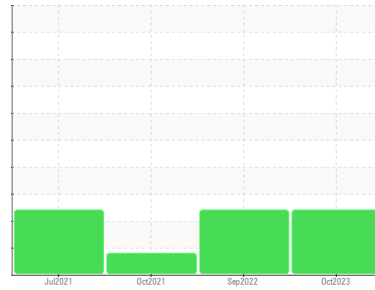




OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id

5028

Component

Diesel Engine

Fluid

DIESEL ENGINE OIL SAE 15W40 (--- QTS)

DIAGNOSIS

Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	WC0745208	WC0682069	WC0620342
Sample Date	Client Info	20 Oct 2023	01 Sep 2022	20 Oct 2021
Machine Age	hrs	Client Info	0	27835
Oil Age	hrs	Client Info	0	250
Oil Changed	Client Info	N/A	Changed	Changed
Sample Status		ABNORMAL	ABNORMAL	ABNORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<1.0	<1.0	<1.0
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	49	66	29
Chromium	ppm ASTM D5185m >20	2	3	1
Nickel	ppm ASTM D5185m >4	0	0	0
Titanium	ppm ASTM D5185m	0	<1	0
Silver	ppm ASTM D5185m >3	0	0	0
Aluminum	ppm ASTM D5185m >20	▲ 32	▲ 38	▲ 24
Lead	ppm ASTM D5185m >40	1	2	1
Copper	ppm ASTM D5185m >330	6	100	15
Tin	ppm ASTM D5185m >15	0	1	1
Antimony	ppm ASTM D5185m	---	---	<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 250	0	3	3
Barium	ppm ASTM D5185m 10	0	0	0
Molybdenum	ppm ASTM D5185m 100	61	65	62
Manganese	ppm ASTM D5185m	0	1	<1
Magnesium	ppm ASTM D5185m 450	897	953	910
Calcium	ppm ASTM D5185m 3000	1155	1274	1186
Phosphorus	ppm ASTM D5185m 1150	977	998	995
Zinc	ppm ASTM D5185m 1350	1230	1275	1228
Sulfur	ppm ASTM D5185m 4250	2795	3253	2773

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	▲ 29	▲ 27	17
Sodium	ppm ASTM D5185m >158	15	0	2
Potassium	ppm ASTM D5185m >20	0	2	0

INFRA-RED

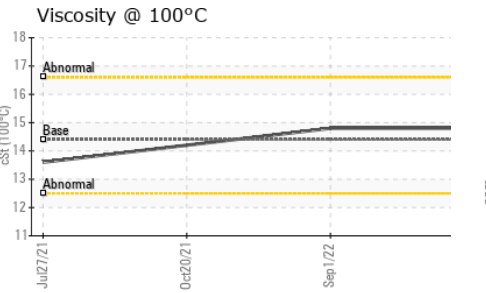
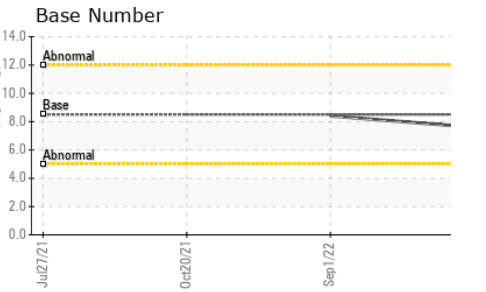
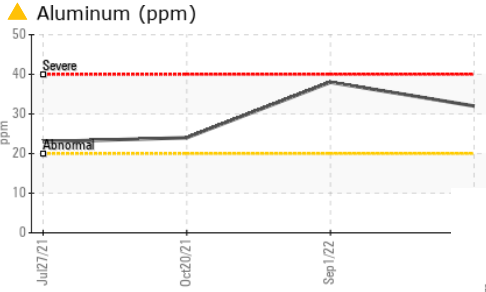
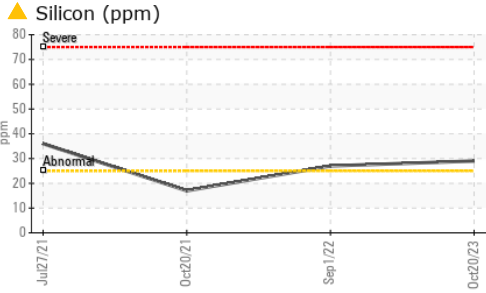
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	2.4	2.7	1.2
Nitration	Abs/cm *ASTM D7624 >20	11.1	12.0	8.1
Sulfation	Abs/.1mm *ASTM D7415 >30	24.4	26.5	20.5

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	17.8	18.8	15.2
Base Number (BN)	mg KOH/g ASTM D2896 8.5	7.6	8.4	---



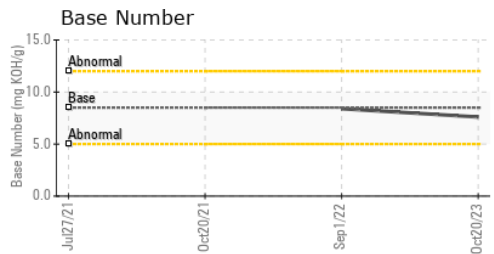
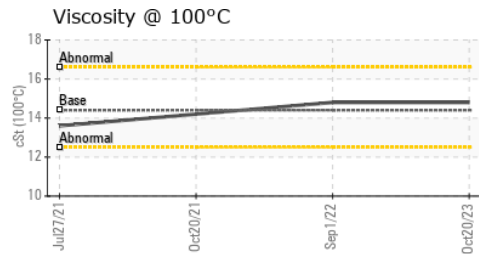
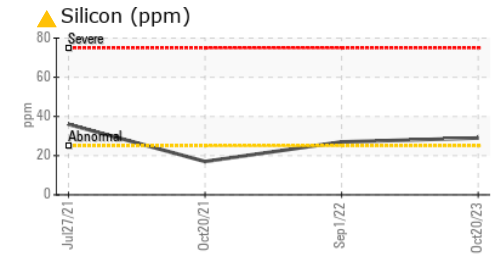
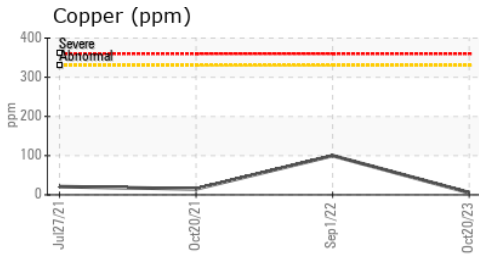
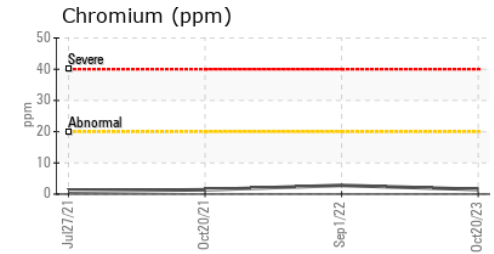
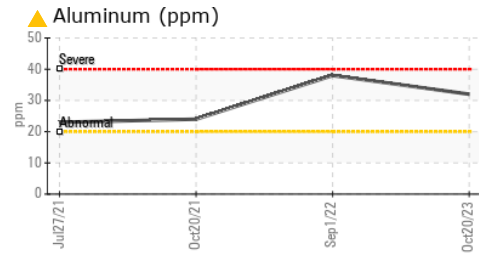
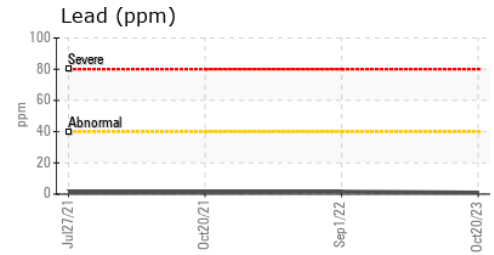
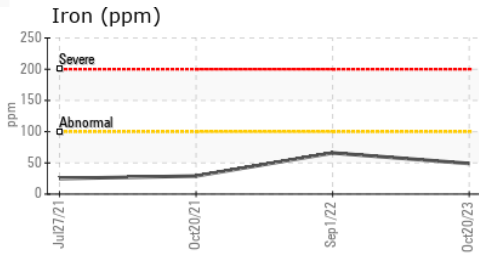
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	14.4	14.8	14.8	14.2

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0745208 **Received** : 06 Nov 2023
Lab Number : 05998698 **Diagnosed** : 07 Nov 2023
Unique Number : 10727058 **Diagnostician** : Don Baldrige
Test Package : MOB 1 (Additional Tests: TBN)

INTERSTATE WASTE-CHESTER
 89 BLACK MEADOW RD
 CHESTER, NY
 US 10918
 Contact: ROB CLARKE
 rclarke@interstatewaste.com
 T:
 F: (845)572-3301

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)