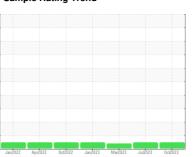


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



02619CM12.101 HYDROTREATER

Component

Compressor

ROYAL PURPLE SYNFILM 32 (1200 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

The water content is negligible. There is no indication of any contamination in the oil.

Fluid Condition

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

SAMPLE INFORMATION			Jan2022	Apr2022 Oct2022	Jan 2023 Mar 2023 Jul 2023	0ct2023	
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 0 0 Oil Age hrs Client Info 0 0 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status Immorphism NoRMAL NORMAL NORMAL NORMAL ABNORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 0 0 0 Chromium ppm ASTM D5185m >10 0 0 0 Nikkel ppm ASTM D5185m 0 <1 0 0 Silver ppm ASTM D5185m >25 0 <1 <1 <1 Lead ppm ASTM D5185m >25 0 <1 <1 <1 <1 Copper ppm ASTM D5185m >50 0 0 <1 <1 <1 <1 <1 <1 <1	Sample Number		Client Info		RP0020398	RP0027209	RP0020802
Oil Age hrs Client Info N/A N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A WEAR METALS method limit/base current history2 Iron ppm ASTM D5185m >50 0 0 0 Ochronium ppm ASTM D5185m >50 0 0 0 0 Nickel ppm ASTM D5185m 0 0 0 0 0 Silver ppm ASTM D5185m 0 0 0 0 0 Silver ppm ASTM D5185m 0 0 0 0 0 Copper ppm ASTM D5185m >25 0 0 0 0 Copper ppm ASTM D5185m >50 0 0 0 0 Caddium ppm ASTM D5185m >50 0 0 0 0 Barium ppm	Sample Date		Client Info		17 Oct 2023	09 Jul 2023	21 Mar 2023
Oil Changed Sample Status Client Info N/A N/A N/A AN/A AN/A AN/A AN/A AN/A AN/A AN/A ASTM DS185m NORMAL NORMAL ABNORMAL ABNORMAL	Machine Age	hrs	Client Info		0	0	0
Sample Status	Oil Age	hrs	Client Info		0	0	0
WEAR METALS	Oil Changed		Client Info		N/A	N/A	N/A
Iron	Sample Status				NORMAL	NORMAL	ABNORMAL
Chromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m 0 0 0 Titanium ppm ASTM D5185m 0 <1 0 Silver ppm ASTM D5185m >25 0 <1 <1 Lead ppm ASTM D5185m >25 0 0 0 Copper ppm ASTM D5185m >50 0 0 -1 Tin ppm ASTM D5185m 55 0 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 0 Boron ppm ASTM D5185m 0 0 0 0 0 0 Barium ppm ASTM D5185m	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>50	0	0	0
Titanium ppm ASTM D5185m 0 <1 0 Silver ppm ASTM D5185m 0 0 0 0 Aluminum ppm ASTM D5185m >225 0 <1 <1 Lead ppm ASTM D5185m >25 0 0 0 0 Copper ppm ASTM D5185m >50 0 0 0 1 Tin ppm ASTM D5185m >50 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Boron ppm ASTM D5185m 0 0 0 0 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 <t< td=""><td>Chromium</td><td>ppm</td><td>ASTM D5185m</td><td>>10</td><th>0</th><td>0</td><td>0</td></t<>	Chromium	ppm	ASTM D5185m	>10	0	0	0
Silver	Nickel	ppm	ASTM D5185m		0	0	0
Aluminum	Titanium	ppm	ASTM D5185m		0	<1	0
Lead ppm ASTM D5185m >25 0 0 0 Copper ppm ASTM D5185m >50 0 0 <1	Silver	ppm	ASTM D5185m		0	0	0
Copper ppm ASTM D5185m >50 0 0 <1 Tin ppm ASTM D5185m >15 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 1 Phosphorus ppm ASTM D5185m 0 0 1 Phosphorus ppm ASTM D5185m 0 7 0 CONTAMINANTS method limit/base current history1 history2	Aluminum	ppm	ASTM D5185m	>25	0	<1	<1
Copper ppm ASTM D5185m >50 0 0 <1 Tin ppm ASTM D5185m >15 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 1 Phosphorus ppm ASTM D5185m 0 0 1 Phosphorus ppm ASTM D5185m 0 7 0 CONTAMINANTS method limit/base current history1 history2	Lead	ppm	ASTM D5185m	>25	0	0	0
Tin ppm ASTM D5185m >15 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 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 Manganesium ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 1 1 Phosphorus ppm ASTM D5185m 0 0 1 1 Phosphorus ppm ASTM D5185m 0 7 0 2 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m 0 1 1 3	Copper		ASTM D5185m	>50	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 0 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 0 0 0 0 Manganesium ppm ASTM D5185m 0 0 1 1 Calcium ppm ASTM D5185m 0 0 1 1 Phosphorus ppm ASTM D5185m 0 7 0 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 11 3					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 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 1 Calcium ppm ASTM D5185m 0 0 1 Phosphorus ppm ASTM D5185m 0 7 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 11 3 Sodium ppm ASTM D5185m >25 0 11 3 Sodium ppm ASTM D5185m >25 0	Vanadium		ASTM D5185m			0	0
Boron	Cadmium				-		
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 1 Phosphorus ppm ASTM D5185m 0 0 1 Phosphorus ppm ASTM D5185m 0 7 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 11 3 Sodium ppm ASTM D5185m >25 0 11 3 Sodium ppm ASTM D5185m >20 0 0 0 Vetacr ppm ASTM D5185m >20 0 0 0 Water ppm ASTM D5185m >20 0 0 0 Vetacr ppm ASTM D5185m	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 90 0 4 1 Calcium ppm ASTM D5185m 0 0 1 Phosphorus ppm ASTM D5185m 417 406 423 Zinc ppm ASTM D5185m 0 7 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 11 3 Sodium ppm ASTM D5185m >20 0 0 0 Potassium ppm ASTM D5185m >20 0 0 0 Water % ASTM D5185m >20 0 0 0 Water % ASTM D5185m >20 0 0 0 Water % <	Boron	ppm	ASTM D5185m		0	0	0
Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 90 0 4 1 Calcium ppm ASTM D5185m 0 0 1 Phosphorus ppm ASTM D5185m 417 406 423 Zinc ppm ASTM D5185m 0 7 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 11 3 Sodium ppm ASTM D5185m >25 0 11 3 Sodium ppm ASTM D5185m >20 0 0 0 Potassium ppm ASTM D5185m >20 0 0 0 Water % ASTM D5185m >20 0 0 0 Water % ASTM D5185m >0.1 0.003 0.005 0.008 Prediation	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m 90 0 4 1 Calcium ppm ASTM D5185m 0 0 1 Phosphorus ppm ASTM D5185m 417 406 423 Zinc ppm ASTM D5185m 0 7 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 25 0 11 3 Sodium ppm ASTM D5185m 20 0 0 0 Potassium ppm ASTM D5185m >20 0 0 0 Water % ASTM D6304 >0.1 0.003 0.005 0.008 ppm Water ppm ASTM D6304 >1000 38.2 57.9 85.7 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg K0H/g ASTM D8045 0.48	Molybdenum	ppm	ASTM D5185m		0	0	0
Calcium ppm ASTM D5185m 0 0 1 Phosphorus ppm ASTM D5185m 417 406 423 Zinc ppm ASTM D5185m 0 7 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 25 0 11 3 Sodium ppm ASTM D5185m 20 0 0 0 Potassium ppm ASTM D5185m >20 0 0 0 Potassium ppm ASTM D6304 >0.1 0.003 0.005 0.008 Ppm Water % ASTM D6304 >1000 38.2 57.9 85.7 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOHlg ASTM D8045 0.48 0.48 0.50 VISUAL method limit/base <	Manganese	ppm	ASTM D5185m		0	0	0
Phosphorus ppm ASTM D5185m 417 406 423 Zinc ppm ASTM D5185m 0 7 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 11 3 Sodium ppm ASTM D5185m >20 0 0 0 Potassium ppm ASTM D5185m >20 0 0 0 Water % ASTM D6304 >0.1 0.003 0.005 0.008 ppm Water ppm ASTM D6304 >1000 38.2 57.9 85.7 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.48 0.48 0.50 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE	Magnesium	ppm	ASTM D5185m	90	0	4	1
Zinc ppm ASTM D5185m 0 7 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 11 3 Sodium ppm ASTM D5185m >20 0 0 0 Potassium ppm ASTM D5185m >20 0 0 0 Water % ASTM D6304 >0.1 0.003 0.005 0.008 ppm Water ppm ASTM D6304 >1000 38.2 57.9 85.7 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg K0H/g ASTM D8045 0.48 0.48 0.50 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE Yellow Metal scalar *Visual NONE NONE	Calcium	ppm	ASTM D5185m		0	0	1
Zinc ppm ASTM D5185m 0 7 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 11 3 Sodium ppm ASTM D5185m >20 0 0 0 Potassium ppm ASTM D5185m >20 0 0 0 Water % ASTM D6304 >0.1 0.003 0.005 0.008 ppm Water ppm ASTM D6304 >1000 38.2 57.9 85.7 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg K0H/g ASTM D8045 0.48 0.48 0.50 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE Yellow Metal scalar *Visual NONE NONE	Phosphorus	ppm	ASTM D5185m		417	406	423
Silicon ppm ASTM D5185m >25 0 11 3 Sodium ppm ASTM D5185m 0 <1 0 Potassium ppm ASTM D5185m >20 0 0 0 Water % ASTM D6304 >0.1 0.003 0.005 0.008 ppm Water ppm ASTM D6304 >1000 38.2 57.9 85.7 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.48 0.48 0.50 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE Silt <t< td=""><td>Zinc</td><td>ppm</td><td>ASTM D5185m</td><td></td><th>0</th><td>7</td><td>0</td></t<>	Zinc	ppm	ASTM D5185m		0	7	0
Sodium ppm ASTM D5185m 0 <1	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 0 0 Water % ASTM D6304 >0.1 0.003 0.005 0.008 ppm Water ppm ASTM D6304 >1000 38.2 57.9 85.7 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.48 0.48 0.50 VISUAL method limit/base current history1 history2 White Metal scalar *Visual 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 *	Silicon	ppm	ASTM D5185m	>25	0	11	3
Water % ASTM D6304 > 0.1 0.003 0.005 0.008 ppm Water ppm ASTM D6304 > 1000 38.2 57.9 85.7 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.48 0.48 0.50 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE NONE NONE NONE NON	Sodium	ppm	ASTM D5185m		0	<1	0
ppm Water ppm ASTM D6304 >1000 38.2 57.9 85.7 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.48 0.50 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 Silt scalar *Visual NONE NONE NONE NONE Silt 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 NORML NORML	Potassium	ppm	ASTM D5185m	>20	0	0	0
FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 0.48 0.48 0.50 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 NORML NORML	Water	%	ASTM D6304	>0.1	0.003	0.005	0.008
Acid Number (AN) mg KOHg ASTM D8045 0.48 0.48 0.50 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 NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML	ppm Water	ppm	ASTM D6304	>1000	38.2	57.9	85.7
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 NORML NORML NORML NORML NORML NORML NORML Odor scalar *Visual NORML NORML 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		0.48	0.48	0.50
Yellow Metal scalar *Visual NONE NORML	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 MODER Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML NORML	White Metal			NONE		NONE	NONE
Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE MODER Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML NORML	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Debrisscalar*VisualNONENONENONEMODERSand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORML	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORML	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORML	Debris	scalar	*Visual	NONE	NONE	NONE	▲ MODER
Odor scalar *Visual NORML NORML NORML NORML	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	>0.1	NEG	NEG	NEG

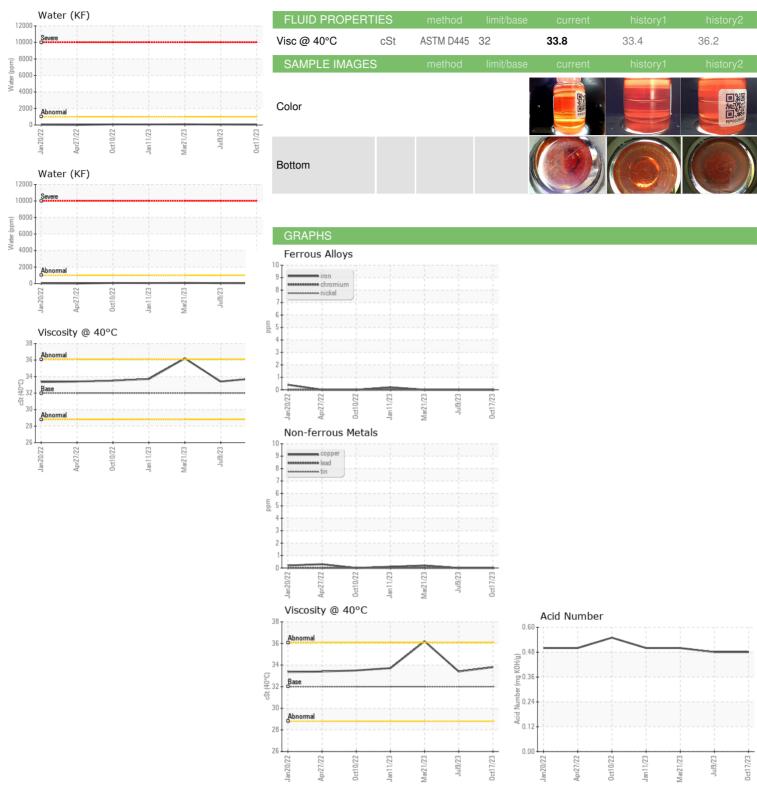
TOMNEGEDWARDSNEWTHOU

NEG

scalar *Visual



OIL ANALYSIS REPORT







Certificate L2367

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

: RP0020398

: 05982429 : 10699724 Test Package : IND 2

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 18 Oct 2023

Diagnosed : 20 Oct 2023 Diagnostician : Don Baldridge

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) **ENTERPRISE PRODUCTS**

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