

UIN 0605B66

Gasoline Engine

Unit No. 546787

Unit:
Make Land Rover
Model
Serial No. SALAM2D42AAxxxxxx
Site Model: LR4


Compartment:
Name Gasoline Engine
Make
Model
Serial No.
Capacity:

Customer:


DIAGNOSIS


All wear rates normal. Abrasive and other contaminant levels are acceptable. Base number below recommended limit. Viscosity within specified operating range. Action: As oil and filter(s) already changed, resample next recommended service interval to further monitor.


ANALYST: Stan.Leitz









LEGEND


Severe


Abnormal


Caution


Normal

DATE SAMPLED	20-Jul-23	01-Apr-22	12-Aug-20	30-May-19	12-Aug-17
DATE RECEIVED	10-Aug-23	25-Apr-22	26-Aug-20	27-Jun-19	06-Sep-17
DATE REPORTED	11-Aug-23	27-Apr-22	27-Aug-20	01-Jul-19	07-Sep-17
LAB NO.	43021808899	43021653190	43021429797	43021288290	43021040763
SIF NO.	33113160	33113158	33113154	32370385	14796382
TIME ON UNIT	mi 142000	131000	125000	121000	114000
TIME ON OIL	mi 11000	6000	4000	7000	10000
OIL BRAND	Red Line	Red Line	Red Line	Castrol	Castrol
OIL TYPE	Motor Oil	Motor Oil	Motor Oil	Unidentified	Unidentified
OIL GRADE	SAE 5W20	SAE 5W20	SAE 5W20	SAE 5W20	SAE 5W20
OIL ADDED					
FILTER			4000	7000	
OIL CHANGED	Changed	Changed	Changed	Changed	Changed
WO NUMBER					
Metals (ppm)					
Iron (Fe)	21	13	8	19	55
Chromium (Cr)	<1	<1	<1	<1	1
Lead (Pb)	<1	<1	<1	<1	<1
Copper (Cu)	4	2	1	1	1
Tin (Sn)	<1	<1	<1	<1	<1
Aluminium (Al)	5	3	2	4	7
Nickel (Ni)	<1	<1	<1	<1	<1
Silver (Ag)	<1	<1	<1	<1	<1
Titanium (Ti)	<1	<1	<1	<1	1
Vanadium (V)	<1	<1	<1	<1	<1
Contaminants (ppm)					
Silicon (Si)	7	6	6	4	7
Sodium (Na)	23	19	14	14	33
Potassium (K)	<1	<1	4	1	<1
Additives (ppm)					
Magnesium (Mg)	673	532	17	28	23
Calcium (Ca)	3017	2906	3344	3432	3234
Barium (Ba)	<1	<1	<1	<1	<1
Phosphorus (P)	1152	1102	1016	750	801
Zinc (Zn)	1318	1251	1133	865	929
Molybdenum (Mo)	535	522	548	119	102
Boron (B)	27	78	51	22	24
Contaminants					
Water (%)	<0.05	<0.05	<0.05	<0.05	<0.05
Coolant	No	No	No	No	No
Physical Tests					
Viscosity (cSt 100C)	10.0	9.3	9.0	9.2	9.9
Physical / Chemical					
Base Number (mgKOH/g)	1.5	3.0	3.3	2.2	2.4
					

UIN 0605B66

U.S. Laboratories

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Canadian Laboratories

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International Locations

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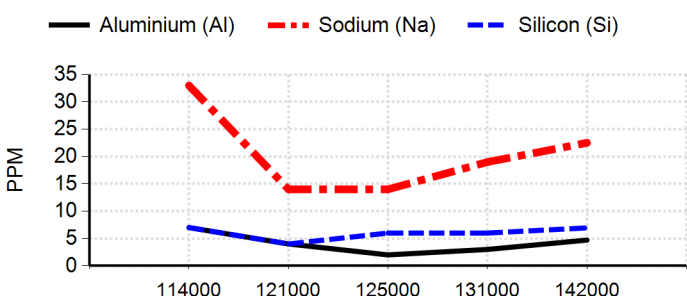
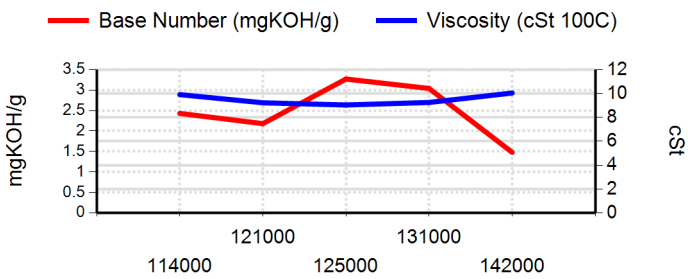
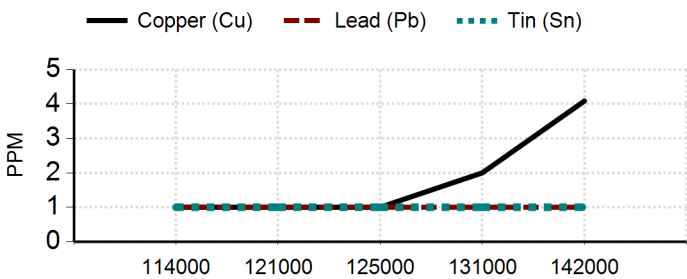
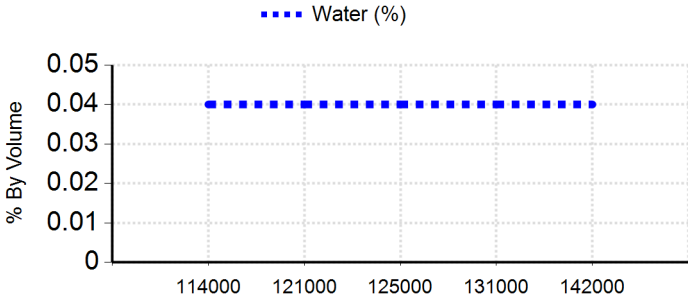
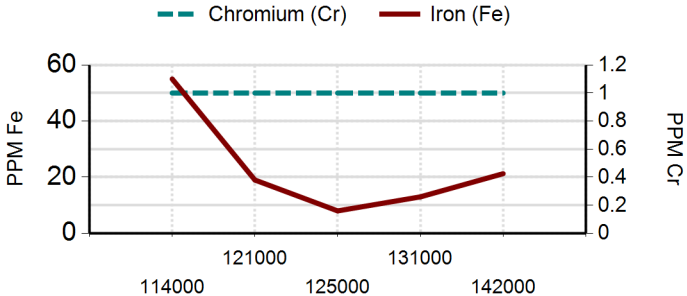
South America
Santiago de Chile, Belo Horizonte, Brazil

New Zealand **Southeast Asia** **Europe**
Wellington Kuala Lumpur, Singapore Prague

TEST METHODS:

Acid Number:	ASTM D974/D664 (*M)
Base Number:	ASTM D4739 (*M)
Base Number (Perchloric):	ASTM D2896B, back (*M)
Fuel Dilution by GC:	ASTM D7593
Fuel Dilution Visc/Setaflash	In House
Fuel Soot ATR/IR:	ASTM D7686 (*M)
Soot by FTIR:	ASTM D7844
Glycol:	In House
Metals by ICP AES:	ASTM D5185 (*M)
Ox, NOx, SOx, FTIR:	ASTM E2412/D7418/D7414 D7415
PQ Index:	ASTM D8120 (*M)
Particle Count:	ASTM D7647 (*M) / ISO 4406
Kinematic Viscosity:	ASTM D445 (*M) / D7279 (*M)
Water KF:	D6304 / E203 (*M)
Water Crackle:	In House

*M - Modified Method



Filter
Image

Filter patch test is not
performed Contact laboratory
for more information

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