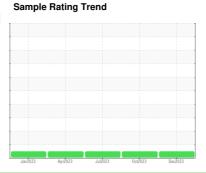


OIL ANALYSIS REPORT

HYDR Area [HYDR] HYDR-C-0010A CMPSR,RFRMR H2 BSTR,NW

Compressor

BELRAY Turbine Oil 150 (--- QTS)





Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

Fluid Condition

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

Client Info Not Changd NOT Changd NOT Changd NORMAL NORMAL	SAMPLE INFORM	MOITAN	method	limit/base	current	history1	history2
Sample Date	Sample Number		Client Info		RP0038982	RP0038917	RP0034778
Machine Age hrs			Client Info		06 Dec 2023	17 Oct 2023	19 Jul 2023
Oil Changed Client Info Not Changd NORMAL NORMAL NORMAL		hrs	Client Info		0	0	0
NORMAL NORMAL NORMAL NORMAL WEAR METALS method limit/base current history1 history2 history2 limit/base current history1 history2 history2 limit/base current history1 history2 limit/base limit/ba	Oil Age	hrs	Client Info		0	0	0
WEAR METALS	Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Iron	Sample Status				NORMAL	NORMAL	NORMAL
Chromium ppm ASTM D5185m >10 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m 4 5 5 Titanium ppm ASTM D5185m 0 0 <1 Siliver ppm ASTM D5185m 0 0 0 <1 Aluminum ppm ASTM D5185m >25 <1 <1 <1 <1 Lead ppm ASTM D5185m >50 3 5 9 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Iron	ppm	ASTM D5185m	>50	7	6	12
Description	Chromium	ppm	ASTM D5185m	>10	<1	<1	<1
Silver	Nickel	ppm	ASTM D5185m		4	5	5
Aluminum	Titanium	ppm	ASTM D5185m		0	0	<1
Lead	Silver	ppm	ASTM D5185m		0	0	0
Copper ppm ASTM D5185m >50 3 5 9 Tin ppm ASTM D5185m >15 0 <1 <1 Vanadium ppm ASTM D5185m 0 0 <1 <1 Cadmium ppm ASTM D5185m 0 0 0 0 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 0 <1 <1 2 Magnesium ppm ASTM D5185m 4 1 9 C2 1 1 1 7 26 1 4 1 9 ASTM D5185m 15 14 4 1 2 2 1 2 2 1 2 2 1 2 2 1	Aluminum	ppm	ASTM D5185m	>25	<1	<1	<1
Tin	Lead	ppm	ASTM D5185m	>25	0	2	<1
Vanadium ppm ASTM D5185m 0 0 <1	Copper	ppm	ASTM D5185m	>50	3	5	9
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 0 0 0 Molybdenum ppm ASTM D5185m 0 <1 <1 2 Manganese ppm ASTM D5185m 0 <1 <1 9 Calcium ppm ASTM D5185m 4 1 9 9 Calcium ppm ASTM D5185m 15 14 41 2 Phosphorus ppm ASTM D5185m 0 6 16 16 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 1 2 2 Sodium ppm ASTM D5185m >20 <1 0 0 0	Tin	ppm	ASTM D5185m	>15	0	<1	<1
ADDITIVES	Vanadium	ppm	ASTM D5185m		0	0	<1
Boron ppm ASTM D5185m 0 0 0 0 0	Cadmium	ppm	ASTM D5185m		0	0	0
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m <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 4 1 9 Calcium ppm ASTM D5185m 11 17 26 Phosphorus ppm ASTM D5185m 15 14 41 Zinc ppm ASTM D5185m 0 6 16 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 1 2 Sodium ppm ASTM D5185m >25 2 1 2 2 Potassium ppm ASTM D5185m >20 <1 0 0 0 Water % ASTM D5185m >20 <1 0 0 0 Water % ASTM D5185m >20 <1 0 0 0 0 Water % ASTM D5185m >20 <1 0 0 0 0 0 0 0 0 0 <t< th=""><th>Molybdenum</th><th>ppm</th><th>ASTM D5185m</th><th></th><th><1</th><th><1</th><th>2</th></t<>	Molybdenum	ppm	ASTM D5185m		<1	<1	2
Calcium ppm ASTM D5185m 11 17 26 Phosphorus ppm ASTM D5185m 15 14 41 Zinc ppm ASTM D5185m 0 6 16 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 1 2 Sodium ppm ASTM D5185m >25 2 1 2 2 Potassium ppm ASTM D5185m >20 <1 0 0 0 Water % ASTM D6304 >0.1 0.001 0.003 0.006 0 ppm Water ppm ASTM D6304 >1000 10 26.2 61.1 1 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOHlg ASTM D8045 0.12 0.12 0.13 VISUAL method	Manganese	ppm	ASTM D5185m		0	<1	<1
Phosphorus ppm ASTM D5185m 15 14 41 Zinc ppm ASTM D5185m 0 6 16 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 1 2 Sodium ppm ASTM D5185m >20 <1	Magnesium	ppm	ASTM D5185m		-		9
Zinc ppm ASTM D5185m 0 6 16 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 1 2 Sodium ppm ASTM D5185m >20 <1 0 0 Water % ASTM D6304 >0.1 0.001 0.003 0.006 ppm Water ppm ASTM D6304 >0.1 0.001 0.003 0.006 ppm Water ppm ASTM D6304 >1000 10 26.2 61.1 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg K0H/g ASTM D8045 0.12 0.12 0.13 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE Yellow Metal scalar *Visual <th></th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th>11</th> <th>17</th> <th>26</th>		ppm	ASTM D5185m		11	17	26
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 1 2 Sodium ppm ASTM D5185m >20 <1 2 2 Potassium ppm ASTM D5185m >20 <1 0 0 Water % ASTM D6304 >0.1 0.001 0.003 0.006 ppm Water ppm ASTM D6304 >1000 10 26.2 61.1 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg K0H/g ASTM D8045 0.12 0.12 0.13 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE Visual NONE NONE NONE NONE Visual NONE NONE NONE	Phosphorus	ppm	ASTM D5185m		15	14	41
Silicon ppm ASTM D5185m >25 2 1 2 Sodium ppm ASTM D5185m <1	Zinc	ppm	ASTM D5185m		0	6	16
Sodium ppm ASTM D5185m <1	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1	Silicon	ppm	ASTM D5185m	>25	2	1	2
Water % ASTM D6304 >0.1 0.001 0.003 0.006 ppm Water ppm ASTM D6304 >1000 10 26.2 61.1 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.12 0.12 0.13 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE 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 NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor *Scalar *Visual NORML NORML NORML NORML	Sodium	ppm	ASTM D5185m		<1	2	2
ppm Water ppm ASTM D6304 >1000 10 26.2 61.1 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.12 0.12 0.13 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML NORML	Potassium	ppm	ASTM D5185m	>20	<1	0	0
FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.12 0.12 0.13 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE 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	Water	%	ASTM D6304	>0.1	0.001	0.003	0.006
Acid Number (AN) mg KOH/g ASTM D8045 0.12 0.12 0.13 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE Silt scalar *Visual NONE 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	ppm Water	ppm	ASTM D6304	>1000	10	26.2	61.1
VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE 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	FLUID DEGRADA	TION	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	Acid Number (AN)	mg KOH/g	ASTM D8045		0.12	0.12	0.13
Yellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORML	VISUAL		method	limit/base	current	history1	history2
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	White Metal	scalar	*Visual	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	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Debrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORML	•						
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORML	Silt	scalar	*Visual	NONE		NONE	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORML	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Odor scalar *Visual NORML NORML NORML NORML	Sand/Dirt	scalar	*Visual		NONE		
	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water scalar *Visual >0.1 NEG NEG NEG	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG

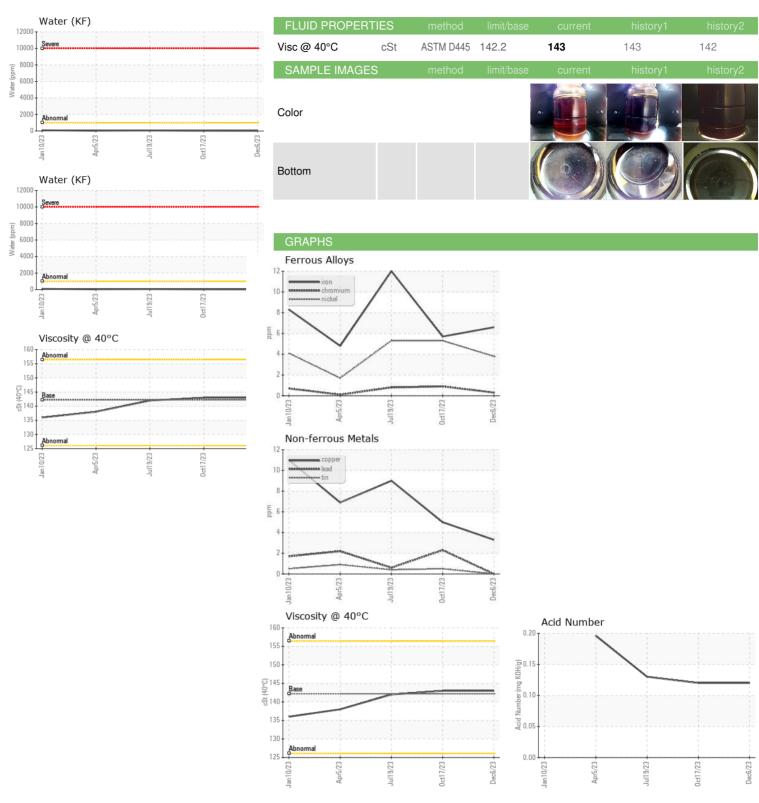
ubmlttec By: CODY QOMPTON

NEG

scalar *Visual



OIL ANALYSIS REPORT







Certificate L2367

Laboratory Sample No. Lab Number **Unique Number**

Test Package : IND 2

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : RP0038982 : 06029471

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

: 10779262

Received : 08 Dec 2023 Diagnosed Diagnostician : Don Baldridge

: 12 Dec 2023

CALUMET 3333 MIDWAY AVENUE SHREVEPORT, LA US 71109

Contact: NICHOLAS LESAGE

nicholas.lesage@clmt.com T:

* - 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)

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