Appendix A: mARC Run Sheet

DATE 2019-10-07	TIME 20:43:32
TEST mARC_001_IST	RUN(S) Run_15
OPERATOR Mark McGlaughlin	TEST ENGINEER Megan E. Macdonald
	PI Megan E. Macdonald

RUN OBJECTIVES

1. Note chamber pressure during run at a range of mdot and I 2. Record voltage 3. Measure visible and infrared emission of the jet and calibrate immediately after

Nozzle exit diameter (cm) 1.87	# Disks 2	
Total Cathode Time (h:m:s) TBD	Cathode type: Ag+	# Cathode starts: TBD

DESIRED TEST CONDITIONS

Main gas: Air Shield gas: None Purge gas: None

Cond. ID	Current (A)	Main (g/s)	Shield (g/s)	Purge (g/s)	Z (in)	Duration (s)		
						SW	L1	L2
Condition 1	40.0	0.5	0.0	None	None	None	None	None

MODELS AND SENSORS

	SW	L1	L2
Material or Sensor Type			
S/N			
Size			
Sensor Limits			

PROCEDURE

1. Note chamber pressure during run at a range of mdot and I 2. Record voltage 3. Measure visible and infrared emission of the jet and calibrate immediately after

CAMERAS

Camera	Lens	Filter	Mode
Nikon D750	None	Luminesque UV 77mm	None

ADDITIONAL DIAGNOSTICS

Purpose	Sensor model	Units
Arc Current [A]	Ohio Semitronics CTL401S/300/CTA201H	Amperes
Arc Voltage [V]	Ohio Semitronics VT7-007E-11-TP	Volts
Plasma gas [g/s]	Sage SIP-030-DC24-AIR	Grams per second
Column Pressure [Pa]	Setra Model 730	Pascals
Chamber Pressure 2 [Pa]	Inficon	Pascals

Total Arc-On Duration _____ min:sec

ARC HEATER/CHAMBER COOLING (DISTILLED WATER)

HCW-TI-101 Temp (F) _____
HCW-ST-101 Conduct. (uS) _____
HCW-PI-130 Arc supply (PSIG) _____
HCW-PI-133 Arc return (PSIG) _____
HCW-PI-140 Spare supply (PSIG) _____
HCW-PI-146 Spare return (PSIG) _____
HCW-PI-147 Chamber supply (PSIG) _____

VACUUM SYSTEM COOLING (TAP WATER)

VPW-PI-220 heat ex. Press (PSIG) _____
VPW-FI-220 heat ex. Press (GPM) _____
VPW-PI-230 vac. pump Press. (PSIG) _____
VPW-FI-230 vac. pump Flow (GPM) _____
VPW-TI-280 vac. pump exit T (F) _____

SENSOR COOLING (DISTILLED WATER)

SKW-TI-401 Temp (F) _____
SKW-ST-401 Conduct. (uS) _____
SKW-PI-440 sensor supply (PSIG) _____

GASES

	Gas	Initial (PSIG)	Final (PSIG)
Main	Air	1250.0	1200.0
Shield	None	None	None
Purge	None	None	None

low-side P _____ Roto _____

VACUUM SYSTEM

Pump Base Pressure (GS-PI-381)
_____ Torr

Chamber Base Pressure (GS-PIT-374)
No purge _____ Torr
Purge _____ Torr
Post-test _____ Torr

POST-TEST PHOTO

NOTES (include notes from checklist)