



AOA

AVIATION OIL ANALYSIS

**YOUR AIRCRAFT.
OUR EXPERTISE.**

3319 W. Earll Drive, Phoenix, Arizona 85017

Phone: 800-445-7930 Fax: 602-252-4639

<http://webtrieve.alstribology.com> ****email: aoa@alstribology.com

Customer Name: PRINCIPAL AVIATION

Address: 6350 W Reno Ave
Oklahoma City Ok 73127
USA

Phone: 405 888 0031

Fax:

Tail Number: N793RG

Aircraft Make: Beechcraft

Aircraft Model: BEECH G58

Serial No:

UIN: 041B6C5

Comp Serial No: 1003379

Comp Name: Right Engine

Comp Make:

Comp Model:

Sample No.	44150142038	44150136976	44150132433	44150130815	44150126154	44150123670
Date Sampled	27-Jul-16	17-May-16	15-Mar-16	10-Feb-16	18-Nov-15	13-Oct-15
Date Tested	12-Aug-16	01-Jun-16	21-Mar-16	24-Feb-16	01-Dec-15	20-Oct-15
Oil Brand	Phillips 66	Phillips 66	Phillips 66	Phillips 66	Phillips 66	Phillips 66
Oil Type	XC Aviation MV	XC Aviation MV	XC Aviation MV	XC Aviation MV	XC Aviation MV	XC Aviation MV
Oil Grade	SAE 20W50	SAE 20W50	SAE 20W50	SAE 20W50	SAE 20W50	SAE 20W50
Oil Hrs	50	50	50	50	39	50
Oil Added					0.0	
Hrs Since New	1039	984	440	802	850	811
Rebuild Hrs						
Metals (ppm)						
Aluminium (Al)	6	6	4	7	6	6
Iron (Fe)	69.75	78.06	48.65	66.92	62.82	62.68
Copper (Cu)	2.76	3.31	2.43	3.29	2.62	2.70
Nickel (Ni)	18	22	15	19	16	15
Chromium (Cr)	11	14	9	12	10	11
Silver (Ag)	<1	<1	<1	<1	<1	<1
Contaminants (ppm)						
Silicon (Si)	5	5	5	6	5	6

LEGEND



Sample No.

Diagnosis/Recommendations

44150142038

Wear metals appear normal based on trend.

44150136976

Increase in Iron level noted. Resample next oil change to check wear trend.

44150132433

All values appear normal.

44150130815

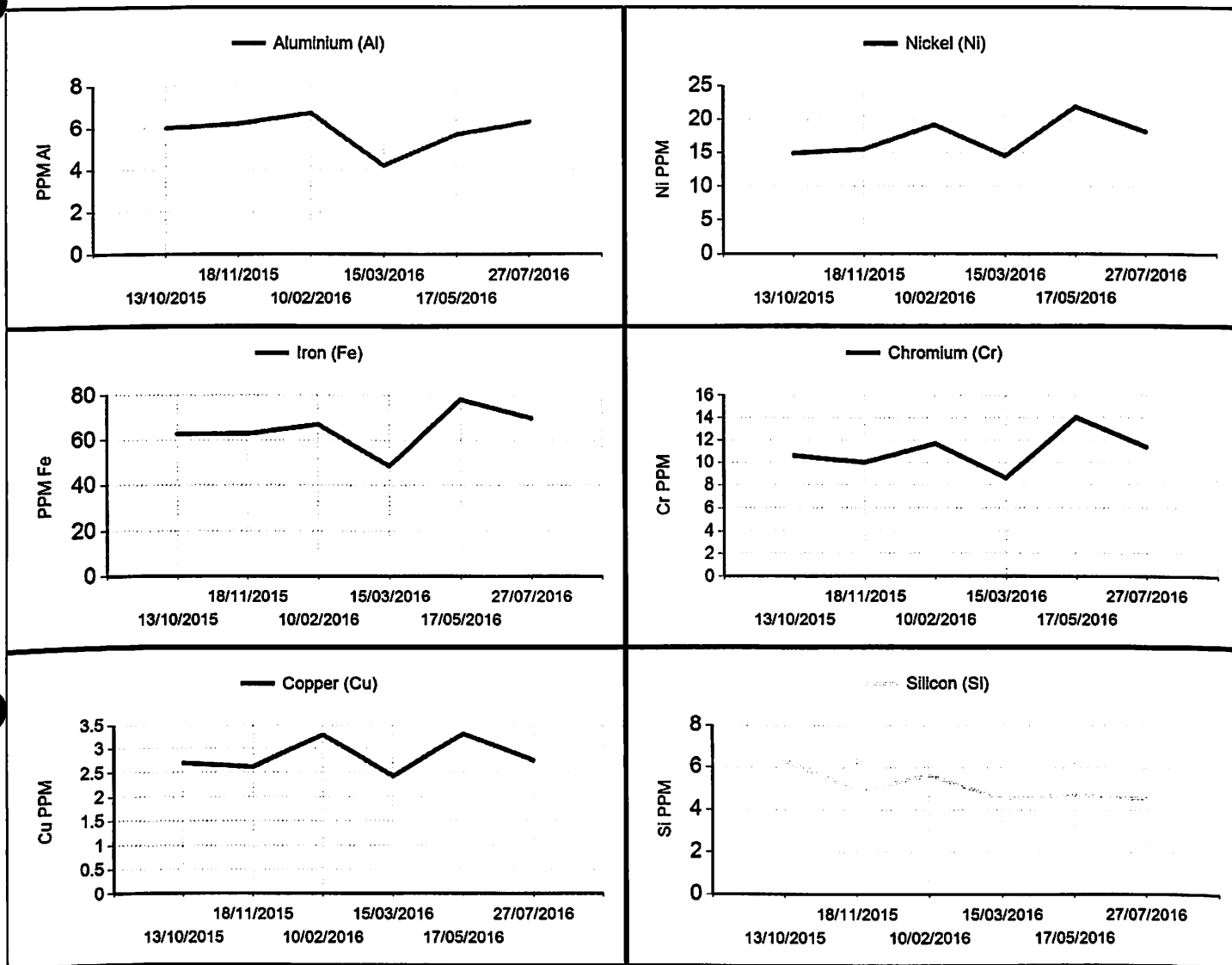
All values appear normal.

44150126154

All values appear normal.

44150123670

All values appear normal.



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Principal Aviation
Attn: Bryce Todd
6350 W Reno Ave
Oklahoma City Ok 73127
USA

**TEST
METHODS:**

Acid Number:	ASTM D974/D664
Metals by AA Spectro:	ASTM D6595
Viscosity:	ASTM D445 / D7279
Water by Crackle:	ASTM E203 Mod / In House

0037 v1.5



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Customer Name: PRINCIPAL AVIATION

Tail Number: N793RG

Comp Serial No: 1003378

Address: 6350 W Reno Ave
Oklahoma City Ok 73127
USA

Aircraft Make: Beechcraft

Comp Name: Left Engine

Aircraft Model: BEECH G58

Comp Make:

Phone: 405 888 0031

Serial No:

Comp Model:

Fax:

UIN: 041B6C7

Sample No.	44150142037	44150136975	44150132434	44150130814	44150126155	44150123669
Date Sampled	27-Jul-16	17-May-16	15-Mar-16	10-Feb-16	18-Nov-15	13-Oct-15
Date Tested	12-Aug-16	01-Jun-16	21-Mar-16	24-Feb-16	01-Dec-15	20-Oct-15
Oil Brand	Phillips 66	Phillips 66	Phillips 66	Phillips 66	Phillips 66	Phillips 66
Oil Type	XC Aviation MV	XC Aviation MV	XC Aviation MV	XC Aviation MV	XC Aviation MV	XC Aviation MV
Oil Grade	SAE 20W50	SAE 20W50	SAE 20W50	SAE 20W50	SAE 20W50	SAE 20W50
Oil Hrs	50	50	50	50	29	50
Oil Added					0.0	
Hrs Since New	1039	985	440	902	850	811
Rebuild Hrs						

Metals (ppm)

Aluminium (Al)	7	8	4	7	8	8
Iron (Fe)	91.41	89.72	46.32	67.96	83.31	80.75
Copper (Cu)	2.98	2.92	1.94	3.08	2.88	2.83
Nickel (Ni)	12	18	11	16	15	14
Chromium (Cr)	11	14	7	11	12	12
Silver (Ag)	<1	<1	<1	<1	<1	<1

Contaminants (ppm)

Silicon (Si)	5	5	4	6	6	7
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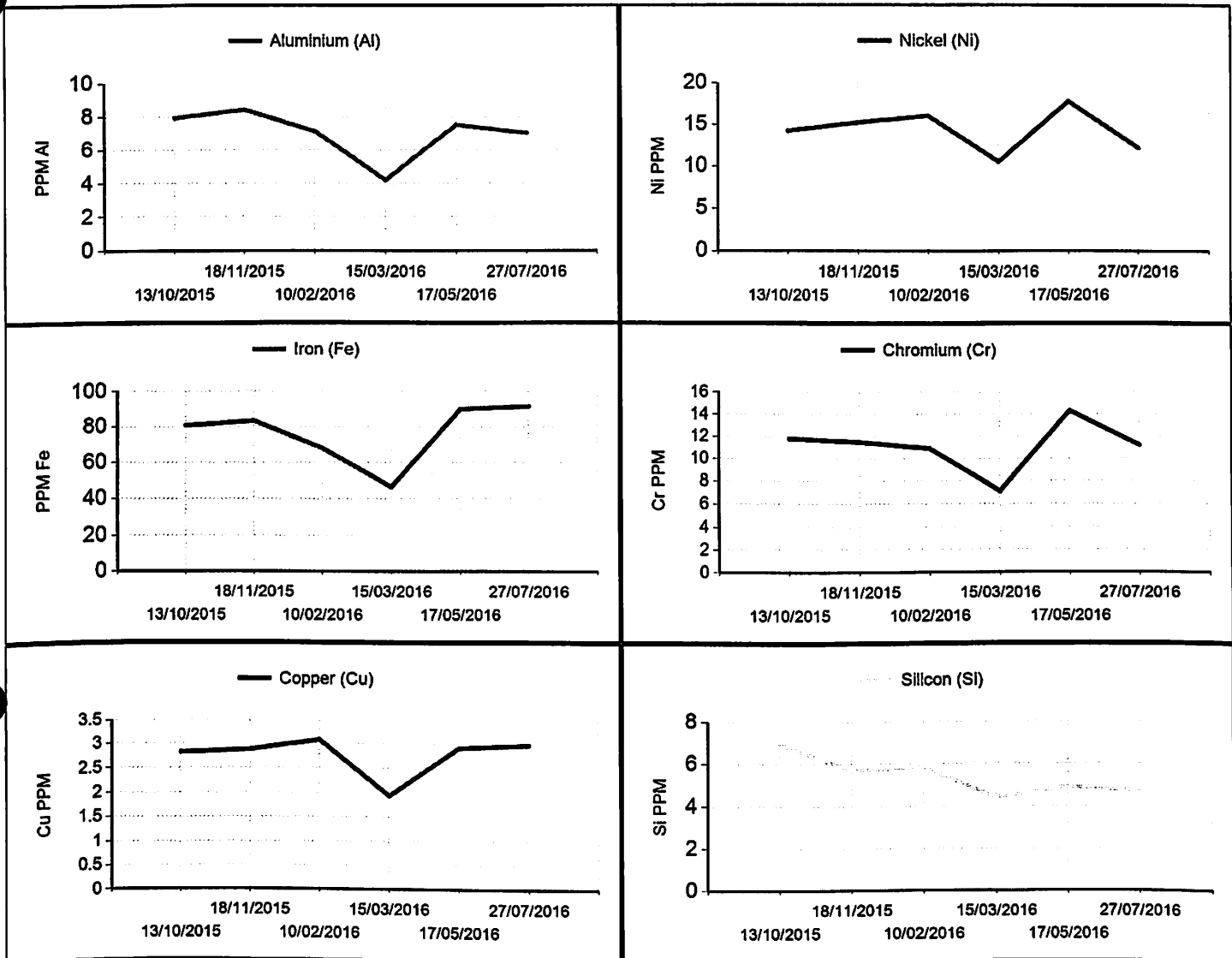
LEGEND



Sample No.

Diagnosis/Recommendations

44150142037	Iron appears slightly high. Check oil filter for chips. Resample next oil change to check wear trend.
44150136975	Increase in iron level noted. Resample next oil change to check wear trend.
44150132434	All values appear normal.
44150130814	All values appear normal.
44150126155	Wear metals appear stable since last sample.
44150123669	Iron appears slightly high. Resample next oil change to check wear trend.



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USA

TEST METHODS:

Acid Number:	ASTM D974/D664
Metals by AA Spectro:	ASTM D6595
Viscosity:	ASTM D445 / D7279
Water by Crackle:	ASTM E203 Mod / In House

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Customer Name: PRINCIPAL AVIATION
Address: 6350 W Reno Ave
Oklahoma City Ok 73127
USA
Phone: 405 888 0031
Fax:

Tail Number: N793RG
Aircraft Make: Beechcraft
Aircraft Model: BEECH G58
Serial No:
UIN: 041B6C5

Comp Serial No: 1003379
Comp Name: Right Engine
Comp Make:
Comp Model:

Sample No.	44150136976	44150132433	44150130815	44150126154	44150123670	44150119577
Date Sampled	17-May-16	15-Mar-16	10-Feb-16	18-Nov-15	13-Oct-15	12-Aug-15
Date Tested	01-Jun-16	21-Mar-16	24-Feb-16	01-Dec-15	20-Oct-15	19-Aug-15
Oil Brand	Phillips 66	Phillips 66	Phillips 66	Phillips 66	Phillips 66	Phillips 66
Oil Type	XC Aviation MV	XC Aviation MV	XC Aviation MV	XC Aviation MV	XC Aviation MV	XC Aviation MV
Oil Grade	SAE 20W50	SAE 20W50	SAE 20W50	SAE 20W50	SAE 20W50	SAE 20W50
Oil Hrs	50	50	50	39	50	50
Oil Added				0.0		
Hrs Since New Rebuild Hrs	984	440	802	850	811	763
Metals (ppm)						
Aluminium (Al)	6	4	7	6	6	6
Iron (Fe)	78.06	48.65	66.92	62.82	62.68	54.81
Copper (Cu)	3.31	2.43	3.29	2.62	2.70	1.94
Nickel (Ni)	22	15	19	16	15	8
Chromium (Cr)	14	9	12	10	11	7
Silver (Ag)	<1	<1	<1	<1	<1	<1
Contaminants (ppm)						
Silicon (Si)	5	5	6	5	6	3

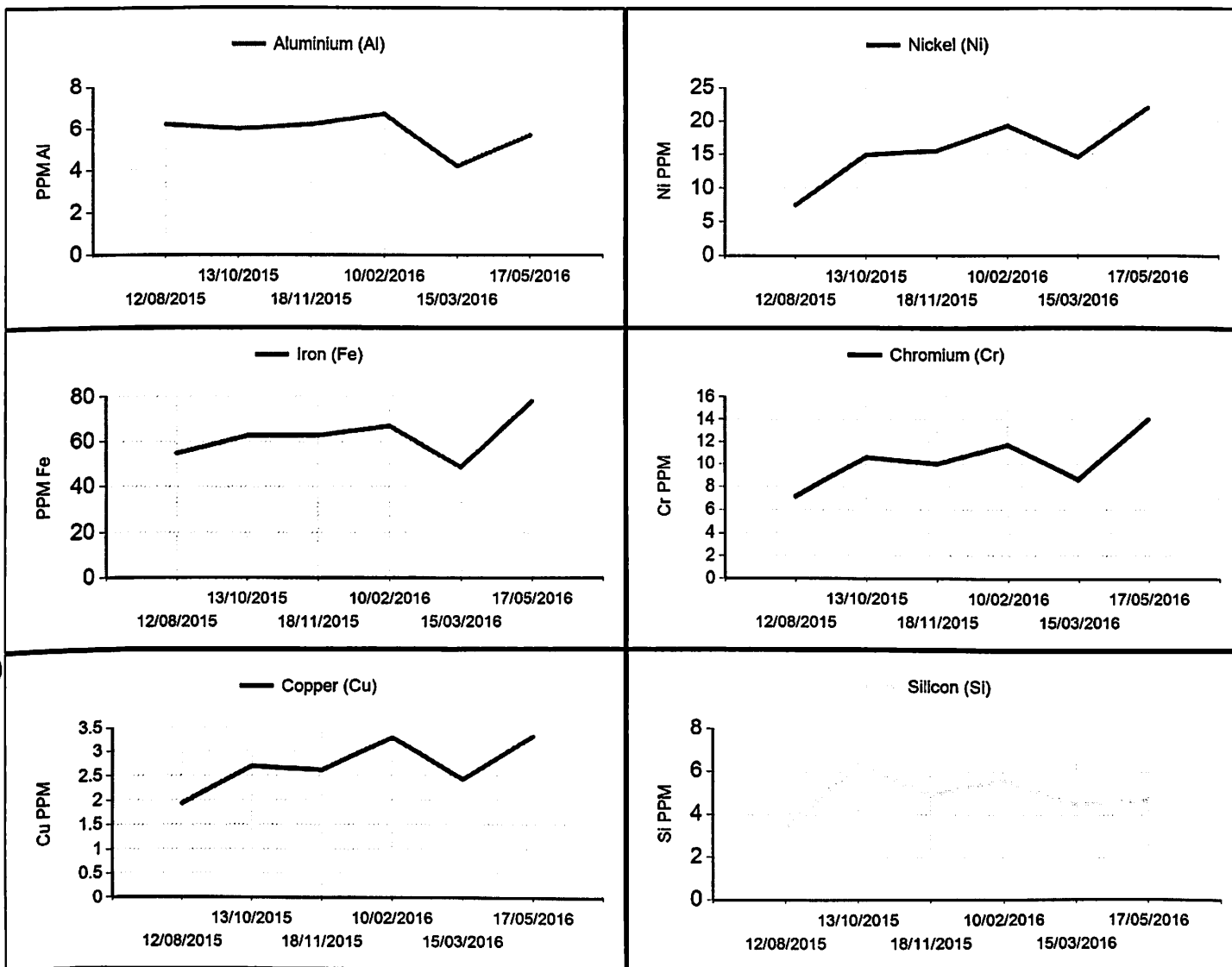
LEGEND



Sample No.

Diagnosis/Recommendations

44150136976	Increase in iron level noted. Resample next oil change to check wear trend.
44150132433	All values appear normal.
44150130815	All values appear normal.
44150126154	All values appear normal.
44150123670	All values appear normal.
44150119577	All values appear normal.



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Principal Aviation
Attn: Bryce Todd
6350 W Reno Ave
Oklahoma City Ok 73127
USA

**TEST
METHODS:**

Acid Number: ASTM D974/D664
Metals by AA Spectro: ASTM D6595
Viscosity: ASTM D445 / D7279
Water by Crackle: ASTM E203 Mod / In House

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Customer Name: PRINCIPAL AVIATION

Tail Number: N793RG

Comp Serial No: 1003378

Address: 6350 W Reno Ave
Oklahoma City Ok 73127
USA

Aircraft Make: Beechcraft

Comp Name: Left Engine

Aircraft Model: BEECH G58

Comp Make:

Phone: 405 888 0031

Serial No:

Comp Model:

Fax:

UIN: 041B6C7

Sample No.	44150136975	44150132434	44150130814	44150126155	44150123669	44150119578
Date Sampled	17-May-16	15-Mar-16	10-Feb-16	18-Nov-15	13-Oct-15	12-Aug-15
Date Tested	01-Jun-16	21-Mar-16	24-Feb-16	01-Dec-15	20-Oct-15	19-Aug-15
Oil Brand	Phillips 66	Phillips 66	Phillips 66	Phillips 66	Phillips 66	Phillips 66
Oil Type	XC Aviation MV	XC Aviation MV	XC Aviation MV	XC Aviation MV	XC Aviation MV	XC Aviation MV
Oil Grade	SAE 20W50	SAE 20W50	SAE 20W50	SAE 20W50	SAE 20W50	SAE 20W50
Oil Hrs	50	50	50	29	50	50
Oil Added				0.0		
Hrs Since New	985	440	902	850	811	763
Rebuild Hrs						

Metals (ppm)						
Aluminium (Al)	8	4	7	8	8	9
Iron (Fe)	89.72	46.32	67.96	83.31	80.75	80.44
Copper (Cu)	2.92	1.94	3.08	2.88	2.83	2.59
Nickel (Ni)	18	11	16	15	14	8
Chromium (Cr)	14	7	11	12	12	10
Silver (Ag)	<1	<1	<1	<1	<1	<1
Contaminants (ppm)						
Silicon (Si)	5	4	6	6	7	4

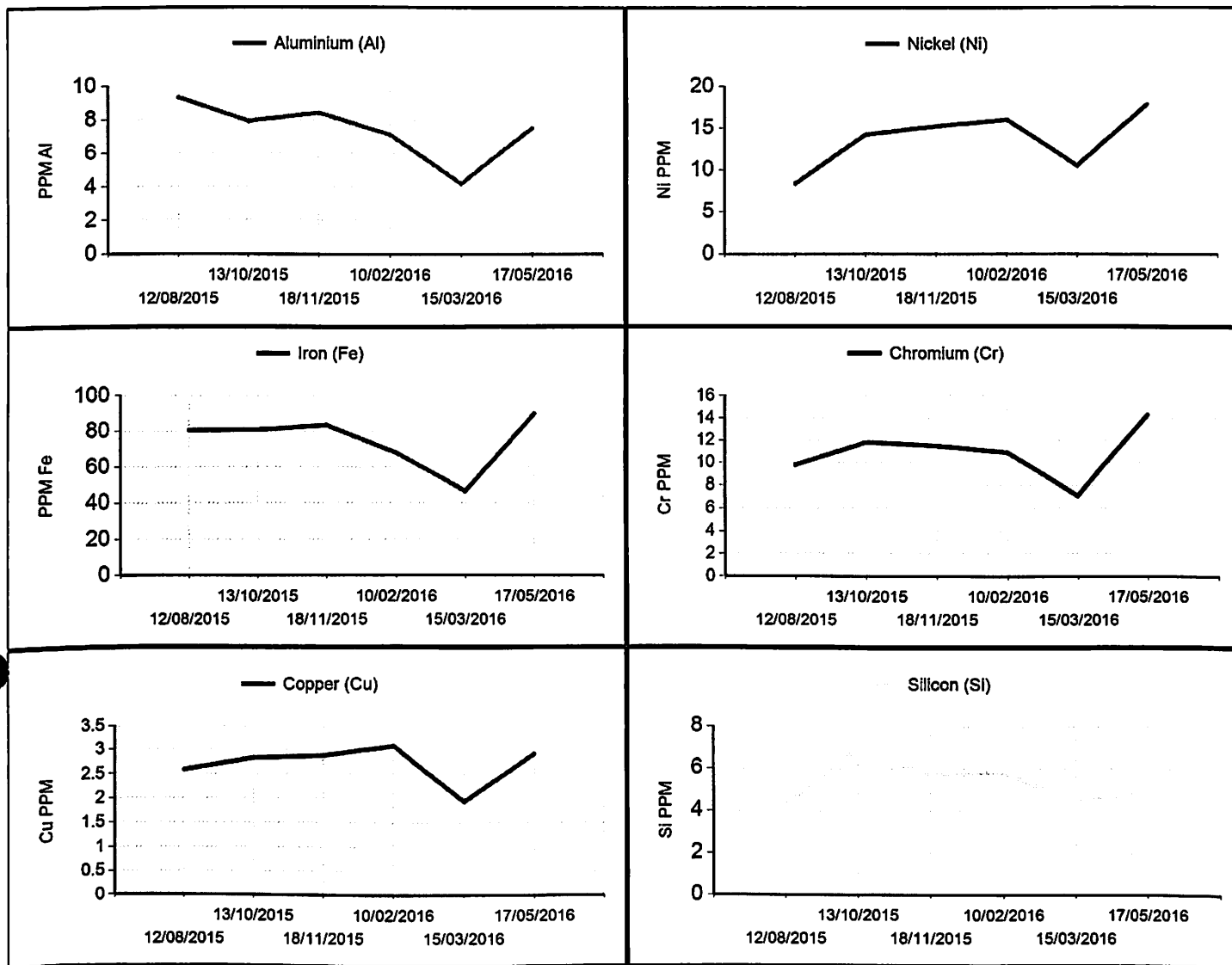
LEGEND



Sample No.

Diagnosis/Recommendations

44150136975	Increase in iron level noted. Resample next oil change to check wear trend.
44150132434	All values appear normal.
44150130814	All values appear normal.
44150126155	Wear metals appear stable since last sample.
44150123669	Iron appears slightly high. Resample next oil change to check wear trend.
44150119578	Iron appears slightly high. Check oil filter for chips. Possible corrosion if aircraft not flown regularly. Resample next oil change to check wear trend.



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Principal Aviation
Attn: Bryce Todd
6350 W Reno Ave
Oklahoma City Ok 73127
USA

TEST METHODS:

Acid Number:	ASTM D974/D664
Metals by AA Spectro:	ASTM D8595
Viscosity:	ASTM D445 / D7279
Water by Crackle:	ASTM E203 Mod / In House

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Customer Name: PRINCIPAL AVIATION
Address: 6350 W Reno Ave
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USA

Phone: 405 888 0031

Fax:

Tail Number: N793RG
Aircraft Make: Beechcraft
Aircraft Model: BEECH G58
Serial No:
UIN: 041B6C7

Comp Serial No: 1003378
Comp Name: Left Engine
Comp Make:
Comp Model:

Sample No.	44150132434	44150130814	44150126155	44150123669	44150119578	44150115522
Date Sampled	15-Mar-16	10-Feb-16	18-Nov-15	13-Oct-15	12-Aug-15	10-Jun-15
Date Tested	21-Mar-16	24-Feb-16	01-Dec-15	20-Oct-15	19-Aug-15	19-Jun-15
Oil Brand	Phillips 66	Phillips 66	Phillips 66	Phillips 66	Phillips 66	Phillips 66
Oil Type	XC Aviation MV	XC Aviation MV	XC Aviation MV	XC Aviation MV	XC Aviation MV	XC Aviation MV
Oil Grade	SAE 20W50	SAE 20W50	SAE 20W50	SAE 20W50	SAE 20W50	SAE 20W50
Oil Hrs	50	50	29	50	50	
Oil Added			0.0			
Hrs Since New	440	902	850	811	763	711
Rebuild Hrs						
Metals (ppm)						
Aluminium (Al)	4	7	8	8	9	6
Iron (Fe)	46.32	67.96	83.31	80.75	80.44	57.75
Copper (Cu)	1.94	3.08	2.88	2.83	2.59	2.57
Nickel (Ni)	11	16	15	14	8	8
Chromium (Cr)	7	11	12	12	10	8
Silver (Ag)	<1	<1	<1	<1	<1	<1
Contaminants (ppm)						
Silicon (Si)	4	6	6	7	4	4

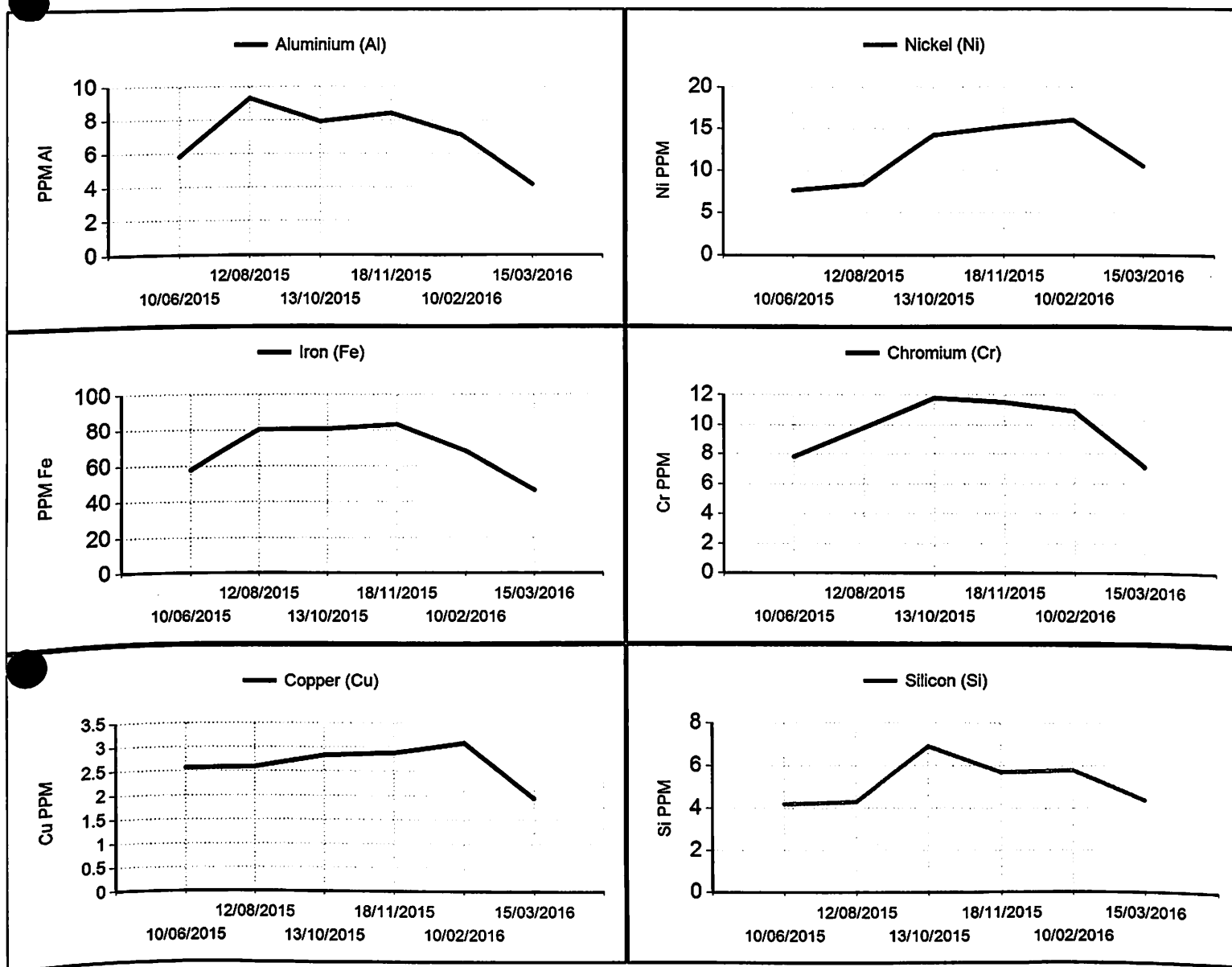
LEGEND



Sample No.

Diagnosis/Recommendations

44150132434	All values appear normal.
44150130814	All values appear normal.
44150126155	Wear metals appear stable since last sample.
44150123669	Iron appears slightly high. Resample next oil change to check wear trend.
44150119578	Iron appears slightly high. Check oil filter for chips. Possible corrosion if aircraft not flown regularly. Resample next oil change to check wear trend.
44150115522	All values appear normal.



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Principal Aviation
Attn: Bryce Todd
6350 W Reno Ave
Oklahoma City Ok 73127
USA

TEST METHODS:

Acid Number:	ASTM D974/D664
Metals by AA Spectro:	ASTM D6595
Viscosity:	ASTM D445 / D7279
Water by Crackle:	ASTM E203 Mod / In House

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Customer Name: PRINCIPAL AVIATION
Address: 6350 W Reno Ave
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USA

Phone: 405 888 0031

Fax:

Tail Number: N793RG

Aircraft Make: Beechcraft

Aircraft Model: BEECH G58

Serial No:

UIN: 041B6C5

Comp Serial No: 1003379

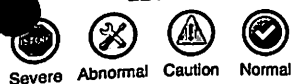
Comp Name: Right Engine

Comp Make:

Comp Model:

Sample No.	44150132433	44150130815	44150126154	44150123670	44150119577	44150115521
Date Sampled	15-Mar-16	10-Feb-16	18-Nov-15	13-Oct-15	12-Aug-15	10-Jun-15
Date Tested	21-Mar-16	24-Feb-16	01-Dec-15	20-Oct-15	19-Aug-15	19-Jun-15
Oil Brand	Phillips 66	Phillips 66	Phillips 66	Phillips 66	Phillips 66	Phillips 66
Oil Type	XC Aviation MV	XC Aviation MV	XC Aviation MV	XC Aviation MV	XC Aviation MV	XC Aviation MV
Oil Grade	SAE 20W50	SAE 20W50	SAE 20W50	SAE 20W50	SAE 20W50	SAE 20W50
Oil Hrs	50	50	39	50	50	
Oil Added			0.0			
Hrs Since New	440	802	850	811	763	711
Rebuild Hrs						
Metals (ppm)						
Aluminium (Al)	4	7	6	6	6	6
Iron (Fe)	48.65	66.92	62.82	62.68	54.81	61.54
Copper (Cu)	2.43	3.29	2.62	2.70	1.94	2.78
Nickel (Ni)	15	19	16	15	8	9
Chromium (Cr)	9	12	10	11	7	9
Silver (Ag)	<1	<1	<1	<1	<1	<1
Contaminants (ppm)						
Silicon (Si)	5	6	5	6	3	4

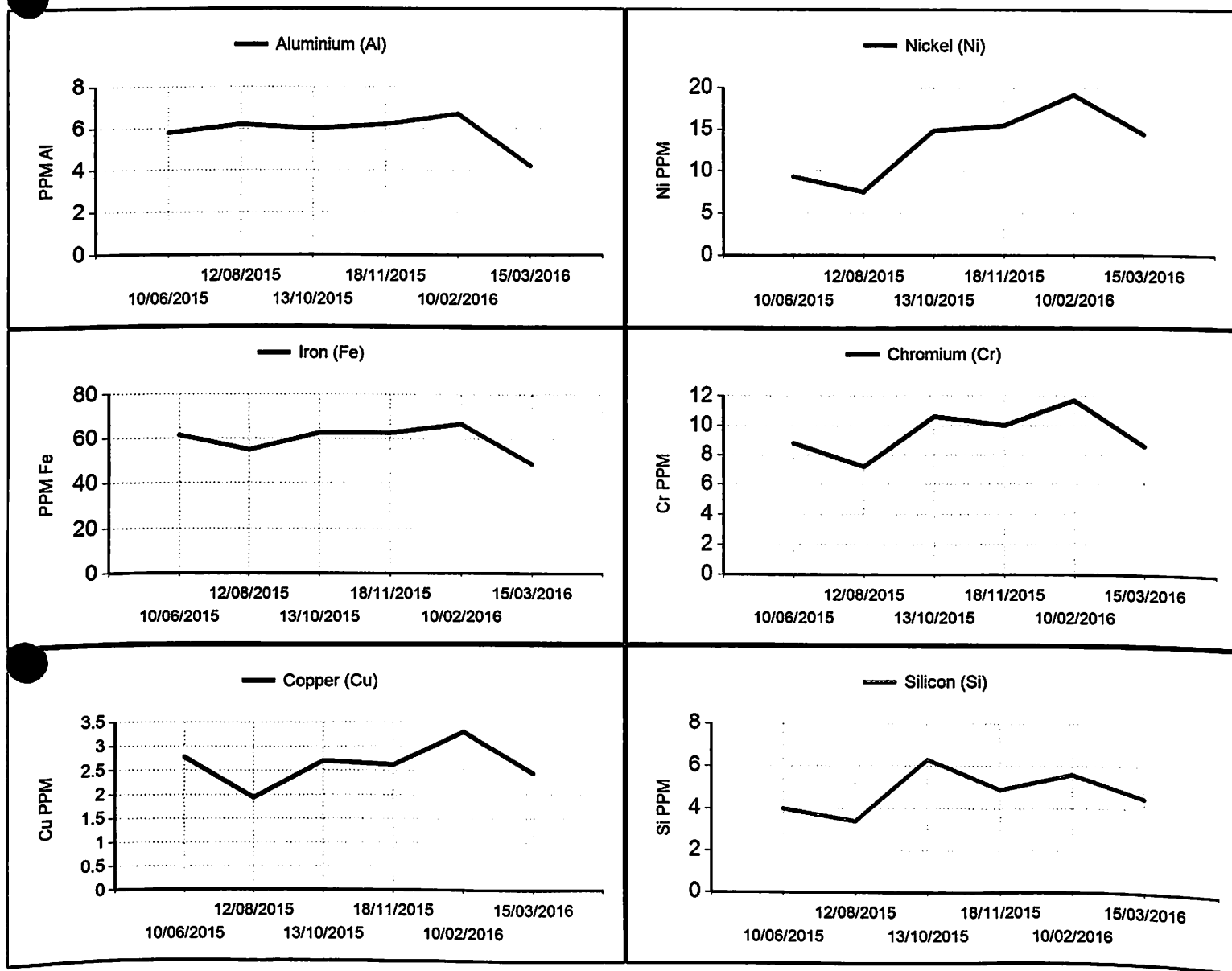
LEGEND



Sample No.

Diagnosis/Recommendations

44150132433	All values appear normal.
44150130815	All values appear normal.
44150126154	All values appear normal.
44150123670	All values appear normal.
44150119577	All values appear normal.
44150115521	All values appear normal.



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Acid Number:	ASTM D974/D664
Metals by AA Spectro:	ASTM D6595
Viscosity:	ASTM D445 / D7279
Water by Crackle:	ASTM E203 Mod / In House

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