particulate mass.

No wind system calibration records were readily available upon request. Only estimates of when the system was serviced or calibrated. Please ensure proper wind system calibration records are available on site.

Please indicate in writing what actions will or have been taken to address the audit findings noted above by November 22, 2013. If you have any further questions please contact the undersigned at 780-427-7888.

Sincerely,

la Clarke.

Al Clark Monitoring Systems Auditor Monitoring Programs & Validation

Attachment(s): Audit Summary; Field Sheets and Pictures from Falher

cc: Glen Gache: Regional Approvals Manager Lorie Paulovich: Regional Compliance Manager Marilyn Albert: Industrial Monitoring Assessment Technologist Janine Ross: Ambient Air Support Tech Shelley Morris: Acting Monitoring Manager

	1		5
Facility / Zone	∥		Paza
Total # of parameters that passed	∥		22
Total # of parameters audited in the network	<b> </b>		24
Date(s) of the audit			October 7-11, 2013
Issue Date of Audit Summary			October 18, 2013
Station Name	I		Valleyview
Auditor			Al Clark
Audit Date			October 7, 2013
Critical	Pass		Fail
H <sub>2</sub> S	1	Х	Slope (0.85 - 1.15)
SO <sub>2</sub>			
TRS			
NO / NO <sub>2</sub> / NO <sub>X</sub>			
O <sub>3</sub>			
CO			
THC			
NMHC			
NH <sub>3</sub>			
TEOM/BAM PM <sub>2.5</sub>			
Wind Speed / Wind Direction			
Wind head Orientation	Ň		
Manifold Fan	Ň		
Zero/Span Systems Operational	Ń		
Inspection Items	OK		Need for Improvement
Sample pump venting/scrubbing	N		
Heating / Air Conditioning	N		
Manifold	N		
Sample Lines	$\gamma$		
TEOM/BAM PM <sub>2.5</sub>			
Safety	N		
Site Conditions	N		
Non-critical	OK		Opportunity for Improvement
RH			
Station Temperature	Ń		
Ambient Temperature	Ň		
Solar Radiation			
TEOM 'Pump On' test			
Station Condition			
Station Documentation	Ń		
Not monitored/audited at this location		·	

Albertan Soldt To Arbieroi

Facility / Zone	11	Paza
Total # of parameters that passed	╂────	22
Total # of parameters audited in the network		24
		October 7-11, 2013
Date(s) of the audit		October 18, 2013
Issue Date of Audit Summary		October 16, 2015
Station Name		Beaverlodge
Auditor		AI Clark
Audit Date	1	October 8, 2013
Critical	Pass	Fail
H <sub>2</sub> S		
SO <sub>2</sub>		
TRS		
NO / NO <sub>2</sub> / NO <sub>X</sub>		
O <sub>3</sub>		
CO		
ТНС		
NMHC		
NH <sub>3</sub>		
TEOM/BAM PM <sub>2.5</sub>		
Wind Speed / Wind Direction		
Wind head Orientation	Ń	
Manifold Fan	Ń	
Zero/Span Systems Operational	Ń	
Inspection Items	OK	Need for Improvement
Sample pump venting/scrubbing	- , - , - , - , - , - , - , - , - , - ,	
Heating / Air Conditioning	N	
Manifold	N N	
Sample Lines	N	
TEOM/BAM PM <sub>2.5</sub>		
Safety	2/	
Site Conditions	N	
Non-critical	OK	Opportunity for Improvement
RH	$\lambda$	
Station Temperature		
Ambient Temperature		
Solar Radiation		
TEOM 'Pump On' test		
Station Condition		
Station Documentation		
Not monitored/audited at this location		

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Facility / Zone	Π	Paza			
Total # of parameters that passed	22				
Total # of parameters audited in the network		24			
Date(s) of the audit		October 7-11, 2013			
Issue Date of Audit Summary		October 18, 2013			
Station Name		Evergreen			
Auditor		Al Clark			
Audit Date		October 8, 2013			
Critical	Pass	Fail			
H₂S					
SO <sub>2</sub>					
TRS					
NO / NO <sub>2</sub> / NO <sub>X</sub>					
O <sub>3</sub>					
СО					
ТНС					
NMHC					
NH <sub>3</sub>					
TEOM/BAM PM <sub>2.5</sub>		Heads very dusty			
Wind Speed / Wind Direction					
Wind head Orientation					
Manifold Fan					
Zero/Span Systems Operational					
Inspection Items	ОК	Need for Improvement			
Sample pump venting/scrubbing	1				
Heating / Air Conditioning	1 V				
Manifold					
Sample Lines	N N				
TEOM/BAM PM <sub>2.5</sub>	l V				
Safety	l V				
Site Conditions	Ň				
Non-critical	OK	Opportunity for Improvement			
RH	N				
Station Temperature	N				
Ambient Temperature	$\gamma$				
Solar Radiation					
TEOM 'Pump On' test	N				
Station Condition	N				
Station Documentation	1				

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Facility / Zone	1		Paza
Total # of parameters that passed			22
Total # of parameters audited in the network			24
Date(s) of the audit			October 7-11, 2013
Issue Date of Audit Summary			October 18, 2013
Station Name			Henry Pirker
Auditor			Al Clark
Audit Date			October 9, 2013
Critical	Pass		Fail
H <sub>2</sub> S			
SO <sub>2</sub>			
TRS			
$NO / NO_2 / NO_X$			
O <sub>3</sub>			
CO			
ТНС			
NMHC			
NH <sub>3</sub>			
TEOM/BAM PM <sub>2.5</sub>			
Wind Speed / Wind Direction			
Wind head Orientation	N		
Manifold Fan	Ń		
Zero/Span Systems Operational			
Inspection Items	ОК		Need for Improvement
Sample pump venting/scrubbing	1		
Heating / Air Conditioning	Ň		
Manifold	V		
Sample Lines	V		
TEOM/BAM PM <sub>2.5</sub>			
Safety			
Site Conditions	Ń		
	ок	. I	Opportunity for Improvement
Non-critical RH	_UK _√		
Station Temperature	√ √		
Ambient Temperature	V		
Solar Radiation			
TEOM 'Pump On' test	N		
Station Condition	2		
Station Documentation	N		

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Facility / Zone	I		Paza
Total # of parameters that passed	∦		22
Total # of parameters audited in the network			22
Date(s) of the audit			October 7-11, 2013
Issue Date of Audit Summary			October 18, 2013
			000000110,2010
Station Name			Falher
Auditor			Al Clark
Audit Date			October 10, 2010
Critical	Pass		Fail
H <sub>2</sub> S			
SO <sub>2</sub>			
TRS			
NO / NO <sub>2</sub> / NO <sub>X</sub>			
O <sub>3</sub>			
СО			
ТНС			
NMHC			
NH <sub>3</sub>			
TEOM/BAM PM <sub>2.5</sub>			
Wind Speed / Wind Direction			
Wind head Orientation			
Manifold Fan			
Zero/Span Systems Operational			
Inspection Items	ОК		Need for Improvement
Sample pump venting/scrubbing			
Heating / Air Conditioning	Ń		
Manifold	Ń		
Sample Lines	Ň		
TEOM/BAM PM <sub>2.5</sub>			
Safety		Х	Unsafe condition at trailer
Site Conditions			
Non-critical	ОК		Opportunity for Improvement
RH		_	
Station Temperature			
Ambient Temperature	Ň		
Solar Radiation			
TEOM 'Pump On' test	1		
Station Condition			
Station Documentation	Ň		
Not monitored/audited at this location		•	

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Facility / Zone	n	Paza
Total # of parameters that passed	∦────	22
Total # of parameters audited in the network		24
Date(s) of the audit		October 7-11, 2013
Issue Date of Audit Summary		October 18, 2013
Station Name		Smokey Heights
Auditor		Al Clark
Audit Date		October 10, 2010
Critical	Pass	Fail
H <sub>2</sub> S		
SO <sub>2</sub>		
TRS		
NO / NO <sub>2</sub> / NO <sub>X</sub>		
O <sub>3</sub>		
CO		
THC		
NMHC		
NH <sub>3</sub>		
TEOM/BAM PM <sub>2.5</sub>		Heads very dusty
Wind Speed / Wind Direction	N	
Wind head Orientation	N	
Manifold Fan	Ń	
Zero/Span Systems Operational		
Inspection Items	ОК	Need for Improvement
Sample pump venting/scrubbing	1	
Heating / Air Conditioning	Ň	
Manifold	Ň	
Sample Lines	Ń	
TEOM/BAM PM <sub>2.5</sub>	l V	
Safety	1 V	
Site Conditions	Ń	
Non-critical	OK	Opportunity for Improvement
RH		
Station Temperature		
Ambient Temperature	Ň	
Solar Radiation		
TEOM 'Pump On' test		
Station Condition		
Station Documentation	Ň	
Not monitored/audited at this location	u v	

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Facility / Zone	11		Paza		
Total # of parameters that passed	22				
Total # of parameters audited in the network			22		
Date(s) of the audit			October 7-11, 2013		
Issue Date of Audit Summary	·		October 18, 2013		
			October 18, 2013		
Station Name			Sunset House		
Auditor			Al Clark		
Audit Date			October 11, 2013		
Critical	Pass		Fail		
H <sub>2</sub> S					
SO <sub>2</sub>					
TRS					
NO / NO <sub>2</sub> / NO <sub>X</sub>					
O <sub>3</sub>					
CO					
ТНС					
NMHC					
NH <sub>3</sub>					
TEOM/BAM PM <sub>2.5</sub>		Х	KO out of tolerance.		
Wind Speed / Wind Direction					
Wind head Orientation					
Manifold Fan					
Zero/Span Systems Operational					
Inspection Items	ОК		Need for Improvement		
Sample pump venting/scrubbing	N				
Heating / Air Conditioning	V				
Manifold	Ń				
Sample Lines	Ń				
TEOM/BAM PM <sub>2.5</sub>	1 V		1		
Safety	Ŵ				
Site Conditions	V				
Non-critical	OK		Opportunity for Improvement		
RH					
Station Temperature					
Ambient Temperature	1 V				
Solar Radiation					
TEOM 'Pump On' test					
Station Condition	Ň				
Station Documentation	Ň		1		
Not monitored/audited at this location	u v				

Albertan Solett To Arbiero

STATION AUDIT									
			File No. 2013 - 270A	/ 271A					
Date:	October 7, 2013	Performed by:	Al Clark						
	Valleyview		Valleyview						
Facility/Zone:	Paza Temp: <u>18.5 C</u>		Focus 692 mmhg						
<b>Location</b> Status	Latitude N Longitude W Elevation of Site Documentation	54° 56' 24.8" 117° 12' 55.5" 649 m On site - electronic vers	ion OK						
Manifold Manifold	Manifold Material Glass Manifold Condition Good								
Meteorolog Wind Speed	ical Observe Direction 4.0 kph / 18		Audit Value 0-5 kph / SW						
Station Te	mperature 20.8 C	<u> </u>	20.0 C						
Relative	Humidity 72%		70%						
Ambient Te	mperature 13.5 C	<u> </u>	13.7 C						
Solar	Radiation N/A		N/A						
Pre	cipitation N/A		N/A						
Precipitation       N/A         Remarks:       2 ports appear to be damaged - covered with electrical tape. 1 port on a slight angle.         Amb Tmp/RH taken in shade at ground level. Sensor at 10m level.									



		2		YZER A			
					File No.	2013 -	270A
Date:	October	7, 2013	I	Performed by:		Al Clark	
Station Name:	Valle	aviour		Location:	Valla		
			-				
Facility/Zone:	Pa	za	-	Operator:	Foo	cus	
	Temp:	18.5 C	Baro	ometric Press:	692 n	nmhg	
Monitor							
Make/Model:			o 45C		45C-57		
Inlet flow (scci	n):		46	Full Scale Range			
Last cal. Date:		Sep	12/13	Old Correction F	actor:	1.0017	
Zero/Bkg	60	.3					
Span Coef		47	_				
Calibrator							
	ion Method: /ake/Model:		IFC 201	-	AMU # :	169	91
	Cylinder # :	CAL	.9745	SO <sub>2</sub> Concentrat	ion PPM:	51.	.0
C	alibrator Flo	W	Calculated	Indicated	1	% Diffe	erence
	(sccm)		Conc.	Concentrat	tion	vs	
Air	Gas	Total	(ppm)	(ppm)		Audit Gas	Limits
5094	0.0	5094	0.0000				
	38.5	5149	0.3813			3%	± 15%
5111	17.3	5135	0.1718	0.1777		4% 3%	± 15% ± 15%
5118	0.1		0.0011	0.0631		3%	± 15%
	8.1	5091		Average Dereent I	);ffanan aa	20/	
5118 5083				Average Percent I	Difference	3%	
5118			Absolute	Average Percent I	•		oncentration
5118 5083	ession Ana	ysis:	Absolute y=mx+b (v	vhere x=calculated c	•		oncentration
5118 5083	ession Ana	<b>ysis:</b> tion Coeff.=	Absolute <i>y=mx+b</i> ( <i>v</i> : 1.0000	vhere x=calculated c LIN _ ≥ 0	oncentratio IITS .995		oncentration
5118 5083 Linear Regre	ession Anal Correla	ysis: tion Coeff.= m (Slope)=	Absolute y=mx+b (v 1.0000 1.0316	vhere x=calculated c LIN ≥ 0 0.8	oncentratio IITS .995 5-1.15		oncentration
5118 5083 Linear Regre	ession Ana	ysis: tion Coeff.= m (Slope)=	Absolute y=mx+b (v 1.0000 1.0316	vhere x=calculated c LIN ≥ 0 0.8	oncentratio IITS .995		oncentration
5118 5083 Linear Regre	ession Anal Correla	ysis: tion Coeff.= m (Slope)=	Absolute y=mx+b (v 1.0000 1.0316	vhere x=calculated c LIN ≥ 0 0.8	oncentratio IITS .995 5-1.15		oncentration
5118 5083 Linear Regre	ession Anal Correla	ysis: tion Coeff.= m (Slope)=	Absolute y=mx+b (v 1.0000 1.0316	vhere x=calculated c LIN ≥ 0 0.8	oncentratio IITS .995 5-1.15		oncentration
5118 5083 Linear Regre	ession Anal Correla	ysis: tion Coeff.= m (Slope)=	Absolute y=mx+b (v 1.0000 1.0316	vhere x=calculated c LIN ≥ 0 0.8	oncentratio IITS .995 5-1.15		oncentration



H <sub>2</sub> S ANALYZER AUDIT							
					File No.	2013 -	271A
Date:	October	7, 2013	F	Performed by:		Al Clark	
Station Name:	Valle	yview		Location:	Valley	/view	
Facility/Zone:	Pa	za		Operator:	Foo	cus	
		18.5 C	-	ometric Press:			
Monitor							
Make/Model: Inlet flow (scc: Last cal. Date:	,	3	o 43i 94 12/13	Serial No: Full Scale Rang Old Correction	ge ppm:	20010 0.1 0.9772	
Zero/Bkg Span Coef		.0 )31	-				
	tion Method: Make/Model: Cylinder # :	R&R M FF1		H <sub>2</sub> S Concentr	ation PPM:		.0
C	Calibrator Flo (sccm)	W	Calculated Conc.	Indicat Concentr		% Diff	erence
Air	Gas	Total	(ppm)	(ppm		Audit Gas	Limits
5094	0.0	5094	0.0000	0.000	-		
5111	38.5	5149	0.0748	0.086	65	16%	± 15%
5117	17.7	5135	0.0345	0.040		17%	± 15%
5082	8.9	5091	0.0175	0.020	-	15%	± 15%
Absolute Average Percent Difference16%Linear Regression Analysis: $y=mx+b$ (where $x=calculated$ concentration, $y=indicated$ concentration)LIMITSCorrelation Coeff.=1.0000 $x = 0.995$ m (Slope)=1.1565 $x = 0.855-1.15$ b (Intercept as % of full scale)=0.1863 $\pm 3\%$ F.S.							
the touch. G 16% high. G							

Albertan te, Spirit To Achieve,

Company:	_	Paza		F	Facilit	y Name:	V	'alleyvi	ew	_		
Approval No	o.: _	N/A		Site Name: Valleyview						_		
AENV Regi	on:	Northern		A	AENV	District:	Gra	ande Pr	airie			
Parameters a	_	ed:		-						_		
$H_2S$	Х	SO <sub>2</sub>	Х	NO <sub>X</sub>		NH <sub>3</sub>		O <sub>3</sub>				
СО		CH <sub>4</sub>		NonCH4		THC		Ethylene				
PM <sub>2.5</sub>		PM <sub>10</sub>		TSP		BTEX		Wind	Speed	Х		
Wind Dir	Х	Amb. Temp	Х	Stn.Temp	Х	RH	Х	Solar F	Radiation			
Rainfall		Precip		VWS		Other						
All parame	ters	monitored as	per a	pproval: Ye	s	No	]	N/A				
GENERA	17							YE	ES NO	N/A		
OLIVER		Has the location 1	ema	ined unchange	ed fror	n previous au	dit?		X			
		s site secure?	ema	inea anenango	<i>a</i> 1101	ii pievious uu	unt.		X			
				1 1		2				_		
	F	Are station operation	ting	conditions ade	equate	<i>!</i>			X			
DATA ACQU				2						1		
		Are strip charts ir							X			
	Ι	s a telemetry sys	tem	for data acqui	sition	in use?			Х			
SYSTEM CON									11	<b>n</b>		
		s a glass samplin	-		ed?				X			
		s sampling mani							X			
	Ι	s a manifold trap	o in p	lace?					Х			
	A	Are spare manifo	ld po	rts capped					Х			
	Ι	s manifold orien	ted s	o it is not exac	etly ho	rizontal?			X			
		Are manifold por			-		onitors	?	X			
		s manifold pump							X			
		Do sample lines e							X			
		Are monitor sam			ed to 1	nanifold?			X	_		
		Are sampling line							X			
	A	Are monitors pro	perly	mounted and	secur	e?			Х			
	A	Are monitors proj	perly	exhausted from	om roo	om or scrubbe	d?		Х			
	A	Are zero and spar	n sys	tems operation	nal?				Х			
WIND EQUIP	PME	NT										
	Ι	s wind sensor pro	operl	y oriented?					Х			
	Ι	Does wind equip	ment	appear to be t	functio	oning properly	/?		X			
	Г	Date of last calib	ratio	1.		Date:	Unkno	wn	I			
COMMENTS.							0 111110			ш		
0000000000000	_											
	_											
AUDITOR:		Al C	lark			D	ATE:	(	October 7	, 2013		

Freedom To Create. Spirit To Achieve.

STATION AUDIT									
			File No. <u>2013 - 289</u>	A / 291A					
Date:	October 11, 2013	Performed by:	Al Clark						
-	Sunset House Paza		Sunset House Focus						
Pacifity/Zone.	Temp: 17.0 C	Barometric Press:							
<b>Location</b> Statu	Longitude W	55° 04' 56.7" 116° 52' 17.6" 811 m On site - electronic ver	sion OK						
	Manifold Material       Glass         Manifold Condition       Good								
Meteorolo Wind Spee	<b>gical</b> Observ d Direction <u>11 kph / 2</u>		Audit Value 10-15 kph / W						
Station T	emperature 22.6	с	22.4 C						
Relativ	e Humidity N/A	<u> </u>	N/A						
Ambient T	emperature 9.0	<u> </u>	9.3 C						
Sola	r Radiation N/A	<u> </u>	N/A						
Р	recipitation N/A	<u> </u>	N/A						
Remarks:									

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		SO <sub>2</sub>	ANAL	YZER A	UDIT	_	
					File No.	2013 -	289A
					1 110 1 101	2010	20071
Date:	October	11, 2013	P	erformed by:		Al Clark	
Station							
Name:	Sunset	t House	-	Location:	Sunset	House	
Facility/Zone:	Pa	aza		Operator:	Fo	cus	
			-				
	Temp:	17.0 C	- Daro	metric Press:	0911	IIIIIIg	
Monitor		Tarr	420	Cominal N	00007	46000	
Make/Model: Inlet flow (scci	m).			Serial No:			
Last cal. Date:	II):			Full Scale Range Old Correction F			
Last cal. Dale.		<u> </u>	11/10		actor.	0.0004	
Zero/Bkg	25	5.0					
	1.(		-				
Calibrato	A						
		GAS D					
		R&R M			AMU # :	169	01
14.	Cvlinder # :	CAL	.9745	SO <sub>2</sub> Concentration	ion PPM:	51.	
	- )	_		2			-
C	alibrator Flo		Calculated	Indicated	1	% Diffe	ranca
C	(sccm)	•••	Conc.	Concentration		VS	
Air	Gas	Total	(ppm)	(ppm)		Audit Gas	Limits
5086	0.0	5086	0.0000	0.0037			
5102	38.7	5141	0.3839	0.3970	)	2%	± 15%
5098	17.3	5115	0.1725	0.1816	i	3%	± 15%
5069	8.1	5077	0.0814	0.0879		3%	± 15%
			Absolute A	verage Percent D	Difference	3%	
Linear Regre	ssion Ana	lysis:					
			y=mx+b (w	here x=calculated c		n, y=indicated c	oncentration)
	Comala	tion Coeff.=	1 0000				
	Correla	m (Slope)=			.995 5-1.15		
h (Inter	cent as % of	f full scale)=			% F.S.		
5 (Intel		r run seure)–	0.0012		/01101		
Remarks:							

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		TRS	ANAL	YZER A	UDI	Γ	
					File No.	2013 -	290A
					1101101		
Date:	October	11, 2013	P	erformed by:		Al Clark	
Station							
Name:	Sunse	House	_	Location:	Sunset	House	
Facility/Zone:	Pa	aza		Operator:	Fo	cus	
,							
	Temp:	17.0 C		metric Press:	0911	nining	
Monitor		Τ	400	0	00007	40000	
Make/Model: Inlet flow (scc.	m).			Serial No:			
Last cal. Date:	,	Sep	43 11/13	Full Scale Rang Old Correction	Factor:	0.9901	
Lust built Duto.		<u> </u>				0.0001	
Zero/Bkg	1	5.8	_				
Span Coef	1.(	)15	_				
Calibrato	r						
Calibrat	ion Method:	GAS D					
N	lake/Model:	R&R M	1FC 201		AMU#:	169	91
	Cylinder # :	FF1	5602	H <sub>2</sub> S Concentra	tion PPM:	10.	0
C	alibrator Flo	W	Calculated	Indicate	ed	% Diffe	erence
	(sccm)		Conc.	Concentration		VS	
Air	Gas	Total	(ppm)	(ppm)		Audit Gas	Limits
5086	0.0	5086	0.0000	-0.000			
5102	38.7	5141	0.0753	0.077		3%	± 15%
5097	17.7	5115	0.0346	0.036		6%	± 15%
5068	8.9	5077	0.0175	0.017		3%	± 15%
			Absolute A	verage Percent	Difference	4%	
Linear Regre	ession Ana	iysis:	u muh (u)	are v coloulated	concontratio	n w indicated a	opportunition
			y=mx+D (wi	here x=calculated	MITS	n, y=indicated c	oncentration)
	Correla	tion Coeff.=	0.9999		0.995		
	2011010	m (Slope)=			85-1.15		
b (Inte	rcept as % of				3% F.S.		
Remarks:							

Albertan Freedom To Create. Spirit To Achieve.

		O <sub>3</sub> A	NALY	ZER A	UDIT		
					File No.	2013 -	291A
Date:	October 1	1, 2013	F	Performed by:		Al Clark	
Station Name:	Sunset	House		Location:	Sunset	House	
-					Fo		
Facility/Zone:		17.0 C	Baro		691 n		
Monitor	1					Ŭ.	
Make/Model: Inlet flow (sccm Last cal. Date: Zero/Bkg Span Coeff.	-	67 Sep 1	400A 74 12/13	Serial No: Full Scale Ra Old Correction	43 ange ppm: on Factor:	36 0.5 1.0085	
Span Coeff.	1.00	78					
Μ	on Method: _ ake/Model: _ cylinder # : _	Teco 4	49i PS	NO conce	AMU # : ntration ppm:	180180	
				T			
0	Ca	librator Flo	W	Calculated	Indicated	% Diffe	erence
Ozone Setting	Air	(sccm) Gas	Total	Conc. (ppm)	Conc. (ppm)	vs Audit Gas	Limits
0.000	0		0	0.0000	0.0004	Tuun Gus	Linits
0.400	0	>	0	0.4000	0.3867	-3%	± 15%
0.200	0	$\bowtie$	0	0.2000	0.1922	-4%	± 15%
0.100	0	>>	0	0.1000	0.0963	-4%	± 15%
Linear Regree	Correlat	ion Coeff.= m (Slope)=	<i>y=mx+b (w</i> <u>1.0000</u> 0.9659	-	nt Difference ed concentratio LIMITS ≥ 0.995 0.85-1.15 ± 3% F.S.	4% n, y=indicated c	oncentration)
Remarks:							

Albertan Freedom To Create, Spirit To Achieve,

	TEON	I AUDIT	
	0 1 1 11 0010	File #:	2013 - 292A
Date	e: October 11, 2013	Performed by:	Al Clark
Station			
Name:	Sunset House	Location:	Sunset House
Facility/Zone:	Paza	Operator:	Focus
Temperature:	21.5 C	Barometric Press.	692 mmhg
Audit Transfer Standard			
Make/Model:	DeltaCal	Cell s/n:	1002
Serial Number:	AMU 1858	_	
Sampler Set-up and Curren	t Readings	F-Main Set Pt (l/min)	3.00
Make/Model	R&P 1400a	F-Aux Set Pt (1/min)	13.67
Unit #	PM2.5	Filter Load (%)	22
Control unit s/n	140AB215519705	$K_0$ Factor	10124 / 9224
	140AB215519705		7.9
Transducer s/n	140/02 100 101 00	Temp (° <b>C)</b>	-
		Press (ATM)	0.912
		FAdj Main	N/A
		FAdj Aux	N/A
Pump Off		Pump On (Time to	reach set noints)
$\mathbf{E} \mathbf{M}_{a}$	0 15	( <b>45</b> 60 Sec)	
· · · · ·	0.15	(45-60 Sec) (45-60 Sec)	29
· /	0.15	(45-60 Sec) (45-60 Sec)	
· · · · ·			29
F-Aux (l/min) Temperature/Pressure			29
F-Aux (l/min) Temperature/Pressure Measured Temp (± 2 °C)	0.09	(45-60 Sec)	29 50
F-Aux (l/min) Temperature/Pressure Measured Temp (± 2 °C)	0.09	(45-60 Sec) Δ°C Δ% ATM	29 50 0.00 -0.11%
F-Aux (l/min) Temperature/Pressure Measured Temp (± 2 °C) Measured Press (± 1.5% ATM) Flow Audit	0.09	(45-60 Sec) Δ°C Δ% ATM Δ% of Measured Flow	29 50 0.00 -0.11% from Set-point
F-Aux (l/min) Temperature/Pressure Measured Temp (± 2 °C) Measured Press (± 1.5% ATM) Flow Audit Indicated Main/Aux Flow (l/min)	0.09 7.9 0.911	(45-60 Sec) Δ°C Δ% ATM	29 50 0.00 -0.11%
F-Aux (l/min) Temperature/Pressure Measured Temp (± 2 °C) Measured Press (± 1.5% ATM) Flow Audit Indicated Main/Aux Flow (l/min)	0.09 7.9 0.911 2.99 13.68	(45-60 Sec) 	29 50 0.00 -0.11% from Set-point -0.3% 0.1% 0.0%
F-Aux (l/min) Temperature/Pressure Measured Temp (± 2 °C) Measured Press (± 1.5% ATM) Flow Audit Indicated Main/Aux Flow (l/min) Total Flow = Main + Aux (l/min)	0.09 7.9 0.911 2.99 13.68	(45-60 Sec) Δ°C Δ% ATM Δ% of Measured Flow (± 2%) (± 2%) Δ of Measured Flow fr	29 50 0.00 -0.11% from Set-point -0.3% 0.1% 0.0%
F-Aux (l/min) Temperature/Pressure Measured Temp (± 2 °C) Measured Press (± 1.5% ATM) Flow Audit Indicated Main/Aux Flow (l/min) Total Flow = Main + Aux (l/min) Measured Total Flow (l/min)	0.09           7.9           0.911           2.99         13.68           16.67	(45-60 Sec) Δ°C Δ% ATM Δ% of Measured Flow (± 2%) (± 2%)	29 50 0.00 -0.11% from Set-point -0.3% 0.1% 0.0% om Indicated
F-Aux (l/min) Temperature/Pressure Measured Temp (± 2 °C) Measured Press (± 1.5% ATM) Flow Audit Indicated Main/Aux Flow (l/min) Total Flow = Main + Aux (l/min) Measured Total Flow (l/min)	0.09 7.9 0.911 2.99 13.68 16.67 17.25	(45-60 Sec) Δ°C Δ% ATM Δ% of Measured Flow (± 2%) (± 2%) Δ of Measured Flow fr (± 1.00 l/min)	29 50 0.00 -0.11% from Set-point -0.3% 0.1% 0.0% om Indicated 0.58 0.39
F-Aux (l/min) Temperature/Pressure Measured Temp (± 2 °C) Measured Press (± 1.5% ATM) Flow Audit Indicated Main/Aux Flow (l/min) Total Flow = Main + Aux (l/min) Measured Total Flow (l/min) Measured Main Flow (l/min) Leak Check	0.09 7.9 0.911 2.99 13.68 16.67 17.25	(45-60 Sec) Δ°C Δ% ATM Δ% of Measured Flow (± 2%) (± 2%) Δ of Measured Flow fr (± 1.00 l/min) (± 0.20 l/min.)	29 50 0.00 -0.11% from Set-point -0.3% 0.1% 0.0% om Indicated 0.58 0.39 ump On – Pump Off
F-Aux (l/min) Temperature/Pressure Measured Temp (± 2 °C) Measured Press (± 1.5% ATM) Flow Audit Indicated Main/Aux Flow (l/min) Total Flow = Main + Aux (l/min) Measured Total Flow (l/min) Measured Main Flow (l/min) Leak Check Main (< 0.15 l/min)	0.09 7.9 0.911 2.99 13.68 16.67 17.25 3.38	(45-60 Sec) Δ°C Δ% ATM Δ% of Measured Flow (± 2%) (± 2%) Δ of Measured Flow fr (± 1.00 l/min) (± 0.20 l/min.) Actual leakage = Pt	29 50 0.00 -0.11% from Set-point -0.3% 0.1% 0.0% com Indicated 0.58 0.39 ump On – Pump Off
F-Aux (l/min) Temperature/Pressure Measured Temp (± 2 °C) Measured Press (± 1.5% ATM) Flow Audit Indicated Main/Aux Flow (l/min) Total Flow = Main + Aux (l/min) Measured Total Flow (l/min) Measured Main Flow (l/min) Leak Check Main (< 0.15 l/min) Aux (< 0.65 l/min)	0.09 7.9 0.911 2.99 13.68 16.67 17.25 3.38 0.16	$(45-60 \text{ Sec}) \_$ $\Delta^{\circ}C \_$ $\Delta\% \text{ ATM } \_$ $\Delta\% \text{ of Measured Flow}$ $(\pm 2\%) \_$ $(\pm 2\%) \_$ $\Delta \text{ of Measured Flow fr}$ $(\pm 1.00 \text{ l/min}) \_$ $(\pm 0.20 \text{ l/min.}) \_$ Actual leakage = Pu 0.01	29 50 0.00 -0.11% from Set-point -0.3% 0.1% 0.0% com Indicated 0.58 0.39 ump On – Pump Off
F-Aux (l/min) Temperature/Pressure Measured Temp (± 2 °C) Measured Press (± 1.5% ATM) Flow Audit Indicated Main/Aux Flow (l/min) Total Flow = Main + Aux (l/min) Measured Total Flow (l/min) Measured Main Flow (l/min) Leak Check Main (< 0.15 l/min) Aux (< 0.65 l/min) K <sub>0</sub> Factor	0.09 7.9 0.911 2.99 13.68 16.67 17.25 3.38 0.16	$(45-60 \text{ Sec}) \_$ $\Delta^{\circ}C \_$ $\Delta\% \text{ ATM } \_$ $\Delta\% \text{ of Measured Flow}$ $(\pm 2\%) \_$ $(\pm 2\%) \_$ $\Delta \text{ of Measured Flow fr}$ $(\pm 1.00 \text{ l/min}) \_$ $(\pm 0.20 \text{ l/min.}) \_$ Actual leakage = Pu 0.01	29 50 0.00 -0.11% from Set-point -0.3% 0.1% 0.0% com Indicated 0.58 0.39 ump On – Pump Off
F-Aux (l/min) Temperature/Pressure Measured Temp (± 2 °C) Measured Press (± 1.5% ATM) Flow Audit Indicated Main/Aux Flow (l/min) Total Flow = Main + Aux (l/min) Measured Total Flow (l/min) Measured Main Flow (l/min) Measured Main Flow (l/min) Leak Check Main (< 0.15 l/min) Aux (< 0.65 l/min) K <sub>0</sub> Factor Measured	0.09           7.9           0.911           2.99         13.68           16.67           17.25           3.38           0.16           0.14           9224	$(45-60 \text{ Sec}) \_$ $\Delta^{\circ}C \_$ $\Delta\% \text{ ATM } \_$ $\Delta\% \text{ of Measured Flow}$ $(\pm 2\%) \_$ $(\pm 2\%) \_$ $\Delta \text{ of Measured Flow fr}$ $(\pm 1.00 \text{ l/min}) \_$ $(\pm 0.20 \text{ l/min.}) \_$ Actual leakage = Pu 0.01	29 50 0.00 -0.11% from Set-point -0.3% 0.1% 0.0% com Indicated 0.58 0.39 ump On – Pump Off
Measured Temp (± 2 °C) Measured Press (± 1.5% ATM) Flow Audit Indicated Main/Aux Flow (l/min) Total Flow = Main + Aux (l/min) Measured Total Flow (l/min) Measured Main Flow (l/min)	0.09           7.9           0.911           2.99         13.68           16.67           17.25           3.38           0.16           0.14	$(45-60 \text{ Sec}) \_$ $\Delta^{\circ}C \_$ $\Delta\% \text{ ATM } \_$ $\Delta\% \text{ of Measured Flow}$ $(\pm 2\%) \_$ $(\pm 2\%) \_$ $\Delta \text{ of Measured Flow fr}$ $(\pm 1.00 \text{ l/min}) \_$ $(\pm 0.20 \text{ l/min.}) \_$ Actual leakage = Pu 0.01	29 50 0.00 -0.11% from Set-point -0.3% 0.1% 0.0% com Indicated 0.58 0.39 ump On – Pump Off
F-Aux (l/min) Temperature/Pressure Measured Temp ( $\pm$ 2 °C) Measured Press ( $\pm$ 1.5% ATM) Flow Audit Indicated Main/Aux Flow (l/min) Total Flow = Main + Aux (l/min) Measured Total Flow (l/min) Measured Main Flow (l/min) Measured Main Flow (l/min) Leak Check Main (< 0.15 l/min) Aux (< 0.65 l/min) K <sub>0</sub> Factor Measured K <sub>0</sub> % Difference ( $\pm$ 2.5%)	0.09           7.9           0.911           2.99         13.68           16.67           17.25           3.38           0.16           0.14           9224           4.79	$(45-60 \text{ Sec}) \_$ $\Delta^{\circ}C \_$ $\Delta\% \text{ ATM} \_$ $\Delta\% \text{ of Measured Flow}$ $(\pm 2\%) \_$ $(\pm 2\%) \_$ $\Delta \text{ of Measured Flow fr}$ $(\pm 1.00 \text{ l/min}) \_$ $(\pm 0.20 \text{ l/min.}) \_$ Actual leakage = Pu 0.01 0.05	29 50 0.00 -0.11% from Set-point -0.3% 0.1% 0.0% com Indicated 0.58 0.39 ump On – Pump Off
F-Aux (l/min) Temperature/Pressure Measured Temp (± 2 °C) Measured Press (± 1.5% ATM) Flow Audit Indicated Main/Aux Flow (l/min) Total Flow = Main + Aux (l/min) Measured Total Flow (l/min) Measured Main Flow (l/min) Measured Main Flow (l/min) Leak Check Main (< 0.15 l/min) Aux (< 0.65 l/min) K <sub>0</sub> Factor Measured	0.09           7.9           0.911           2.99         13.68           16.67           17.25           3.38           0.16           0.14           9224           4.79           10124 on transducer.	$(45-60 \text{ Sec}) \_$ $\Delta^{\circ}\text{C} \_$ $\Delta^{\%} \text{ ATM} \_$ $\Delta^{\%} \text{ of Measured Flow}$ $(\pm 2\%) \_$ $(\pm 2\%) \_$ $\Delta \text{ of Measured Flow fr}$ $(\pm 1.00 \text{ l/min}) \_$ $(\pm 0.20 \text{ l/min.}) \_$ $Actual \text{ leakage = Pu}$ $0.01$ $0.05$ 9224 is value in control unit	29 50 0.00 -0.11% from Set-point -0.3% 0.1% 0.0% com Indicated 0.58 0.39 Jump On – Pump Off
F-Aux (l/min)Temperature/PressureMeasured Temp ( $\pm$ 2 °C)Measured Press ( $\pm$ 1.5% ATM)Flow AuditIndicated Main/Aux Flow (l/min)Total Flow = Main + Aux (l/min)Measured Total Flow (l/min)Measured Main Flow (l/min)Measured Main Flow (l/min)Aux (< 0.15 l/min)	0.09           7.9           0.911           2.99         13.68           16.67           17.25           3.38           0.16           0.14           9224           4.79           10124 on transducer.	$(45-60 \text{ Sec}) \_$ $\Delta^{\circ}\text{C} \_$ $\Delta^{\%} \text{ ATM} \_$ $\Delta^{\%} \text{ of Measured Flow}$ $(\pm 2\%) \_$ $(\pm 2\%) \_$ $\Delta \text{ of Measured Flow fr}$ $(\pm 1.00 \text{ l/min}) \_$ $(\pm 0.20 \text{ l/min.}) \_$ $Actual \text{ leakage = Pu}$ $0.01$ $0.05$ $9224 \text{ is value in control unit}$ $Tripped power bar. Let urity$	29 50 0.00 -0.11% from Set-point -0.3% 0.1% 0.0% com Indicated 0.58 0.39 Jump On – Pump Off

Albertan te, Spirit To Achieve,

Company:	_	Paza		F	acility	V Name:	Sur	nset House	
Approval N	o.: _	N/A		S	ite Na	ame:	Sur	iset House	
AENV Regi		Northern		А	ENV	District:	Gra	nde Prairie	
TRS	X	SO <sub>2</sub>	Х	NO <sub>X</sub>	Х	NH <sub>3</sub>		O <sub>3</sub>	X
CO		CH <sub>4</sub>		NonCH4		THC		Ethylene	
PM <sub>2.5</sub>	Х	PM <sub>10</sub>		TSP		BTEX		Wind Speed	X
Wind Dir	Х	Amb. Temp	Х	Stn.Temp	Х	RH	Х	Solar Radiation	
Rainfall		Precip		VWS		Other			
	eters	monitored as	ber a		s	No	]	N/A	
GENER	]	Has the location r is site secure?		-		-	lit?	YES NO	N/A X
	1	Are station operation	ung co	Silutions ade	quate			Λ	
DATA ACQU	1	TON Are strip charts ir is a telemetry sys		or data acquis	ition i	n use?		X X	
SYSTEM CO		DNENTS is a glass samplin is sampling manif is a manifold trap Are spare manifol is manifold orient Are manifold pump Do sample lines e Are monitor samp Are sampling line Are monitors prop Are monitors prop Are zero and spar	fold cl in pla ld por ted so ts situ prop extend bling l es clea perly p	ean? ace? ts capped it is not exac ated to preven erly installed at least 3/4"i ines connecte n? mounted and exhausted fro	tly ho nt wat and op nto m ed to n secure m roo	er entering mo perative? anifold? nanifold?		X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X         X       X	
	DME	י <i>אוד</i> י							
WIND EQUI				amonto d?				V	
		s wind sensor pro					0	X	
		Does wind equip			unctio			X	
	]	Date of last calibi	ation.			Date: U	Jnknow	/n	
COMMENTS	5: _								
	_								
AUDITOR:	-	Al C	lark			DA	TE:	October 11,	2013
				Albe	nto	<b>ر</b> ا ۳			

	ST	ATION AUI	TIC	
			File No. 2013 - 286	6A / 288A
Date: Octobe	er 10, 2013	Performed by:	Al Clark	
Station Name: Smoke Facility/Zone: F	ey Heights		Smokey Heights Focus	
	p: 19.5 C		698 mmhg	
Location Status of Site I	Longitude W Elevation	55° 24" 10.4" 118° 16" 53.0" 645 m On site - electronic ve	ersion OK	
Manifold Materi Manifold Conditio	al <u>Glass</u> n <u>Good</u>	;		
Meteorological Wind Speed Direction	Observe on 27 kph / 25		Audit Value 20-25 kph / WSW	
Station Temperatu	re 21.6 C	<u> </u>	21.5 C	
Relative Humidi	tyN/A		N/A	
Ambient Temperatu	re 10.0 C	<u> </u>	10.1 C	
Solar Radiatio	n N/A		N/A	
Precipitatio	n N/A		N/A	
Remarks:				



		SO <sub>2</sub>	ANAL	YZER A	UDIT	-	
					File No.	2013 -	286A
Date:	October	10, 2013	I	Performed by:		Al Clark	
Station Name:	Smokey	Heights		Location:	Smokey	Heights	
			Operator: Foc			•	
Facility/Zone:			-				
	Temp:	19.5 C	Baro	ometric Press:	698 n	nmhg	
Monitor							
Make/Model:			o 43i		07011		
Inlet flow (scci	m):		42	Full Scale Rang		0.5	
Last cal. Date:		Sep	30/13	Old Correction	Factor:	1.0252	
Zero/Bkg		.2	-				
Span Coef	0.9	52	-				
	Cylinder # :		.9745	SO <sub>2</sub> Concentra		51.	-
C	alibrator Flo	W	Calculated	Indicated		% Diffe	erence
Air	(sccm) Gas	Total	Conc. (ppm)	Concentr		vs Audit Gas	Limits
5076	0.0	5076	0.0000	(ppm 0.000		Audit Gas	Lillins
5100	38.5	5138	0.3822	0.381		0%	± 15%
5134	17.5	5151	0.1733	0.174		0%	± 15%
5107	8.2	5115	0.0818	0.083		2%	± 15%
Linear Regre	ession Anal	ysis:		Average Percent		•	oncentration
	Correla	tion Coeff.=	1.0000		0.995		
	2011010	m (Slope)=			85-1.15		
b (Inte	ercept as % of	· • • ·		±	3% F.S.		
Remarks:							



		TRS	ANAL	YZER A	UDI	Г	
					File No.	2013 -	287A
	O stab an	10,0010	-				
	October	10, 2013	- I	Performed by:		AI Clark	
Station	<b>.</b>			<b>•</b>	<u> </u>		
Name:		Heights	-	Location:			
Facility/Zone:	Pa	aza	-	Operator:	Fo	cus	
	Temp: 19.5 C		Baro	ometric Press:	698 r	nmhg	
Monitor							
Make/Model:		Tecc	o 43C	Serial No:		10004	
Inlet flow (scci	n):	6	27	Full Scale Rang		0.1	
Last cal. Date:		Sep	30/13	Old Correction	Factor:	1.0114	
Zero/Pla	15	7.2					
Span Coef	17	952	-				
		552	-				
Ν	ion Method: Iake/Model: Cylinder # :	GAS D R&R M FF1	ILUTION IFC 201 5602	H <sub>2</sub> S Concentra	AMU # : ation PPM:		
	111 . 171		<u><u><u></u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>	<b>x</b> 1 .	1	0/ D:00	]
	alibrator Flo (sccm)	W	Calculated Conc.		Indicated Concentration		erence
Air	Gas	Total	(ppm)	(ppm		vs Audit Gas	Limits
5076	0.0	5076	0.0000	11/	,		
5100	38.5	5138	0.0749	0.077		2%	± 15%
5133	17.8	5151	0.0346	0.035	54	1%	± 15%
5106	9.0	5115	0.0176	0.018	34	2%	± 15%
			Absolute	Average Percent	Difference	2%	
Linear Regre	ssion Ana	lysis:	y=mx+b (w	/here x=calculated	concentratio	n, y=indicated c	oncentration)
	Correla	ation Coeff.=			0.995		
			1.0233		85-1.15		
b (Inte	rcept as % o	f full scale)=	0.3136	_ ±	3% F.S.		
Remarks:							



	TEOM	1 AUDIT	
Date	: October 10, 2013	File #: Performed by:	2013 - 288A Al Clark
Station			
Name:	Smokey Heights	Location:	Smokey Heights
Facility/Zone:	Paza	Operator:	Focus
Temperature:	19.5 C	Barometric Press.	698 mmhg
Audit Transfer Standard			
Make/Model:	Delta Cal	Cell s/n:	1002
Serial Number:	AMU 1858	-	
Sampler Set-up and Current	t Readings	F-Main Set Pt (l/min)	3.00
Make/Model	R&P 1400a	F-Aux Set Pt (1/min)	13.67
Unit #	PM2.5	Filter Load (%)	22
Control unit s/n	140AB246340305	K <sub>o</sub> Factor	12122
Transducer s/n	140AB246340305	Temp (° <b>C)</b>	12.2
		Press (ATM)	0.918
		FAdj Main	N/A
		FAdj Aux	N/A
Conversion from mm Hg or		-	
Zero Flow Pump Off		Pump On (Time to	reach set points)
F-Main (l/min)	0.01	(45-60 Sec)	29
F-Aux (l/min)	-0.09	(45-60 Sec)	54
Temperature/Pressure			
Measured Temp ( $\pm 2 ^{\circ}$ C)	12.8	Δ°C	0.60
Measured Press (± 1.5% ATM)	0.919	<b>Δ% ATM</b>	0.11%
Flow Audit		<b>Δ% of Measured Flow</b>	from Set-point
Indicated Main/Aux Flow (l/min)	3.00 13.69	(± 2%)	
		· · · ·	0.0% 0.1%
Total Flow = Main + Aux (l/min)	16.69	(± 2%)_ (± 2%)_	0.0% 0.1% 0.1%
		(± 2%) ∆ of Measured Flow fr	0.1%
Measured Total Flow (l/min)	17.31	(± 2%) Δ of Measured Flow fr (± 1.00 l/min)	0.1% rom Indicated 0.62
Measured Total Flow (l/min) Measured Main Flow (l/min)		(± 2%) Δ of Measured Flow fr (± 1.00 l/min)_ (± 0.20 l/min.)_	0.1% rom Indicated 0.62 0.10
Measured Total Flow (l/min) Measured Main Flow (l/min) Leak Check	<u>17.31</u> <u>3.10</u>	(± 2%) Δ of Measured Flow fr (± 1.00 l/min) (± 0.20 l/min.) Actual leakage = P	0.1% rom Indicated 0.62 0.10 ump On – Pump Off
Measured Total Flow (l/min) Measured Main Flow (l/min) Leak Check Main (< 0.15 l/min)	17.31 3.10 0.02	(± 2%) Δ of Measured Flow fr (± 1.00 l/min) (± 0.20 l/min.) Actual leakage = P 0.0	0.1% rom Indicated 0.62 0.10 ump On – Pump Off 1
Measured Total Flow (l/min) Measured Main Flow (l/min) Leak Check Main (< 0.15 l/min) Aux (< 0.65 l/min)	<u>17.31</u> <u>3.10</u>	(± 2%) Δ of Measured Flow fr (± 1.00 l/min) (± 0.20 l/min.) Actual leakage = P	0.1% rom Indicated 0.62 0.10 ump On – Pump Off 1
Measured Total Flow (l/min) Measured Main Flow (l/min) Leak Check Main (< 0.15 l/min) Aux (< 0.65 l/min) K <sub>o</sub> Factor	17.31 3.10 0.02 -0.02	(± 2%) Δ of Measured Flow fr (± 1.00 l/min) (± 0.20 l/min.) Actual leakage = P 0.0	0.1% rom Indicated 0.62 0.10 ump On – Pump Off 1
Measured Total Flow (l/min) Measured Main Flow (l/min) Leak Check Main (< 0.15 l/min) Aux (< 0.65 l/min) Ko Factor Measured	17.31 3.10 0.02 -0.02 12303	(± 2%) Δ of Measured Flow fr (± 1.00 l/min) (± 0.20 l/min.) Actual leakage = P 0.0	0.1% rom Indicated 0.62 0.10 ump On – Pump Off 1
Total Flow = Main + Aux (l/min) Measured Total Flow (l/min) Measured Main Flow (l/min) Leak Check Main (< 0.15 l/min) Aux (< 0.65 l/min) $K_0$ Factor Measured $K_0$ % Difference (± 2.5%)	17.31 3.10 0.02 -0.02	(± 2%) Δ of Measured Flow fr (± 1.00 l/min) (± 0.20 l/min.) Actual leakage = P 0.0	0.1% rom Indicated 0.62 0.10 ump On – Pump Off 1
Measured Total Flow (l/min) Measured Main Flow (l/min) Leak Check Main (< 0.15 l/min) Aux (< 0.65 l/min) K <sub>0</sub> Factor Measured	17.31 3.10 0.02 -0.02 12303	(± 2%) Δ of Measured Flow fr (± 1.00 l/min) (± 0.20 l/min.) Actual leakage = P 0.0	0.1% rom Indicated 0.62 0.10 ump On – Pump Off 1
Measured Total Flow (l/min) Measured Main Flow (l/min) Leak Check Main (< 0.15 l/min) Aux (< 0.65 l/min) $K_0$ Factor Measured $K_0$ % Difference (± 2.5%)	17.31         3.10         0.02         -0.02         12303         1.49	(± 2%) Δ of Measured Flow fr (± 1.00 l/min) (± 0.20 l/min.) Actual leakage = P 0.0	0.1% rom Indicated 0.62 0.10 ump On – Pump Off 1
Measured Total Flow (l/min) Measured Main Flow (l/min) Leak Check Main (< 0.15 l/min) Aux (< 0.65 l/min) $K_0$ Factor Measured $K_0$ % Difference (± 2.5%)	17.31         3.10         0.02         -0.02         12303         1.49	(± 2%) Δ of Measured Flow fr (± 1.00 l/min) (± 0.20 l/min.) Actual leakage = P 0.0	0.1% rom Indicated 0.62 0.10 ump On – Pump Off 1

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Company:	_	Paza Facility Name: Smo						key Heights
Approval N	o.: _	N/A		S	ite Na	ame:	Smo	key Heights
AENV Reg	_	Northern		А	ENV	District:	Gra	nde Prairie
Parameters TRS	audi X	SO <sub>2</sub>	Х	NO		NH		
CO	Λ	CH <sub>4</sub>	Λ	NO <sub>X</sub> NonCH4		NH <sub>3</sub> THC		O <sub>3</sub> Ethylene
PM <sub>2.5</sub>	Х	PM <sub>10</sub>		TSP		BTEX		Wind Speed X
Wind Dir	X	Amb. Temp	Х	Stn.Temp	X	RH		Solar Radiation
Rainfall	Λ	Precip	Λ	VWS	Λ	Other		Solar Radiation
	eters	monitored as j	oer ar		s	No	ו	N/A
7 III purume	00015	monitored us		<u>provan re</u>	0		1	
GENER	]	Has the location r is site secure? Are station operat					it?	YES   NO   N/A     X
DATA ACQU	JISIT	ION						
2		Are strip charts ir	use?					X
		s a telemetry sys		or data acquis	ition i	n use?		X
SYSTEM CO	MPC 1 1 1 1 1 1 1 1 1 1 1 1 1		g mar fold cl in pla ld por ted so ts situ prope extend bling l es clea perly p	hifold installe lean? ace? ts capped it is not exact ated to prevent erly installed at least 3/4"in ines connected n? mounted and exhausted fro	d? tly ho nt wat and oj into m ed to n secure om roo	rizontal? er entering mo perative? anifold? nanifold?		X
WIND EQUI	PME	INT						
COMMENTS	]	is wind sensor pro Does wind equip Date of last calib	nent a	ppear to be f	unctio	ning properly Date: <u></u>		
AUDITOR:	-	Al C	lark		<u>1</u> 11	DA ertan	TE:	October 10, 2013

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		ATION AU	DH	
			File No. 2013 - 278/	A / 283A
Date:	October 9, 2013	Performed by:	Al Clark	
	Henry Pirker Paza	Operator:	Grande Prairie Focus	
<b>Location</b> Status	Longitude W Elevation	55° 10' 35.6" 118° 48' 27.8"	965 mmhg	
	d Material Glas Condition Goc			
Meteorolog Wind Speed	<b>jical</b> Obser Direction <u>8 kph / 1</u>		Audit Value 5-10 kph / S	
Station Te	emperature 24.5	С	23.6 C	
Relative	Humidity 53.7	%	49.9%	
Ambient Te	emperature 8.4	с	8.8 C	
Solar	Radiation 55 m	w2	cloudy @ 1243MST	
Pre	ecipitation N/A	A	N/A	
Remarks:				



					File No.	2013 -	278A
Date:	October	9, 2013	F	Performed by:		Al Clark	
Station Name:	Henry	Pirker		Location:	Grande	Grande Prairie	
			-				
Facility/Zone:		24.0 C					
	remp.	24.00	Darc		007 1	lining	
Monitor Make/Model:		Teco	48 CTI	Serial No:	05080	11062	
nlet flow (scc	m):			Full Scale Range		50.0	
Last cal. Date:	· ·			Old Correction F		1.0363	
Zaro/Dira	0.1	551					
Span Coeff.	-0.8 1.0	05	_				
(	Calibrator Flo	W	Calculated	Indicated	1	% Diffe	rence
,	(sccm)	vv	Conc.	Concentrat		VS	Actice
Air	Gas	Total	(ppm)	(ppm)		Audit Gas	Limits
4957	0.0	4957	0.00	-0.14			
4955	80.4	5035	40.26	39.63		-1%	± 15%
4984 4976	40.2 20.0	5024 4996	20.17	19.66 9.81		-2% -1%	± 15%
4970	20.0	4990		Average Percent I	Difference		± 15%
inear Regr	ession Ana	lysis:		where x=calculated c			oncentration
	Correla		= <u>1.0000</u> = <u>0.9877</u>	LIN ≥ 0 	IITS .995 5-1.15 % F.S.	,,	
b (Inte	-						

Albertan te, Spirit To Achieve,

		<b>JU</b> <sub>2</sub>		YZER A			
					File No.	2013 -	279A
Date:	October	9, 2013	I	Performed by:		Al Clark	
Station Name:	Henry	Pirker		Location:	Grande	Prairie	
			-				
Facility/Zone:			_	Operator:	Fo	cus	
	Temp.	21.5 C	Baro	ometric Press.	695 n	nmhg	
Monitor		_					
Make/Model:			o 43C 91	Serial No: Full Scale Rang	06108		
Inlet flow (scci Last cal. Date:	,		91 12/13	Old Correction 1		0.5	
Lust cur. Dute.		00p	,			1.0200	
Zero/Bkg			_				
Span Coef	0.7	780	_				
	tion Method: Make/Model:			-	AMU # :	169	91
	Cylinder # :	CAL	.9745	SO <sub>2</sub> Concentra	tion PPM:	51.	
0	Calibrator Flo		Calandatad	Indicate	4	0/ D:ff	
C	(sccm)	W	Calculated Conc.	Concentra		% Diffe	erence
	Gas	Total	(ppm)	(ppm)		Audit Gas	Limits
Air	0.0	5111	0.0000	11			
Air 5111	0.0	-			0		
5111 5117	38.5	5155	0.3809		0	-1%	± 15%
5111 5117 5125	38.5 17.3	5155 5142	0.1716	0.171	0 3	0%	± 15%
5111 5117	38.5	5155	0.1716 0.0812	0.171	0 3 9	0% 0%	
5111 5117 5125	38.5 17.3 8.1	5155 5142 5088	0.1716 0.0812 Absolute	0.1713 0.0809 Average Percent	0 3 9 Difference	0% 0% 1%	± 15% ± 15%
5111 5117 5125 5080	38.5 17.3 8.1	5155 5142 5088	0.1716 0.0812 Absolute	0.171: 0.080 Average Percent where x=calculated	0 3 9 Difference	0% 0% 1%	± 15% ± 15%
5111 5117 5125 5080	38.5 17.3 8.1	5155 5142 5088 <b>Iysis:</b>	0.1716 0.0812 Absolute <i>y=mx+b</i> (v 1.0000	0.171: 0.0809 Average Percent where x=calculated LII ≥ 0	0 3 9 Difference concentratio MITS 0.995	0% 0% 1%	± 15% ± 15%
5111 5117 5125 5080 Linear Regre	38.5 17.3 8.1 ession Ana Correla	5155 5142 5088 lysis: tion Coeff.= m (Slope)=	0.1716 0.0812 Absolute <i>y=mx+b</i> (v 1.0000 0.9895	0.171: 0.0809 Average Percent where x=calculated LII ≥ 0	0 3 9 Difference concentratio MITS 0.995 35-1.15	0% 0% 1%	± 15% ± 15%
5111 5117 5125 5080 Linear Regre	38.5 17.3 8.1	5155 5142 5088 lysis: tion Coeff.= m (Slope)=	0.1716 0.0812 Absolute <i>y=mx+b</i> (v 1.0000 0.9895	0.171: 0.0809 Average Percent where x=calculated LII ≥ 0	0 3 9 Difference concentratio MITS 0.995	0% 0% 1%	± 15% ± 15%
5111 5117 5125 5080 Linear Regre	38.5 17.3 8.1 ession Ana Correla	5155 5142 5088 lysis: tion Coeff.= m (Slope)=	0.1716 0.0812 Absolute <i>y=mx+b</i> (v 1.0000 0.9895	0.171: 0.0809 Average Percent where x=calculated LII ≥ 0	0 3 9 Difference concentratio MITS 0.995 35-1.15	0% 0% 1%	± 15% ± 15%
5111 5117 5125 5080 Linear Regre	38.5 17.3 8.1 ession Ana Correla	5155 5142 5088 lysis: tion Coeff.= m (Slope)=	0.1716 0.0812 Absolute <i>y=mx+b</i> (v 1.0000 0.9895	0.171: 0.0809 Average Percent where x=calculated LII ≥ 0	0 3 9 Difference concentratio MITS 0.995 35-1.15	0% 0% 1%	± 15% ± 15%
5111 5117 5125 5080 Linear Regre	38.5 17.3 8.1 ession Ana Correla	5155 5142 5088 lysis: tion Coeff.= m (Slope)=	0.1716 0.0812 Absolute <i>y=mx+b</i> (v 1.0000 0.9895	0.171: 0.0809 Average Percent where x=calculated LII ≥ 0	0 3 9 Difference concentratio MITS 0.995 35-1.15	0% 0% 1%	± 15% ± 15%



		TRS	ANAL	YZER A		Γ	
					File No.	2013 -	280A
Data	October	0 2012	г	Performed by:			
	October	9, 2013	- F	enonned by:		AI CIAIK	
Station Name:	Henry	Dirkor		Location:	Grande	Prairio	
			-				
Facility/Zone:	Pa	aza	-	Operator:	Fo	cus	
	Temp.	21.5 C	Baro	ometric Press.	695 r	nmhg	
Monitor							
Make/Model:		Tecc		Serial No:			
Inlet flow (scc	,	4	52	Full Scale Rang			
Last cal. Date:		Sep	10/13	Old Correction	Factor:	1.0111	
Zero/Bkg	11	1.4					
Span Coef		128	-				
Calibrato			-				
	tion Method:			-	AMIT#.	160	24
1	Make/Model: Cylinder # :	FF1	5602	H <sub>2</sub> S Concentr	ration PPM	169	
	Cymaer ".		0002	- 1125 Concentr	ution 11 101.		.0
	Calibrator Flo	w.	Calculated	Indicat	ed	% Diffe	erence
	(sccm)	, vv	Conc.	Concentr		VS	erence
Air	Gas	Total	(ppm)	(ppm		Audit Gas	Limits
5111	0.0	5111	0.0000	0.000	)1		
5117	38.5	5155	0.0747	0.077		3%	± 15%
5124	17.8	5142	0.0346	0.036		6%	± 15%
5079	9.0	5088	0.0177	0.018		6%	± 15%
Lincor Board	acion Ano	huaia.	Absolute	Average Percent	t Difference	5%	
Linear Regre	ession Ana	iysis:	v-mx+b /u	here x=calculated	l concentratio	n v-indicated c	concentration)
			<i>y=11</i> ×+0 (1		IMITS	n, y=naicateu c	oncentrationy
	Correla	tion Coeff.=		≥	0.995		
		m (Slope)=	1.0294	0.	.85-1.15		
b (Inte	ercept as % o	f full scale)=	0.5453	±	3% F.S.		
Remarks:							



		Ν	on M	letha	ne	Ana	lyzer	<sup>-</sup> Au	dit		
										2013 - 281/	A
		Date:	Octobe	r 9, 2013			Perfo	ormed by:		Al Clark	
<b>Station</b> Facilit	y/Zone:	Name:	H. Pirker Paza	Location:	Grande Temp.		Operator: 5.0 C			ocus mmhg	
Monito	.:	Inlet fl	ake/Model: ow (sccm): t cal. Date:	N/.	A 0/13	ection Fa	ctor:	CH <sub>4</sub> R on CH <sub>4</sub> R	ange ppm ange ppm ange ppm 0.9	: 20 : 20	
Calibra Calibra	tion Meth tor:		ake/Model	Gas Dil Sa	ution abio 2010	)	-	AMU#		1778	
HC	cylinder #	FF2		CH <sub>4</sub> cor Propane cor	nc. (ppm) nc. (ppm)		C	- <b>-</b>	. 1	only) (ppm) quiv. (ppm)	
	Calibrator	r		Calc. Conc.			ited Concer		% Diffe	erence vs Au	ıdit Gas
Air	Flows Gas	Total	CH <sub>4</sub> (ppm)	Non CH <sub>4</sub> (ppm)	THC (ppm)	CH <sub>4</sub> (ppm)	Non CH <sub>4</sub> (ppm)	THC (ppm)	CH <sub>4</sub>	Limit $\pm$ 15% Non CH <sub>4</sub>	THC
3442	0.0	3442	0.00	0.00	0.00	0.09	0.02	0.10			
3456	59.5	3515	8.46	9.31	17.77	8.19	9.13	17.31	-4%	-2%	-3%
3478	29.9	3508	4.26	4.69	8.95	4.18	4.68	8.84	-4%	-1%	-2%
3492	15.0	3507	2.14	2.35	4.49	2.14	2.29	4.43	-4%	-4%	-4%
Linear I	Regressi	on Analy	sis:			C	e Percent D ere x=calcula			2% indicated cond	3% centration)
b (In		on Coeff.= n (Slope)= % of FS)=		CH <sub>4</sub> 1.0000 0.9571 0.4680		Non CH 0.9999 0.9806 0.1085	4 - -	THC 1.0000 0.9691 0.2683		LIMITS ≥ 0.995 0.85-1.15 ± 3% F.S.	
Remark	- -	carrier is	currently		l. Possil	oly a nitr				34% low. A scrubbing n	

Albertan te, Spirit To Achieve,

								File No.	2013	- 282A
		Date:	October 9	9, 2013	-		Performed	by:	AI (	Clark
Station:		Name:	Henry Pirker	Location:					Focus	
Facility	Zone:		Paza		Temp.	21	.5 C	BP:	699	mmhg
Monitor:			Make/Model:	Teco	-	-	Serial No.	-	5080110	73
			t flow (sccm):			-	lange ppm:		0.5	1 000-
		I	Last cal. Date:	Sep 1	2/13	Old Corr	ection Fact	or:		: 1.0027
		NO Bkg	14.4	1						: <u>1.0048</u> : 0.9919
		NOx Bkg			-				NO2	. 0.3313
		NO Coef	1.09	6	-					
		NOx Coef		-	-					
		NO2 Coef	1.00	0						
Calibrati	on Met	hod:		Gas Di	lution / G	PT				
Calibrato	or:		Make/Model:	Sa	abio 2010	C		AMU#	17	749
	NO	cylinder #	CAL78	849	NO c	onc. ppm	50.2	NOx	conc. ppn	n <u>50.2</u>
					·					20
(	Calibrato Flows		Calc. C NO	onc. NOx	Ir NC		Concentration NOx	on		ference dit Gas
Air	Gas	Total	(ppm)	(ppm)		, om)	(ppi	n)	NO	NOx
4943	0.0	4943	0.0000	0.0000		0001	0.00		Limit	± 15%
4925	39.4	4964	0.3984	0.3984	0.4	087	0.41	73	3%	5%
4936	19.6	4956	0.1985	0.1985	0.2	058	0.21		4%	7%
4938	9.4	4947	0.0954	0.0954		948	0.09		-1%	3%
					Absolut	te Averag	e Percent L	ofference	2%	5%
Linear R	earess	ion Analy	sis:	v=mx	+b (where	e x=calcula	ated concent	ration. v=ine	dicated co	ncentration
	0			NÓ	,	NOx		NO <sub>2</sub>		LIMITS
		Corre	ation Coeff.=	0.9999	-	0.9999		1.0000		≥ 0.995
			m (Slope)=	1.0293	-	1.0485		0.9921		0.85-1.
	b (Inte	rcept as %	of full scale)=	-0.1714	-	0.1373		0.1329		± 3% F
		O <sub>3</sub>	Flow	Indicated	Conc. (p		NO	NO <sub>2</sub>	% Dif	ference
		Setting	Rate	NO	NOx	NO <sub>2</sub>	Decrease	Increase	vs Au	dit Gas
		0.000 V	4964	0.4077	0.4178	0.0099	$>\!\!<$	$\geq$	$>\!$	%Dif Lim
		0.580 V	4964	0.1133	0.4163	0.3031	0.2944	0.2932	0%	± 15%
		0.390 V 0.230 V	4964 4964	0.2393	0.4158	0.1766	0.1684	0.1667	-1% 1%	± 15% ± 15%
		0.230 V	4904	0.3300			e Percent E		0%	± 15%
Converte	er Effici	iency			100010	ie i i i eiug	e i ereent L		070	
			ter Efficiency	99.9%						

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		O <sub>3</sub> A	NALY	ZER A	UDIT		
					File No.	2013 -	283A
Date:	October	9, 2013	I	Performed by:		Al Clark	
Station Name:	Henry	Pirker	_	Location:	Grande	e Prairie	_
Facility/Zone:	Pa	za		Operator: Focus			
-		21.5 C		ometric Press.			
Monitor Make/Model: Inlet flow (scem Last cal. Date: Zero/Bkg Span Coeff.	-	Sep ′	9 49C / 721 12/13			0.5 0.9974	
Μ	on Method: lake/Model: cylinder # :			NO conce	AMU # : ntration ppm:	180 N/	08 A
_	С	alibrator Flo	W	Calculated	Indicated	% Diffe	erence
Ozone Setting	Air	(sccm) Gas	Total	Conc. (ppm)	Conc. (ppm)	vs Audit Gas	Limits
0.0000	0		0	0.0000	0.0004	Audit Gas	Lillits
0.4000	0		0	0.4000	0.4023	0%	± 15%
0.2000	0	>	0	0.2000	0.2014	0%	± 15%
0.1000	0	$\ge$	0	0.1000	0.1009	1%	± 15%
Linear Regree	Correla	ysis: tion Coeff.= m (Slope)= full scale)=	<i>y=mx+b (</i> и <u>1.0000</u> 1.0047	-		0% m, y≕indicated c	concentration)
Remarks:	-			- 			



Company:	_	Paza		I	Facili	ty Name:	Gr	ande	Prairi	e	_
Approval N	lo.:	N/A		_	Site N	ame:	Н	enry	Pirke	r	_
AENV Reg Parameters		Northern			AENV	/ District:	Gr	ande	Prairi	e	_
	1		v	NO	v	NILL	1				V
TRS CO	X X	SO <sub>2</sub>	X	NO <sub>X</sub>	X X	NH <sub>3</sub>	X	$O_3$	1		X
PM <sub>2.5</sub>	A X	CH <sub>4</sub>	Х	NonCH4 TSP	Λ	THC BTEX	Λ		nylene		
Wind Dir	л Х	PM <sub>10</sub> Amb. Temp	Х		X	RH	X		nd Sp ar Radi		X
Rainfall	Λ	Precip	Λ	Stn.Temp VWS	Λ	Other	Λ	301	ai Kaui	ation	Λ
	atore	monitored as j	nor of		6	No	I.,	N/A			
An param		monitored as			<u> </u>	10	'	•/A_		_	
GENEK		Has the location Is site secure? Are station opera					ıdit?		YES X X X	NO	N/A
DATA ACQU										n	<b></b>
		Are strip charts i	n use'	?						X	
		Is a telemetry sys	stem f	or data acqui	sition	in use?			Х		
SYSTEM CO		DNENTS Is a glass samplin Is sampling mani Is a manifold trap Are spare manifol Is manifold orien Are manifold pump Do sample lines Are monitor sam Are sampling lin Are monitors pro Are monitors pro Are zero and spa	ifold c p in pl old po ated so rts situ p prop extend pling es cle operly operly	elean? lace? rts capped o it is not exa uated to preve oerly installed d at least 3/4' lines connect an? mounted and exhausted fr	ctly he ent wa l and d 'into r ted to l secu om ro	tter entering n operative? nanifold? manifold? re?		s?	X X X X X X X X X X X X X X X X X X		
WIND EQU	IPME	ENT									
COMMENT		Is wind sensor pr Does wind equip Date of last calib	ment	appear to be	functi	oning properly Date:		own	X X		
AUDITOR:	-	Al C	Clark		- Mi	D Dertan	ATE:		Octo	ober 9,	2013

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	ST	ATION AUD	IT	
			File No. 2013 - 284	A / 285A
Date: O	ctober 10, 2013	Performed by:	Al Clark	
Station Name:	Falher	Location:	Falher	
Facility/Zone:	Paza	Operator:	Focus	
	Temp: 18.5 C	Barometric Press:	702 mmhg	
<b>Location</b> Status of	Latitude N Longitude W Elevation Site Documentation	55° 44' 20.9" 117° 14' 47.5" 581 m On site - electronic vers	sion OK	
Manifold N Manifold Co	Material <u>Teflon tubin</u> ndition OK se	g with Tee fittings. ee remarks.		
Meteorologic Wind Speed Di	al Observe rection 40 kph / 22		Audit Value 35-40 kph / SW	
Station Temp	erature 20.0 C	:	20.0 C	
Relative Hu	umidityN/A	<u> </u>	N/A	
Ambient Temp	erature 8.2 C		8.3 C	
Solar Ra	diation N/A		N/A	
Precip	nitation N/A		N/A	
			nalyzers are 1335 sccm	
Flows should be > extend into 1/2" ma		r operation of the manif	old. Sample lines do no	ot

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		SO <sub>2</sub>	ANAL	YZER Al	JDIT	-	
					File No.	2013 -	284A
Date:	October	10, 2013	I	Performed by:		Al Clark	
Station Name:	Fal	her		Location:	Fal	bor	
		-	-				
Facility/Zone:			-	Operator:			
	Temp:	18.5 C	Baro	ometric Press:	702 n	nmhg	
Monitor		-	101	~			
Make/Model: Inlet flow (sccr	m).		o 43i 15	Serial No: Full Scale Range	12074	52008 0.5	
Last cal. Date:	11):		28/13	Old Correction Fa		1.0154	
Zero/Bkg			_				
Span Coef	0.9	03	_				
Calibrator	-						
Calibrat	ion Method:	GAS D	II UTION				
	lake/Model:			-	AMU # :	169	91
	Cylinder #:		.9745	SO <sub>2</sub> Concentrati	on PPM:	51	.0
C	alibrator Flo	w	Calculated	Indicated		% Diffe	erence
	(sccm)		Conc.	Concentrati		VS	
Air	Gas	Total	(ppm)	(ppm)		Audit Gas	Limits
5086	0.0	5086	0.0000	0.0006			
5109	38.4	5147	0.3805	0.3814		0%	± 15%
5109	17.3	5126	0.1721	0.1734		0%	± 15%
5077	8.1	5085	0.0812	0.0827	1.00	1%	± 15%
			Absolute	Average Percent D	ifference	1%	
Linear Regre	ssion Ana	ysis:		vhere x=calculated co			
			y=mx+b (v			n, y=muicaleu c	oncentration
	Correla	tion Coeff.=	1.0000	≥ 0.9	-		
			1.0001	-	5-1.15		
					% F.S.		
b (Inte	rcept as % o	× 1 /	0.2080	± 37			
b (Inte	rcept as % of	× 1 /	0.2080				
b (Inte Remarks:	rcept as % of	× 1 /	0.2080				
```	rcept as % o	× 1 /	0.2080	±37			
```	rcept as % o	× 1 /	.2080	£37			
	rcept as % o	× 1 /					



					File No.	2013 -	285A
Date:	October	10, 2013	Per	formed by:			
Station							
Name:	Fal	her	_	Location:	Fall	ner	
Facility/Zone:	Pa	iza	_	Operator:	Foo	us	
	Temp:	18.5 C	Barom	etric Press:	702 n	nmhg	
Monitor		_					
Make/Model:				erial No: ull Scale Range		0.1	
Inlet flow (scc Last cal. Date:				ld Correction H		0.9696	
Bust cui. Dute.			<u> </u>		uetor.	0.0000	
Zero/Bkg	12	2.8	_				
Span Coef	1.1	69	_				
Calibrato	r						
Calibra	tion Method:	GASD	ILUTION				
	Make/Model:		/FC 201		AMU # :	169	91
-	Cylinder # :			H <sub>2</sub> S Concentra	tion PPM:	10	.0
	-				•		
(	Calibrator Flo	w	Calculated	Indicate	d	% Diffe	erence
	(sccm)		Conc.	Concentra	-	VS	erence
Air	Gas	Total	(ppm)	(ppm)		Audit Gas	Limits
5086	0.0	5086	0.0000	3000.0	3		
5109	38.5	5147	0.0748	0.0786	6	4%	± 15%
5108	17.7	5126	0.0345	0.0365		3%	± 15%
5076	9.0	5085	0.0177	0.0191		3%	± 15%
0010			Absolute Av	erage Percent	Difference	4%	
	and an Amel						
Linear Regre	ssion Anal	lysis:	u-mub (who	ro v-coloulatad c	opoontratio	v indicated a	opportration
	ession Anal	lysis:	y=mx+b (whe	re x=calculated c		n, y=indicated c	oncentration
		-		LIN	<b>/</b> ITS	n, y=indicated c	oncentration
		tion Coeff.=	= 1.0000	LIN ≥ 0		n, y≕indicated c	oncentration
Linear Regre		tion Coeff.= m (Slope)=	= <u>1.0000</u> = <u>1.0404</u>	LIN ≥ 0 0.8	/ITS .995	n, y=indicated c	oncentration
Linear Regre	Correla	tion Coeff.= m (Slope)=	= <u>1.0000</u> = <u>1.0404</u>	LIN ≥ 0 0.8	AITS 9.995 95-1.15	n, y=indicated c	oncentration
Linear Regre	Correla	tion Coeff.= m (Slope)=	= <u>1.0000</u> = <u>1.0404</u>	LIN ≥ 0 0.8	AITS 9.995 95-1.15	n, y=indicated c	oncentration

Albertan te, Spirit To Achieve,

Company:	_	Paza		. 1	Facili	ty Name:	F	alher		_
Approval N	lo.:	N/A			Site N	lame:	F	alher		_
AENV Reg	-	Northern			AENV	V District:	Grand	le Prairi	e	-
H <sub>2</sub> S	X	$SO_2$	Х	NO <sub>X</sub>		NH <sub>3</sub>	0	3		
CO		CH <sub>4</sub>		NonCH4		THC		thylene		
PM <sub>2.5</sub>		PM <sub>10</sub>		TSP		BTEX		/ind Spe	eed	Х
Wind Dir	Χ	Amb. Temp	Х	Stn.Temp	Х	RH		olar Radia		
Rainfall		Precip		VWS		Other				
All param	eters	monitored as j	ber ap	oproval: Ye	S	No	N/A	A	_	
GENEF								YES	NO	N/A
		Has the location	remai	ned unchang	ed fro	m previous au	dit?			X
		Is site secure?						Х		
		Are station opera	ting c	onditions ad	equate	e?		Х		
DATA ACQ				<b>`</b>						
		Are strip charts i							X	
		Is a telemetry sys	stem f	or data acqui	sition	in use?		Х		
SYSTEM CC	OMPC	ONENTS								
		Is a glass samplii	ng ma	nifold install	ed?				Х	
		Is sampling mani						Х		
		Is a manifold traj						X		
		Are spare manifo								X
		Is manifold orien	-		othy h	orizontal?		X		
					-		anitana?	X		
		Are manifold por Is manifold pum					ionitors?	X		
		Do sample lines						Λ	X	
		Are monitor sam						X	Λ	
		Are sampling lin				mannola.		X		
		Are monitors pro			l secu	ro?		X		
		Are monitors pro					42	X		
		-				oni or scrubbe	:u :			
		Are zero and spa	n syst	ems operatio	nal?			Х		
WIND EQU	IPME	ENT								
		Is wind sensor pr	operl	y oriented?				Х		
		Does wind equip	ment	appear to be	functi	oning properly	y?	Х		
		Date of last calib	ration	l <b>.</b>		Date:	Unknown			
COMMENT	S: _	Sample cane exte	ends o	outside but is	not pi	otected by an	inverted f	unnel. T	ubing	
	1	used in manifold	does	not extend to	the e	nd of the cane	. Not visi	ble from	statior	ı
	1	roof top or groun	d leve	el.						
AUDITOR:		A1 C	Clark			ת	ATE:	Octo	ber 10	2013
AUDITOR:	_	AIC	/IaIK			D	<b>ЛІ</b> Е.	0010		, 2013



Date:       October 8, 2013       Performed by:       Al Clark         Station		ST	ATION AUI	DIT	
Station       Evergreen       Location:       Grande Prairie         Facility/Zone:       Paza       Operator:       Focus         Temp:       19.0 C       Barometric Press:       702 mmhg         Location       Latitude N       55° 07' 02.6"       Longitude W         Longitude W       118° 45' 54.1"       Elevation       647 m         Status of Site Documentation       On site - electronic version OK       Manifold Material       Glass         Manifold Material       Glass       Audit Value       20-25 kph / NW         Station Temperature       21.4 C       20.9 C       Audit Value         Station Temperature       4.7 C       5.3 C       5.3 C         Ambient Temperature       4.7 C       5.3 C       5.3 C				File No. 2013 - 275	A / 277A
Name:       Evergreen       Location:       Grande Prairie         Facility/Zone:       Paza       Operator:       Focus         Temp:       19.0 C       Barometric Press:       702 mmhg         Location       Latitude N       55° 07' 02.6"       702 mmhg         Location       Latitude N       55° 07' 02.6"       647 m         Longitude W       118° 45' 54.1"       647 m         Status of Site Documentation       On site - electronic version OK         Manifold Material       Glass       Audit Value         Manifold Condition       Good       20-25 kph / NW         Manifold Speed Direction       24 kph / 292 deg       20-25 kph / NW         Station Temperature       21.4 C       20.9 C         Relative Humidity       66.2 %       66.3%         Ambient Temperature       4.7 C       5.3 C         Solar Radiation       N/A       N/A	Date:	October 8, 2013	Performed by:	Al Clark	
Location       Latitude N       55° 07' 02.6"         Longitude W       118° 45' 54.1"         Elevation       647 m         Status of Site Documentation       On site - electronic version OK         Manifold Material       Glass         Manifold Condition       Good         Meteorological       Observed         Wind Speed Direction       24 kph / 292 deg         Station Temperature       21.4 C         Relative Humidity       66.2 %         Ambient Temperature       4.7 C         Solar Radiation       N/A	Name:	Paza	Operator:	Focus	
Manifold ConditionGoodMeteorologicalObserved ObservedAudit Value 20-25 kph / NWWind Speed Direction24 kph / 292 deg20-25 kph / NWStation Temperature21.4 C20.9 CRelative Humidity66.2 %66.3%Ambient Temperature4.7 C5.3 CSolar RadiationN/AN/A		Latitude N Longitude W Elevation	55° 07' 02.6" 118° 45' 54.1" 647 m		
ObservedAudit ValueWind Speed Direction24 kph / 292 deg20-25 kph / NWStation Temperature21.4 C20.9 CRelative Humidity66.2 %66.3%Ambient Temperature4.7 C5.3 CSolar RadiationN/AN/A	Manifo Manifold	ld Material Glass Condition Gooc	5 1		
Relative Humidity66.2 %66.3%Ambient Temperature4.7 C5.3 CSolar RadiationN/AN/A		Observ			
Ambient Temperature4.7 C5.3 CSolar RadiationN/AN/A	Station T	emperature 21.4 C	<u> </u>	20.9 C	
Solar Radiation N/A N/A	Relativ	e Humidity 66.2 %	/	66.3%	
	Ambient T	emperature 4.7 C	;	5.3 C	
Precipitation N/A N/A	Sola	r Radiation N/A	<u> </u>	N/A	
	Pr	recipitation N/A		N/A	
Remarks:	Remarks:				



		2		YZER A			
					File No.	2013 -	275A
Date:	October	8, 2013	_ I	Performed by:		Al Clark	
Station Name:	Ever	green		Location:	Crondo	Droirio	
			-				
Facility/Zone:			_	Operator:	Fo	cus	
	Temp.	19.0 C	Bar	ometric Press.	702 n	nmhg	
Monitor		-	101	~			
Make/Model: Inlet flow (sccn	a);		o 43i 51	Serial No: Full Scale Rang	07011	20008 0.5	
Last cal. Date:	1).		27/13	Old Correction	* *	1.0214	
				_			
Zero/Bkg_			_				
Span Coef	1.2	203	-				
Calibrator							
Calibrati	on Method:	GAS D	ILUTION	_			
	lake/Model:				AMU # :	169	
	Cylinder # :	CAL	.9745	SO <sub>2</sub> Concentra	ition PPM:	51.	.0
~							
Ca	alibrator Flo	W	Calculated			% Diffe	erence
Air	(sccm) Gas	Total	Conc. (ppm)	Concentra (ppm)		vs Audit Gas	Limits
5075	0.0	5075	0.0000	11		Huun Ous	Emits
5094	38.3	5132	0.3806	0.385		1%	± 15%
5114	17.3	5131	0.1720	0.173	9	1%	± 15%
5090	8.2	5098	0.0820	0.082		-1%	± 15%
			Absolute	Average Percent	Difference	0%	
Linear Regre	ssion Anal	ysis:					
			y=mx+b (v	vhere x=calculated	concentratio MITS	n, y=indicated c	oncentration
	Correla	tion Coeff.=	1.0000		0.995		
			1.0117	-	85-1.15		
		f full scale)=	-0.0276	±;	3% F.S.		
b (Inter	cept as % of						
b (Inter	ccept as % of	,					
b (Inter Remarks:	rcept as % of						
	ccept as % of						

Albertan te, Spirit To Achieve,

TRS ANALYZER AUDIT								
					File No.	2013 -	276A	
Date:	Octobe	r 8, 2013	F	Performed by:				
	001020	0, 2010	· ·					
Station Name:	Ever	green		Location:	Grande	Prairie		
Facility/Zone:	Pa	72	-	Operator:				
		19.0 C	- Baro	ometric Press.				
Manitan	i emp.		-			9		
Monitor Make/Model:		Tecc	o 43C	Serial No:	03100000	00000/01		
Inlet flow (scci	n).		84	Full Scale Ran		0.1		
Last cal. Date:			-	Old Correction		1.0454		
		•		-				
Zero/Bkg		6.1	-					
Span Coef	1.(	014	-					
Calibrator								
Calibrat	ion Method.	GAS D						
	lake/Model:		IFC 201	-	AMU # :	169	91	
	Cylinder # :	FF1	5602	H <sub>2</sub> S Concent				
				_				
C	alibrator Flo	W	Calculated	alculated Indicated			erence	
	(sccm)		Conc.	Concentration		VS		
Air	Gas	Total	(ppm)	(ppn	1)	Audit Gas	Limits	
5075	0.0	5075	0.0000	0.000	)3			
5094	38.3	5132	0.0746	0.073	38	-2%	± 15%	
5113	17.7	5131	0.0345	0.034		-2%	± 15%	
5089	9.0	5098	0.0177	0.017		-1%	± 15%	
			Absolute	Average Percen	t Difference	2%		
Linear Regre	ssion Ana	iysis:						
			y=mx+D (W	here x=calculated	IMITS	n, y=indicated c	oncentration)	
	Correl	ation Coeff.=	1.0000		0.995			
	201101		0.9846		.85-1.15			
b (Inte	rcept as % o	f full scale)=		- ±	3% F.S.			
	-			-				
Remarks:								
_								

Albertan te, Spirit To Achieve,

	TEOM	1 AUDIT	
Date	e: October 8, 2013	File #: Performed by:	2013 - 277A Al Clark
2			
Station			
Name:	Evergreen	Location:	Grande Prairie
Facility/Zone:	Paza	Operator:	Focus
Temperature:	19.0 C	Barometric Press.	292 mmhg
Audit Transfer Standard			
Make/Model:	DeltaCal	Cell s/n:	1002
Serial Number:	AMU 1858		
Sampler Set-up and Curren	t Readings	F-Main Set Pt (l/min)	3.00
Make/Model	Teom 1400a	F-Aux Set Pt (l/min)	13.67
Unit #	PM2.5	Filter Load (%)	20
Control unit s/n	140AB215519705	K <sub>o</sub> Factor	16147
	140AB215519705	Temp (° <b>C)</b>	5.2
Transducer s/n	17070210018100		0.923
		Press (ATM)	
		FAdj Main	N/A
		FAdj Aux	N/A
Zero Flow Pump Off		Pump On (Time to	reach set points)
F-Main (l/min)	0.00	(45-60 Sec)	30
F-Aux (l/min)	0.06	(45-60 Sec)	45
		(	
Temperature/Pressure			
Measured Temp ( $\pm 2 \ ^{\circ}C$ )	5.8	∆°C_	0.60
Measured Press (± 1.5% ATM)	0.924	<b>Δ% ATM</b>	0.11%
Flow Audit		$\Delta\%$ of Measured Flow	from Set-point
Indicated Main/Aux Flow (l/min)	2.99 13.66	(± 2%)	-0.3% -0.1%
Total Flow = Main + Aux (l/min)	16.65	(± 2%)_	-0.1%
		$\Delta$ of Measured Flow fr	om Indicated
Measured Total Flow (l/min)	17.49	(± 1.00 l/min)	0.84
Measured Main Flow (l/min)	3.16	(± 0.20 l/min.)	0.17
Leak Check		Actual leakage = P	ump On – Pump Off
Main (< 0.15 l/min)	0.07	0.07	7
Aux (< 0.65 l/min)	0.07	0.0*	1
K <sub>o</sub> Factor			
Measured	16265		
$K_0 \%$ Difference (± 2.5%)	0.73		
Remarks:	Both heads very dusty	- PM10 a lot more dusty that	an PM2.5

Albertan a Soldt To Arbiers

: <u>N/A</u> n: Northern			Cita N						
n. Northarn		N/A Site Name: Eve							
n: Northern			AEN	V District:	Gı	ande	Prairie	e	
idited:									
K SO <sub>2</sub>	Х	NO <sub>X</sub>		NH <sub>3</sub>		O <sub>3</sub>			
CH <sub>4</sub>		NonCH4		THC			ylene		
							-		Х
<u>^</u>	Х	-			Х	Sola	r Radiat	tion	
-					_				
ers monitored as	per aj	oproval: Ye	es	No	11	N/A_			
L							YES	NO	N/A
Has the location	rema	ined unchang	ged fro	m previous au	udit?		Х		
Is site secure?							Х		
Are station oper	ating o	conditions ad	lequat	e?			X		
			- 1						11
SITION									
	in use	?						X	
-			isition	in use?			X		╡
is a cerement sy		ior aana arqu	1010101						U
PONENTS									
	ng ma	nifold instal	led?				X		
									╡
				10					
			-						_
					nonitor	s?			
							X		
Do sample lines	exten	d at least 3/4	"into 1	nanifold?			X		
Are monitor san	npling	lines connec	ted to	manifold?			Х		
Are sampling lin	nes cle	an?					Х		
Are monitors pr	operly	mounted an	d secu	re?			Х		
					ed?		Х		
-							X		
The Lero and op		onio operano							11
MENT									
	roperl	y oriented?					Х		
-	-	-	funct	oning properl	v?		Х		
					-	wn			╡
Date of last call	Jatio	1.		Date.	Ulikile	/ // 11	-		<u>  </u>
Al	Clark			L	DATE:		Octo	ber 8	, <u>20</u> 13
			1.						
	K       PM <sub>10</sub> K       Amb. Temp         Precip       Precip         ers monitored as       Image: Construction of the second of	X       PM <sub>10</sub> X       Amb. Temp       X         Precip       X         ers monitored as per apprecip       X         L       Has the location remained is site secure?         Are station operating of SITION       Are strip charts in use?         Are strip charts in use?       Is a telemetry system for the secure?         PONENTS       Is a glass sampling manifold of is a manifold trap in p         Are spare manifold ports sit       Is manifold oriented secure?         Are manifold pump prop       Do sample lines exten         Are monitors properly       Are monitors properly         Are zero and span syst       MENT         Is wind sensor properl       Does wind equipment	K       PM <sub>10</sub> TSP         K       Amb. Temp       X       Stn.Temp         Precip       VWS       VWS         ers monitored as per approval: Ye       VWS         L       Has the location remained unchang         Is site secure?       Are station operating conditions ad         SITION       Are strip charts in use?         Is a telemetry system for data acqu         PONENTS         Is a glass sampling manifold instal         Is sampling manifold clean?         Is a manifold trap in place?         Are spare manifold ports capped         Is manifold oriented so it is not exa         Are monitor sampling lines connect         Are sampling lines extend at least 3/4         Are monitors properly mounted an         Are monitors properly mounted an         Are zero and span systems operation         MENT         Is wind sensor properly oriented?         Does wind equipment appear to be         Date of last calibration.         Al Clark	K       PM <sub>10</sub> TSP         K       Amb. Temp       X       Stn.Temp         Precip       VWS       Image: Construct the second sec	K       PM10       TSP       BTEX         K       Amb. Temp       X       Stn.Temp       RH         Precip       VWS       Other         ers monitored as per approval: Yes No       No         L       Has the location remained unchanged from previous at Is site secure?         Are station operating conditions adequate?         SITION         Are strip charts in use?         Is a telemetry system for data acquisition in use?         PONENTS         Is a glass sampling manifold installed?         Is sampling manifold clean?         Is a manifold trap in place?         Are spare manifold ports capped         Is manifold ports situated to prevent water entering r         Is manifold ports situated to prevent water entering r         Is manifold ports situated to prevent water entering r         Is manifold ports situated to prevent water entering r         Are monitor sampling lines connected to manifold?         Are sampling lines clean?         Are monitors properly mounted and secure?         Are monitors properly exhausted from room or scrubb         Are zero and span systems operational?         MENT         Is wind sensor properly oriented?         Does wind equipment appear to be functioning properl	X       PM10       TSP       BTEX       Amb. Temp       X       Stn.Temp       RH       X         Precip       VWS       Other       NoN         Precip       Are strip charts in speriod:       NoN         Stribon       Are strip charts in use?       Stribon       Are strip charts in use?         Stribon       Are strip charts in use?       Is a glass sampling manifold clean?       Is sampling manifold clean?       Is a maifold trap in place?         Are spare manifold ports capped       Is manifold ports situated to prevent water entering monitor       Is manifold ports situated to prevent water entering monitor         Is manifold pump properly installed and operative?       Do sample lines extend at least 3/4"into manifold?       Are monitors properly mounted and secure? <td>K       PM<sub>10</sub>       TSP       BTEX       Wir         K       Amb. Temp       X       Stn.Temp       RH       X       Sola         Precip       VWS       Other       NO</td> <td>X       PM<sub>10</sub>       TSP       BTEX       Wind Spe         X       Amb. Temp       X       Stn.Temp       RH       X       Solar Radiate         Precip       VWS       Other      </td> <td>X       PM<sub>10</sub>       TSP       BTEX       Wind Speed         X       Amb. Temp       X       Solar Radiation         Precip       VWS       Other       N/A         L       YES       No       N/A         L       Site secure?       X       X         Are station operating conditions adequate?       X       X         SITION       Are strip charts in use?       X       X         Are strip charts in use?       X       X       X         Is a telemetry system for data acquisition in use?       X       X       X         PONENTS       Is a aglass sampling manifold clean?       X       X       X         Is a sampling manifold clean?       X       X       X       X         Are spare manifold ports capped       X       X       X       X       X         Is amaifold oriented so it is not exactly horizontal?       X       &lt;</td>	K       PM <sub>10</sub> TSP       BTEX       Wir         K       Amb. Temp       X       Stn.Temp       RH       X       Sola         Precip       VWS       Other       NO	X       PM <sub>10</sub> TSP       BTEX       Wind Spe         X       Amb. Temp       X       Stn.Temp       RH       X       Solar Radiate         Precip       VWS       Other	X       PM <sub>10</sub> TSP       BTEX       Wind Speed         X       Amb. Temp       X       Solar Radiation         Precip       VWS       Other       N/A         L       YES       No       N/A         L       Site secure?       X       X         Are station operating conditions adequate?       X       X         SITION       Are strip charts in use?       X       X         Are strip charts in use?       X       X       X         Is a telemetry system for data acquisition in use?       X       X       X         PONENTS       Is a aglass sampling manifold clean?       X       X       X         Is a sampling manifold clean?       X       X       X       X         Are spare manifold ports capped       X       X       X       X       X         Is amaifold oriented so it is not exactly horizontal?       X       <

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	STATION AUDIT									
			File No. <u>2013 - 272</u>	2A / 274A						
Date: October 8	, 2013	Performed by:	Al Clark							
Station       Name:     Beaverle       Facility/Zone:     Paza       Temp:	a	Operator:	Beaverlodge Focus 692 mmhg							
Lo	ngitude W 119°	11' 46.6" 23' 50.4" 50 m - electronic ve	rsion OK							
Manifold Material Manifold Condition		_								
Meteorological Wind Speed Direction	Observed 20.2 kph / 297 deg		Audit Value 25-30 kph / WNW							
Station Temperature	19.9 C		20.6 C							
Relative Humidity	90%		82.5%							
Ambient Temperature	2.8 C		2.9 C							
Solar Radiation	N/A		N/A							
Precipitation	N/A		N/A							
Remarks:										



					File No	2013 -	2724	
							2128	
Date:	October	8, 2013	- I	Performed by:		Al Clark		
Station Name:	Poor	erlodge		Location:	Pagya	rladaa		
			_					
Facility/Zone:			-	Operator:				
	Temp:	18.5 C	Baro	ometric Press:	692 r	nmhg		
Monitor		-		a . 111	07400	04407		
Make/Model: Inlet flow (sccm			13i TLE 78	Serial No: Full Scale Range	07130	0.1		
Last cal. Date:	l):		26/13	Old Correction I	**	1.0106		
		000			actor			
Zero/Bkg_	2.3	39	_					
Span Coef	1.0	42	_					
Calibrator								
Calibrati	on Method:	GAS D	ILUTION					
		R&R M		-	AMU # :	169	91	
(	Cylinder # :	CAL	12569	SO <sub>2</sub> Concentra	tion PPM:	9.9	)3	
Ca	librator Flo	w	Calculated	Indicated		% Difference		
	(sccm)		Conc.	Concentra	tion	VS		
Air	Gas	Total	(ppm)	(ppm)		Audit Gas	Limits	
5058	0.0	5058	0.0000	0.0002				
5043	38.1	5081	0.0745	0.0754		1%	± 15%	
5080 5062	17.2	5097 5070	0.0335	0.0343		2%	± 15%	
5062	8.1	5070	0.0159	0.0161 Average Percent		0% 1%	± 15%	
Linear Regres	ssion Anal	veie	Absolute	Average Percent	Difference	170		
		yolo.	v=mx+b (v	where x=calculated of	concentratio	n. v=indicated c	oncentration	
			,		NITS	,,		
	Correla	tion Coeff.=	1.0000	_ ≥0	.995			
		× 1 /	1.0107	-	5-1.15			
b (Inter	cept as % of	f full scale)=	0.2089	_ ±3	% F.S.			
Remarks:								

Albertan te, Spirit To Achieve,

								File No.	2013	- 273A
		Date:	October 8	8, 2013	<u>.</u>		Performed	by:	AI C	Clark
Station:		Name:	Beaverlodge	Location:			Operator:		Focus	
	Zone:		PAZA		Temp.	18	.5 C	BP:		nmhg
Monitor		<b>.</b> .	Make/Model:	Teco			Serial No.		9065350	68
			t flow (sccm): Last cal. Date:		-		Range ppm: rection Fact		0.5	1 0126
		1	Last cal. Date:	Sep 2	3/13		ection Fact	OF:		: <u>1.0136</u> : 1.0126
		NO Bkg	2.4	L						0.9995
		NOx Bkg			-				1102	
		NO Coef	1.16	51	-					
		NOx Coef		-	-					
		NO2 Coef	1.00	0						
Calibrat	ion Met	hod:		Gas Di	lution / G	iPT				
Calibrat	or:		Make/Model:	Sa	abio 2010	C		AMU#	17	49
	NO	cylinder #	CAL78	849	NO c	onc. ppm	50.2	NOx	conc. ppn	n <u>50.2</u>
	a		<u></u>				~			c
	Calibrate Flows		Calc. C NO	onc. NOx	NO		Concentration NOx		% Difference vs Audit Gas	
Air	Gas	Total	(ppm)	(ppm)	(ppm)		(ppm)		NO NO	
4986	0.0	4986	0.0000	0.0000	-0.0003		0.0002			± 15%
4984	39.7	5024	0.3967	0.3967		756	0.3860		-5%	-3%
5007	20.1	5027	0.2007	0.2007	0.1	864	0.1931		-7%	-4%
5001	10.0	5011	0.1002	0.1002		920	0.09		-8%	-4%
					Absolut	te Averag	e Percent E	Difference	7%	4%
Linear F	earess	ion Analy	sis:	v=mx	+b (when	e x=calcula	ated concent	ration v=in	dicated cor	centration
2111041 1	.09.000	lon / linui y		NO	10 (1110)	NOx		NO₂		LIMITS
		Corre	lation Coeff.=	0.9999	1.0000 1.00			1.0000		≥ 0.995
			m (Slope)=	0.9488	.88 0.9728 1.0074			1.0074		0.85-1.
	b (Inte	rcept as %	of full scale)=	-0.4085	-	-0.1415		-0.3480		± 3% F
		O <sub>3</sub>	Flow	Indicated	Conc. (p	pm)	NO	NO <sub>2</sub>	% Dif	ference
		Setting	Rate	NO	NOx	NO <sub>2</sub>	Decrease	Increase	vs Au	dit Gas
		0.000 V	5024	0.3771	0.3885	0.0108	$\succ$	$\succ$	$\geq$	%Dif Lim
		0.580 V	5024	0.1161	0.3892	0.2722	0.2610	0.2614	0%	± 15%
		0.390 V	5024	0.2248	0.3874	0.1620	0.1523	0.1512	-1%	± 15%
		0.230 V	5024	0.3129	0.3873		0.0642	0.0632	-2%	± 15%
Convert	or Effici	iency			Absolut	le Averag	e Percent L	niference	-1%	
Convent			rter Efficiency	99.3%						



		O <sub>3</sub> A	NALY	ZER A	UDIT		
					File No.	2013 -	274A
Date:	October	8, 2013	I	Performed by:		Al Clark	
Station Name:	Bearve	rlodge		Location:	Beave	rlodge	
Facility/Zone:	Pa	za		Operator:	Fo	cus	
	Temp:	18.5 C	Baro	ometric Press:			
Monitor Make/Model: Inlet flow (sccm Last cal. Date: Zero/Bkg Span Coeff.	-	609 / Sep 2	o 49i / 597 23/13			51236 0.5 1.0024	
М	on Method: [ake/Model: cylinder # :	Teco 4 N	49i PS /A	NO conce	AMU # : ntration ppm:		A
Ozone	C	alibrator Flo (sccm)	w	Calculated Conc.	Indicated Conc.	% Diffe	erence
Setting	Air	Gas	Total	(ppm)	(ppm)	Audit Gas	Limits
0.0000	0	$\geq$	0	0.0000	0.0014		
0.4000	0	$\geq$	0	0.4000	0.4015	0%	± 15%
0.2000	0	$\geq$	0	0.2000	0.2016	0%	± 15%
0.1000	0	$>\!$	0	0.1000	0.1018	0%	± 15%
Linear Regres	-	ion Coeff.= m (Slope)=	<i>y=mx+b (w</i> <u>1.0000</u> 1.0000	-		0% n, y≕indicated c	concentration)
Remarks:				-			



	TEON		
Dat	e:	File #: Performed by:	_
<b>Station</b> Name: Facility/Zone: Temperature:		Location: Operator: Barometric Press.	
Audit Transfer Standard Make/Model: Serial Number: Sampler Set-up and Curren Make/Model Unit # Control unit s/n Transducer s/n	It Readings	Cell s/n:         F-Main Set Pt (l/min)         F-Aux Set Pt (l/min)         Filter Load (%)         K <sub>O</sub> Factor         Temp (°C)         Press (ATM)         FAdj Main         FAdj Aux	
Conversion from mm Hg or ATM = (mm Hg) X ( Note: Tolerances are noted as BOL Zero Flow Pump Off F-Main (l/min) F-Aux (l/min)	1.316 X 10 <sup>-3</sup> )	or       ATM = ("Hg) X (3.34207 X $10^{-2}$ )         Pump On (Time to reach set point:         (45-60 Sec)         (45-60 Sec)	s)
<b>Temperature/Pressure</b> Measured Temp (± 2 °C) Measured Press (± 1.5% ATM)		Δ°C0.00 Δ% ATM#DIV/0!	_
Flow Audit Indicated Main/Aux Flow (l/min) Total Flow = Main + Aux (l/min) Measured Total Flow (l/min)	0	$\Delta\% \text{ of Measured Flow from Set-point} \\ (\pm 2\%) \underline{\#DIV/0!} \underline{\#DIV/0!} \\ (\pm 2\%) \underline{\#DIV/0!} \\ \Delta \text{ of Measured Flow from Indicated} \\ (\pm 1.00 \text{ l/min}) \underline{0.00} \\ \end{array}$	)!
Measured Main Flow (l/min) Leak Check Main (< 0.15 l/min) Aux (< 0.65 l/min)		(± 0.20 l/min.) 0.00 Actual leakage = Pump On – Pump C 0 0	Off
K <sub>o</sub> Factor Measured K <sub>o</sub> % Difference (± 2.5%)			
Remarks:	Did not audit due to inc	clement weather.	

Albertan Soleit To Arbieve

Company:	_	Paza		Facility Name:				Beaverlodge		
Approval N	lo.:	N/A			Site N	lame:	E	Beaverlodge		
	-			-						
AENV Reg	-	Northern			AEN	V District:	G	rande Prairie		
Parameters	audi	Ì			1		1		]	
$H_2S$		$SO_2$	Х	NO <sub>X</sub>	Х	NH <sub>3</sub>		O <sub>3</sub>	Х	
CO		CH <sub>4</sub>		NonCH4		THC		Ethylene		
PM <sub>2.5</sub>	X	PM <sub>10</sub>	* 7	TSP	**	BTEX	**	Wind Speed	X	
Wind Dir	Х	Amb. Temp	Х	Stn.Temp	Χ	RH	X	Solar Radiation		
Rainfall		Precip		VWS		Other	<u> </u>	<b>T</b> / <b>A</b>		
All parame	eters	monitored as	per aj	pproval: Ye	es	No		N/A		
GENEK		Has the location Is site secure? Are station opera					ıdit?	YES NO X X X	N/A	
		· ···· Sumon open		ionunciono uc	equilit					
DATA ACQU	JISH	TION								
		Are strip charts i	n use	?				X		
		Is a telemetry sy	stem f	for data acqu	isition	in use?		Х		
SYSTEM CO	MP	ONFNTS						<u> </u>		
SISILM CO		Is a glass sampli	ng ma	nifold instal	led?			X		
		Is sampling man			ieu.			X		
		Is a manifold tra						X		
		Are spare manifo				10		X		
		Is manifold orier			-			X	_	
		Are manifold po					nonitor			
		Is manifold pum						X		
		Do sample lines	exten	d at least 3/4	"into 1	nanifold?		Х		
		Are monitor sam	pling	lines connec	ted to	manifold?		Х		
		Are sampling lin	es cle	an?				Х		
		Are monitors pro	operly	mounted an	d secu	re?		Х		
		Are monitors pro	operly	exhausted fi	rom ro	om or scrubb	ed?	X		
		Are zero and spa						X		
				·····					- 11	
WIND EQUI	IPMI	ENT								
		Is wind sensor p	roperl	y oriented?				Х		
		Does wind equip	ment	appear to be	functi	oning properl	y?	X		
		Date of last calib				Date:	-	own		
COMMENT	S:							<u> </u>	Ц	
	-									
	-									
AUDITOR:		A1 (	Clark			Г	DATE:	October 8	3. 2013	
	-								,	
					41	ertan				

Freedom To Create. Spirit To Achieve.