



Account Information	Sample Information	Other Sample Information
Lab Customer ID#: 265354 Company Name: Brandeis Machinery And Supply Company-Rental Company Worksite: Louisville, KY Company Address: 1801 WAT T ERSON T RAIL LOUISVILLE, KY, 40299	Lab No.: 201806141298 Sample Tracking #: E201806122002 Sample Date Jun 12, 2018 Received Date: Jun 14, 2018 Completed Date: Jun 18, 2018	PO No.: N/A Work Order No.: Reference No.: 5743456
Unit Information	Component Information	Fluid Information
Unit ID: 71424 / C0867 Unit Mfg: Komatsu Unit Model: WA200PZ-6 Unit Serial #: 71424 Unit Worksite: Louisville, KY	Cpnt. Description: FRONT DIFFERENTIAL Cpnt. Mfg: Komatsu Cpnt. Model: WA200PZ-6 Cpnt. Serial #: 71424 Cpnt. Type: DIFFERENTIAL	Fluid Manufacturer: KOMAT SU Fluid Brand/Product: AXO80 Fluid Grade:

Maintenance Recommendations for Lab No.: 201806141298

Evaluated By: David Scott

ANALYSIS INDICATES COMPONENT & LUBRICANT CONDITIONS ARE ACCEPTABLE. RESAMPLE at the next scheduled interval.

SPECTROCHEMICAL ANALYSIS IN PARTS PER MILLION

LAB NO.	SAMPLE DRAWN	Wear Metals										Contaminants			Additives							
		Iron	Chromium	Nickel	Aluminum	Lead	Copper	Tin	Silver	Titanium	Vanadium	Silicon	Sodium	Potassium	Boron	Molybdenum	Phosphorus	Zinc	Calcium	Barium	Magnesium	Antimony
1298	06/12/18	353	5	1	1	1	4	<1	<0.1	1	<1	27	9	2	123	16	1334	1572	3872	10	9	<1
0772	08/05/16	358	4	2	4	2	4	<1	<0.1	1	<1	32 *	9	3	135	17	1344	1623	4033	10	8	2
0907	05/26/15	137	1	<1	<1	1	3	<1	<0.1	<1	<1	19	8	5	133	12	1297	1663	3928	8	7	<1
0040	12/16/13	131	2	1	3	1	2	<1	<0.1	<1	<1	21	10	<10	124	11	1374	1712	4059	<10	11	<30
0035	06/17/13	74	2	1	2	1	2	<1	<0.1	<1	<1	19	8	<10	109	9	1206	1499	3505	<10	10	<30

SAMPLE INFORMATION

LAB NO.	SAMPLE DRAWN	UNIT TIME	FLUID TIME	UOM	FILTER CHG.	LUBE SERVICE
1298	06/12/18	1800	1340	HR	No	S
0772	08/05/16	1498	1038	HR	No	S
0907	05/26/15	1080	1080	HR	-	S
0040	12/16/13	460		HR	-	S
0035	06/17/13	261		HR	-	N

FLUID PROPERTIES/CONTAMINANTS

Water	D7279 Vis 100 °C
<0.1	8.3
<0.1	8.4
<0.1	8.6
<0.1	9.0
<0.1	9.3

KEY: UoM - Unit of Measure Y - Yes N - No C - Changed S - Sampled > - Greater Than < - Less Than N/R - Not Reported (M) - Modified /method

Testing performed by Bureau Veritas®, an ISO/IEC 17025:2005 accredited laboratory, L-A-B accredited Certificate Number L2264. †: Not in scope of accreditation. For further details on outsourced testing, contact the laboratory directly. ‡: This test is run based on a trigger test, in this case "<" values indicate that the trigger test was either not positive or the result was below the reportable limit. For a list of trigger tests refer to <http://www.bureauveritas.com/oil-analysis>.
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Lab Customer ID#: 265354 Company Name: Brandeis Machinery And Supply Company-Rental Company Worksite: Louisville, KY Company Address: 1801 WAT T ERSON T RAIL LOUISVILLE, KY, 40299	Lab No.: 201806141299 Sample Tracking #: E201806122004 Sample Date Jun 12, 2018 Received Date: Jun 14, 2018 Completed Date: Jun 18, 2018	PO No.: N/A Work Order No.: Reference No.: 5743457
Unit Information	Component Information	Fluid Information
Unit ID: 71424 / C0867 Unit Mfg: Komatsu Unit Model: WA200PZ-6 Unit Serial #: 71424 Unit Worksite: Louisville, KY	Cpnt. Description: REAR DIFFERENTIAL Cpnt. Mfg: Komatsu Cpnt. Model: WA200PZ-6 Cpnt. Serial #: 71424 Cpnt. Type: DIFFERENTIAL	Fluid Manufacturer: KOMAT SU Fluid Brand/Product: AXO80 Fluid Grade:

Maintenance Recommendations for Lab No.: 201806141299

Evaluated By: David Scott

ANALYSIS INDICATES COMPONENT & LUBRICANT CONDITIONS ARE ACCEPTABLE. RESAMPLE at the next scheduled interval.

SPECTROCHEMICAL ANALYSIS IN PARTS PER MILLION

LAB NO.	SAMPLE DRAWN	Wear Metals										Contaminants			Additives							
		Iron	Chromium	Nickel	Aluminum	Lead	Copper	Tin	Silver	Titanium	Vanadium	Silicon	Sodium	Potassium	Boron	Molybdenum	Phosphorus	Zinc	Calcium	Barium	Magnesium	Antimony
1299	06/12/18	200	3	<1	1	1	4	<1	<0.1	<1	<1	20	8	3	120	10	1251	1528	3743	10	9	<1
0773	08/05/16	211	2	1	3	1	4	<1	<0.1	<1	<1	24	10	3	129	11	1281	1567	3886	9	8	1
0908	05/26/15	97	1	<1	<1	1	3	<1	<0.1	<1	<1	16	7	5	133	9	1306	1688	3967	8	8	<1
0039	12/16/13	93	2	1	3	1	2	<1	<0.1	<1	<1	18	7	<10	114	7	1297	1604	3783	<10	10	<30
0036	06/17/13	61	1	1	3	<1	2	<1	<0.1	<1	<1	17	7	<10	111	7	1220	1504	3555	<10	10	<30

SAMPLE INFORMATION

LAB NO.	SAMPLE DRAWN	UNIT TIME	FLUID TIME	UOM	FILTER CHG.	LUBE SERVICE
1299	06/12/18	1800	1340	HR	No	S
0773	08/05/16	1498	1038	HR	No	S
0908	05/26/15	1080	1080	HR	-	S
0039	12/16/13	460		HR	-	S
0036	06/17/13	261		HR	-	N

FLUID PROPERTIES/CONTAMINANTS

Water	D7279 Vis 100 °C
<0.1	8.7
<0.1	8.7
<0.1	8.8
<0.1	9.1
<0.1	9.3

KEY: UoM - Unit of Measure Y - Yes N - No C - Changed S - Sampled > - Greater Than < - Less Than N/R - Not Reported (M) - Modified /method

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Account Information	Sample Information	Other Sample Information
Lab Customer ID#: 265354 Company Name: Brandeis Machinery And Supply Company-Rental Company Worksite: Louisville, KY Company Address: 1801 WAT T ERSON T RAIL LOUISVILLE, KY, 40299	Lab No.: 201806141300 Sample Tracking #: E201806122003 Sample Date Jun 12, 2018 Received Date: Jun 14, 2018 Completed Date: Jun 18, 2018	PO No.: N/A Work Order No.: Reference No.: 5743455
Unit Information	Component Information	Fluid Information
Unit ID: 71424 / C0867 Unit Mfg: Komatsu Unit Model: WA200PZ-6 Unit Serial #: 71424 Unit Worksite: Louisville, KY	Cpnt. Description: HYDRAULIC Cpnt. Mfg: Komatsu Cpnt. Model: WA200PZ-6 Cpnt. Serial #: 71424 Cpnt. Type: HYDRAULIC	Fluid Manufacturer: KOMAT SU Fluid Brand/Product: UNKNOWN Fluid Grade: 10W30

Maintenance Recommendations for Lab No.: 201806141300

Evaluated By: David Scott

ANALYSIS REFLECTS CONDITIONS / VALUES NOTED FOR MONITORING PURPOSES ONLY. VISCOSITY is LOW for the reported oil type/grade. Other test results are satisfactory. RESAMPLE at the next scheduled interval.

SPECTROCHEMICAL ANALYSIS IN PARTS PER MILLION

LAB NO.	SAMPLE DRAWN	Wear Metals										Contaminants			Additives							
		Iron	Chromium	Nickel	Aluminum	Lead	Copper	Tin	Silver	Titanium	Vanadium	Silicon	Sodium	Potassium	Boron	Molybdenum	Phosphorus	Zinc	Calcium	Barium	Magnesium	Antimony
1300	06/12/18	12	1	<1	2	4	32	<1	0.1	<1	<1	10	5	1	34	60	919	1129	2789	1	11	<1
0774	08/05/16	11	<1	1	3	5	31	<1	0.1	<1	<1	11	6	<1	34	67	933	1155	2888	1	6	2
0906	05/26/15	8	<1	<1	<1	3	29	<1	<0.1	<1	<1	7	3	1	43	84	1091	1408	3581	<1	11	<1
0038	12/16/13	6	1	<1	4	5	31	<1	0.1	<1	<1	10	3	<10	58	112	1225	1534	4132	<10	12	<30
0034	06/17/13	4	<1	1	3	2	26	<1	<0.1	<1	<1	8	3	<10	54	106	1130	1402	3787	<10	11	<30

SAMPLE INFORMATION

LAB NO.	SAMPLE DRAWN	UNIT TIME	FLUID TIME	UOM	FILTER CHG.	LUBE SERVICE
1300	06/12/18	1800	1340	HR	No	S
0774	08/05/16	1498	1038	HR	No	S
0906	05/26/15	1080	1080	HR	-	S
0038	12/16/13	460		HR	-	S
0034	06/17/13	261		HR	Yes	N

FLUID PROPERTIES/CONTAMINANTS

Water	D7279 Vis 100 °C
<0.1	7.6 *
<0.1	8.0 *
<0.1	8.2
<0.1	8.6 *
<0.1	8.7 *

KEY: UoM - Unit of Measure Y - Yes N - No C - Changed S - Sampled > - Greater Than < - Less Than N/R - Not Reported (M) - Modified /method

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Account Information	Sample Information	Other Sample Information
Lab Customer ID#: 265354 Company Name: Brandeis Machinery And Supply Company-Rental Company Worksite: Louisville, KY Company Address: 1801 WAT T ERSON TRAIL LOUISVILLE, KY, 40299	Lab No.: 201806141511 Sample Tracking #: E201806122005 Sample Date Jun 12, 2018 Received Date: Jun 15, 2018 Completed Date: Jun 15, 2018	PO No.: N/A Work Order No.: Reference No.: 5743458
Unit Information	Component Information	Fluid Information
Unit ID: 71424 / C0867 Unit Mfg: Komatsu Unit Model: WA200PZ-6 Unit Serial #: 71424 Unit Worksite: Louisville, KY	Cpnt. Description: TRANSFER CASE Cpnt. Mfg: Komatsu Cpnt. Model: WA200PZ-6 Cpnt. Serial #: 71424 Cpnt. Type: TRANSFER CASE	Fluid Manufacturer: KOMAT SU Fluid Brand/Product: UNKNOWN Fluid Grade: SAE 10

Maintenance Recommendations for Lab No.: 201806141511

Evaluated By: Zufelt, John

ANALYSIS REFLECTS S CONDITIONS / VALUES NOTED FOR MONITORING PURPOSES ONLY. NO SPECIFIC diagnostic or corrective MAINTENANCE is REQUIRED at this time. The silicon is not causing any apparent abrasive wear. Other test results are satisfactory. RESAMPLE at the next scheduled interval.

SPECTROCHEMICAL ANALYSIS IN PARTS PER MILLION

LAB NO.	SAMPLE DRAWN	Wear Metals										Contaminants			Additives							
		Iron	Chromium	Nickel	Aluminum	Lead	Copper	Tin	Silver	Titanium	Vanadium	Silicon	Sodium	Potassium	Boron	Molybdenum	Phosphorus	Zinc	Calcium	Barium	Magnesium	Antimony
1511	06/12/18	95	1	<1	3	19	50	<1	<0.1	<1	<1	86 *	11	1	5	14	691	904	3709	21	11	4
0771	08/05/16	94	1	1	4	15	48 *	<1	<0.1	<1	<1	91 *	6	<1	3	13	759	996	4064	22	9	<1
0905	05/26/15	79	<1	<1	<1	10	40	<1	<0.1	<1	<1	72 *	4	2	2	15	767	1046	4038	20	11	<1
0037	12/16/13	54	1	<1	4	9	30	<1	0.1	<1	<1	64	6	<10	5	10	749	1002	4062	23	10	<30
0037	06/17/13	27	<1	1	4	4	18	<1	<0.1	<1	<1	54	4	<10	4	41	712	938	3801	18	11	<30

SAMPLE INFORMATION

LAB NO.	SAMPLE DRAWN	UNIT TIME	FLUID TIME	UOM	FILTER CHG.	LUBE SERVICE
1511	06/12/18	1800	1340	HR	No	S
0771	08/05/16	1498	1038	HR	No	S
0905	05/26/15	1080	1000	HR	Yes	S
0037	12/16/13	460		HR	-	S
0037	06/17/13	261		HR	-	N

FLUID PROPERTIES/CONTAMINANTS

Water	D7279 Vis 100 °C
<0.1	6.0
<0.1	6.3
<0.1	6.2
<0.1	6.3
<0.1	6.1

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Lab Customer ID#: 265354 Company Name: Brandeis Machinery And Supply Company-Rental Company Worksite: Louisville, KY Company Address: 1801 WAT T ERSON T RAIL LOUISVILLE, KY, 40299	Lab No.: 201806141512 Sample Tracking #: E201806122001 Sample Date Jun 12, 2018 Received Date: Jun 15, 2018 Completed Date: Jun 15, 2018	PO No.: N/A Work Order No.: Reference No.: 5680825
Unit Information	Component Information	Fluid Information
Unit ID: 71424 / C0867 Unit Mfg: Komatsu Unit Model: WA200PZ-6 Unit Serial #: 71424 Unit Worksite: Louisville, KY	Cpnt. Description: DIESEL ENGINE Cpnt. Mfg: Komatsu Cpnt. Model: SAA6D107E-1 Cpnt. Serial #: Cpnt. Type: ENGINE	Fluid Manufacturer: KOMAT SU Fluid Brand/Product: UNKNOWN Fluid Grade: 15W40

Maintenance Recommendations for Lab No.: 201806141512

Evaluated By: Zufelt, John

ANALYSIS INDICATES COMPONENT & LUBRICANT CONDITIONS ARE ACCEPTABLE. RESAMPLE at the next scheduled interval.

SPECTROCHEMICAL ANALYSIS IN PARTS PER MILLION

LAB NO.	SAMPLE DRAWN	Wear Metals										Contaminants			Additives							
		Iron	Chromium	Nickel	Aluminum	Lead	Copper	Tin	Silver	Titanium	Vanadium	Silicon	Sodium	Potassium	Boron	Molybdenum	Phosphorus	Zinc	Calcium	Barium	Magnesium	Antimony
1512	06/12/18	22	1	<1	3	4	1	<1	0.1	<1	<1	5	8	18	77	113	984	1142	2703	<1	27	3
0770	08/05/16	31	2	1	3	1	3	<1	0.1	5	<1	6	4	13	65	97	976	1145	2614	1	23	3
0904	05/26/15	35	1	<1	1	1	12	<1	<0.1	93	<1	6	5	2	64	6	1062	1366	2086	<1	320	<1
0036	12/16/13	56	3	<1	4	2	40	<1	<0.1	<1	<1	31	5	<10	41	107	1211	1495	4012	<10	13	<30
0033	06/17/13	32	2	1	3	2	35	<1	<0.1	<1	<1	29	3	<10	44	101	1128	1356	3632	<10	10	<30
0076	03/29/13	33 *	1	<1	4	1	38 *	<1	<0.1	<1	<1	34 *	5	<10	48	110	1189	1419	3893	<10	13	<30

SAMPLE INFORMATION

LAB NO.	SAMPLE DRAWN	UNIT TIME	FLUID TIME	UOM	FILTER CHG.	LUBE SERVICE
1512	06/12/18	1800	302	HR	No	S
0770	08/05/16	1498	1038	HR	Yes	C
0904	05/26/15	1080	250	HR	Yes	C
0036	12/16/13	460		HR	Yes	C
0033	06/17/13	261		HR	No	N
0076	03/29/13	208	208	HR	No	N

FLUID PROPERTIES/CONTAMINANTS

D7279 Vis 100 °C	Visc Grade	E2412 SOOT	E2412 OX	E2412 NTR	E2412 GLY	Water	Fuel
13.1	40	0.1	13	8	NEG	<0.1	<0.50
13.9	40	0.4	14	8	NEG	<0.1	<0.50
14.6	40	0.3	17	9	NEG	<0.1	<0.50
13.5	40	0.1	9	7	NEG	<0.1	<0.50
13.4	40	<0.1	9	6	NEG	<0.1	<0.50
13.4	40	<0.1	8	6	NEG	<0.1	<0.50

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