

History Pertinent to Lower Hybrid Coupler Analysis

01/04 lower hybrid fwg installed and flange leaktight

01/13 first pumpdown following up-to-air

01/20 start magnet cooldown in preparation for bake

01/21 vessel to 120C for bake

01/26 ECDC on continuously until end of bake

01/31 bake ends - vessel temp to 60 C - ECDC continues

02/04 first C-Mod plasma of 2005 campaign

02/11 1st backfill to 500 Torr D2 (42 hours, 60C)

dust observed during Thomson scattering calibration
increasing after overnight settling time at 500 Torr

02/18 1st digital camera views available (not lower hybrid)

03/04 1st operation of LH into vacuum

03/05 2nd backfill to 500 Torr D2 (abt 24 hours, 60C)

dust observed during Thomson scattering calibration
with dust increasing overnight a factor of 2 or 3

03/07 1st operation of LH into plasma

03/09 dust clearly observed on lower hybrid and j-port antenna
cameras

plasma startup difficult

lower hybrid camera available

03/10 glow in front of grill during LH operation seen for the first time

03/31 dust/particulate ejection from LH grill seen by LH camera
when grill is energized. Ti and Si observed spectroscopically

04/14 backfill to 500 Torr helium-4 for DNB work (60 C)

no dust particles observed with YAGs. machine assumed to be
cleaned up

04/15 1st boronization of campaign (scan 54/55/92 cm)

6/18/2005

04/25 removed lower TCI window and collected dust. found roughly equal amounts of Mo and Ti, plus much smaller amounts of Al, B, and Ni. Mo amounts small.

04/25 2nd boronization (scan 50/52/103 cm)

05/01 3rd backfill to 500 Torr D2 (abt 24 hours, 60C down to 25 C)

dust levels worse than on 03/05/05. no improvement observed after allowing overnight settling time

05/02 3rd boronization (scan 78/78.5/103 cm)

05/03 dust seen on LH and JANT cameras all shots on 1050503 and 1050504

spectroscopy indicates large Ti sources in the plasma

05/07 leak discovered through lower hybrid launcher