

NORMAL WEAR NORMAL CONTAMINATION **FLUID CONDITION** NORMAL

HEALE CONSULTING [157583]

35238334

Diesel Engine

SAE 15W40 (--- GAL)

SAL 13W+0 (GAL)							
RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resample at the next service interval to monitor.	Sample Number		Client Info		CU0023704		
	Sample Date		Client Info		26 Jun 2024		
	Machine Age	hrs	Client Info		310		
	Oil Age	hrs	Client Info		0		
	Filter Age	hrs	Client Info		0		
	Oil Changed		Client Info		N/A		
	Filter Changed		Client Info		N/A		
	Sample Status				NORMAL		
				00	•		
WEAR	Iron	ppm	ASTM D5185(m)		3		
Metal levels are typical for a new component breaking in.	Chromium	ppm	ASTM D5185(m)		0		
	Nickel	ppm	ASTM D5185(m)	>2	0		
	Titanium	ppm	ASTM D5185(m)		0		
	Silver	ppm	ASTM D5185(m)		0		
	Aluminum	ppm	ASTM D5185(m)		<1		
	Lead	ppm	ASTM D5185(m)	>40	<1		
	Copper	ppm	ASTM D5185(m)	>330	9		
	Tin	ppm	ASTM D5185(m)	>15	0		
	Vanadium	ppm	ASTM D5185(m)	NONE	0		
	White Metal	scalar	Visual*	NONE	VLITE		
	Yellow Metal	scalar	Visual*	NONE	NONE		
CONTAMINATION	Silicon	ppm	ASTM D5185(m)	>25	6		
FOR LAWINA HON	Potassium	ppm	ASTM D5185(m)		0		
There is no indication of any contamination in the oil.	Fuel	ppiii	WC Method	>3.0	<1.0		
	Water		WC Method		NEG		
	Glycol		WC Method	20.L	NEG		
	Soot %	%	ASTM D7844*	>6	0		
	Nitration	Abs/cm	ASTM D7624*	>20	8.0		
	Sulfation	Abs/.1mm	ASTM D7024 ASTM D7415*	>30	19.9		
	Silt	scalar	Visual*	NONE	NONE		
	Debris	scalar	Visual*	NONE	NONE		
	Sand/Dirt	scalar	Visual*	NONE	NONE		
	Appearance	scalar	Visual*	NORML	NORML		
	Odor	scalar	Visual*	NORML	NORML		
	Emulsified Water			>0.2	NEG		
		Scalai	visuai	20.2			
FLUID CONDITION	Sodium	ppm	ASTM D5185(m)	>57	3		
	Boron	ppm	ASTM D5185(m)		44		
The condition of the oil is acceptable for the time in service.	Barium	ppm	ASTM D5185(m)		0		
	Molybdenum	ppm	ASTM D5185(m)		46		
	Manganese	ppm	ASTM D5185(m)		<1		
	Magnesium	ppm	ASTM D5185(m)		783		
	Calcium	ppm	ASTM D5185(m)		1152		
	Phosphorus	ppm	ASTM D5185(m)		700		
	Zinc	ppm	ASTM D5185(m)		822		
	Sulfur	ppm	ASTM D5185(m)		1943		
	Oxidation	Abs/.1mm		>25	19.6		
	ee.						
	Visc @ 40°C	cSt	ASTM D7279(m)	115	109		
	Visc @ 40°C Visc @ 100°C	cSt cSt	ASTM D7279(m) ASTM D7279(m)	115 14.5	109 14.4		



