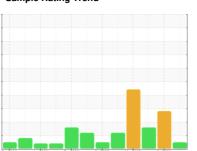


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



BT-F01-B1M (S/N B1 RECYCLE BLOWER MOTOR)

Non-Drive End Bearing

SHELL TURBO T ISO 32 (--- GAL)

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Recommendation

No corrective actions at this time. Resample at next normal interval.

Wear

Wear particles are low and acceptable.

Contamination

Contamination is on par with new unfiltered oil.

Fluid Condition

Fluid health is acceptable for continued use.

Sample Date Client Info 31 Jan 2024 24 Oct 2023 09 Aug 2023 Machine Age mths Client Info 0 1 0 0 Oil Age mths Client Info 0 1 0 0 Oil Changed Client Info N/A ABNORMAL SEVERE CONTAMINATION method limit/base current history1 history2 Water WC Method ≥2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 WEAR METALS method limit/base current history1 history2 Water WC Method >2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 PQ ASTM D8186m >20 0 0 4 Chromium ppm ASTM D8188m >20 0 0 0 Chromium ppm </th <th></th> <th></th> <th>Dec2014</th> <th>Jan2021 Dec2021</th> <th>0ct2022 May2023 0</th> <th>lct2023</th> <th></th>			Dec2014	Jan2021 Dec2021	0ct2022 May2023 0	lct2023	
Sample Date Client Info 31 Jan 2024 24 Oct 2023 09 Aug 2023 Machine Age mths Client Info 0 1 0 0 Oil Age mths Client Info 0 1 0 0 Oil Changed Client Info N/A Changed N/A Sample Status NORMAL ABNORMAL SEVERE CONTAMINATION method limit/base current history1 history2 Water WC Method 22 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Water WC Method 22 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Water WC Method 22 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Water ppm ASTM D5185m >20 </th <th>SAMPLE INFORM</th> <th>IATION</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Machine Age mths Client Info 3 0 0 Oil Age mths Client Info 0 1 0 Oil Changed Client Info N/A Changed N/A Sample Status NoRMAL ABNORMAL SEVERE CONTAMINATION method limit/base current history1 history2 Water WC Method >2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 PQ ASTM D8184 13 8 11 limit/base current history1 history2 PQ ASTM D8185m >20 0 0 0 0 Iron ppm ASTM D8185m >20 0 0 0 Chromium ppm ASTM D8185m >20 0 0 0 Chromium ppm ASTM D8185m >20 0 0 0 Silver ppm	Sample Number		Client Info		PLS0000790	PLS0000773	PLS0000475
Oil Age mths Client Info N/A Changed N/A Sample Status Client Info N/A Changed N/A CONTAMINATION method limit/base current history1 history2 Water WC Method ≥2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 PQ ASTM D8184 13 8 11 Iron ppm ASTM D8185m >20 0 0 4 Chromium ppm ASTM D8185m >20 0 0 0 Nickel ppm ASTM D8185m >20 0 0 0 Uchromium ppm ASTM D8185m >20 0 0 0 Vickel ppm ASTM D8185m >20 0 0 0 Silver ppm ASTM D8185m 0 0 0 1 Copper ppm ASTM D81	Sample Date		Client Info		31 Jan 2024	24 Oct 2023	09 Aug 2023
Oil Changed Sample Status Client Info N/A Changed NORMAL N/A SEVERE CONTAMINATION method limit/base current history1 history2 Water WC Method >2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 PQ ASTM D8184 13 8 11 Iron ppm ASTM D8185m >20 0 0 4 Chromium ppm ASTM D8185m >20 0 0 0 Nickel ppm ASTM D8185m >20 0 0 0 Silver ppm ASTM D5185m >20 0 0 0 Aluminum ppm ASTM D5185m >20 0 0 0 Lead ppm ASTM D5185m >20 0 0 1 Copper ppm ASTM D5185m >20 0 0 1 Vanadium	Machine Age	mths	Client Info		3	0	0
Sample Status	Oil Age	mths	Client Info		0	1	0
Water WC Method Imili/Dase Current history1 history2	Oil Changed		Client Info		N/A	Changed	N/A
Water WC Method >2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 PQ ASTM D8184 13 8 11 Iron ppm ASTM D5185m >20 0 0 4 Chromium ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >20 0 0 0 Silver ppm ASTM D5185m 0 <1	Sample Status				NORMAL	ABNORMAL	SEVERE
WEAR METALS method limit/base current history1 history2 PQ ASTM D8184 13 8 11 Iron ppm ASTM D5185m >20 0 0 4 Chromium ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >20 0 0 0 Titanium ppm ASTM D5185m >20 0 0 0 Silver ppm ASTM D5185m >20 <1 0 0 Aluminum ppm ASTM D5185m >20 <1 0 0 Lead ppm ASTM D5185m >20 <1 <1 4 Copper ppm ASTM D5185m >20 <1 <1 4 Vanadium ppm ASTM D5185m 0 0 <1 Vanadium ppm ASTM D5185m 0 0 <0 Cadmium ppm	CONTAMINATION	J	method	limit/base	current	history1	history2
PQ ASTM D8184 13 8 11 Iron ppm ASTM D5185m >20 0 0 4 Chromium ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >20 0 0 0 Titanium ppm ASTM D5185m 0 <1	Water		WC Method	>2	NEG	NEG	NEG
ASTM D5185m >20	WEAR METALS		method	limit/base	current	history1	history2
Chromium ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >20 0 0 0 Titanium ppm ASTM D5185m 0 <1 0 Silver ppm ASTM D5185m 20 <1 0 0 Aluminum ppm ASTM D5185m >20 <1 0 0 Lead ppm ASTM D5185m >20 <1 <1 4 Copper ppm ASTM D5185m >20 <1 <1 4 Tin ppm ASTM D5185m >20 <1 <1 4 Vanadium ppm ASTM D5185m 0 0 0 <1 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m <1 0 0 0	PQ		ASTM D8184		13	8	11
Nickel ppm ASTM D5185m >20 0 0 0 Titanium ppm ASTM D5185m 0 <1	Iron	ppm	ASTM D5185m	>20	0	0	4
Titanium ppm ASTM D5185m 0 <1 0 Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >20 <1 0 0 Lead ppm ASTM D5185m >20 <1 <1 4 Copper ppm ASTM D5185m >20 <1 <1 4 Tin ppm ASTM D5185m >20 <1 0 <1 Vanadium ppm ASTM D5185m 0 0 0 <1 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 Boron ppm ASTM D5185m <1 0 <1 isstory2 Boron ppm ASTM D5185m <1 0 <1 0 <1 Molybdenum ppm ASTM D5185m <1 0 <2 <1	Chromium	ppm	ASTM D5185m	>20	0	0	0
Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >20 <1	Nickel	ppm	ASTM D5185m	>20	0	0	0
Aluminum ppm ASTM D5185m >20 <1 0 0 Lead ppm ASTM D5185m >20 0 0 <1	Titanium	ppm	ASTM D5185m		0	<1	0
Lead ppm ASTM D5185m >20 0 0 <1 Copper ppm ASTM D5185m >20 <1	Silver	ppm	ASTM D5185m		0	0	0
Copper ppm ASTM D5185m >20 <1 <1 4 Tin ppm ASTM D5185m >20 <1	Aluminum	ppm	ASTM D5185m	>20	<1	0	0
Tin ppm ASTM D5185m >20 <1 0 <1 Vanadium 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 0 0 Barium ppm ASTM D5185m <1 0 <1 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m <1 0 0 Magnesium ppm ASTM D5185m <1 0 2 Calcium ppm ASTM D5185m 3 0 5 Phosphorus ppm ASTM D5185m 19 35 53 Zinc ppm ASTM D5185m 7 0 14 Sulfur ppm ASTM D5185m >15 0 <1 0	Lead	ppm	ASTM D5185m	>20	0	0	<1
Vanadium 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 0 0 Barium ppm ASTM D5185m <1 0 <1 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m <1 0 0 Magnesium ppm ASTM D5185m <1 0 2 Calcium ppm ASTM D5185m 3 0 5 Phosphorus ppm ASTM D5185m 19 35 53 Zinc ppm ASTM D5185m 7 0 14 Sulfur ppm ASTM D5185m 749 2263 1788 CONTAMINANTS method limit/base current history1 history2 S	Copper	ppm	ASTM D5185m	>20	<1	<1	4
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m <1	Tin	ppm	ASTM D5185m	>20	<1	0	<1
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m <1	Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m <1	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m <1 0 0 Magnesium ppm ASTM D5185m <1 0 2 Calcium ppm ASTM D5185m 3 0 5 Phosphorus ppm ASTM D5185m 19 35 53 Zinc ppm ASTM D5185m 7 0 14 Sulfur ppm ASTM D5185m 749 2263 1788 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 0 <1 0 Sodium ppm ASTM D5185m >20 0 1 0 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 0 0 0	Boron	ppm	ASTM D5185m		0	0	0
Manganese ppm ASTM D5185m <1 0 0 Magnesium ppm ASTM D5185m <1 0 2 Calcium ppm ASTM D5185m 3 0 5 Phosphorus ppm ASTM D5185m 19 35 53 Zinc ppm ASTM D5185m 7 0 14 Sulfur ppm ASTM D5185m 749 2263 1788 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 0 <1 0 Sodium ppm ASTM D5185m >20 0 1 0 Potassium ppm ASTM D5185m >20 0 0 1 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 0 0 0	Barium	ppm	ASTM D5185m		<1	0	<1
Magnesium ppm ASTM D5185m <1 0 2 Calcium ppm ASTM D5185m 3 0 5 Phosphorus ppm ASTM D5185m 19 35 53 Zinc ppm ASTM D5185m 7 0 14 Sulfur ppm ASTM D5185m 749 2263 1788 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 0 <1 0 Sodium ppm ASTM D5185m >20 0 1 0 Potassium ppm ASTM D5185m >20 0 0 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 0	Molybdenum	ppm	ASTM D5185m		0	0	0
Calcium ppm ASTM D5185m 3 0 5 Phosphorus ppm ASTM D5185m 19 35 53 Zinc ppm ASTM D5185m 7 0 14 Sulfur ppm ASTM D5185m 749 2263 1788 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 0 <1	Manganese	ppm	ASTM D5185m		<1	0	0
Phosphorus ppm ASTM D5185m 19 35 53 Zinc ppm ASTM D5185m 7 0 14 Sulfur ppm ASTM D5185m 749 2263 1788 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 0 <1	Magnesium	ppm	ASTM D5185m		<1	0	2
Zinc ppm ASTM D5185m 7 0 14 Sulfur ppm ASTM D5185m 749 2263 1788 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 0 <1	Calcium	ppm	ASTM D5185m		3	0	5
Sulfur ppm ASTM D5185m 749 ▲ 2263 ♠ 1788 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 0 <1	Phosphorus	ppm	ASTM D5185m		19	35	53
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 0 <1	Zinc	ppm	ASTM D5185m		7	0	14
Silicon ppm ASTM D5185m >15 0 <1	Sulfur	ppm	ASTM D5185m		749	▲ 2263	1788
Sodium ppm ASTM D5185m 0 1 0 Potassium ppm ASTM D5185m >20 0 0 1 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 0 0 0	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 0 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 0	Silicon	ppm	ASTM D5185m	>15	0	<1	0
INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 0 0 0	Sodium	ppm	ASTM D5185m		0	1	0
Soot %	Potassium	ppm	ASTM D5185m	>20	0	0	1
	INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm *ASTM D7624 1.8 2.1 1.8	Soot %	%	*ASTM D7844		0	0	0
	Nitration	Abs/cm	*ASTM D7624		1.8	2.1	1.8

Sulfation

Abs/.1mm *ASTM D7415

11.2

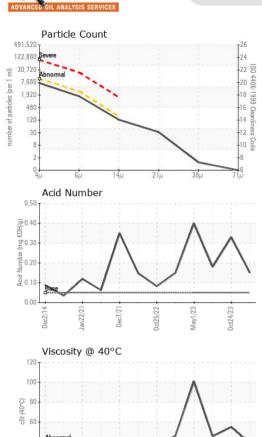
10.7

10.6

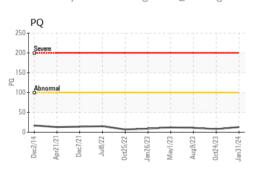


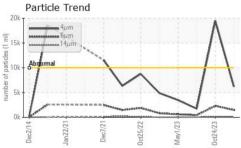
OIL ANALYSIS REPORT

FLUID CLEANLINESS



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Particles >4µm		ASTM D7647	>10000	6185	<u> </u>	1721
Particles >6µm		ASTM D7647	>2500	1470	2294	437
Particles >14μm		ASTM D7647	>160	110	101	49
Particles >21µm		ASTM D7647	>40	28	20	17
Particles >38μm		ASTM D7647	>10	1	0	1
Particles >71μm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>20/18/14	20/18/14	<u>△</u> 21/18/14	18/16/13
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414		2.4	3.1	2.4
Acid Number (AN)	mg KOH/g	ASTM D8045	.05	0.15	△ 0.33	0.18
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	>2	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	38.4	△ 54.9	△ 45.58
SAMPLE IMAGES	;	method	limit/base	current	history1	history2
Color				The state of the s	Man the second s	32.23
Bottom						







Certificate L2367

Laboratory Sample No.

Lab Number : 06077602 Unique Number: 10859693

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PLS0000790 Received : 01 Feb 2024 **Tested** : 02 Feb 2024

Diagnosed : 09 Feb 2024 - Mike Johnson Test Package: IND 2 (Additional Tests: FT-IR, PQ, PrtCount)

* - 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)

To discuss this sample report, contact Customer Service at 1-800-237-1369.

HEXION - BAYTOWN PLANT

8450 WEST BAY RD BAYTOWN, TX

US 77520 Contact: BILL MINER

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T: F: