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| Traveler Title | Girder Disassembly & Sampling Traveler |
| Traveler Abstract | This traveler outlines the steps necessary to disassemble and sample for particulates for a warm region vacuum assembly or so-called girder. It captures component serial numbers during the disassembly for girder rework.Work within this Traveler is to be performed by trained and authorized personnel ONLY. All girder components and materials shall be kept together and contained until they have been surveyed and released by RADCON. **\*\* Radiological controls are a critical component of the girder rework disassembly and assembly process. Dose rate, as well as contamination surveys (where seals are present) shall be performed and analyzed, with information communicated to all involved personnel. Results will be recorded at traveler hold points. RW-II training will be required where contamination is identified\*\*** |
| Traveler ID | WMGRDR-DISA-SMPL |
| Traveler Revision  | R1 |
| Traveler Author | AM Valente-Feliciano |
| Traveler Date | 25-Oct-20 |
| NCR Informative Emails | forehand,dipette,drury,ari |
| NCR Dispositioners | Valente,Drury,ari |
| D3 Emails | Valente,forehand,dipette,Drury,ari |
| Approval Names | A-M Valente-Feliciano | A. Palczewski | M. Drury | D. Hamlette |
| Approval Signatures |  |  |  |  |
| Approval Dates |  |  |  |  |
| Approval Title | Author | Reviewer | Project Manager | RadCon |

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| References | List and Hyperlink all documents related to this traveler. This includes, but is not limited to: safety (THAs, SOPs, etc), drawings, procedures, and facility related documents. |
| WARM REGION VACUUM ASSEMBLY drawing | 11131-D-0137 or VAC5555000-0231 WARM REGION VACUUM ASSEMBLY | RADCON Control Doc ? |  |  |
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| Revision Note |  |
| R1 | Initial release of this Traveler. |

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| Step No. | Instructions | Data Input |
| **\*\* Radiological controls are a critical component of the girder rework disassembly and assembly process. Dose rate, as well as contamination surveys (where seals are present) shall be performed and analyzed, with information communicated to all involved personnel. Results will be recorded at traveler hold points. RW-II training will be required where contamination is identified\*\*** |
| \*Note:  | 1. During the girder re-work process, there will be some items labeled as “Radioactive Material”. **Radioactive Material (RAM)** is defined in the RadCon manual as any activated material, equipment or system component with radiation levels distinguishable from background. The following guidelines are to be adhered to when handling RAM in order to follow Radcon requirements:* There are no requirements for dosimetry for Radioactive Material Areas unless otherwise notified by a member of the RCD.
* Persons must be Radiation Worker I qualified to handle RAM.
* The RAM tag must accompany the item at all times with the following exceptions. Cleaning, heating or any process in which the tag will impede that process or the tag could be potentially damaged or destroyed.
* When performing processes listed above, the tag is to be removed by personnel performing the task and placed on the RAM tag board located in the area.
* Each component removed from the girderneeds to be tagged with a Radcon coupon, recorded on the dedicated list.
* All hardware (bolts, nuts, gaskets…) needs to be gathered in a Rad waste bag.
* Once task is complete, the tag is to be placed back on the material/equipment.
* Eating, drinking or smoking is not permitted in Radioactive Material Areas

Remove all tags prior to installation of cryomodule in the Accelerator**Tasks associated with this traveler will be performed in the designated area of the clean room.****2 .The girder needs to be maintained upright in the same orientation it had on the beamline. Do not flip over, topple, …** |
| 1 | Enter girder serial numbers.  | [[WMGRDRSN]] <<SN>>[[InitialDate]] <<TIMESTAMP>>[[InitialTechnician]] <<SRFCVP>> |
| 2 | Record the girder style | [[GirderStyle]] <<TEXT>>[[InitialGirderComments]] <<COMMENT>> |

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| **Step No** | **Instructions** | **Data Inputs** |
| 3 | Record the existing serial numbers of each component, and choose the new serial number from the drop-down list if indicated. If the old and new serial numbers are different, engrave the part with the new number that was chosen in the drop-down list. Print and record all existing component data on the [Girder assembly drawing](http://jlabdoc.jlab.org/docushare/dsweb/Get/File-9530/5cell_pair_with_text.jpg). Any component that has been tagged as RAM shall be noted in the last column. |
| **Part** | **Original Serial No** | **Standardized Serial No** | **Part RAM?** | **Part Present** |
| Pump drop |  | [[PMPDRPSN]] <<PMPDRPSN>> | [[PMPDRP\_RAM]] <<YESNO>> |  |
| BPM chamber |  | [[BPMSN]] <<BPMSN>> | [[BPM\_RAM]] <<YESNO>> |  |
| Ion Pump | [[Ion\_Pump]] <<SN>> | [[IONPMPSN]] <<IONPMPSN>> | [[IONPMP\_RAM]] <<YESNO>> |  |
| Gate valve | [[GV\_Orig]] <<SN>> | [[GVGSN]] <<GVGSN>> | [[GVG\_RAM]] <<YESNO>> | [[GVG\_Present]] <<YESNO>> |
| Gauge on double sided 2.75" CF | [[Gauge\_Orig]] <<SN>> | [[GAUGESN]] <<GAUGESN>> | [[GAUGE\_RAM]] <<YESNO>> | [[GAUGE\_Present]] <<YESNO>> |
| 90 angle all-metal valve (AMUV) | [[AMUV\_Orig]] <<SN>> | [[AMUVSN]] <<AMUVLSN>> | [[AMUV\_RAM]] <<YESNO>> |  |
| Beamviewer assembly  | [[BMVWR\_Orig]] <<SN>> | [[BMVWR]] <<BMVWRSN>> | [[BMVWR\_RAM]] <<YESNO>> | [[BMVWR\_Present]] <<YESNO>> |
| QD beamtube assembly A | [[QDQBT\_A\_Orig]] <<SN>> | [[QDQBT\_A]] <<QDBTSN>> | [[QDQBT\_A\_RAM]] <<YESNO>> | [QDQBT\_A\_Present]] <<YESNO>> |
| QD beamtube assembly B | [[QDQBT\_B\_Orig]] <<SN>> | [[QDQBT\_B]] <<HOMESN>> | [[QDQBT\_B\_RAM]] <<YESNO>> | [[QDQBT\_B\_Present]] <<YESNO>> |
| 2.75" CF A |  |  | [[CFBLK275\_A\_RAM]] <<YESNO>> |  |
| 2.75" CF B |  |  | [[CFBLK275\_\_B\_RAM]] <<YESNO>> |  |
| Viewport /2.75" CF C |  |  | [[CFBLK275\_C\_RAM]] <<YESNO>> | [[CFBLK275\_C\_Present]] <<YESNO>> |
| Bellow A | [[Bellow\_A\_Orig]] <<SN>> | [[Bellow\_A]] <<ENDDSN>> | [[Bellow\_A\_RAM]] <<YESNO>> | [[Bellow\_A\_Present]] <<YESNO>> |
| Bellow B | [[Bellow\_B\_Orig]] <<SN>> | [[Bellow\_B]] <<ENDDSN>> | [[Bellow\_B\_RAM]] <<YESNO>> | [[Bellow\_B\_Present]] <<YESNO>> |
| 2.75" CF (AMUV side) |  |  | [[CFBLK275\_AMUV\_RAM]] <<YESNO>> |  |
|  |  | [[GirderDiagram]] <<FILEUPLOAD>> | [[DiagramComment]] <<COMMENT>> |  |

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| **Step No** | **Instructions** | **Data Inputs** |
| 4 | **\*\*\*Get authorization from RADCON to move girder from RMA storage area to the Production chemroom\*\*\*** | [[RadTech1]] <<RAD>>[[RadComment1]] <<COMMENT>>[[RadDate1]] <<TIMESTAMP>> |
| 5 | The girder will be blown off prior entry in the Production chemroom, wiped down with Isopropyl and blown off again prior entry in the cleanroom via the Production chemroom path-thru | [[ChemistryTechnician]] <<SRFCVP>> |
| 6 | Set the girder in the cleanroom designated area.Ensure the area and girder are adequately clean.Prepare disassembly tooling, sampling tooling, supplies & samplesPrepare recording lists for particulate samples generated, girdercomponents and Radcon couponsLet the cleanroom area recover | [[SRFScientist1]] <<SRF>>[[DisaTech1]] <<SRFCVP>> |
| 7 | Set an environmental witness sample prior starting disassembly and sampling tasks |  |
| 8 | Disassemble the girder using the dedicated disassembly tools following the order set by the sampling protocol (Procedure # , Girder Particulate Sampling Procedure)**.** Use caution when removing and handling delicate items such as BPM chamber and beam viewers. Cover/protect all flanges immediately after disassembly. Store all fasteners for later use or disposal. If the fasteners are deemed as RAM, place in appropriate disposal container for Radcon.  | [[RadTech2]] <<RAD>>[[RadComment2]] <<COMMENT>>[[RadDate2]] <<TIMESTAMP>>[[SRFScientist2]] <<SRF>>[[DisaTech2]] <<SRFCVP>>[[FastenersRAM]] <<YESNO>> |
| 9 | Retrieve and store environmental witness sample placed prior starting disassembly and sampling tasks | [[GirderSampleNumber]]<<integer>> |
| 10 | \*\*\*Coordinate with RADCON for surveying and moving parts from Cleanroom to RMA area or to accomplish the next task\*\*\* | [[RadTech3]] <<RAD>>[[RadComment3]] <<COMMENT>>[[RadDate3]] <<TIMESTAMP>> |
| 11 | Ensure that all RAM tagged parts are place in an appropriate RMA. |  |