



Account Information	Sample Information	Other Sample Information
Lab Customer ID#: 19559 Company Name: <a href="#">Brandeis Machinery And Supply Company</a> Company Worksite: Indianapolis, IN Company Address: 8410 ZIONSVILLE ROAD INDIANAPOLIS, IN, 46268-0555	Lab No.: 201705231196 Sample Tracking #: E201705161377 Sample Date: May 16, 2017 Received Date: May 23, 2017 Completed Date: May 24, 2017	PO No.: BRANDEIS INDIANAPOLIS IN Work Order No.: Reference No.: 6933718
Unit Information	Component Information	Fluid Information
Unit ID: <a href="#">90177 / C0929</a> Unit Mfg: Komatsu Unit Model: D39EX-23 Unit Serial #: 90177 Unit Worksite: Indianapolis, IN	Cpnt. Description: <a href="#">LEFT REAR FINAL DRIVE</a> Cpnt. Mfg: Komatsu Cpnt. Model: D39EX-23 Cpnt. Serial #: 90177 Cpnt. Type: FINAL DRIVE	Fluid Manufacturer: KOMAT SU Fluid Brand/Product: UNKNOWN Fluid Grade: SAE 30

**Maintenance Recommendations for Lab No.: 201705231196**

Evaluated By: Kullas, Stephen

ANALYSIS INDICATES ABNORMAL COMPONENT & LUBRICANT CONDITIONS! POSSIBLE SOURCES include: Gear or bearing wear. ABRASIVES (dirt) present. CHECK seals, vents, and case for location of contaminant entry. CHANGE OIL if not already performed. 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
1196	05/16/17	1537 *	18	2	125 *	2	111 *	<1	<0.1	10	1	705 *	24	51	8	21	821	1002	3461	6	65	2
0500	07/22/16	233	6	2	6	2	171 *	<1	<0.1	2	1	46	4	2	1	69	778	908	4017	27	9	<1

SAMPLE INFORMATION

LAB NO.	SAMPLE DRAWN	UNIT TIME	FLUID TIME	UOM	FILTER CHG.	LUBE SERVICE
1196	05/16/17	1469	548	HR	No	S
0500	07/22/16	921	921	HR	-	C

FLUID PROPERTIES/CONTAMINANTS

Water %	D7279 Vis 100 °C
<0.1	12.0
<0.1	11.1

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>. Notice: This analysis is intended as an aid in predicting mechanical wear. Test results, maintenance recommendations and accuracy are affected by customer provided samples, equipment identification, maintenance history and apply only to this sample as provided. No guarantee, expressed or implied, is made against failure of this piece of equipment or a component thereof. The ultimate responsibility for the maintenance of this piece of equipment and all if its components is the responsibility of the equipment owner.



Account Information	Sample Information	Other Sample Information
Lab Customer ID#: 19559 Company Name: <a href="#">Brandeis Machinery And Supply Company</a> Company Worksite: Indianapolis, IN Company Address: 8410 ZIONSVILLE ROAD INDIANAPOLIS, IN, 46268-0555	Lab No.: 201607270500 Sample Tracking #: NONE Sample Date Jul 22, 2016 Received Date: Jul 27, 2016 Completed Date: Jul 28, 2016	PO No.: BRANDEIS INDIANAPOLIS IN Work Order No.: Reference No.: 6933718
Unit Information	Component Information	Fluid Information
Unit ID: <a href="#">90177 / C0929</a> Unit Mfg: Komatsu Unit Model: D39EX-23 Unit Serial #: 90177 Unit Worksite: Indianapolis, IN	Cpnt. Description: <a href="#">LEFT REAR FINAL DRIVE</a> Cpnt. Mfg: Komatsu Cpnt. Model: D39EX-23 Cpnt. Serial #: 90177 Cpnt. Type: FINAL DRIVE	Fluid Manufacturer: KOMAT SU Fluid Brand/Product: UNKNOWN Fluid Grade: SAE 30

**Maintenance Recommendations for Lab No.: 201607270500**

Evaluated By: Kullas, Stephen

ANALYSIS REFLECTS CONDITIONS / VALUES NOTED FOR MONITORING PURPOSES ONLY. Other tests results are satisfactory and data reflects the system was serviced with the appropriate oil and/or filter change at the time of sampling. No additional action is required at this time. 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
0500	07/22/16	233	6	2	6	2	171 *	<1	<0.1	2	1	46	4	2	1	69	778	908	4017	27	9	<1

SAMPLE INFORMATION

LAB NO.	SAMPLE DRAWN	UNIT TIME	FLUID TIME	UOM	FILTER CHG.	LUBE SERVICE
0500	07/22/16	921	921	HR	-	C

FLUID PROPERTIES/CONTAMINANTS

Water %	D7279 Vis 100 °C
<0.1	11.1

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#: 19559 Company Name: <a href="#">Brandeis Machinery And Supply Company</a> Company Worksite: Indianapolis, IN Company Address: 8410 ZIONSVILLE ROAD INDIANAPOLIS, IN, 46268-0555	Lab No.: 201705231194 Sample Tracking #: E201705161375 Sample Date: May 16, 2017 Received Date: May 23, 2017 Completed Date: May 24, 2017	PO No.: BRANDEIS INDIANAPOLIS IN Work Order No.: Reference No.: 6933715
Unit Information	Component Information	Fluid Information
Unit ID: <a href="#">90177 / C0929</a> Unit Mfg: Komatsu Unit Model: D39EX-23 Unit Serial #: 90177 Unit Worksite: Indianapolis, IN	Cpnt. Description: <a href="#">ENGINE</a> Cpnt. Mfg: Komatsu Cpnt. Model: D39EX-23 Cpnt. Serial #: 90177 Cpnt. Type: ENGINE	Fluid Manufacturer: KOMATSU Fluid Brand/Product: LOW ASH Fluid Grade: 15W40

**Maintenance Recommendations for Lab No.: 201705231194**

Evaluated By: Kullas, Stephen

ANALYSIS REFLECTS CONDITIONS / VALUES NOTED FOR MONITORING PURPOSES ONLY. Other tests results are satisfactory and data reflects the system was serviced with the appropriate oil and/or filter change at the time of sampling. No additional action is required at this time. 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
1194	05/16/17	54	2	<1	7	11	64 *	<1	<0.1	<1	<1	20	10	4	40	22	1039	1279	3267	2	123	<1
0497	07/22/16	76	2	1	7	14	29 *	<1	<0.1	<1	<1	24	2	15	50	114	944	1161	2756	2	12	<1

SAMPLE INFORMATION

LAB NO.	SAMPLE DRAWN	UNIT TIME	FLUID TIME	UOM	FILTER CHG.	LUBE SERVICE
1194	05/16/17	1469	548	HR	Yes	C
0497	07/22/16	921	486	HR	Yes	C

FLUID PROPERTIES/CONTAMINANTS

D7279 Vis 100 °C	Visc Grade	E2412 SOOT	E2412 OX	E2412 NTR	E2412 GLY	Water %	Fuel %
15.2	40	0.2	20	11 *	NEG	<0.1	<0.50
13.5	40	0.3	18	12 *	NEG	<0.1	<0.50

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#: 19559 Company Name: <a href="#">Brandeis Machinery And Supply Company</a> Company Worksite: Indianapolis, IN Company Address: 8410 ZIONSVILLE ROAD INDIANAPOLIS, IN, 46268-0555	Lab No.: 201607270499 Sample Tracking #: NONE Sample Date Jul 22, 2016 Received Date: Jul 27, 2016 Completed Date: Jul 28, 2016	PO No.: BRANDEIS INDIANAPOLIS IN Work Order No.: Reference No.: 6933717
Unit Information	Component Information	Fluid Information
Unit ID: <a href="#">90177 / C0929</a> Unit Mfg: Komatsu Unit Model: D39EX-23 Unit Serial #: 90177 Unit Worksite: Indianapolis, IN	Cpnt. Description: <a href="#">RIGHT REAR FINAL DRIVE</a> Cpnt. Mfg: Komatsu Cpnt. Model: D39EX-23 Cpnt. Serial #: 90177 Cpnt. Type: FINAL DRIVE	Fluid Manufacturer: KOMAT SU Fluid Brand/Product: UNKNOWN Fluid Grade: SAE 30

**Maintenance Recommendations for Lab No.: 201607270499**

Evaluated By: Kullas, Stephen

ANALYSIS REFLECTS CONDITIONS / VALUES NOTED FOR MONITORING PURPOSES ONLY. Other tests results are satisfactory and data reflects the system was serviced with the appropriate oil and/or filter change at the time of sampling. No additional action is required at this time. 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
0499	07/22/16	254	11	2	10	2	189 *	<1	<0.1	3	2	74	3	4	3	74	816	929	4071	28	9	<1

SAMPLE INFORMATION

LAB NO.	SAMPLE DRAWN	UNIT TIME	FLUID TIME	UOM	FILTER CHG.	LUBE SERVICE
0499	07/22/16	921	921	HR	-	C

FLUID PROPERTIES/CONTAMINANTS

Water %	D7279 Vis 100 °C
<0.1	10.9

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#: 19559 Company Name: <a href="#">Brandeis Machinery And Supply Company</a> Company Worksite: Indianapolis, IN Company Address: 8410 ZIONSVILLE ROAD INDIANAPOLIS, IN, 46268-0555	Lab No.: 201705231197 Sample Tracking #: E201705161378 Sample Date: May 16, 2017 Received Date: May 23, 2017 Completed Date: May 24, 2017	PO No.: BRANDEIS INDIANAPOLIS IN Work Order No.: Reference No.: 6933717
Unit Information	Component Information	Fluid Information
Unit ID: <a href="#">90177 / C0929</a> Unit Mfg: Komatsu Unit Model: D39EX-23 Unit Serial #: 90177 Unit Worksite: Indianapolis, IN	Cpnt. Description: <a href="#">RIGHT REAR FINAL DRIVE</a> Cpnt. Mfg: Komatsu Cpnt. Model: D39EX-23 Cpnt. Serial #: 90177 Cpnt. Type: FINAL DRIVE	Fluid Manufacturer: KOMAT SU Fluid Brand/Product: UNKNOWN Fluid Grade: SAE 30

**Maintenance Recommendations for Lab No.: 201705231197**

Evaluated By: Kullas, Stephen

ANALYSIS INDICATES ABNORMAL COMPONENT & LUBRICANT CONDITIONS! POSSIBLE SOURCES include: Gear or bearing wear. ABRASIVES (dirt) present. CHECK seals, vents, and case for location of contaminant entry. CHANGE OIL if not already performed. 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
1197	05/16/17	1162 *	16	3	73 *	1	111 *	<1	<0.1	7	1	459 *	18	33	9	23	837	1020	3570	7	51	<1
0499	07/22/16	254	11	2	10	2	189 *	<1	<0.1	3	2	74	3	4	3	74	816	929	4071	28	9	<1

SAMPLE INFORMATION

LAB NO.	SAMPLE DRAWN	UNIT TIME	FLUID TIME	UOM	FILTER CHG.	LUBE SERVICE
1197	05/16/17	1469	548	HR	No	S
0499	07/22/16	921	921	HR	-	C

FLUID PROPERTIES/CONTAMINANTS

Water %	D7279 Vis 100 °C
<0.1	11.6
<0.1	10.9

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#: 19559 Company Name: <a href="#">Brandeis Machinery And Supply Company</a> Company Worksite: Indianapolis, IN Company Address: 8410 ZIONSVILLE ROAD INDIANAPOLIS, IN, 46268-0555	Lab No.: 201705231195 Sample Tracking #: E201705161376 Sample Date: May 16, 2017 Received Date: May 23, 2017 Completed Date: May 24, 2017	PO No.: BRANDEIS INDIANAPOLIS IN Work Order No.: Reference No.: 6933716
Unit Information	Component Information	Fluid Information
Unit ID: <a href="#">90177 / C0929</a> Unit Mfg: Komatsu Unit Model: D39EX-23 Unit Serial #: 90177 Unit Worksite: Indianapolis, IN	Cpnt. Description: <a href="#">HYDRAULIC</a> Cpnt. Mfg: Komatsu Cpnt. Model: D39EX-23 Cpnt. Serial #: 90177 Cpnt. Type: HYDRAULIC	Fluid Manufacturer: KOMATSU Fluid Brand/Product: UNKNOWN Fluid Grade: 10W30

**Maintenance Recommendations for Lab No.: 201705231195**

Evaluated By: Kullas, Stephen

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
1195	05/16/17	12	<1	<1	1	8	27	<1	<0.1	<1	<1	8	6	2	60	104	1068	1287	3696	<1	4	<1
0498	07/22/16	11	<1	1	2	9	24	<1	<0.1	<1	<1	12	2	<1	69	126	1290	1538	4482	1	8	1

SAMPLE INFORMATION

LAB NO.	SAMPLE DRAWN	UNIT TIME	FLUID TIME	UOM	FILTER CHG.	LUBE SERVICE
1195	05/16/17	1469	1469	HR	No	S
0498	07/22/16	921	921	HR	-	S

FLUID PROPERTIES/CONTAMINANTS

Water %	D7279 Vis 100 °C
<0.1	8.6
<0.1	8.2

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#: 19559 Company Name: <a href="#">Brandeis Machinery And Supply Company</a> Company Worksite: Indianapolis, IN Company Address: 8410 ZIONSVILLE ROAD INDIANAPOLIS, IN, 46268-0555	Lab No.: 201607270498 Sample Tracking #: NONE Sample Date Jul 22, 2016 Received Date: Jul 27, 2016 Completed Date: Jul 28, 2016	PO No.: BRANDEIS INDIANAPOLIS IN Work Order No.: Reference No.: 6933716
Unit Information	Component Information	Fluid Information
Unit ID: <a href="#">90177 / C0929</a> Unit Mfg: Komatsu Unit Model: D39EX-23 Unit Serial #: 90177 Unit Worksite: Indianapolis, IN	Cpnt. Description: <a href="#">HYDRAULIC</a> Cpnt. Mfg: Komatsu Cpnt. Model: D39EX-23 Cpnt. Serial #: 90177 Cpnt. Type: HYDRAULIC	Fluid Manufacturer: KOMATSU Fluid Brand/Product: UNKNOWN Fluid Grade: 10W30

**Maintenance Recommendations for Lab No.: 201607270498**

Evaluated By: Kullas, Stephen

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
0498	07/22/16	11	<1	1	2	9	24	<1	<0.1	<1	<1	12	2	<1	69	126	1290	1538	4482	1	8	1

SAMPLE INFORMATION

LAB NO.	SAMPLE DRAWN	UNIT TIME	FLUID TIME	UOM	FILTER CHG.	LUBE SERVICE
0498	07/22/16	921	921	HR	-	S

FLUID PROPERTIES/CONTAMINANTS

Water %	D7279 Vis 100 °C
<0.1	8.2

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#: 19559 Company Name: <a href="#">Brandeis Machinery And Supply Company</a> Company Worksite: Indianapolis, IN Company Address: 8410 ZIONSVILLE ROAD INDIANAPOLIS, IN, 46268-0555	Lab No.: 201607270497 Sample Tracking #: NONE Sample Date Jul 22, 2016 Received Date: Jul 27, 2016 Completed Date: Jul 28, 2016	PO No.: BRANDEIS INDIANAPOLIS IN Work Order No.: Reference No.: 6933715
Unit Information	Component Information	Fluid Information
Unit ID: <a href="#">90177 / C0929</a> Unit Mfg: Komatsu Unit Model: D39EX-23 Unit Serial #: 90177 Unit Worksite: Indianapolis, IN	Cpnt. Description: <a href="#">ENGINE</a> Cpnt. Mfg: Komatsu Cpnt. Model: D39EX-23 Cpnt. Serial #: 90177 Cpnt. Type: ENGINE	Fluid Manufacturer: KOMATSU Fluid Brand/Product: LOW ASH Fluid Grade: 15W40

**Maintenance Recommendations for Lab No.: 201607270497**

Evaluated By: Kullas, Stephen

ANALYSIS REFLECTS CONDITIONS / VALUES NOTED FOR MONITORING PURPOSES ONLY. Other tests results are satisfactory and data reflects the system was serviced with the appropriate oil and/or filter change at the time of sampling. No additional action is required at this time. 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
0497	07/22/16	76	2	1	7	14	29 *	<1	<0.1	<1	<1	24	2	15	50	114	944	1161	2756	2	12	<1

SAMPLE INFORMATION

LAB NO.	SAMPLE DRAWN	UNIT TIME	FLUID TIME	UOM	FILTER CHG.	LUBE SERVICE
0497	07/22/16	921	486	HR	Yes	C

FLUID PROPERTIES/CONTAMINANTS

D7279 Vis 100 °C	Visc Grade	E2412 SOOT	E2412 OX	E2412 NTR	E2412 GLY	Water %	Fuel %
13.5	40	0.3	18	12 *	NEG	<0.1	<0.50

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#: 91430 Company Name: <a href="#">Brandeis Machinery And Supply Company</a> Company Worksite: Louisville, KY Company Address: PO BOX 32230 LOUISVILLE, KY, 40232-2230	Lab No.: HOU201412240678 Sample Tracking #: NONE Sample Date: Dec 19, 2014 Received Date: Dec 24, 2014 Completed Date: Dec 30, 2014	PO No.: BRANDEIS LOUISVILLE KY Work Order No.: Reference No.: 6277254
Unit Information	Component Information	Fluid Information
Unit ID: <a href="#">C0929</a> Unit Mfg: Komatsu Unit Model: D39EX-23 Unit Serial #: 90177 Unit Worksite:	Cpnt. Description: <a href="#">ENGINE</a> Cpnt. Mfg: Not Specified Cpnt. Model: - Cpnt. Serial #: Cpnt. Type: DIESEL ENGINE (TURBO CHARGED)	Fluid Manufacturer: UNKNOWN Fluid Brand/Product: UNKNOWN Fluid Grade: 15W40

**Maintenance Recommendations for Lab No.: HOU201412240678**

Evaluated By: Zufelt, John

ANALYSIS INDICATES CONDITIONS ARE ACCEPTABLE FOR BREAK-IN. 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
0678	12/19/14	54	2	1	6	13	33	3	<0.1	<1	<1	48	9	19	63	108	891	1139	2587	<10	15	<30

SAMPLE INFORMATION

LAB NO.	SAMPLE DRAWN	UNIT TIME	FLUID TIME	UOM	FILTER CHG.	LUBE SERVICE
0678	12/19/14	436		HR	Yes	C

FLUID PROPERTIES/CONTAMINANTS

D7279 Vis 100 °C	Visc Grade	E2412 SOOT	E2412 OX	E2412 NTR	E2412 GLY	Water %	Fuel %
13.3	40	<0.1	21	12	NEG	<0.1	<0.50

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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Account Information	Sample Information	Other Sample Information
Lab Customer ID#: 91430 Company Name: <a href="#">Brandeis Machinery And Supply Company</a> Company Worksite: Louisville, KY Company Address: PO BOX 32230 LOUISVILLE, KY, 40232-2230	Lab No.: HOU201412240679 Sample Tracking #: NONE Sample Date: Dec 19, 2014 Received Date: Dec 24, 2014 Completed Date: Dec 30, 2014	PO No.: BRANDEIS LOUISVILLE KY Work Order No.: Reference No.: 6277255
Unit Information	Component Information	Fluid Information
Unit ID: <a href="#">C0929</a> Unit Mfg: Komatsu Unit Model: D39EX-23 Unit Serial #: 90177 Unit Worksite:	Cpnt. Description: <a href="#">HYDRAULIC</a> Cpnt. Mfg: Unknown/Unspecified Cpnt. Model: UNKN UNKNOWN Cpnt. Serial #: Cpnt. Type: HYDRAULIC	Fluid Manufacturer: UNKNOWN Fluid Brand/Product: UNKNOWN Fluid Grade: 10W30

**Maintenance Recommendations for Lab No.: HOU201412240679**

Evaluated By: Zufelt, John

ANALYSIS INDICATES CONDITIONS ARE ACCEPTABLE FOR BREAK-IN. 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
0679	12/19/14	6	<1	1	<1	4	17	<1	<0.1	<1	<1	9	7	<10	70	113	1178	1482	4045	<10	8	<30

SAMPLE INFORMATION

LAB NO.	SAMPLE DRAWN	UNIT TIME	FLUID TIME	UOM	FILTER CHG.	LUBE SERVICE
0679	12/19/14	436		HR	-	S

FLUID PROPERTIES/CONTAMINANTS

Water %	D7279 Vis 100 °C
<0.1	8.6

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#: 91430 Company Name: <a href="#">Brandeis Machinery And Supply Company</a> Company Worksite: Louisville, KY Company Address: PO BOX 32230 LOUISVILLE, KY, 40232-2230	Lab No.: HOU201412240681 Sample Tracking #: NONE Sample Date Dec 19, 2014 Received Date: Dec 24, 2014 Completed Date: Dec 30, 2014	PO No.: BRANDEIS LOUISVILLE KY Work Order No.: Reference No.: 6277256
Unit Information	Component Information	Fluid Information
Unit ID: <a href="#">C0929</a> Unit Mfg: Komatsu Unit Model: D39EX-23 Unit Serial #: 90177 Unit Worksite:	Cpnt. Description: <a href="#">L.FINAL DRIVE</a> Cpnt. Mfg: Unknown/Unspecified Cpnt. Model: UNKN UNKNOWN Cpnt. Serial #: Cpnt. Type: FINAL DRIVE	Fluid Manufacturer: UNKNOWN Fluid Brand/Product: UNKNOWN Fluid Grade: 30

**Maintenance Recommendations for Lab No.: HOU201412240681**

Evaluated By: Zufelt, John

ANALYSIS INDICATES TYPICAL CONDITIONS FOR BREAK-IN. The noted (underlined> wear metals are for monitoring purposes only. 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
0681	12/19/14	169	4	1	4	1	<u>125</u> *	<1	<0.1	2	<1	30	11	<10	3	58	694	835	3561	25	10	<30

SAMPLE INFORMATION

LAB NO.	SAMPLE DRAWN	UNIT TIME	FLUID TIME	UOM	FILTER CHG.	LUBE SERVICE
0681	12/19/14	436		HR	-	S

FLUID PROPERTIES/CONTAMINANTS

Water %	D7279 Vis 100 °C
<0.1	11.2

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#: 91430 Company Name: <a href="#">Brandeis Machinery And Supply Company</a> Company Worksite: Louisville, KY Company Address: PO BOX 32230 LOUISVILLE, KY, 40232-2230	Lab No.: HOU201412240680 Sample Tracking #: NONE Sample Date: Dec 19, 2014 Received Date: Dec 24, 2014 Completed Date: Dec 30, 2014	PO No.: BRANDEIS LOUISVILLE KY Work Order No.: Reference No.: 6277257
Unit Information	Component Information	Fluid Information
Unit ID: <a href="#">C0929</a> Unit Mfg: Komatsu Unit Model: D39EX-23 Unit Serial #: 90177 Unit Worksite:	Cpnt. Description: <a href="#">R FINAL DRIVE</a> Cpnt. Mfg: Unknown/Unspecified Cpnt. Model: UNKN UNKNOWN Cpnt. Serial #: Cpnt. Type: FINAL DRIVE	Fluid Manufacturer: UNKNOWN Fluid Brand/Product: UNKNOWN Fluid Grade: 30

**Maintenance Recommendations for Lab No.: HOU201412240680**

Evaluated By: Zufelt, John

ANALYSIS INDICATES CONDITIONS ARE ACCEPTABLE FOR BREAK-IN. 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
0680	12/19/14	154	5	1	4	<1	140	<1	<0.1	2	1	33	9	<10	3	57	690	830	3490	24	10	<30

SAMPLE INFORMATION

LAB NO.	SAMPLE DRAWN	UNIT TIME	FLUID TIME	UOM	FILTER CHG.	LUBE SERVICE
0680	12/19/14	436		HR	-	S

FLUID PROPERTIES/CONTAMINANTS

Water %	D7279 Vis 100 °C
<0.1	11.3

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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