

# PacBio® RS II Workflow

FIND MEANING IN COMPLEXITY

# Contents

PacBio® RS II Workflow Overview

Template Preparation

PacBio® RS II Instrument

PacBio Software

Where to Find More Information

# Sequencing Workflow

Template Preparation

Run Design

Polymerase Binding

Instrument Run

Primary Analysis

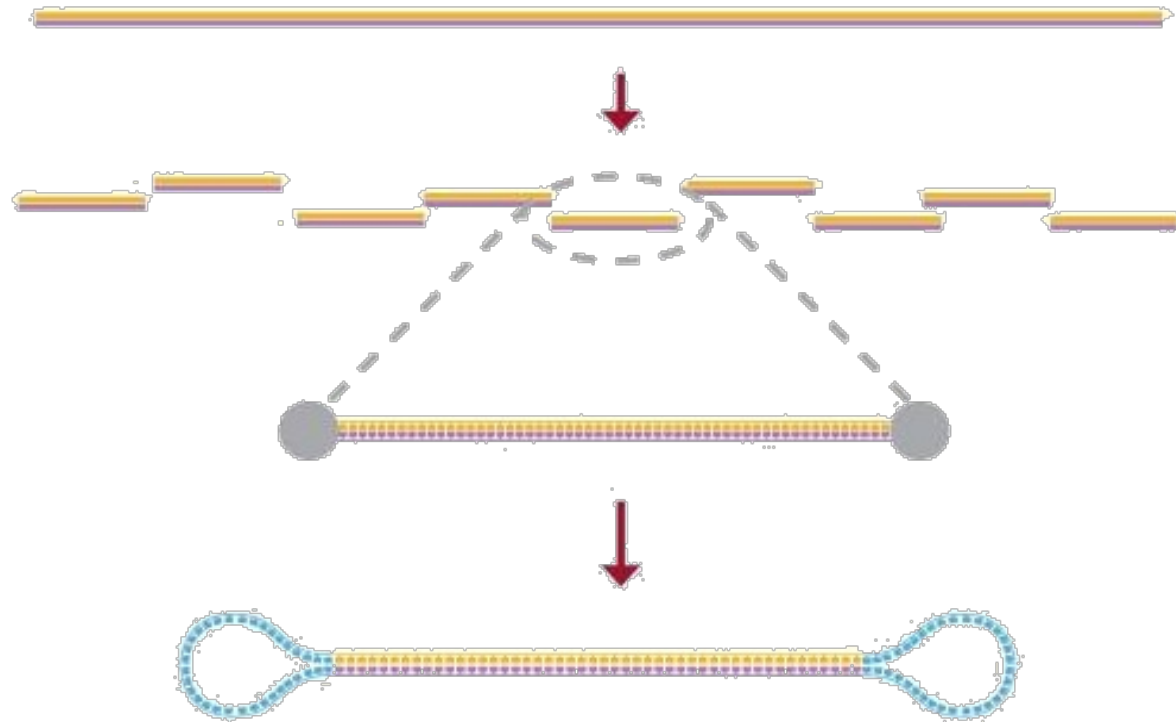
Secondary Analysis

Tertiary Analysis



SMRT® Portal & SMRT® View

# Template Preparation



**SMRTbell™** Template preparation can be used to create libraries of various insert sizes from 250 bp to 20,000 bp depending on the needs of the application.

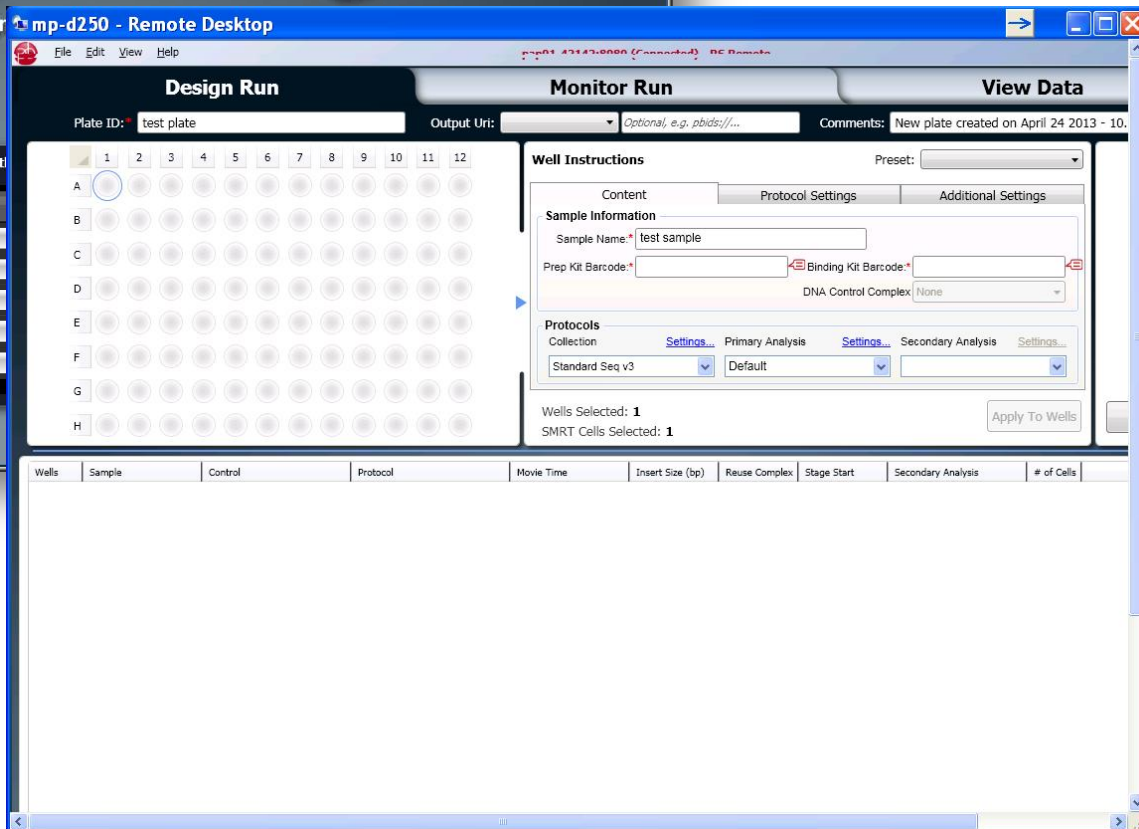


# Run Design



Open an Existing Run

Design



# Bind Polymerase to SMRTbell™ template

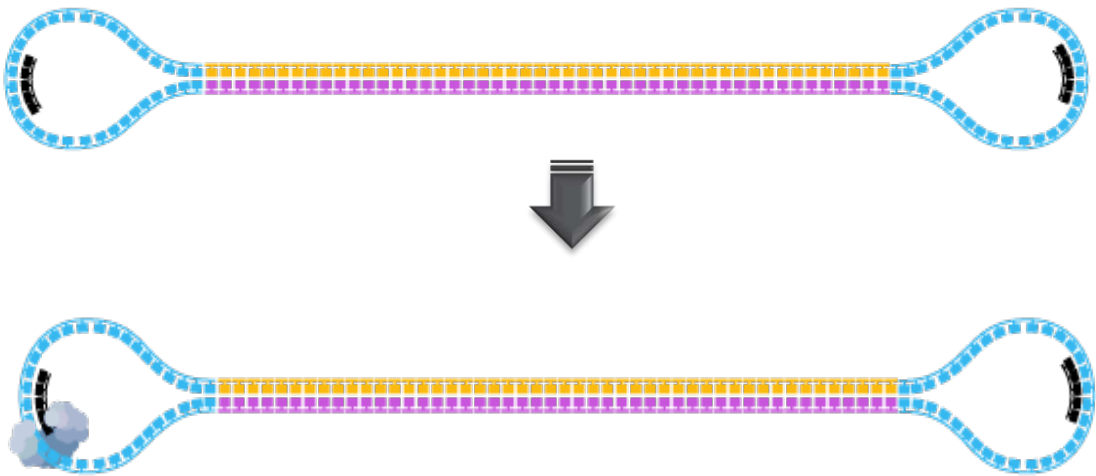
SMRTbell™  
Template

Anneal  
Primer

Bind  
Polymerase

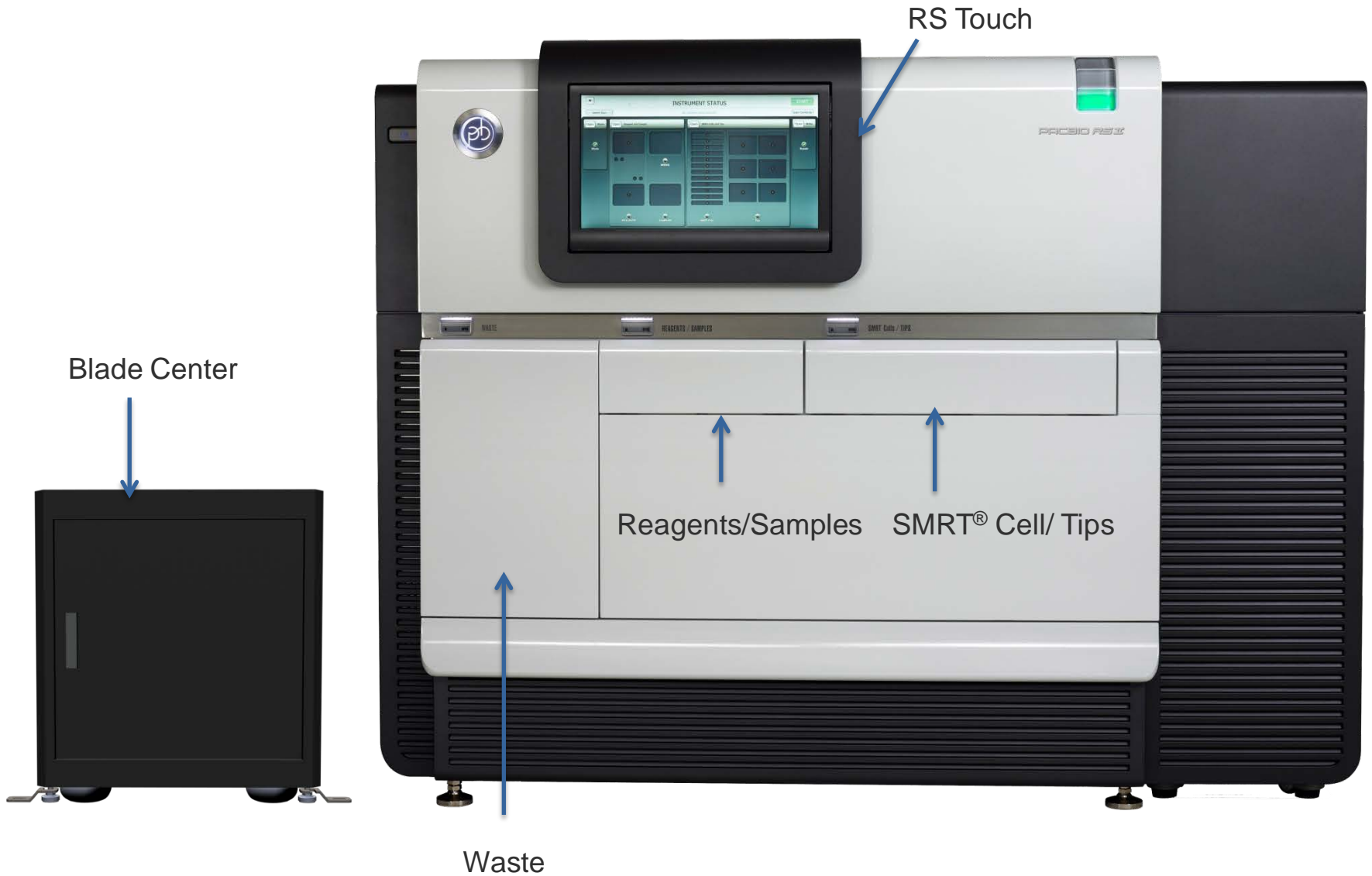
Diffusion  
Loading

MagBead  
Loading



Two available methods for loading SMRTbell™ libraries

# Instrument Run



# Robot During SMRT<sup>®</sup> Cell Preparation



**Internal Robotics**



# Primary Analysis



INITIALIZING STOP

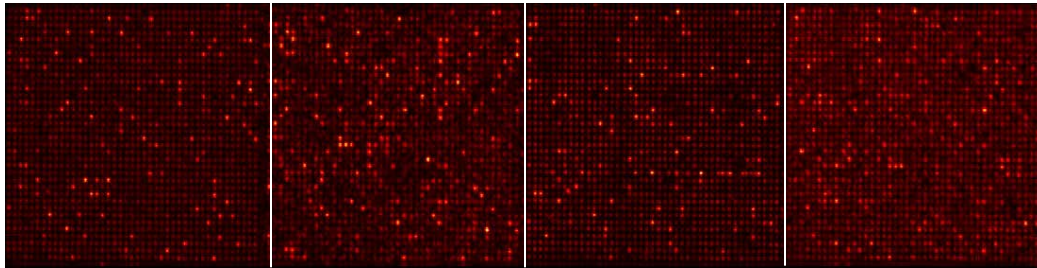
Samples Plate ID: 2012-07-23\_YCT-B2HS-01

Well	Sample	Movie Time	Status	RQ
A01	20120723_Ecoli_7195_HS	45	Sequencing	

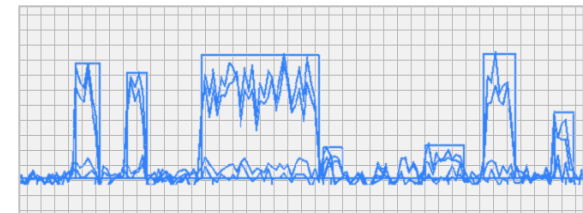
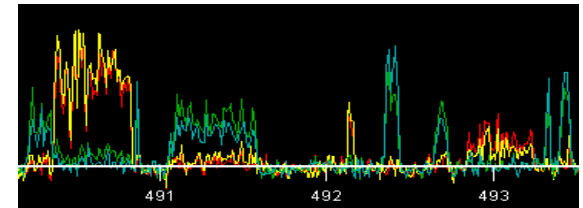
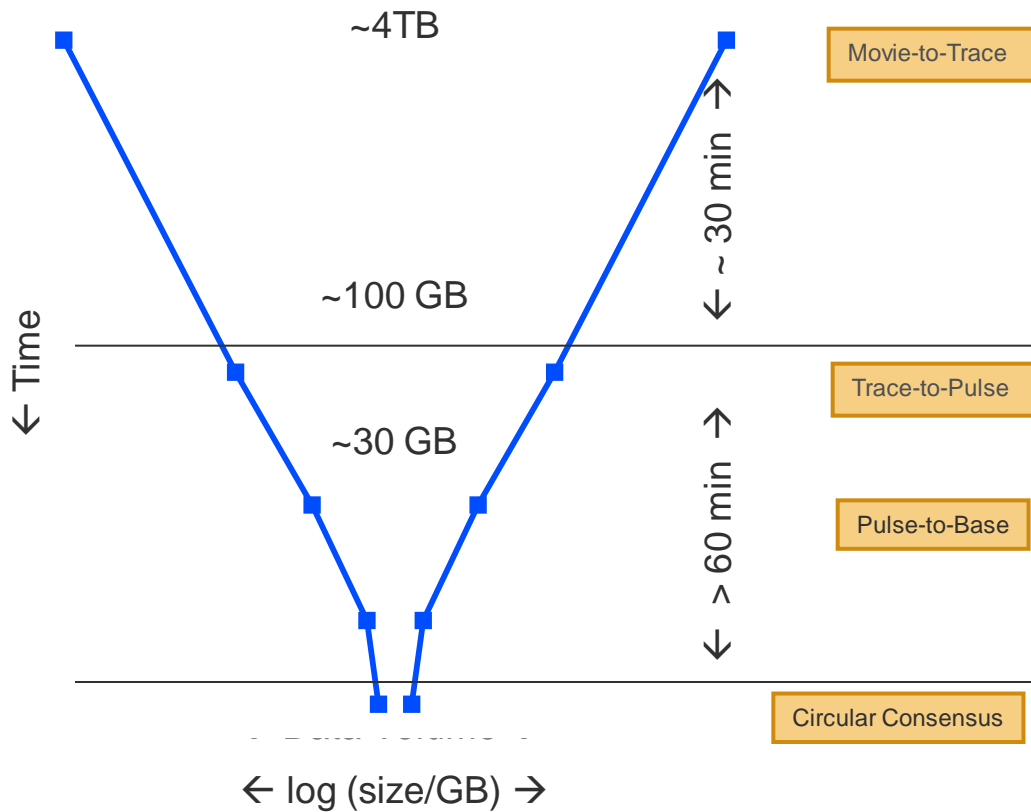
Sequencing Well A01, SMRT Cell 1

Estimated Time Remaining **18 mins 43 secs**

# Primary Analysis



Algorithms reduce photon counts vs. time to sequences




GCAACGATCACCTAAA...GCAACGA  
TCACCTAAA...GCAACGATCACCTA  
AA...GCAACGATCACCTAAA...

ACGATCACCTAAA...



# RS Dashboard



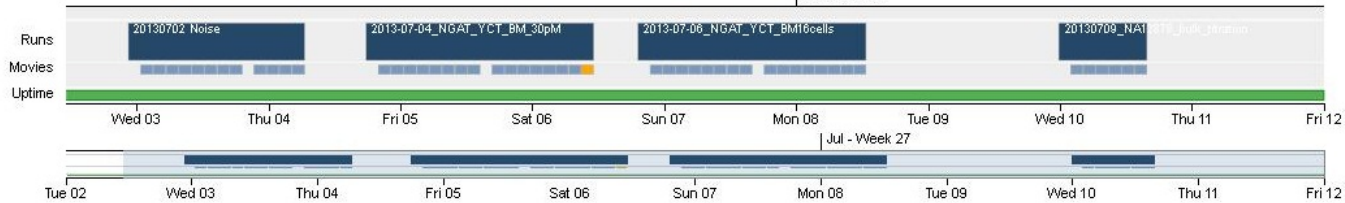


[Calculator](#)
[Download RS Remote](#)
[Email Feedback](#)
4216

Time Range: From:  :  :  -- To:  :  :  Update Time range is up-to-date. v2.0.2.0.1245

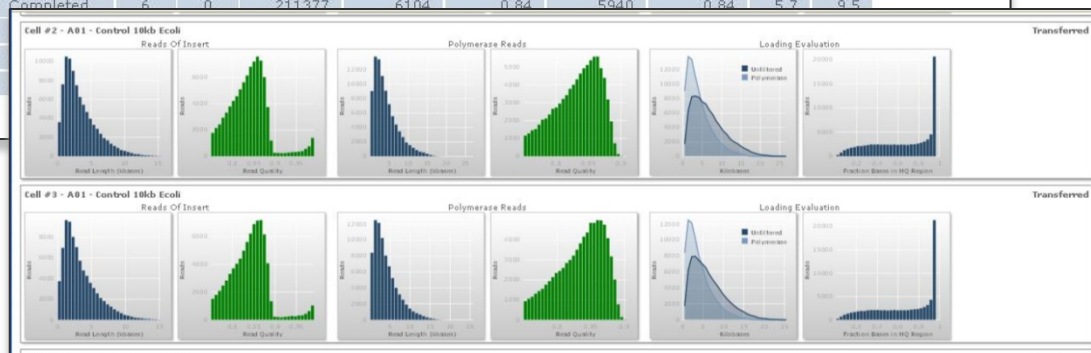
**Runs** | Performance | Download

Jul - Week 27



Run	Started @	Status	SMRT® Cells		Total Reads	Polymerase Reads		Reads Of Insert		SNR	
			#	Fail		Length	Quality	Length	Quality	T	A
<a href="#">20130709_NA12878_bulk_titration</a>	07/09/13 23:40	Completed	6	0	211377	6104	0.84	5940	0.84	5.7	9.5
<a href="#">2013-07-06_NGAT_YCT_BM16cells</a>	07/06/13 19:07										
<a href="#">2013-07-04_NGAT_YCT_BM_30pM</a>	07/04/13 17:40										
<a href="#">20130702_Noise</a>	07/02/13 22:25										

Showing 4 runs





# Secondary Analysis



SMRT® Portal Home Help About Welcome, llee! Account Log Off

### DESIGN JOB

MONITOR JOBS VIEW DATA



Open Existing



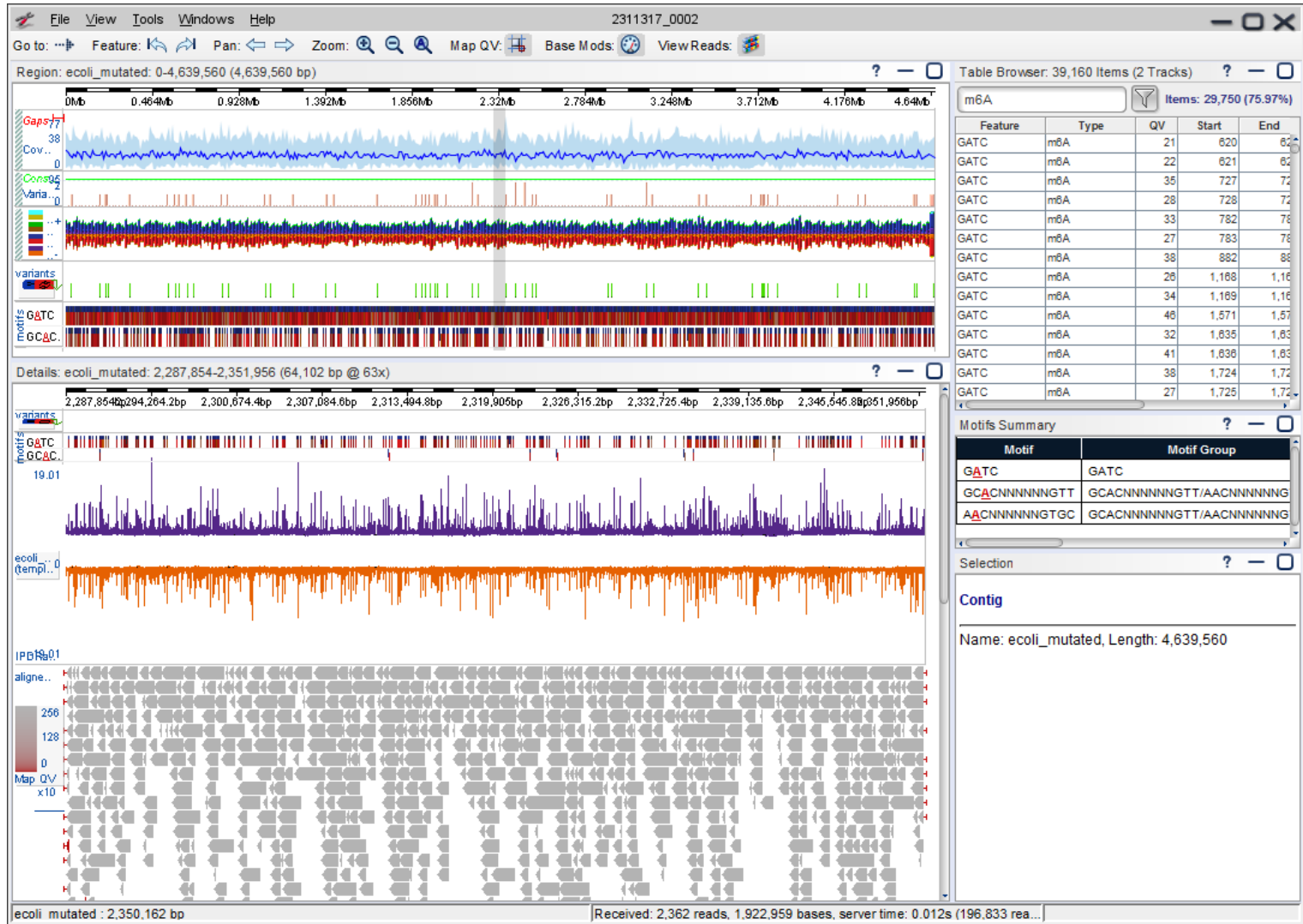
Create New



Import and Manage

### RECENT JOBS

Job name	Protocol	Reference Sequence	Started	Status	User
2580158-0011	UC_ecoli_RS_Resequencing.1	ecoli_mutated	2012-04-25T15:15:	Completed	limsrunner
2580158-0002	UC_ecoli_RS_Resequencing.1	ecoli_mutated	2012-04-25T15:15:	In Progress	limsrunner
2580158-0010	UC_ecoli_RS_Resequencing.1	ecoli_mutated	2012-04-25T15:15:	Completed	limsrunner
2580158-0005	UC_ecoli_RS_Resequencing.1	ecoli_mutated	2012-04-25T15:15:	Completed	limsrunner
2580158-0008	UC_ecoli_RS_Resequencing.1	ecoli_mutated	2012-04-25T15:15:	Completed	limsrunner



# Where to Find More Information

- Documents are available through the Customer Portal, SampleNet and DevNet
  - Template Preparation
    - Guide - Pacific Biosciences® Template Preparation and Sequencing
    - Procedures & Checklists for 250 bp - 20 kb libraries
    - PacBio guidelines – SMRTbell™ libraries
  - Software Getting Started Guide
- Help Guides are available through the “Help” tab of the Software
  - RS Remote Guide (see next slide)
  - SMRT® Portal
  - SMRT® View
- Help Guides and Informatics resources are also available in DevNet
  - SMRT® Portal Guide
  - SMRT® View Guide
  - Bioinformatic Training Wiki

# RS Remote Help

The screenshot shows a remote desktop session titled "mp-d250 - Remote Desktop". The main application window is "pap01-42142:8080 (Connected) - RS Remote". The interface includes a menu bar with "File", "Edit", "View", and "Help". The "Help" menu is open, showing "Content" and "About" options. A red arrow points to the "Help" menu, and a red circle highlights the "Content" option. The main content area is titled "Monitor Run" and "View Data". Below the menu bar, there are input fields for "Output Uri:" and "Comments:". A "BrowserWindow" is open, displaying the "RS Remote Help" page. The page content includes:

- Use RS Remote to:**
  - [Create](#) a new PacBio RS instrument [run](#). The run is then available from the instrument touchscreen (**RS Touch**) so that the user can load the instrument and start the run.
  - [Open an existing run](#).
  - [Export and import](#) runs in .CSV format.
  - [Monitor](#) and view run progress on one or multiple instruments.
  - [View primary analysis results](#) currently generated by a run.
- Reference:**
  - [Pacific Biosciences software overview](#)
  - [Menu Commands](#)
  - [RS Remote hardware/software requirements](#)
  - [Pacific Biosciences terminology](#)

For additional technical support, contact Pacific Biosciences at [TechSupport@pacificbiosciences.com](mailto:TechSupport@pacificbiosciences.com) or 877-920-7222.

Local Information: 20 May 12, RS Remote 1.2.1



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