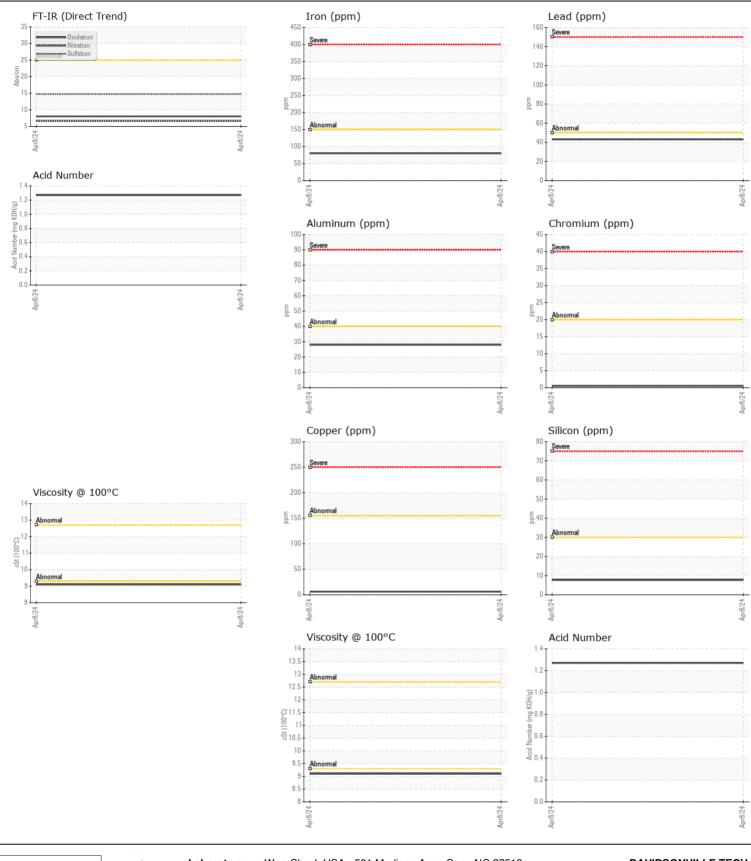
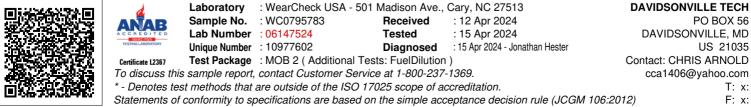


## Machine Id HYUNDAI SANTA FE 4676-05 JH083222 Component Gasoline Engine

## {not provided} (--- GAL)

{not provided} ( GAL)							
RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
No corrective action is recommended at this time.	Sample Number		Client Info		WC0795783		
	Sample Date		Client Info		08 Apr 2024		
	Machine Age	mls	Client Info		0		
	Oil Age	mls	Client Info		0		
	Filter Age	mls	Client Info		0		
	Oil Changed		Client Info		N/A		
	Filter Changed		Client Info		N/A		
	Sample Status				NORMAL		
WEAR	Iron	ppm	ASTM D5185m	>150	80		
All component wear rates are normal.	Chromium	ppm	ASTM D5185m	>20	<1		
	Nickel	ppm	ASTM D5185m	>5	<1		
	Titanium	ppm	ASTM D5185m		<1		
	Silver	ppm	ASTM D5185m	>2	<1		
	Aluminum	ppm	ASTM D5185m	>40	28		
	Lead	ppm	ASTM D5185m	>50	43		
	Copper	ppm	ASTM D5185m	>155	6		
	Tin	ppm	ASTM D5185m	>10	8		
	Vanadium	ppm	ASTM D5185m		<1		
	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE		
CONTAMINATION	Silicon	ppm	ASTM D5185m	>30	8		
	Potassium	ppm	ASTM D5185m		4		
There is no indication of any contamination in the oil.	Fuel	%	ASTM D3524	>4.0	<1.0		
	Water		WC Method		NEG		
	Glycol		WC Method		NEG		
	Soot %	%	*ASTM D7844		0.1		
	Nitration	Abs/cm	*ASTM D7624	>20	6.6		
	Sulfation	Abs/.1mm	*ASTM D7415	>30	14.7		
	Silt	scalar	*Visual	NONE	NONE		
	Debris	scalar	*Visual	NONE	LIGHT		
	Sand/Dirt	scalar	*Visual	NONE	NONE		
	Appearance	scalar	*Visual	NORML	NORML		
	Odor	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.2	NEG		
FLUID CONDITION	Sodium	ppm	ASTM D5185m	<u>\400</u>	0		
LOID CONDITION	Boron	ppm	ASTM D5185m	2400	86		
The AN level is acceptable for this fluid.	Barium	ppm	ASTM D5185m		0		
	Molybdenum	ppm	ASTM D5185m		73		
	Manganese	ppm	ASTM D5185m		3		
	Magnesium	ppm	ASTM D5185m		529		
	Calcium	ppm	ASTM D5185m		1209		
	Phosphorus	ppm	ASTM D5185m		789		
	Zinc	ppm	ASTM D5185m		945		
	Sulfur	ppm	ASTM D5185m		3333		
	Oxidation	Abs/.1mm	*ASTM D7414	>25	8.0		
	Acid Number (AN)				1.27		
	Visc @ 100°C	cSt	ASTM D445		9.1		





Contact/Location: CHRIS ARNOLD - DAVDAVMD Page 2 of 2