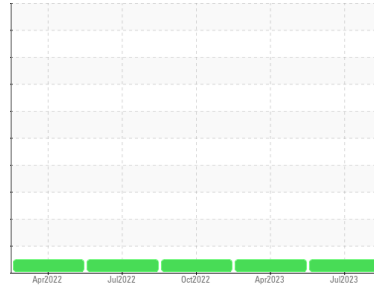




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
UNKNOWN WESTERN STAR 02-5070 Western star tractor (S/N 5KJNABFG7NPNL8134)
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 10W30 (--- 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.

Fluid Condition

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

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			SBP0000694	SBP0003743	SBP0002032
Sample Date	Client Info			07 Jul 2023	07 Apr 2023	20 Oct 2022
Machine Age	hrs	Client Info		3787	3241	2596
Oil Age	hrs	Client Info		546	645	549
Oil Changed	Client Info			Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

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	21	24	21
Chromium	ppm	ASTM D5185m	>20	1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	10	9	16
Lead	ppm	ASTM D5185m	>40	4	2	2
Copper	ppm	ASTM D5185m	>330	<1	0	1
Tin	ppm	ASTM D5185m	>15	1	<1	1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	2	3	13
Barium	ppm	ASTM D5185m	0	1	0	<1
Molybdenum	ppm	ASTM D5185m	50	59	59	44
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	950	972	956	708
Calcium	ppm	ASTM D5185m	1050	1187	1194	1317
Phosphorus	ppm	ASTM D5185m	995	1001	1015	847
Zinc	ppm	ASTM D5185m	1180	1292	1288	1042
Sulfur	ppm	ASTM D5185m	2600	3467	3218	2851

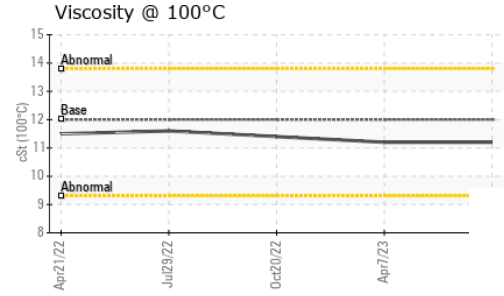
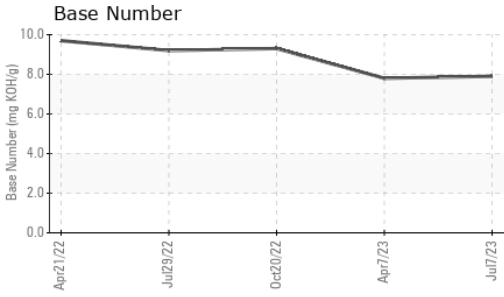
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	5	7	6
Sodium	ppm	ASTM D5185m		4	2	3
Potassium	ppm	ASTM D5185m	>20	21	14	39

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	1.2	0.9	1.2
Nitration	Abs/cm	*ASTM D7624	>20	9.2	8.8	9.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.7	21.0	23.5

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.0	15.5	17.9
Base Number (BN)	mg KOH/g	ASTM D2896		7.9	7.8	9.3



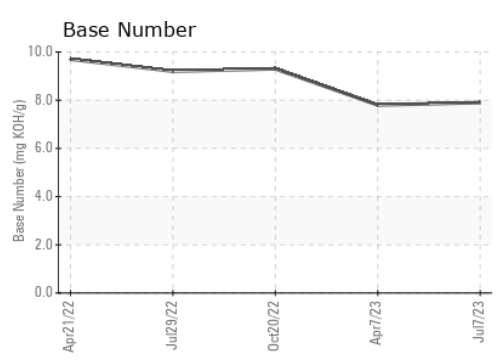
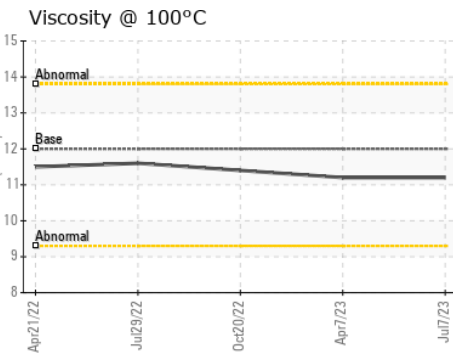
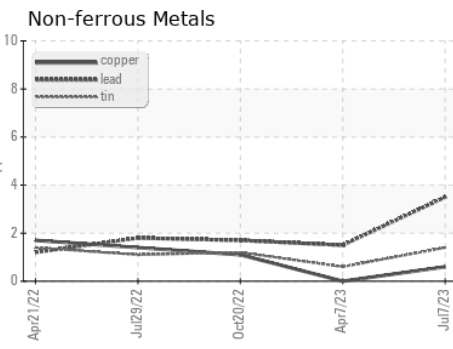
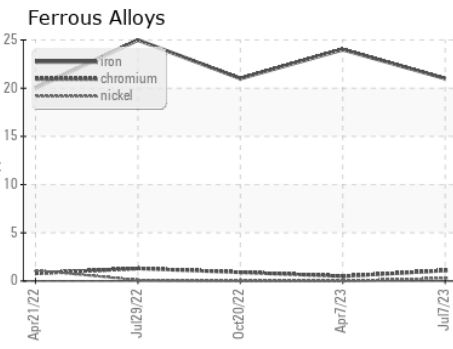
OIL ANALYSIS REPORT



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	12.00	11.2	11.2

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : SBP0000694 **Received** : 17 Jul 2023
Lab Number : 05900659 **Diagnosed** : 18 Jul 2023
Unique Number : 10562015 **Diagnostician** : Wes Davis
Test Package : FLEET

Constructors Inc. - 603659
 1815 Y Street
 Lincoln, NE
 US 68508
 Contact: Jack Linhart
 jackl@constructorslincoln.com
 T: (402)434-2157
 F:

Certificate L2367
 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)