Phase 1- Site Inspections for



Region 1 Initial Draft Report

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Michael Peltzner



Suite 400- 909, 17th Avenue SW Calgary, Alberta T2T 0A4

Phone: 403.245.4152 | Fax: 307.382.3327

www.oasisemission.com

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Site Inspection Data Table

			Ports		9	Stack	Acces	S		Ор	eratio	nal	
	Engines in Region 1	Tuning Ports	Exhaust Ports	Fuel Ports	Catwalk	Ladder	Manlift	Manlift with Boom	Stable RPM	Operational AFRC	Digital Ignition	Steady Cyl Temps	Near Fully Loaded
	HEAD 03-06-049-18W5 COMP STN -												
#28	WAUKESHA L5774LT ESM (C-18378/1) [MH:C-200]												
#29	WAUKESHA L5774LT ESM (C-18379/1) [MH:C-300]												
#30	WAUKESHA L5774LT ESM (C-18590/1) [MH:C-350]												
#31	CATERPILLAR 3516LE (WPW00978) [MH:C-450]												
#32	WAUKESHA L5774LT ESM (C-15334/1) [MH:C-250, D-302]												
GALLO	DWAY 12-05-054-20W5 GAS PLANT												
#33	CATERPILLAR 3516-SITA (3RC01049) [GP:K-600, CAT]												
#34	CATERPILLAR 3516-SITA (3RC01068) [GP:K-620, CAT]												
GALLO	DWAY 08-29-053-20W5 BOOSTER COMP												
#35	CATERPILLAR G3512TALE AFRC (7NJ01328) [8-29:COMP, CE-1)												
ANSE	LL PLANT #2 07-27-051-19W5												
#36	WAUKESHA L7042GL (C-16285/1) [A2:Z-400]												
#37	CATERPILLAR G3516LE (WPT01569) [RC:K-200, E-200]												
#38	CATERPILLAR G3516LE (WPT01573) [RC:K-220, E-220]												
#39	WAUKESHA L5774LT (5283704079) [RC:K-240, E-240]												
#40	WAUKESHA L5774LT (5283704077) [RC:K-260, E-260]												
					F	Ready	for E	missi	on Te	esting	5		
						Could	Nega	tively	/ Affe	ct En	nissio	ns Te	sting
							_	-	, not rເ				J





Facility Overview

Number of engines for MSAPR Testing: 5

Type of equipment required to access stacks: Boom with Manlift

Estimated Testing Days: 3



Engine #28- WAUKESHA L5774LT ESM (C-18378/1) [MH:C-200]

Inspection Date: 4/26/2018	
Inspected by: <u>Adrian Hunter</u>	
Engine Details	
Testing ID#: 28 Unit Tag Number: MH:C-200 SAP #: 66178590 Engine Manufacturer: WAUKESHA Engine Model: L5774LT ESM Engine Serial#: C-18378/1	Engine Rated Power Output: 1280 Bhp Engine Rated Speed: 1200 RPM Combustion Cylinders: 12 Combustion Design: LEAN Power Cycle: 4 Cylinder Configuration: V Aspiration Type: TURBO
Engine Tuning Ports	
Post Turbo Exhaust Port Drop Down Lines Available Condition: Good Drop Down Lines Inside Building	☐ Fair ☐ Poor
Exhaust Testing Ports	
Exhaust Pipe Diameter:	orts Installed Double at 90º om Iinto Exhaust Stack
Fuel Meter Run Ports	
Fuel Pipe Diameter: <u>2"</u> Valves and T's installed for Met	$hod\ 19$ (required for GHG protocol testing & single exhaust port)
Stable Operating Conditions	
Stable Speed: N/A Working AFRC	☑Digital Ignition ☐Cyl Temp ☐Full Load
Husky Energy	OASIS EMISSION CONSULTANTS INC.





Engine #29- WAUKESHA L5774LT ESM (C-18379/1) [MH:C-300]

Inspection Date: 4/26/2018	
Inspected by: Adrian Hunter	
Engine Details	
Testing ID#: 29 Unit Tag Number: MH:C-300 SAP #: 66178601 Engine Manufacturer: WAUKESHA Engine Model: L5774LT ESM Engine Serial#: C-18379/1	Engine Rated Power Output: 1286 Bhp Engine Rated Speed: 1200 RPM Combustion Cylinders: 12 Combustion Design: LEAN Power Cycle: 4 Cylinder Configuration: V Aspiration Type: TURBO
Engine Tuning Ports	
Post Turbo Exhaust Port Drop Down Lines Available Condition: Good Drop Down Lines Inside Building	☐ Fair ☐ Poor
Exhaust Testing Ports	
	orts Installed Double at 90º
Fuel Meter Run Ports	
_	$hod\ 19$ (required for GHG protocol testing & single exhaust port)
Stable Operating Conditions	
Stable Speed: N/A Working AFRC	☑Digital Ignition ☐Cyl Temp ☐Full Load
Husky Energy	OASIS EMISSION CONSULTANTS INC.





Engine #30- WAUKESHA L5774LT ESM (C-18590/1) [MH:C-350]

Inspection Date: 4/26/2018 Inspected by: Adrian Hunter
Engine Details
Testing ID#: 30 Unit Tag Number: MH:C-350 SAP #: 66178728 Engine Manufacturer: WAUKESHA Engine Model: L5774LT ESM Engine Serial#: C-18590/1 Engine Rated Power Output: 1280 Bhp Engine Rated Speed: 1200 RPM Combustion Cylinders: 12 Combustion Design: LEAN Power Cycle: 4 Cylinder Configuration: V Aspiration Type: TURBO
Engine Tuning Ports
 ✓ Post Turbo Exhaust Port ☐ Drop Down Lines Available Condition: ☐ Good ☐ Fair ☐ Poor ☐ Drop Down Lines Inside Building
Exhaust Testing Ports
Exhaust Pipe Diameter:
Fuel Meter Run Ports
Fuel Pipe Diameter: 2" Valves and T's installed for Method 19 (required for GHG protocol testing & single exhaust port)
Stable Operating Conditions
Stable Speed: N/A Working AFRC Digital Ignition Cyl Temp Full Load
Husky Energy OASIS EMISSION CONSULTANTS INC.





Engine #31- CATERPILLAR 3516LE (WPW00978) [MH:C-450]

Inspection Date: 4/26/2018	
Inspected by: <u>Adrian Hunter</u>	
Engine Details	
Testing ID#: 31 Unit Tag Number: MH:C-450 SAP #: 66200521 Engine Manufacturer: CATERPILLAR Engine Model: 3516LE Engine Serial#: WPW00978	Engine Rated Power Output: 1150 Bhp Engine Rated Speed: 1200 RPM Combustion Cylinders: 16 Combustion Design: LEAN Power Cycle: 4 Cylinder Configuration: V Aspiration Type: TURBO
Engine Tuning Ports	
☑ Post Turbo Exhaust Port☑ Drop Down Lines AvailableCondition: ☐ Good☑ Drop Down Lines Inside Building	Fair Poor
Exhaust Testing Ports	
Exhaust Pipe Diameter:	orts Installed Double at 90º om Iinto Exhaust Stack
Fuel Meter Run Ports	
Fuel Pipe Diameter: <u>2"</u> Valves and T's installed for Met	$hod\ 19$ (required for GHG protocol testing & single exhaust port)
Stable Operating Conditions	
Stable Speed: N/A Working AFRC	☑Digital Ignition ☐Cyl Temp ☐Full Load
Husky Energy	OASIS EMISSION CONSULTANTS INC.





Engine #32- WAUKESHA L5774LT ESM (C-15334/1) [MH:C-250, D-302]

Inspection Date: <u>4/26/2018</u> Inspected by: <u>Adrian Hunter</u>			
Engine Details			
Testing ID#: 32 Unit Tag Number: MH:C-250, D-302 SAP #: 66146077 Engine Manufacturer: WAUKESHA Engine Model: L5774LT ESM Engine Serial#: C-15334/1 Engine Tuning Ports	Engine Rated Power Output: 1280 Bhp Engine Rated Speed: 1200 RPM Combustion Cylinders: 4 Combustion Design: LEAN Power Cycle: 4 Cylinder Configuration: V Aspiration Type: TURBO		
Post Turbo Exhaust Port Drop Down Lines Available Condition: Good Drop Down Lines Inside Building	☐ Fair ☐ Poor		
Exhaust Testing Ports			
Exhaust Pipe Diameter:			
Fuel Meter Run Ports			
Fuel Pipe Diameter: 1.5" Valves and T's installed for Met	$hod\ 19$ (required for GHG protocol testing & single exhaust port)		
Stable Operating Conditions			
Stable Speed: N/A Working AFRC	☑Digital Ignition ☐Cyl Temp ☐Full Load		
Husky Fnergy	OASIS EMISSION CONSULTANTS INC.		





Facility 2- GALLOWAY 12-05-054-20W5 GAS PLANT

Facility Overview

Number of engines for MSAPR Testing: 2

Type of equipment required to access stacks: Manlift with Boom

Estimated Testing Days: 1



Facility 2- GALLOWAY 12-05-054-20W5 GAS PLANT

Engine #33- CATERPILLAR 3516-SITA (3RC01049) [GP:K-600, CAT]

Inspection Date: 4/24/2018	
Inspected by: Adrian Hunter	
Engine Details	
Unit Tag Number: GP:K-600, CAT SAP #: 66043848 Engine Manufacturer: CATERPILLAR Engine Model: 3516-SITA Engine Serial#: 3RC01049	ngine Rated Power Output: 1150 Bhp ngine Rated Speed: 1200 RPM ombustion Cylinders: 16 ombustion Design: RICH ower Cycle: 4 cylinder Configuration: V aspiration Type: TURBO
☐ Post Turbo Exhaust Port ☐ Drop Down Lines Available Condition: ☐ Good ☐ Fa	air
Exhaust Testing Ports	
Exhaust Pipe Diameter: 12" Sample Line Length Required: 75' Stack Height Sufficient for Method 2 Exhaust Stack Testing Sample Ports Install Configuration: Single Catwalk Accessible by: Catwalk Ladder Manlift Manlift Manlift with Boom Crankcase Vent Line Introduced into Exha Relation to Sample Port: Upstread Crankcase Vent Line Easily	oouble at 90º ust Stack m □ Downstream
Fuel Meter Run Ports	
Fuel Pipe Diameter: <u>1.5"</u> Valves and T's installed for Method 19 (req	uired for GHG protocol testing & single exhaust port)
Stable Operating Conditions	
	Digital Ignition ⊠Cyl Temp ☐Full Load
Husky Energy	ASiS EMISSION CONSULTANTS INC.





Facility 2- GALLOWAY 12-05-054-20W5 GAS PLANT

Engine #34- CATERPILLAR 3516-SITA (3RC01068) [GP:K-620, CAT]

Inspection Date: 4/24/2018 Inspected by: Adrian Hunter	
Engine Details	
Testing ID#: 34 Unit Tag Number: GP:K-620, CAT SAP #: 66043854 Engine Manufacturer: CATERPILLAR Engine Model: 3516-SITA Engine Serial#: 3RC01068 Engine Tuning Ports	Engine Rated Power Output: 1150 Bhp Engine Rated Speed: 1200 RPM Combustion Cylinders: 16 Combustion Design: RICH Power Cycle: 4 Cylinder Configuration: V Aspiration Type: TURBO
Post Turbo Exhaust Port Drop Down Lines Available Condition: Good Drop Down Lines Inside Building] Fair
Exhaust Testing Ports	
Exhaust Pipe Diameter:	Double at 90º haust Stack eam Downstream
Fuel Meter Run Ports	
Fuel Pipe Diameter: <u>1.5"</u> Valves and T's installed for Method 19	(required for GHG protocol testing & single exhaust port)
Stable Operating Conditions	
Stable Speed: 3 RPM Working AFRC	☑Digital Ignition ☐Cyl Temp ☐Full Load
Husky Energy	OASIS EMISSION CONSULTANTS INC.





Facility 3- GALLOWAY 08-29-053-20W5 BOOSTER COMP

Facility Overview

Number of engines for MSAPR Testing: 1

Type of equipment required to access stacks: Manlift with Boom

Estimated Testing Days: 1



Facility 3- GALLOWAY 08-29-053-20W5 BOOSTER COMP

Engine #35- CAT G3512TALE AFRC (7NJ01328) [8-29:COMP, CE-1)

M Husky Energy	OASIS EMISSION CONSULTANTS INC.
Stable Speed: 2 RPM Working AF	RC Digital Ignition Cyl Temp Full Load
Stable Operating Conditions	
Fuel Pipe Diameter: <u>2"</u> Valves and T's installed for Meth	od 19 (required for GHG protocol testing & single exhaust port)
Fuel Meter Run Ports	
<u> </u>	Line Easily Disconnected
Crankcase Vent Line Introduced i Relation to Sample Port:	·
Manlift with Boo	
∐ Manlift	
Ladder	
Catwalk	
Accessible by:	
Configuration: Single	☐ Double at 90º
Exhaust Stack Testing Sample Po	
Stack Height Sufficient for Metho	_
Sample Line Length Required: 75	,
Exhaust Pipe Diameter: 12"	
Exhaust Testing Ports	
Drop Down Lines Inside Building	
Condition: Good	☐ Fair ☐ Poor
Drop Down Lines Available	
Post Turbo Exhaust Port	
Engine Tuning Ports	, ,,
Engine Seriam. 71001320	Aspiration Type: TURBO
Engine Model: <u>G3512TALE AFRC</u> Engine Serial#: 7NJ01328	Cylinder Configuration: V
Engine Manufacturer: <u>CATERPILLAR</u>	Combustion Design: <u>LEAN</u> Power Cycle: 4
SAP #: 66141801	Combustion Cylinders: 12
Unit Tag Number: <u>8-29:COMP, CE-1</u>	Engine Rated Speed: 1200 RPM
Testing ID#: 35	Engine Rated Power Output: 850 Bhp
Engine Details	
Inspected by: Adrian Hunter	
Inspection Date: <u>4/24/2018</u>	





Facility 4- ANSELL PLANT #2 07-27-051-19W5

Facility Overview

Estimated Testing Days: 1

Number of engines for MSAPR Testing: 1

Type of equipment required to access stacks: Manlift with Boom



Facility 4- ANSELL PLANT #2 07-27-051-19W5

Engine #36- WAUKESHA L7042GL (C-16285/1) [A2:Z-400]

Inspection Date: <u>4/24/2018</u> Inspected by: <u>Adrian Hunter</u>	
Engine Details	
Testing ID#: 36 Unit Tag Number A2:Z-400 SAP #: 66155880 Engine Manufacturer: WAUKESHA Engine Model: L7042GL Engine Serial#: C-16285/1	Engine Rated Power Output: 1431 Bhp Engine Rated Speed: 1200 RPM Combustion Cylinders: 12 Combustion Design: LEAN Power Cycle: 4 Cylinder Configuration: V Aspiration Type: TURBO
Post Turbo Exhaust Port Drop Down Lines Available Condition: Good Drop Down Lines Inside Buildin	☐ Fair ☐ Poor
Exhaust Testing Ports	
Exhaust Pipe Diameter:	nod 2 orts Installed Double at 90º com d into Exhaust Stack
Fuel Meter Run Ports	
Fuel Pipe Diameter: Valves and T's installed for Met	: hod 19 (required for GHG protocol testing $&$ single exhaust port)
Stable Operating Conditions	
⊠Stable Speed: 2 RPM ⊠ Working A	FRC Digital Ignition Cyl Temp Full Load





Facility Overview

Number of engines for MSAPR Testing: 4

Type of equipment required to access stacks: Manlift with Boom

Estimated Testing Days: 2



Engine #37- CATERPILLAR G3516LE (WPT01569) [RC:K-200, E-200]

Inspection Date: 4/25/2018 Inspected by: Adrian Hunter	
Engine Details	
Testing ID#: 37 Unit Tag Number: RC:K-200, E-200 SAP #: 66230048 Engine Manufacturer: CATERPILLAR Engine Model: G3516LE Engine Serial#: WPT01569 Engine Tuning Ports	Engine Rated Power Output: 1150 Bhp Engine Rated Speed: 1200 RPM Combustion Cylinders: 16 Combustion Design: LEAN Power Cycle: 4 Cylinder Configuration: V Aspiration Type: TURBO
Post Turbo Exhaust Port Drop Down Lines Available Condition: Good Drop Down Lines Inside Building	Fair Poor
Exhaust Testing Ports	
Exhaust Pipe Diameter: Sample Line Length Required:	Installed Double at 90º Exhaust Stack
Fuel Meter Run Ports	
Fuel Pipe Diameter: <u>2"</u> Walves and T's installed for Method	19 (required for GHG protocol testing & single exhaust port)
Stable Operating Conditions	
Stable Speed: 4 RPM Working AFRC	☑Digital Ignition ☑Cyl Temp ☐Full Load
Hueky Energy	OASIS EMISSION CONSULTANTS INC.





Engine #38- CATERPILLAR G3516LE (WPT01573) [RC:K-220, E-220]

Inspection Date: 4/25/2018 Inspected by: Adrian Hunter		
Engine Details		
Testing ID#: 38 Unit Tag Number: RC:K-220, E-220 SAP #: 66230107 Engine Manufacturer: CATERPILLAR Engine Model: G3516LE Engine Serial#: WPT01573 Engine Tuning Ports	Engine Rated Power Output: 1150 Bhp Engine Rated Speed: 1200 RPM Combustion Cylinders: 16 Combustion Design: LEAN Power Cycle: 4 Cylinder Configuration: V Aspiration Type: TURBO	
Post Turbo Exhaust Port		
Drop Down Lines Available		
Condition: Good Drop Down Lines Inside Building	Fair Poor	
Exhaust Testing Ports		
Exhaust Pipe Diameter: Sample Line Length Required:		
Fuel Meter Run Ports Fuel Pipe Diameter: 2" Valves and T's installed for Method 19 (required for GHG protocol testing & single exhaust port)		
Stable Operating Conditions		
_	FRC ⊠Digital Ignition ⊠Cyl Temp ☐Full Load	





Engine #39- WAUKESHA L5774LT (5283704079) [RC:K-240, E-240]

Inspection Date: 4/25/2018		
Inspected by: Adrian Hunter		
Engine Details		
Testing ID#: 39 Unit Tag Number: RC:K-240, E-240 SAP #: 1000007622 Engine Manufacturer: WAUKESHA Engine Model: L5774LT Engine Serial#: 5283704079 Engine Tuning Ports	Engine Rated Power Output: 1280 Bhp Engine Rated Speed: 1200 RPM Combustion Cylinders: 12 Combustion Design: LEAN Power Cycle: 4 Cylinder Configuration: V Aspiration Type: TURBO	
☐ Post Turbo Exhaust Port ☐ Drop Down Lines Available Condition: ☐ Good ☐ Drop Down Lines Inside Building	☐ Fair ☐ Poor	
Exhaust Testing Ports		
Exhaust Pipe Diameter:		
Fuel Meter Run Ports		
Fuel Pipe Diameter: Valves and T's installed for Method 19 (required for GHG protocol testing & single exhaust port)		
Stable Operating Conditions		
Stable Speed: 2 RPM Working AF	RC Digital Ignition Cyl Temp Full Load	
Husky Energy	OASIS EMISSION CONSULTANTS INC.	





Engine #40- WAUKESHA L5774LT (5283704077) [RC:K-260, E-260]

Inspection Date: 4/25/2018		
Inspected by: Adrian Hunter		
Engine Details		
Testing ID#: 40 Unit Tag Number: RC:K-260, E-260 SAP #: 1000007795 Engine Manufacturer: WAUKESHA Engine Model: L5774LT Engine Serial#: 5283704077	Engine Rated Power Output: 1280 Bhp Engine Rated Speed: 1200 RPM Combustion Cylinders: 12 Combustion Design: LEAN Power Cycle: 4 Cylinder Configuration: V Aspiration Type: TURBO	
Engine Tuning Ports	Aspiration Type. Tokbo	
Post Turbo Exhaust Port Drop Down Lines Available Condition: Good Drop Down Lines Inside Building	☐ Fair ☐ Poor	
Exhaust Testing Ports		
Exhaust Pipe Diameter: Sample Line Length Required:7 Stack Height Sufficient for Meth	orts Installed Double at 90º om Iinto Exhaust Stack	
Fuel Meter Run Ports		
Fuel Pipe Diameter: <u>2"</u> Valves and T's installed for Met	$hod\ 19$ (required for GHG protocol testing $\&$ single exhaust port)	
Stable Operating Conditions		
Stable Speed: 3 RPM Working AF	RC Digital Ignition Cyl Temp Full Load	
Husky Energy OASIS EMISSION CONSULTANTS INC.		

