

KOWA Sample Report



Caution

20221202100845

KOWA Sample Report

Nordev Contractors : TOWNSVILLE WORKSHOP

186 : TEREX WARRIER 2400

Technician Geoffrey Coombes

my.komatsu.com.au/cms/samples/20221202100845

Diesel Engine

Evaluation	Aluminium & Silicon may still indicate a degree of dirt/dust which appears to be causing elevated results for Iron, Chromium, Copper & PQ Index.
Recommendation	Recommend to check for dirt entry. Check intake system for splits, tears or incorrectly fitted/dirty air filters, plugs, caps, breathers etc. Check filters for wear debris & sample at half the next service interval. Has there been a component change out recently? Please confirm. Has a new hour meter been fitted? Please confirm.

Sample Number	20221202100845	20220914100144	20190823100715	20190603100226	20180906100520
Status	Caution	Critical	Normal	Normal	Normal
Registration	298360	644620	8366086	889774	837631
Sampled	13/11/2022	23/08/2022	20/08/2019	03/06/2019	27/08/2018
Evaluated	02/12/2022	14/09/2022	23/08/2019	03/06/2019	06/09/2018
Unit Hours	1500	1274	944	535	3264
Comp. Hours	1500	1274	944	535	3264
Oil Hours	225	72	250	535	264
Oil Make	CALTEX	SHELL	?	KOMATSU	SHELL
Oil Type	EO	RIMULA R3 MV	?	TO	RIMULA R3 MV
Oil Grade	15W-40	15W-40	15W-40	30W	15W-40
Oil Changed	Yes	Yes	Yes	Yes	Yes
Topup					40
Filter Changed	Yes	Yes	Yes	Yes	Yes
Wear + Additives					
PQ Index	23	42	15	11	14
Iron (Fe)	25	81	33	10	10
Chromium (Cr)	2	11	1	<1	<1
Nickel (Ni)	<1	1	<1	<1	<1
Copper (Cu)	3	14	1	1	1
Tin (Sn)	1	<1	<1	<1	<1
Lead (Pb)	<1	<1	<1	<1	<1
Aluminium (Al)	6	24	3	2	1
Silicon (Si)	11	60	9	7	4
Sodium (Na)	3	4	5	7	2
Potassium (K)	2	5	11	3	3
Boron (B)	75	37	36	428	1
Molybdenum (Mo)	72	53	9	81	<1
Zinc (Zn)	991	877	1159	1232	1369
Magnesium (Mg)	294	192	44	329	9
Phosphorus (P)	872	803	974	1103	1199
Calcium (Ca)	1757	1698	3742	1888	3059
Lithium (Li)	<1	<1			
Silver (Ag)	<1	<1			
Barium (Ba)	<1	<1			
Manganese (Mn)	<1	1			
Titanium (Ti)	<1	1			
Vanadium (V)	<1	<1			
Cadmium (Cd)	<1	<1			
Oil Condition					
Nitration	9	7	8	8	6
Oxidation	15	11	13	19	15
Sulphation	23	17	22	26	22

The analysis and data provided is indicative of conditions based upon sample information received and the quality of the sample supplied. Recommendations are provided as a guide only. Any decision relating to action taken from the test results is the responsibility of the client.



cms@komatsu.com.au
my.komatsu.com.au/cms
Australia +61 1300 566 287

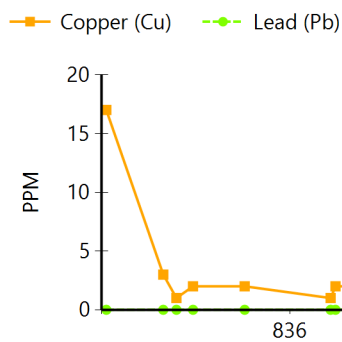
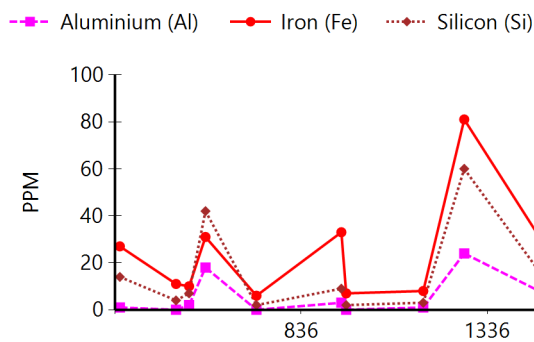
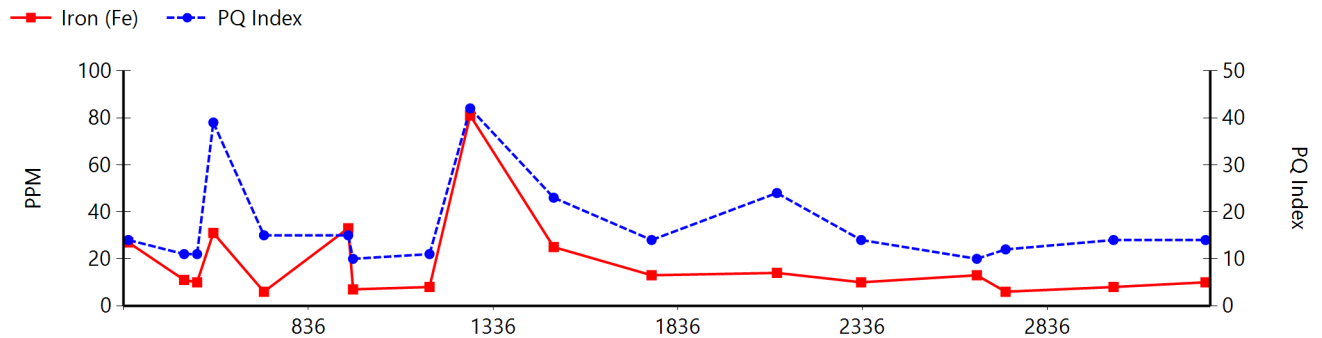
cms@komatsu.co.nz
my.komatsu.co.nz/cms
New Zealand +64 0800 566 2878

New Caledonia +687 435 306

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Sample Number	20221202100845	20220914100144	20190823100715	20190603100226	20180906100520
Soot	10	4	16	9	15
Physicals					
Water	<0.1	<0.1	<0.1	<0.1	<0.1
Fuel			0	0	0
GC Fuel	0.8	0.9			
Viscosity @ 100°C	13.3	12.3	13.1	13.5	13.3



Status Legend

Critical	Results indicate urgent action is required
Action	Results indicate action is required as soon as possible
Caution	Results indicate an increased trend that should be monitored
Query	Further information is required
Normal	Results are acceptable relative to the trend

Komatsu's Condition Monitoring Services (CMS) are ISO 9001 certified to ensure you receive timely and accurate information that you can trust.

Express post and eParcel satchels can be recycled, please return any unused satchels.

Report created 2/12/2022 14:19 AEST/AEDT.

KOWA Sample Report



Caution

20230315100225

KOWA Sample Report

Nordev Contractors : TOWNSVILLE WORKSHOP

186 : TEREX WARRIER 2400

Technician Greg Osborne

my.komatsu.com.au/cms/samples/20230315100225

Screen Gearbox Left

Evaluation	Dirt indicators, Aluminium and Silicon are increasing. Due to the abrasive nature of dirt, Iron (Ferrous wear in the <8 micron range) has increased.
Recommendation	Investigate and evaluate compartment condition. Check the component for dirt, dust entry points through seals, gaskets or breathers. Monitor the mag plug for ferrous wear debris. Some metallic fuzz is normal, but chips and flakes are abnormal. As the oil has been changed, resample again in half the service interval to further monitor. Check that the correct sampling procedures have been used.

Sample Number	20230315100225	20190823100735			
Status	Caution	Caution			
Registration	835542	70005			
Sampled	25/02/2023	20/08/2019			
Evaluated	15/03/2023	23/08/2019			
Unit Hours	1871	944			
Comp. Hours	1000	944			
Oil Hours	1000	944			
Oil Make	PUMA	?			
Oil Type	GEAR OIL	?			
Oil Grade	220	?			
Oil Changed	Yes	No			
Topup	10				
Wear + Additives					
PQ Index	19	21			
Iron (Fe)	230	68			
Chromium (Cr)	<1	<1			
Nickel (Ni)	<1	<1			
Copper (Cu)	13	29			
Tin (Sn)	1	1			
Lead (Pb)	<1	<1			
Aluminium (Al)	30	21			
Silicon (Si)	147	129			
Sodium (Na)	1	2			
Potassium (K)	1	1			
Boron (B)	1	<1			
Molybdenum (Mo)	<1	<1			
Zinc (Zn)	204	152			
Magnesium (Mg)	5	3			
Phosphorus (P)	171	161			
Calcium (Ca)	50	35			
Lithium (Li)	<1	<1			
Silver (Ag)	<1				
Barium (Ba)	1				
Manganese (Mn)	2				
Titanium (Ti)	<1				
Vanadium (V)	<1				
Cadmium (Cd)	<1				
Physicals					
Water	<0.1	<0.1			
Viscosity @ 40°C	200	202			

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Report created 15/03/2023 12:45 AEST/AEDT.

KOWA Sample Report



Caution

20230315100123

KOWA Sample Report

Nordev Contractors : TOWNSVILLE WORKSHOP

186 : TEREX WARRIER 2400

Technician Greg Osborne

my.komatsu.com.au/cms/samples/20230315100123

Screen Gearbox Right

Evaluation	(Component Last Sampled: 8/2019). Dirt indicators, Aluminium and Silicon are increasing. Due to the abrasive nature of dirt, ferrous wear indicators Iron and PQ Index are elevated.
Recommendation	Investigate and evaluate compartment condition. Check the component for dirt, dust entry points through seals, gaskets or breathers. Monitor the mag plug for ferrous wear debris. Some metallic fuzz is normal, but chips and flakes are abnormal. As the oil has been changed, resample again in half the service interval to further monitor. Check that the correct sampling procedures have been used.

Sample Number	20230315100123	20190823100736			
Status	Caution	Query			
Registration	496151	71077			
Sampled	25/02/2023	20/08/2019			
Evaluated	15/03/2023	23/08/2019			
Unit Hours	1871	944			
Comp. Hours	1000	944			
Oil Hours	1000	944			
Oil Make	PUMA	?			
Oil Type	GEAR OIL	?			
Oil Grade	220	?			
Oil Changed	Yes	No			
Topup	10				
Wear + Additives					
PQ Index	39	18			
Iron (Fe)	342	85			
Chromium (Cr)	1	<1			
Nickel (Ni)	<1	<1			
Copper (Cu)	6	4			
Tin (Sn)	1	1			
Lead (Pb)	<1	<1			
Aluminium (Al)	39	7			
Silicon (Si)	176	134			
Sodium (Na)	<1	2			
Potassium (K)	4	2			
Boron (B)	1	<1			
Molybdenum (Mo)	<1	<1			
Zinc (Zn)	185	155			
Magnesium (Mg)	5	2			
Phosphorus (P)	142	157			
Calcium (Ca)	31	27			
Lithium (Li)	<1	<1			
Silver (Ag)	<1				
Barium (Ba)	1				
Manganese (Mn)	2				
Titanium (Ti)	1				
Vanadium (V)	<1				
Cadmium (Cd)	<1				
Physicals					
Water	<0.1	<0.1			
Viscosity @ 40°C	205	200			

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Report created 15/03/2023 11:19 AEST/AEDT.