

**Brandeis Machinery and Supply Co**  
**Falk Steudtner**  
**1801 Watterson Trail -**  
**Louisville, KY, 40299**

 P.O./Ref No.: **IS01D8**

 Unit ID: **90305 / C0967**

 Unit Worksite: **Indianapolis, IN**

 Comp. Ref NO.: **6303513**

 Component Type: **HYDRAULIC**

 Component: **HYDRAULIC**

 Unit Manufacturer and Model: **Komatsu D39PX-23**

 Oil Type: **KOMATSU UNKNOWN 10W30**

 Component Manufacturer and Model: **Komatsu D39PX-23**

 Component Serial Number: **90305**
**Maintenance Recommendations for Lab No. 201605121098**

 Reported On: **May 13 2016**

 From: **Brandeis Machinery And Supply Company, Indianapolis, IN**

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

**SPECTROCHEMICAL ANALYSIS IN PARTS PER MILLION**

LAB NO.	Iron	Chromium	Nickel	Aluminum	Lead	Copper	Tin	Silver	Titanium	Silicon	Boron	Sodium	Potassium	Molybdenum	Phosphorus	Zinc	Calcium	Barium	Magnesium	Antimony	Vanadium	Sample Drawn
<b>1098</b>	18	<1	<1	2	9	23	<1	<0.1	<1	12	58	2	4	118	1255	1499	4565	<1	10	<1	<1	<b>05/10/16</b>
<b>0714</b>	13	<1	1	3	8	20	<1	0.1	<1	11	59	4	<1	113	1154	1392	3975	1	5	<1	<1	<b>10/08/15</b>
<b>1512</b>	9	<1	<1	<1	5	16	<1	<0.1	<1	11	67	3	<10	129	1320	1610	4541	<10	12	<30	<1	<b>01/15/15</b>

**SAMPLE INFORMATION**
**PHYSICAL TEST RESULTS**

LAB NO.	MI/HR Unit	MI/HR Oil	Oil Add	FLTR CHG	Oil CHG	Water	D7279 Vis 100 °C
<b>1098</b>	1523	1523	0	-		<0.1	8.3
<b>0714</b>	1121	1121	0	-	S	<0.1	8.6
<b>1512</b>	507	507	0	-	S	<0.1	8.4

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 P.O./Ref No.: **IS01D8**

 Unit ID: **90305 / C0967**

 Unit Worksite: **Indianapolis, IN**

 Comp. Ref NO.: **6303691**

 Component Type: **FINAL DRIVE**

 Component: **RIGHT REAR FINAL DRIVE**

 Unit Manufacturer and Model: **Komatsu D39PX-23**

 Oil Type: **KOMATSU POWERTRAIN OIL TO-30**

 Component Manufacturer and Model: **Komatsu D39PX-23**

 Component Serial Number: **90305**
**Maintenance Recommendations for Lab No. 201605121099**

 Reported On: **May 13 2016**

 From: **Brandeis Machinery And Supply Company, Indianapolis, IN**

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.	Iron	Chromium	Nickel	Aluminum	Lead	Copper	Tin	Silver	Titanium	Silicon	Boron	Sodium	Potassium	Molybdenum	Phosphorus	Zinc	Calcium	Barium	Magnesium	Antimony	Vanadium	Sample Drawn
<b>1099</b>	831 *	10	2	66 *	<1	102 *	<1	<0.1	11	373 *	4	2	22	20	882	1064	3992	7	21	<1	<1	<b>05/10/16</b>
<b>0715</b>	383	8	2	43	1	184	<1	0.1	5	127	3	8	9	56	690	834	3573	21	13	<1	1	<b>10/08/15</b>
<b>1515</b>	218	6	<1	21	<1	137	<1	<0.1	5	87	2	7	<10	62	795	957	4142	24	14	<30	1	<b>01/15/15</b>

**SAMPLE INFORMATION**
**PHYSICAL TEST RESULTS**

LAB NO.	MI/HR Unit	MI/HR Oil	Oil Add	FLTR CHG	Oil CHG	Water	D7279 Vis 100 °C
<b>1099</b>	1523	401	0	-		<0.1	11.1
<b>0715</b>	1121	1121	0	Yes	C	<0.1	11.2
<b>1515</b>	507	507	0	-		<0.1	11.3

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**Louisville, KY, 40299**

 P.O./Ref No.: **IS01D8**

 Unit ID: **90305 / C0967**

 Unit Worksite: **Indianapolis, IN**

 Comp. Ref NO.: **6303630**

 Component Type: **FINAL DRIVE**

 Component: **LEFT REAR FINAL DRIVE**

 Unit Manufacturer and Model: **Komatsu D39PX-23**

 Oil Type: **KOMATSU POWERTRAIN OIL TO-30**

 Component Manufacturer and Model: **Komatsu D39PX-23**

 Component Serial Number: **90305**
**Maintenance Recommendations for Lab No. 201605121100**

 Reported On: **May 13 2016**

 From: **Brandeis Machinery And Supply Company, Indianapolis, IN**

ANALYSIS REFLECTS CONDITIONS / VALUES NOTED FOR MONITORING PURPOSES ONLY. NO SPECIFIC diagnostic or corrective MAINTENANCE is REQUIRED at this time. 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.	Iron	Chromium	Nickel	Aluminum	Lead	Copper	Tin	Silver	Titanium	Silicon	Boron	Sodium	Potassium	Molybdenum	Phosphorus	Zinc	Calcium	Barium	Magnesium	Antimony	Vanadium	Sample Drawn
1100	272	4	1	10	<1	91	<1	<0.1	7	60	3	<1	11	15	883	1063	3967	6	15	<1	<1	05/10/16
0716	298	6	2	12	<1	170	<1	<0.1	3	54	2	6	3	42	664	787	3385	21	10	<1	1	10/08/15
1514	208	5	<1	<1	1	131	<1	<0.1	4	37	3	6	<10	57	769	927	3981	24	13	<30	1	01/15/15

**SAMPLE INFORMATION**
**PHYSICAL TEST RESULTS**

LAB NO.	MI/HR Unit	MI/HR Oil	Oil Add	FLTR CHG	Oil CHG	Water	D7279 Vis 100 °C
1100	1523	401	0	-		<0.1	5.9 *
0716	1121	1121	0	Yes	C	<0.1	11.3
1514	507	507	0	-		<0.1	11.2

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 P.O./Ref No.: **IS01D8**

 Unit ID: **90305 / C0967**

 Unit Worksite: **Indianapolis, IN**

 Comp. Ref NO.: **6303480**

 Component Type: **ENGINE**

 Component: **ENGINE**

 Unit Manufacturer and Model: **Komatsu D39PX-23**

 Oil Type: **KOMATSU LOW ASH 15W40**

 Component Manufacturer and Model: **Komatsu D39PX-23**

 Component Serial Number: **90305**
**Maintenance Recommendations for Lab No. 201605121097**

 Reported On: **May 13 2016**

 From: **Brandeis Machinery And Supply Company, Indianapolis, IN**

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.	Iron	Chromium	Nickel	Aluminum	Lead	Copper	Tin	Silver	Titanium	Silicon	Boron	Sodium	Potassium	Molybdenum	Phosphorus	Zinc	Calcium	Barium	Magnesium	Antimony	Vanadium	Sample Drawn
1097	56	2	<1	5	11	6	<1	<0.1	<1	18	51	<1	15	102	927	1073	2535	1	57	<1	<1	05/10/16
0713	63	2	1	8	24	15	3	<0.1	<1	20	55	1	11	100	892	1086	2348	1	80	<1	<1	10/08/15
1511	57	2	<1	4	20	23	5	<0.1	<1	58*	61	6	19	122	976	1232	2878	<10	17	<30	<1	01/15/15

**SAMPLE INFORMATION**
**PHYSICAL TEST RESULTS**

LAB NO.	MI/HR Unit	MI/HR Oil	Oil Add	FLTR CHG	Oil CHG	D7279 Vis 100 °C	Visc Grade	E2412 SOOT	E2412 OX	E2412 NTR	E2412 GLY	Water	Fuel
1097	1523	401	0	Yes	C	13.6	40	0.4	17	11*	NEG	<0.1	<0.50
0713	1121	610	0	Yes	C	13.5	40	0.4	18	13*	NEG	<0.1	<0.50
1511	507	507	0	Yes	C	13.2	40	<0.1	21	11	NEG	<0.1	<0.50