

Small things
give big
insights

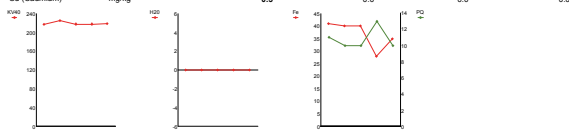


Make:	Sample No:	6051914
Model:	Location:	KONECRANES SERVICE LTD
Serial No:	Client:	RIVERSIDE
System:	Kit Ref/Bottle No:	KC432214
Brand:	Asset number:	
Grade:	Sampled:	20/01/18
Unique No.:	Received:	07/02/18

Diagnosis: **Normal** | **Caution** | **Serious** | Diagnostician: Dave Sharp
Wear appears satisfactory. No significant contamination. Advice - Monitor at the recommended sampling period.



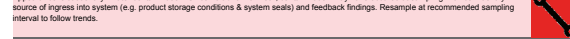
Results	Current Sample	Historical Samples			
Sample No	6051914	581348	509389	509387	509387
Status	✓	✓	✓	✓	✓
Sampled	20/01/18	23/07/17	12/07/15	12/07/15	
Fluid Age	HOURS				
Unit Age	HOURS				
Received	07/02/18	28/07/17	16/07/15	16/07/15	
Fluid Condition					
Viscosity @ 40 °C	mm ² /s	218.4	218.1	218.1	225.2
Appearance		Debris Present	Debris Present	Debris Present	Debris Present
Additives					
B (Boron)	mg/kg	0.0	0.0	0.1	3.2
Ba (Barium)	mg/kg	0.0	0.0	0.3	0.7
Ca (Calcium)	mg/kg	16	17	30	41
Mg (Magnesium)	mg/kg	0.6	0.0	0.5	1.0
P (Phosphorus)	mg/kg	231	281	276	308
Zn (Zinc)	mg/kg	8.0	7.0	6.0	18
Contamination					
Water	%	<0.1	<0.1	<0.1	<0.1
Na (Sodium)	mg/kg	3.4	0.8	0.0	0.4
K (Potassium)	mg/kg	0.0	0.9	0.0	0.2
Si (Silicon)	mg/kg	27	26	27	28
Li (Lithium)	mg/kg	2.8	1.8	0.9	12
Wear Particles					
Ferrous Debris (PQ)		10	13	10	10
Al (Aluminium)	mg/kg	0.7	1.4	0.0	0.0
Si (Tin)	mg/kg	0.0	0.2	0.1	0.0
Pb (Lead)	mg/kg	1.4	0.0	0.3	0.0
Cu (Copper)	mg/kg	0.6	0.4	0.4	1.0
Fe (Iron)	mg/kg	35	28	40	40
Cr (Chromium)	mg/kg	0.7	0.5	0.4	0.4
Mo (Molybdenum)	mg/kg	0.0	0.2	0.0	0.0
Ag (Silver)	mg/kg	1.2	1.1	1.4	0.0
Ni (Nickel)	mg/kg	1.4	1.0	1.4	4.3
Mn (Manganese)	mg/kg	1.4	1.0	0.9	0.8
Ti (Titanium)	mg/kg	0.5	0.0	0.0	0.1
V (Vanadium)	mg/kg	0.0	0.0	0.0	0.0
Cd (Cadmium)	mg/kg	0.5	0.0	0.0	0.0



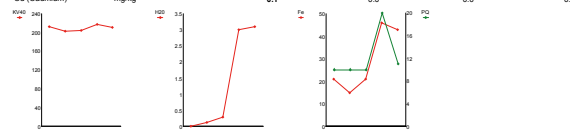
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Make:	Sample No:	6051915
Model:	Location:	KONECRANES SERVICE LTD
Serial No:	Client:	RIVERSIDE
System:	Kit Ref/Bottle No:	KC432217
Brand:	Asset number:	
Grade:	Sampled:	20/01/18
Unique No.:	Received:	07/02/18

Diagnosis: **Normal** | **Caution** | **Serious** | Diagnostician: Peter Foy
Appearance is cautionary. Water contamination. Since no abnormal wear, contamination may have occurred at sampling. Advice - Identify source of ingress into system (e.g. product storage conditions & system seals) and feedback findings. Resample at recommended sampling interval to follow trends.



Results	Current Sample	Historical Samples			
Sample No	6051915	581349	509388	4791278	
Status	✗	✗	✗	✗	✗
Sampled	20/01/18	23/07/17	12/07/15	26/07/15	
Fluid Age	HOURS				
Unit Age	HOURS				
Received	07/02/18	28/07/17	16/07/15	14/08/14	
Fluid Condition					
Viscosity @ 40 °C	mm ² /s	210.2	217.0	204.4	202.6
Appearance		Cloudy	Cloudy	Cloudy	Cloudy
Additives					
B (Boron)	mg/kg	1.4	1.2	3.6	0.2
Ba (Barium)	mg/kg	1.0	0.8	2.2	0.5
Ca (Calcium)	mg/kg	30	8.5	12	9.6
Mg (Magnesium)	mg/kg	3.1	0.0	0.6	2.3
P (Phosphorus)	mg/kg	247	293	269	274
Zn (Zinc)	mg/kg	14	14	11	10
Contamination					
Water	%	3.38	3.06	0.28	0.11
Na (Sodium)	mg/kg	0.0	4.7	0.0	4.8
K (Potassium)	mg/kg	0.0	0.0	0.3	1.0
Si (Silicon)	mg/kg	11	14	12	9.0
Li (Lithium)	mg/kg	0.7	1.4	0.3	1.1
Wear Particles					
Ferrous Debris (PQ)		11	20	10	10
Al (Aluminium)	mg/kg	0.0	0.6	1.0	0.0
Si (Tin)	mg/kg	0.0	0.1	1.3	1.5
Pb (Lead)	mg/kg	0.1	0.7	0.0	1.1
Cu (Copper)	mg/kg	0.5	0.4	0.5	0.7
Fe (Iron)	mg/kg	43	46	21	15
Cr (Chromium)	mg/kg	0.4	0.3	0.1	0.2
Mo (Molybdenum)	mg/kg	0.0	0.0	0.0	0.3
Ag (Silver)	mg/kg	0.0	0.0	0.0	1.5
Ni (Nickel)	mg/kg	0.8	0.8	0.2	0.0
Mn (Manganese)	mg/kg	1.2	1.3	0.7	1.4
Ti (Titanium)	mg/kg	0.0	0.0	0.0	0.0
V (Vanadium)	mg/kg	0.0	0.0	0.0	0.0
Cd (Cadmium)	mg/kg	0.1	0.0	0.0	0.0



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Thanks to the oil analysis, the crane runs smoothly

Our oil analysis protects your cranes – giving you actionable information to provide the highest lifecycle value, efficiency and safety on your equipment. Combined with regular oil change intervals Oil Analysis minimizes unnecessary repairs and increases the availability of your equipment.

While a good clean oil will protect your gears from wear, the opposite is also true, as a degraded or contaminated oil will accelerate the wear. In addition, the oil condition signals if something is wrong.

We analyse the oil on all cranes where it is possible to take a sample – especially recommended for high-performance lifting gears that require costintensive oils or costly downtime.

Konecranes is able to recognize a problem early on, based on such symptoms as contamination or wearing particles to recommend when a repair of the gearbox is required.

Detailed insights for optimal planning.

A detailed analysis report is made available online in the customer portal yourKONECRANES.com. This gives you an in-depth insight into the condition of the oil as well as the mechanical condition of your gears and bearings. The oil analysis helps you plan together with our experts the optimal time for oil replacement, gearbox repairs, overhauls or future modernization needs of your equipment.

For further information:

konecranes.com

ADVANTAGES OF OIL ANALYSIS:

- The condition of the gearbox oil affects the life span of mechanical components
- Changing the oil at the right time protects your machinery
- Early detection of wear and operational problems prevents costly repairs, unnecessary maintenance, and unplanned downtime
- The analysis report enables well-founded decisions on repair, maintenance, and overhaul of the systems
- Increases efficiency, availability, performance, productivity, and safety of your crane systems and hoists.

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