

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

GEA C-07 (S/N 09603-005-1-01-02)

Component Refrigeration Compressor

USPI 1009-68 SC (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Fluid Condition

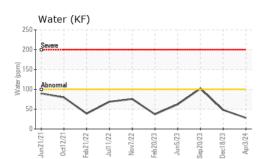
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

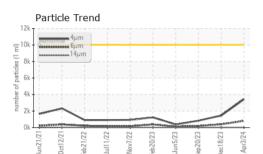
Sample Date Client Info 03 Apr 2024 18 Dec 2023 20 Sep 2023 Machine Age hrs Client Info 0 0 0 Oil Age hrs Client Info 0 0 0 Oil Age hrs Client Info N/A N/A N/A Sample Status Imit/base current History1 History2 Iton ppm ASTM D5185m >8 <1 2 0 Chromium ppm ASTM D5185m >2 0 <1 0 Nickel ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >2 0 0 0 Aduminum ppm ASTM D5185m >2 0 <1 0 Tin ppm ASTM D5185m >2 0 <1 0 Capper ppm ASTM D5185m 0 <1 0 0 Capper ppm AS	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 0 0 Oil Age hrs Client Info 0 0 0 Oil Age hrs Client Info N/A N/A N/A Sample Status Client Info N/A N/A N/A WeAR METALS method timit/base current history1 history2 Iron ppm ASTM D5185m >8 <1 2 0 Nickel ppm ASTM D5185m >2 0 <1 0 Sliver ppm ASTM D5185m >2 0 <1 0 Cadmium ppm ASTM D5185m >2 0 <1 0 Cadmium ppm ASTM D5185m 2 0 <1 0 Cadmium ppm ASTM D5185m 0 <1 0 0 Cadmium ppm ASTM D5185m 0 <1 0 0 Manganese ppm	Sample Number		Client Info		USP0007908	USP0005111	USP0001568
Oil Age hrs Client Info 0 0 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status method limit/base current history1 history2 Iron ppm ASTM 05185m >8 <1 2 0 Chromium ppm ASTM 05185m 0 <1 0 Nickel ppm ASTM 05185m 0 <1 0 Silver ppm ASTM 05185m 2 0 0 0 Silver ppm ASTM 05185m 2 0 <1 0 Copper ppm ASTM 05185m 2 0 <1 0 Vanadium ppm ASTM 05185m 0 <1 0 0 ADDIT/VES method limit/base current history1 history2 Boron ppm ASTM 05185m 0 0 0 0 Molybdenum ppm <th>Sample Date</th> <th></th> <th>Client Info</th> <th></th> <th>03 Apr 2024</th> <th>18 Dec 2023</th> <th>20 Sep 2023</th>	Sample Date		Client Info		03 Apr 2024	18 Dec 2023	20 Sep 2023
Oil Changed Client Info N/A N/A N/A N/A N/A Sample Status method limit/base current history1 history2 Iron ppm ASTM D5185m >8 <1	Machine Age	hrs	Client Info		0	0	0
Sample Status Imethod Imil/base Current NoRMAL NORMAL WEAR METALS method limil/base current history1 history2 Iron ppm ASTM D5185m >8 <1 2 0 Chromium ppm ASTM D5185m >2 0 <1 0 Nickel ppm ASTM D5185m >2 0 <1 0 Silver ppm ASTM D5185m >2 0 <1 0 Lead ppm ASTM D5185m >2 0 <1 0 Copper ppm ASTM D5185m >2 0 <1 0 Vanadium ppm ASTM D5185m 0 <1 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Magnaese ppm ASTM D5185m 0 0 0 0 </th <th>Oil Age</th> <th>hrs</th> <th>Client Info</th> <th></th> <th>0</th> <th>0</th> <th>0</th>	Oil Age	hrs	Client Info		0	0	0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM 05185m >2 0 <1 0 Nickel ppm ASTM 05185m >2 0 <1 0 Nickel ppm ASTM 05185m >2 0 <1 0 Silver ppm ASTM 05185m >2 0 0 0 Aluminum ppm ASTM 05185m >3 0 0 0 Lead ppm ASTM 05185m >2 0 <1 0 Copper ppm ASTM 05185m 2 0 <1 0 Vanadium ppm ASTM 05185m 0 <1 0 0 Adminum ppm ASTM 05185m 0 <1 0 0 Adminum ppm ASTM 05185m 0 <1 0 0 Adminum ppm ASTM 05185m 0 <1 0 0	Oil Changed		Client Info		N/A	N/A	N/A
ron ppm ASTM D5185m >8 <1	Sample Status				NORMAL	NORMAL	NORMAL
Dromium ppm ASTM D5185m >2 0 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m 0 <1	Iron	ppm	ASTM D5185m	>8	<1	2	0
Titanium ppm ASTM D5165m 0 <1	Chromium	ppm	ASTM D5185m	>2	0	<1	0
Silver ppm ASTM D5165m >2 0 0 0 Aluminum ppm ASTM D5165m >3 0 0 0 Lead ppm ASTM D5165m >2 0 <1 0 Copper ppm ASTM D5165m >4 0 <1 0 Vanadium ppm ASTM D5165m >4 0 <1 0 Vanadium ppm ASTM D5165m 0 <1 0 0 ADDITIVES method Imil/base current history1 history2 Boron ppm ASTM D5165m 0 0 0 0 Magnasium ppm ASTM D5165m 0 0 0 0 Calcium ppm ASTM D5165m 0 0 0 0 Zinc ppm ASTM D5165m 0 0 0 25 CONTAMINANTS method Imil/base current history1 history2 <th>Nickel</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th>0</th> <th><1</th> <th>0</th>	Nickel	ppm	ASTM D5185m		0	<1	0
Aluminum ppm ASTM D5185m >3 0 0 0 Lead ppm ASTM D5185m >2 0 <1 0 Copper ppm ASTM D5185m >8 0 <1 0 Vanadium ppm ASTM D5185m >4 0 <1 0 Cadmium ppm ASTM D5185m 0 <1 0 0 Cadmium ppm ASTM D5185m 0 <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1 0 Barium ppm ASTM D5185m 0 <1 0 Magnesee ppm ASTM D5185m 0 <1 0 Phosphorus ppm ASTM D5185m 0 0 0 25 CONTAMINANTS method limit/base current history1 history2 Silicon	Titanium	ppm	ASTM D5185m		0	<1	0
Lead ppm ASTM D5185m >2 0 <1	Silver	ppm	ASTM D5185m	>2	0	0	0
Lead ppm ASTM D5185m >2 0 <1	Aluminum		ASTM D5185m	>3	0	0	0
Copper ppm ASTM D5185m >8 0 <1	Lead		ASTM D5185m	>2	0	<1	0
Tin ppm ASTM D5185m >4 0 <1				>8			0
Vanadium ppm ASTM D5185m 0 -1 0 Cadmium ppm ASTM D5185m 0 <1 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 <1 0 0 Maganese ppm ASTM D5185m 0 <1 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 Calcium ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 50 0 0 0 25 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 1 2 0	Tin				0		
Cadmium ppm ASTM D5185m 0 <1	Vanadium				-		
Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 <1 0 Manganese ppm ASTM D5185m 0 <1 0 Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 0 0 0 Phosphorus ppm ASTM D5185m 0 0 0 Zinc ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 50 0 0 0 Sulfur ppm ASTM D5185m >15 1 2 0 Sodium ppm ASTM D5185m >15 1 0 0 Sodium ppm ASTM D5185m >15 1 0 0 Potassium ppm ASTM D6304 >0.01 0.003 <th>Cadmium</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	Cadmium						
Barium ppm ASTM D5185m 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 <1	Boron	ppm	ASTM D5185m		0	0	0
Manganese ppm ASTM D5185m 0 <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 0 <1 0 Phosphorus ppm ASTM D5185m 0 0 0 Zinc ppm ASTM D5185m 0 0 0 Sulfur ppm ASTM D5185m 50 0 0 25 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 1 2 0 Sodium ppm ASTM D5185m >15 1 0 0 Potassium ppm ASTM D6304 >0.01 0.003 0.004 0.010 ppm Water ppm ASTM D6304 >100 28 48 102.0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >200 315 393 199 Particles >21µm	Molybdenum	ppm	ASTM D5185m		0	<1	0
Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 0 <1 0 Phosphorus ppm ASTM D5185m 0 0 0 0 Zinc ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 50 0 0 25 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 1 2 0 Sodium ppm ASTM D5185m >20 0 <1 0 0 Potassium ppm ASTM D5185m >20 0 <1 0 0 Water % ASTM D6304 >0.01 0.003 0.004 0.010 ppm Water ppm ASTM D7647 >10000 3426 1455 838 Particles >4µm ASTM D7647 >20 815 393<	Manganese	ppm	ASTM D5185m		0	<1	0
Calcium ppm ASTM D5185m 0 <1	Magnesium	ppm	ASTM D5185m		0	0	0
Zinc ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 50 0 0 25 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 1 2 0 Sodium ppm ASTM D5185m >15 1 0 0 Potassium ppm ASTM D5185m >20 0 <1 0 Water % ASTM D6304 >0.01 0.003 0.004 0.010 ppm Water ppm ASTM D6304 >100 28 48 102.0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 3426 1455 838 Particles >6µm ASTM D7647 >2500 815 393 199 Particles >21µm ASTM D7647 20 15 12	Calcium	ppm	ASTM D5185m		0	<1	0
Zinc ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 50 0 0 25 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 1 2 0 Sodium ppm ASTM D5185m >15 1 0 0 Potassium ppm ASTM D5185m >20 0 <1 0 Water % ASTM D6304 >0.01 0.003 0.004 0.010 ppm Water ppm ASTM D6304 >100 28 48 102.0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 3426 1455 838 Particles >6µm ASTM D7647 >2500 815 393 199 Particles >21µm ASTM D7647 20 1 0	Phosphorus	ppm	ASTM D5185m		0	0	0
Sulfur ppm ASTM D5185m 50 0 0 25 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 1 2 0 Sodium ppm ASTM D5185m >15 1 0 0 Potassium ppm ASTM D5185m >20 0 <1 0 Water % ASTM D6304 >0.01 0.003 0.004 0.010 ppm Water ppm ASTM D6304 >100 28 48 102.0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 3426 1455 838 Particles >6µm ASTM D7647 >320 15 12 11 Particles >14µm ASTM D7647 >320 15 12 3 Particles >21µm ASTM D7647 >20 0 1 0<	Zinc		ASTM D5185m		0	0	0
Silicon ppm ASTM D5185m >15 1 2 0 Sodium ppm ASTM D5185m <1 0 0 0 Potassium ppm ASTM D5185m >20 0 <1 0 0 Potassium ppm ASTM D5185m >20 0 <1 0 0 Water % ASTM D6304 >0.01 0.003 0.004 0.010 ppm Water ppm ASTM D6304 >100 28 48 102.0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 3426 1455 838 Particles >6µm ASTM D7647 >2500 815 393 199 Particles >14µm ASTM D7647 >320 15 12 11 Particles >21µm ASTM D7647 >20 0 1 0 Particles >71µm ASTM D7647 >20 0	Sulfur		ASTM D5185m	50	0	0	25
Sodium ppm ASTM D5185m <1	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 <1	Silicon	ppm	ASTM D5185m	>15	1	2	0
Water % ASTM D6304 >0.01 0.003 0.004 0.010 ppm Water ppm ASTM D6304 >100 28 48 102.0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 3426 1455 838 Particles >6µm ASTM D7647 >2500 815 393 199 Particles >14µm ASTM D7647 >320 15 12 11 Particles >21µm ASTM D7647 >80 3 2 3 Particles >38µm ASTM D7647 >20 0 1 0 Particles >71µm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 19/17/11 18/16/11 17/15/11 FLUID DEGRADATION method limit/base current history1 history2	Sodium	ppm	ASTM D5185m		<1	0	0
ppm Water ppm ASTM D6304 >100 28 48 102.0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 3426 1455 838 Particles >6µm ASTM D7647 >2500 815 393 199 Particles >14µm ASTM D7647 >320 15 12 11 Particles >14µm ASTM D7647 >30 3 2 3 Particles >21µm ASTM D7647 >20 0 1 0 Particles >38µm ASTM D7647 >20 0 1 0 Particles >71µm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 19/17/11 18/16/11 17/15/11 FLUID DEGRADATION method limit/base current history1 history2	Potassium	ppm	ASTM D5185m	>20	0	<1	0
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 3426 1455 838 Particles >6µm ASTM D7647 >2500 815 393 199 Particles >6µm ASTM D7647 >320 15 12 11 Particles >14µm ASTM D7647 >320 15 12 11 Particles >21µm ASTM D7647 >80 3 2 3 Particles >38µm ASTM D7647 >20 0 1 0 Particles >71µm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 19/17/11 18/16/11 17/15/11 FLUID DEGRADATION method limit/base current history1 history2	Water	%	ASTM D6304	>0.01	0.003	0.004	0.010
Particles >4µm ASTM D7647 >10000 3426 1455 838 Particles >6µm ASTM D7647 >2500 815 393 199 Particles >14µm ASTM D7647 >320 15 12 11 Particles >14µm ASTM D7647 >30 3 2 3 Particles >21µm ASTM D7647 >80 3 2 3 Particles >38µm ASTM D7647 >20 0 1 0 Particles >71µm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 19/17/11 18/16/11 17/15/11 FLUID DEGRADATION method limit/base current history1 history2	ppm Water	ppm	ASTM D6304	>100	28	48	102.0
Particles >6μm ASTM D7647 >2500 815 393 199 Particles >14μm ASTM D7647 >320 15 12 11 Particles >21μm ASTM D7647 >80 3 2 3 Particles >21μm ASTM D7647 >80 3 2 3 Particles >38μm ASTM D7647 >20 0 1 0 Particles >38μm ASTM D7647 >4 0 0 0 Particles >71μm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 19/17/11 18/16/11 17/15/11 FLUID DEGRADATION method limit/base current history1 history2	FLUID CLEANLIN	ESS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >320 15 12 11 Particles >21μm ASTM D7647 >80 3 2 3 Particles >38μm ASTM D7647 >20 0 1 0 Particles >37μm ASTM D7647 >4 0 0 0 Oli Cleanliness ISO 4406 (c) >20/18/15 19/17/11 18/16/11 17/15/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >4µm		ASTM D7647	>10000	3426	1455	838
Particles >21μm ASTM D7647 >80 3 2 3 Particles >38μm ASTM D7647 >20 0 1 0 Particles >38μm ASTM D7647 >20 0 1 0 Particles >71μm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 19/17/11 18/16/11 17/15/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >6µm		ASTM D7647	>2500	815	393	199
Particles >38μm ASTM D7647 >20 0 1 0 Particles >71μm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 19/17/11 18/16/11 17/15/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >14µm		ASTM D7647	>320			
Particles >71μm ASTM D7647 >4 0 0 0 Oil Cleanliness ISO 4406 (c) >20/18/15 19/17/11 18/16/11 17/15/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >21µm		ASTM D7647	>80	3	2	3
Oil Cleanliness ISO 4406 (c) >20/18/15 19/17/11 18/16/11 17/15/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >38µm		ASTM D7647	>20	0	1	0
FLUID DEGRADATION method limit/base current history1 history2	Particles >71µm		ASTM D7647	>4	0	0	0
	Oil Cleanliness		ISO 4406 (c)	>20/18/15	19/17/11	18/16/11	17/15/11
Acid Number (AN) mg KOH/g ASTM D974 0.005 0.013 0.014 0.011	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D974	0.005	0.013	0.014	0.011

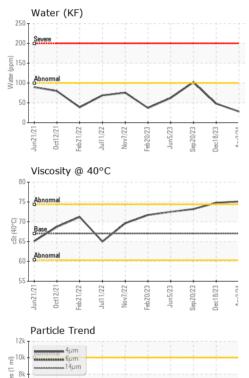
Contact/Location: SERVICE MANAGER ? - GIBGIBUSP

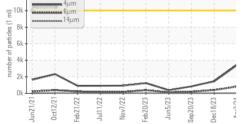


OIL ANALYSIS REPORT



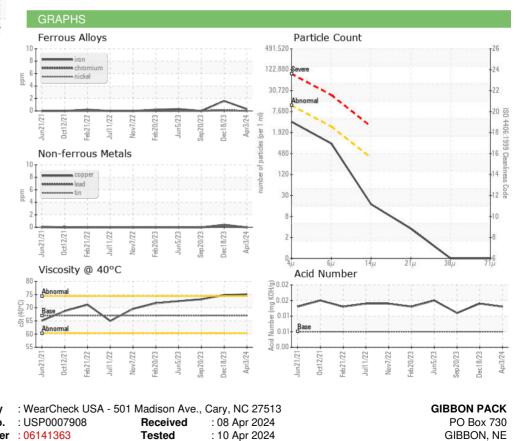






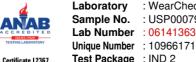
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.01	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	67	75.1	74.8	73.2
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color					* 111	
_						

Bottom



: 10 Apr 2024 - Doug Bogart





Centificate 12367 Test Package : IND 2 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)

Diagnosed

T: (308)468-5771 F: (308)468-5262

Contact: SERVICE MANAGER

Contact/Location: SERVICE MANAGER ? - GIBGIBUSP

US 68840