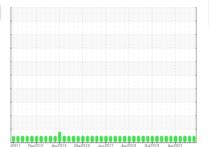


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

GTRB-1510A Main Gas Compressor

Tank Sealing System

Fluid

PHILLIPS 66 Diamond Class® Turbine Oil AW 32 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

MPC (Membrane Patch Colorimetry) test indicates acceptable levels of varnish present. The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

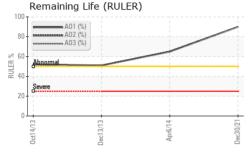
Fluid Condition

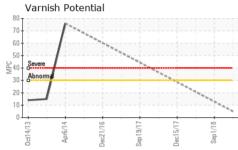
The AN level is acceptable for this fluid. Linear Sweep Voltammetry (RULER – ASTM D6971) testing indicates normal levels of anti-oxidants present in the oil. The condition of the oil is suitable for further service.

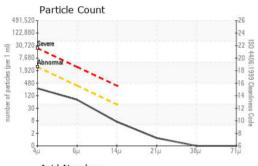
Client Info	4W 32 (GAL)		32011 09020	12 Apizo14 Maizo16	Juli2017 Api2010 GG2018 1	HDIZUZ I	
Cample Date Client Info 30 Dec 2021 29 Aug 2021 20 Aug 2021	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age	Sample Number		Client Info		HLC0001656	HLC0001416	HLC0001335
Dil Age	Sample Date		Client Info		30 Dec 2021	08 Dec 2021	29 Aug 2021
Client Info	Machine Age	hrs	Client Info		0	0	0
NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL WEAR METALS method limit/base current history1 history2 history2 normal nor	Oil Age	hrs	Client Info		0	0	0
WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185m 0 0 0 0 Chromium ppm ASTM D5185m 0 0 0 0 Ritanium ppm ASTM D5185m 0 0 0 0 Ritanium ppm ASTM D5185m 0 0 0 0 Aluminum ppm ASTM D5185m 0 0 0 0 Aluminum ppm ASTM D5185m 0 0 0 0 Lead ppm ASTM D5185m 0 0 0 0 Copper ppm ASTM D5185m 0 0 0 0 Antimony ppm ASTM D5185m 0 0 0 0 Antimony ppm ASTM D5185m 0 0 0 0 Antimony ppm ASTM D5185m 0 0 0 0 </td <td>Oil Changed</td> <td></td> <td>Client Info</td> <td></td> <th>N/A</th> <td>N/A</td> <td>N/A</td>	Oil Changed		Client Info		N/A	N/A	N/A
Chromium ppm ASTM D5185m Q	Sample Status				NORMAL	NORMAL	NORMAL
Chromium	WEAR METALS		method	limit/base	current	history1	history2
Sickel	Iron	ppm	ASTM D5185m		0	0	0
Description	Chromium	ppm	ASTM D5185m		0	0	0
Silver	Nickel	ppm	ASTM D5185m		0	0	0
ASTM D5185m O	Titanium	ppm	ASTM D5185m		0	0	0
December December	Silver	ppm	ASTM D5185m		<1	0	<1
Copper ppm ASTM D5185m 0 0 0 Cin ppm ASTM D5185m 0 0 0 Antimony ppm ASTM D5185m 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 0 0 0 Pohosphorus ppm ASTM D5185m 27 34 28 Partice ppm ASTM D5185m 0 0 0 Sulfur ppm ASTM D51	Aluminum	ppm	ASTM D5185m		0	0	0
Continum ppm ASTM D5185m D D D D D D D D D	Lead	ppm	ASTM D5185m		0	<1	0
Antimony ppm ASTM D5185m 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Copper	ppm	ASTM D5185m		0	0	0
Analdium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1 0 Barium ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 27 34 28 Zinc ppm ASTM D5185m 0 0 0 0 Contaction ppm ASTM D5185m 731 695 849 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 0 0 0	Tin	ppm	ASTM D5185m		0	0	0
December December	Antimony	ppm	ASTM D5185m		0	0	0
ADDITIVES	Vanadium	ppm	ASTM D5185m		0	0	0
Soron ppm ASTM D5185m 0	Cadmium	ppm	ASTM D5185m		0	0	0
Sarium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m <1 0 0 Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 0 0 0 Phosphorus ppm ASTM D5185m 27 34 28 Zinc ppm ASTM D5185m 0 0 0 Sulfur ppm ASTM D5185m 0 0 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 0 0 0 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 0 0 0 0 Potassium ppm ASTM D5185m >20 0 0 0 Vater % ASTM D5185m >20	Boron	ppm	ASTM D5185m		0	<1	0
Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 0 0 0 Phosphorus ppm ASTM D5185m 27 34 28 Zinc ppm ASTM D5185m 0 0 0 Sulfur ppm ASTM D5185m 731 695 849 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m <1 <1 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 0 0 0 Potassium ppm ASTM D5185m >20 0 0 0 Vater % ASTM D5185m >20 0 0 0 Vater % ASTM D6304	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 0 0 0 Phosphorus ppm ASTM D5185m 27 34 28 Zinc ppm ASTM D5185m 0 0 0 Sulfur ppm ASTM D5185m 731 695 849 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 0 0 0 Contassium ppm ASTM D5185m 0 0 0 Potassium ppm ASTM D5185m >20 0 0 0 Vater % ASTM D5185m >20 0 0 0 Vater % ASTM D6304 0.001 Opm Water ppm ASTM D6304 7.9 FLUID CLEANLINESS method limit/base current hist	Molybdenum	ppm	ASTM D5185m		<1	0	0
Calcium ppm ASTM D5185m 0 0 0 Phosphorus ppm ASTM D5185m 27 34 28 Zinc ppm ASTM D5185m 0 0 0 Sulfur ppm ASTM D5185m 731 695 849 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 0 0 0 Potassium ppm ASTM D5185m >20 0 0 0 Potassium ppm ASTM D5185m >20 0 0 0 0 Potassium ppm ASTM D5185m >20 0	Manganese	ppm	ASTM D5185m		-		0
Phosphorus ppm ASTM D5185m 27 34 28 Zinc ppm ASTM D5185m 0 0 0 Bulfur ppm ASTM D5185m 731 695 849 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m <1	Magnesium	ppm	ASTM D5185m				
Contamination Contaminati	Calcium	ppm	ASTM D5185m		0	0	0
Sulfur ppm ASTM D5185m 731 695 849 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m <1	Phosphorus	ppm	ASTM D5185m				
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m <1	Zinc	ppm	ASTM D5185m		-		
Solition ppm ASTM D5185m C C C C	Sulfur	ppm	ASTM D5185m		731	695	849
Sodium ppm ASTM D5185m 0 0 0 0 Potassium ppm ASTM D5185m >20 0 0 0 Water % ASTM D6304 0.001 ppm Water ppm ASTM D6304 7.9 Particles >4μm ASTM D7647 >2500 240 1291 2041 Particles >6μm ASTM D7647 >320 68 235 573 Particles >14μm ASTM D7647 >40 6 13 72 Particles >21μm ASTM D7647 >10 1 3 22 Particles >38μm ASTM D7647 >3 0 0 3 Particles >71μm ASTM D7647 >3 0 0 0	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 0 0 Water % ASTM D6304 0.001 opm Water ppm ASTM D6304 7.9 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >2500 240 1291 2041 Particles >6μm ASTM D7647 >320 68 235 573 Particles >14μm ASTM D7647 >40 6 13 72 Particles >21μm ASTM D7647 >10 1 3 22 Particles >38μm ASTM D7647 >3 0 0 3 Particles >71μm ASTM D7647 >3 0 0 0	Silicon	ppm	ASTM D5185m		<1	<1	0
Water % ASTM D6304 0.001 opm Water ppm ASTM D6304 7.9 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >2500 240 1291 2041 Particles >6μm ASTM D7647 >320 68 235 573 Particles >14μm ASTM D7647 >40 6 13 72 Particles >21μm ASTM D7647 >10 1 3 22 Particles >38μm ASTM D7647 >3 0 0 3 Particles >71μm ASTM D7647 >3 0 0 0	Sodium	ppm	ASTM D5185m		0	0	0
Opm Water ppm ASTM D6304 7.9 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >2500 240 1291 2041 Particles >6μm ASTM D7647 >320 68 235 573 Particles >14μm ASTM D7647 >40 6 13 72 Particles >21μm ASTM D7647 >10 1 3 22 Particles >38μm ASTM D7647 >3 0 0 3 Particles >71μm ASTM D7647 >3 0 0 0	Potassium	ppm	ASTM D5185m	>20	0	0	0
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >2500 240 1291 2041 Particles >6μm ASTM D7647 >320 68 235 573 Particles >14μm ASTM D7647 >40 6 13 72 Particles >21μm ASTM D7647 >10 1 3 22 Particles >38μm ASTM D7647 >3 0 0 3 Particles >71μm ASTM D7647 >3 0 0 0	Water	%	ASTM D6304		0.001		
Particles >4μm ASTM D7647 >2500 240 1291 2041 Particles >6μm ASTM D7647 >320 68 235 573 Particles >14μm ASTM D7647 >40 6 13 72 Particles >21μm ASTM D7647 >10 1 3 22 Particles >38μm ASTM D7647 >3 0 0 3 Particles >71μm ASTM D7647 >3 0 0 0	ppm Water	ppm	ASTM D6304		7.9		
Particles >6μm ASTM D7647 >320 68 235 573 Particles >14μm ASTM D7647 >40 6 13 72 Particles >21μm ASTM D7647 >10 1 3 22 Particles >38μm ASTM D7647 >3 0 0 3 Particles >71μm ASTM D7647 >3 0 0 0	FLUID CLEANLIN	ESS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >40 6 13 72 Particles >21μm ASTM D7647 >10 1 3 22 Particles >38μm ASTM D7647 >3 0 0 3 Particles >71μm ASTM D7647 >3 0 0 0	Particles >4µm		ASTM D7647	>2500	240	1291	2041
Particles >21μm ASTM D7647 >10 1 3 22 Particles >38μm ASTM D7647 >3 0 0 3 Particles >71μm ASTM D7647 >3 0 0 0	Particles >6µm		ASTM D7647	>320	68	235	573
Particles >38μm ASTM D7647 >3 0 0 3 Particles >71μm ASTM D7647 >3 0 0 0	Particles >14μm		ASTM D7647	>40	6	13	72
Particles >71μm ASTM D7647 >3 0 0	Particles >21µm		ASTM D7647	>10	1	3	22
	Particles >38µm		ASTM D7647	>3	0	0	3
Dil Cleanliness ISO 4406 (c) >18/15/12 15/13/10 17/15/11 18/16/13	Particles >71µm		ASTM D7647	>3	0	0	0
	Oil Cleanliness		ISO 4406 (c)	>18/15/12	15/13/10	17/15/11	18/16/13

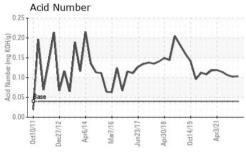


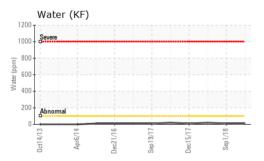
OIL ANALYSIS REPORT











FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.04	0.103	0.102	0.106
Anti-Oxidant 1	%	ASTM D6971	<25	90		
Anti-Oxidant 2	%	ASTM D6971	<25	51		
MPC Varnish Potential	Scale	ASTM D7843	>15	5		
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	VLITE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual		NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	32.7	31.4	31.9	31.5
SAMPLE IMAGES	3	method	limit/base	current	history1	history2
Color						
Bottom						
MPC				Pen	no image	no image





Certificate 12367

Laboratory

Sample No. Lab Number : 05440139

: HLC0001656 $\textbf{Unique Number} \hspace{0.1cm}: 9804332$

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received **Tested**

: 10 Jan 2022 Diagnosed Test Package : AOM 1 (Additional Tests: KF)

: 21 Jan 2022 : 21 Jan 2022 - Doug Bogart 604 WAREHOUSE ENDICOTT PRUDHOE BAY, AK US 99734

HILCORP ALASKA LLC - ENDICOTT

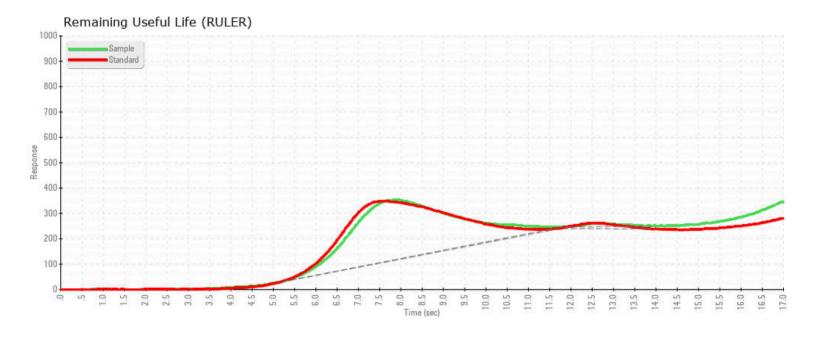
Contact: SEAN LOWTHER slowther@hilcorp.com T: (907)659-6800

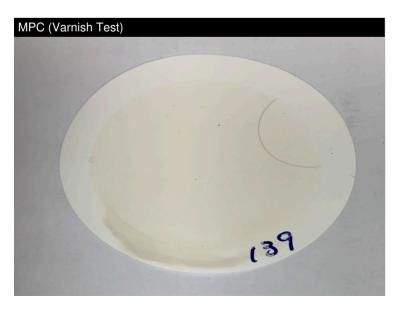
To discuss this sample report, contact Customer Service at 1-800-237-1369. * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

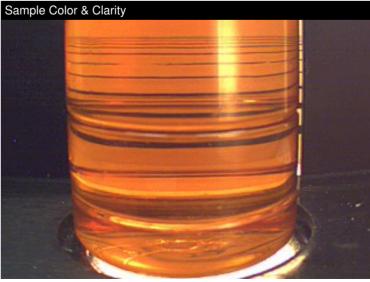
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Contact/Location: SEAN LOWTHER - BPEEND

F:







Report Id: BPEEND [WUSCAR] 05440139 (Generated: 04/29/2024 11:50:39) Rev: 1

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