

Many hosted P6 environments, such as Oracle Hosting and Loadspring, restrict access to your P6 Database and your Oracle Primavera Cloud (OPC) Database for Dashboard and Report Development and Data Analysis

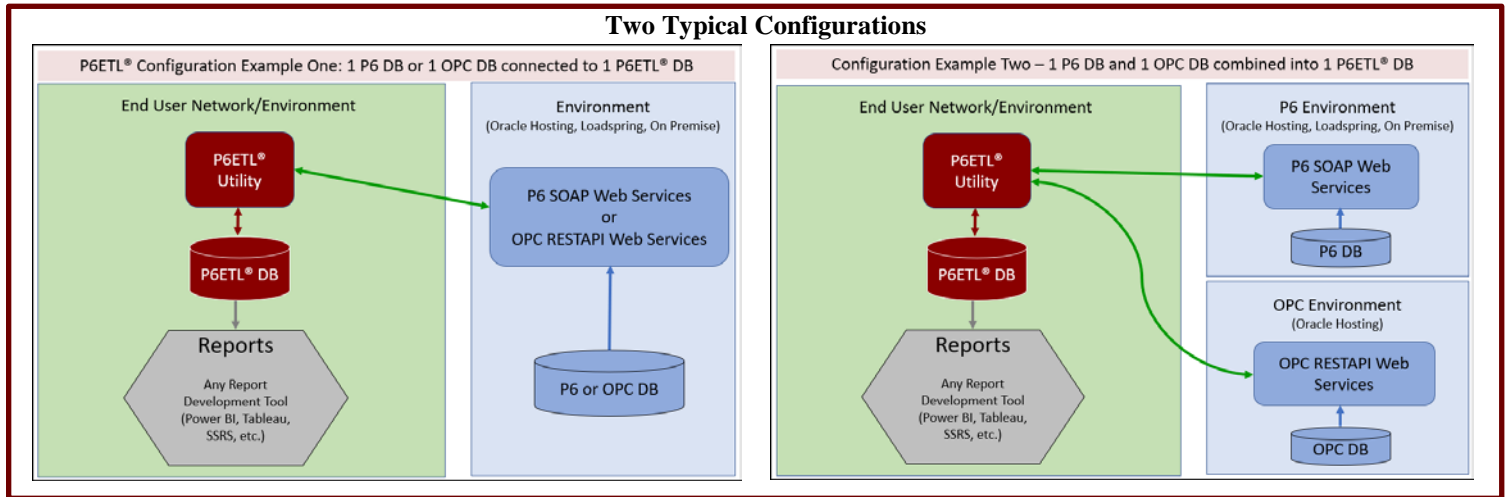
P6ETL[®] for BI Reporting Solves that Problem!

Overview

P6ETL[®] for BI Reporting is a software utility that automatically extracts P6 data and/or Oracle Primavera Cloud (OPC) data from a hosted environment using Web Services and stores the data into the P6ETL[®] Database (DB). The P6ETL[®] DB is a Microsoft SQL Server DB. Once the P6 or OPC data are loaded into the P6ETL[®] DB, BI dashboards and reports can be created by connecting to the P6ETL[®] DB using any BI dashboard/report development tool that supports Microsoft SQL Server (MSSQL). However, the most popular BI report development tool is Microsoft Power. P6ETL[®] includes six (6) Microsoft Power BI dashboards (see pages 4 through 6 below).

The P6ETL[®] DB scheme is very similar to the P6 Reporting Database scheme created during the publishing step in P6 EPPM however P6ETL[®] is not dependent on the P6 EPPM's publishing step. P6ETL[®] extracts data directly from the P6 or OPC DB using Web Services.

Two Typical Configurations



Features

For P6, P6ETL[®] populates 73 tables in the P6ETL[®] DB with P6 data. Using these 73 tables, users can create robust BI dashboards and reports using tools such as Microsoft Power BI. See the **Microsoft Power BI Dashboard Examples** section below on page 4.

As mentioned above, the P6ETL[®] DB is based on Oracle's P6 Reporting DB. Here is a link to the Oracle P6 Reporting DB scheme: https://docs.oracle.com/cd/E17462_01/Reporting_Database/R2andAnalytics/OdsFieldMapTable.html

The list of columns for each of the P6ETL[®] DB tables can be found in this link however the table names in the link do not include the "P6" table prefix. For example, to view all the columns for the P6ACTIVITY table in the P6ETL[®] DB, look at the list of columns under ACTIVITY link.

The 73 tables are:

• P6ACTIVITY	• P6COSTACCOUNTHIERARCHY	• P6RESASSIGNMENTPERIODACTUAL	• P6ROLE
• P6ACTIVITYCODE	• P6EPS	• P6RESOURCEASSIGNMENT	• P6ROLECODE
• P6ACTIVITYCODEASSIGNMENT	• P6EPSHIERARCHY	• P6RESOURCEASSIGNMENTSPREAD	• P6ROLECODEASSIGNMENT
• P6ACTIVITYCOMMENT	• P6EXPENSECATEGORY	• P6RESOURCEASSIGNMENTSPREADDURATIONS ⁽¹⁾	• P6SHIFT
• P6ACTIVITYEXPENSE	• P6FINANCIALPERIOD	• P6RESOURCECODE	• P6SHIFTPERIOD
• P6ACTIVITYNOTE	• P6FUNDINGSOURCE	• P6RESOURCECODEASSIGNMENT	• P6TIMESHEET
• P6ACTIVITYPERIODACTUAL	• P6LOCATION	• P6RESOURCEHOUR	• P6TIMESHEETPERIOD
• P6ACTIVITYRISK	• P6NOTEBOOKTOPIC	• P6RESOURCERATE	• P6UDFTYPE

• P6ACTIVITYSPREAD	• P6OBS	• P6RESOURCES	• P6USEROBS
• P6ACTIVITYSPREADDURATIONS ⁽¹⁾	• P6OVERHEADCODE	• P6RISK	• P6USERS
• P6ACTIVITYSTEP	• P6PROJECT	• P6RISKIMPACT	• P6WBS
• P6BASELINETYPE	• P6PROJECT_UDFVALUE	• P6RISKMATRIXSCORE	• P6WBSCATEGORY
• P6BLACTIVITY	• P6PROJECTBUDGETCHANGELOG	• P6RISKMATRIXSCORETYPE	• P6WBSHIERARCHY
• P6BLACTIVITYSPREAD ⁽¹⁾	• P6PROJECTCODEASSIGNMENT	• P6RISKRESPONSEACTION	
• P6BLACTIVITYSPREADDURATIONS ⁽¹⁾	• P6PROJECTFUNDING	• P6RISKRESPONSEACTIONIMPACT	
• P6BLPROJECT	• P6PROJECTNOTE	• P6RISKRESPONSEPLAN	
• P6BLRESOURCEASSIGNMENTS ⁽¹⁾	• P6PROJECTRESOURCE	• P6RISKSCOREMATRIX	
• P6BLRESOURCEASSIGNMENTS ⁽¹⁾	• P6PROJECTSPENDINGPLAN	• P6RISKSCORETYPE	
• P6CALENDAR	• P6RELATIONSHIP	• P6RISKTHRESHOLDLEVEL	
• P6COSTACCOUNT	• P6REPORTDATE	• P6RISKTYPE	

(1) Only available in the P6ETL[®] DB. These tables do not exist in the P6 Reporting DB.

For OPC, P6ETL[®] populates 23 tables in the P6ETL[®] DB. Additional tables will be added in the future. Using these 23 tables, users can create BI dashboards and reports using tools such as Microsoft Power BI. The 23 tables are:

• P6ACTIVITY	• P6CALENDAR	• P6PROJECTCASHFLOWS	• P6RESOURCECODEASSIGNMENT
• P6ACTIVITYCODEASSIGNMENT	• P6EPS (Workspaces in OPC)	• P6PROJECTCODEASSIGNMENT	• P6RESOURCES
• P6ACTIVITYSPREAD	• P6EPSHIERARCHY	• P6RELATIONSHIP	• P6UDFTYPE
• P6BASELINETYPE	• P6LOCATION	• P6REPORTDATE	• P6WBS
• P6BLACTIVITY	• P6PROJECT	• P6RESOURCEASSIGNMENT	• P6WBSHIERARCHY
• P6BLPROJECT	• P6PROJECT_UDFVALUE	• P6RESOURCEASSIGNMENTS ⁽¹⁾	

Features (cont.)

• Automatically Extracts P6 and OPC Data from Hosted Environments

P6ETL[®] extracts P6 and/or OPC data from hosted environments such as Oracle Hosting, Loadspring, Emerald, and even your own on-premise environment - and then P6ETL[®] stores the P6 and/or OPC data into the P6ETL[®] DB. The primary requirement for P6ETL[®] is that the hosted environment must be running the P6 SOAP Web Services for P6 and OPC RESTAPI Web Services for OPC. Web Services are a standard component in the hosted environment for enterprise editions.

With P6ETL[®], you no longer need to manually extract data from P6 and OPC using copy/paste and/or exporting XER/XML files. P6ETL[®] will automatically extract the data without manual intervention.

• Robust Database Scheme that mimics the P6 Reporting Database found in P6 EPPM

The P6ETL[®] DB is a robust reporting DB, and it is based on the same reporting DB that BI Publisher developers use when developing BI Publisher Data Models. HOWEVER, P6ETL[®] is not dependent on the publishing step in P6 EPPM. P6ETL[®] uses Web Services to extract data directly from the P6 or OPC DB.

For P6, the P6ETL[®] DB has all the calculated and time-phased data needed for advanced report development. And the column names in the P6ETL[®] DB match the column names used on P6 layouts created in P6 PPM and/or P6 EPPM.

For OPC, the same table names and column names are reused for OPC data however, there are a few additional columns for OPC data.

• Combine Multiple P6 and/or OPC Databases into a Single P6ETL[®] Database

To simplify report development, P6ETL[®] can combine 2 or more P6 and OPC DB's into a single P6ETL[®] DB for portfolio-level and enterprise-wide consolidated BI reporting.

- **Split One P6 or OPC Database into Multiple P6ETL[®] Databases**

For those situations where users need to provide P6 or OPC data to partners or clients for specific projects, P6ETL[®] can extract specific projects from P6 or OPC - and then load the project data into separate P6ETL[®] DB's.

- **Snapshot**

P6ETL[®] has a Snapshot feature that can be configured to create daily, weekly, and/or monthly snapshots of both global and project data. Snapshots are like P6 baselines. Using the Snapshot data, reports can be developed to compare project data between the current active projects and any previous Snapshot for those projects. With Snapshot data, reports can be developed to identify trends and to analyze projects over time.

- **Project Filtering**

Instead of extracting all project data for the P6ETL[®] DB, P6ETL[®] has several filtering options that can be applied to limit which projects and baselines are extracted from P6 and OPC and stored in the P6ETL[®] DB. For example, a filter can be created that only extracts projects under a specific EPS or Workspace node. Or apply an additional Project Code filter to further narrow down the list of projects to be extracted.

- **Automatically Synchronize the P6ETL[®] DB**

After the P6ETL[®] DB is initially loaded, scheduled jobs are configured to update the P6ETL[®] DB on a daily-basis or throughout the day (depending on the number and size of the projects to be updated).

P6ETL[®] runs in batch mode, not real-time mode, therefore the data in the P6ETL[®] DB could be several hours older than the data in the P6 or OPC Production DB. However, if certain projects, such as turnaround projects, need to be updated more frequently, jobs can be configured for those special projects to run every 15 or 30 minutes (depending on the number and size of those special projects).

- **BI Reports**

Using the P6ETL[®] DB, you can create an unlimited number of BI Reports using your favorite BI report development tool.

If you use Microsoft Power BI, you could create Power BI reports that are automatically refreshed using the data in the P6ETL[®] DB – and the you can share those Power BI reports with anyone in your organization.

Microsoft Power BI Dashboard Examples

With the purchase of P6ETL[®] for BI Reporting, customers will be given these six (6) Power BI example dashboards along with SQL query examples to help them with report development.

Report 1 - Resource Progress Report

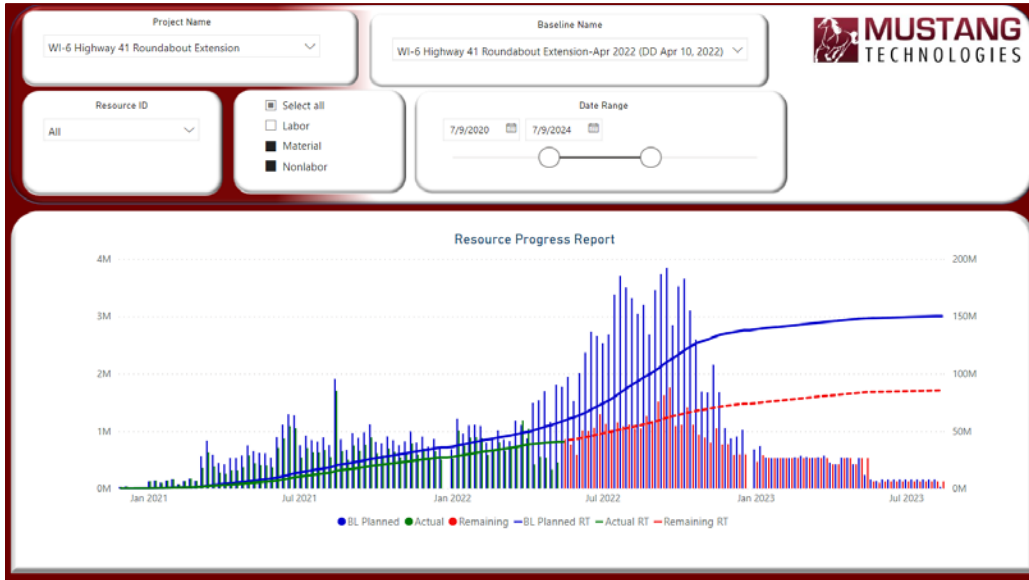
This report tracks the progress of the current project's resources against one of the project's BL's

To run the report: First, the user selects a current project using the **Project Name** filter. Next, the user selects one of the project's baselines using the **Baseline Name** filter.

The **BLUE line and bars** represent the planned baseline. The **GREEN line and bars** represent the actuals. The **RED line and bars** represent the remaining work.

By comparing the **BLUE and RED lines**, users can quickly determine if a project is on budget

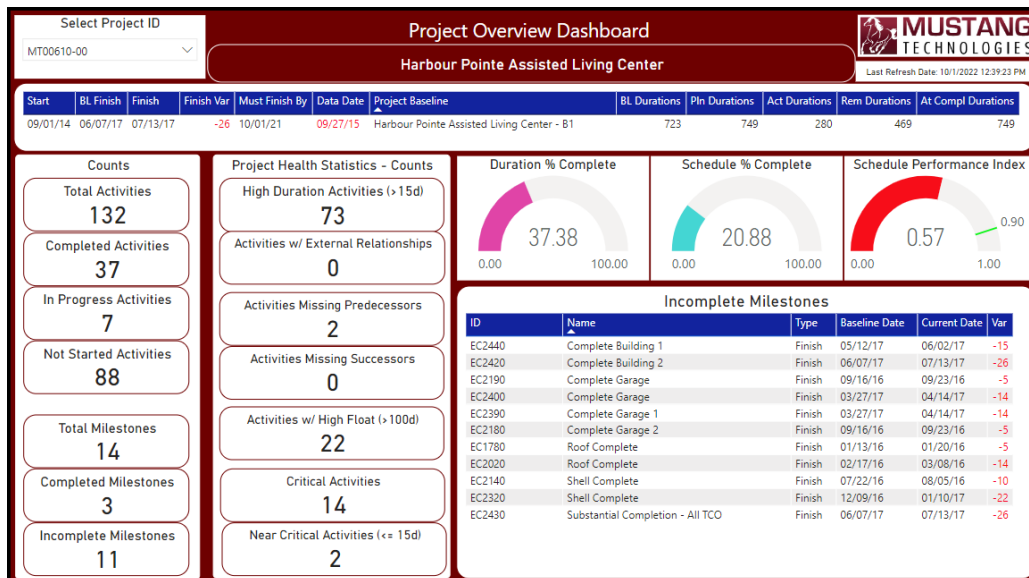
Using the **Resource ID, Labor Type, and Date Range** filters, users can narrow the chart's results



Report 2 - Project Overview Dashboard

This dashboard provides an overview of a project and a few project health statistics such as activities with missing predecessors and/or successors.

To run the report: First, select a project using the **Select Project ID** filter. Next, the user can view the activities under each metric under the Counts sections by clicking on the metric.



Report 3 - Progress Report

This report tracks a project's progress using activity labor units.

The time-phased data on this report is by the day therefore the bars represent the labor units for each day of the project. The report displays the baseline, actual, and remaining labor units by day as well as the running total for each (via the S-Curve).

Users can narrow the results of the chart by selecting activity codes such as Contractor, Phase, and/or Responsibility.

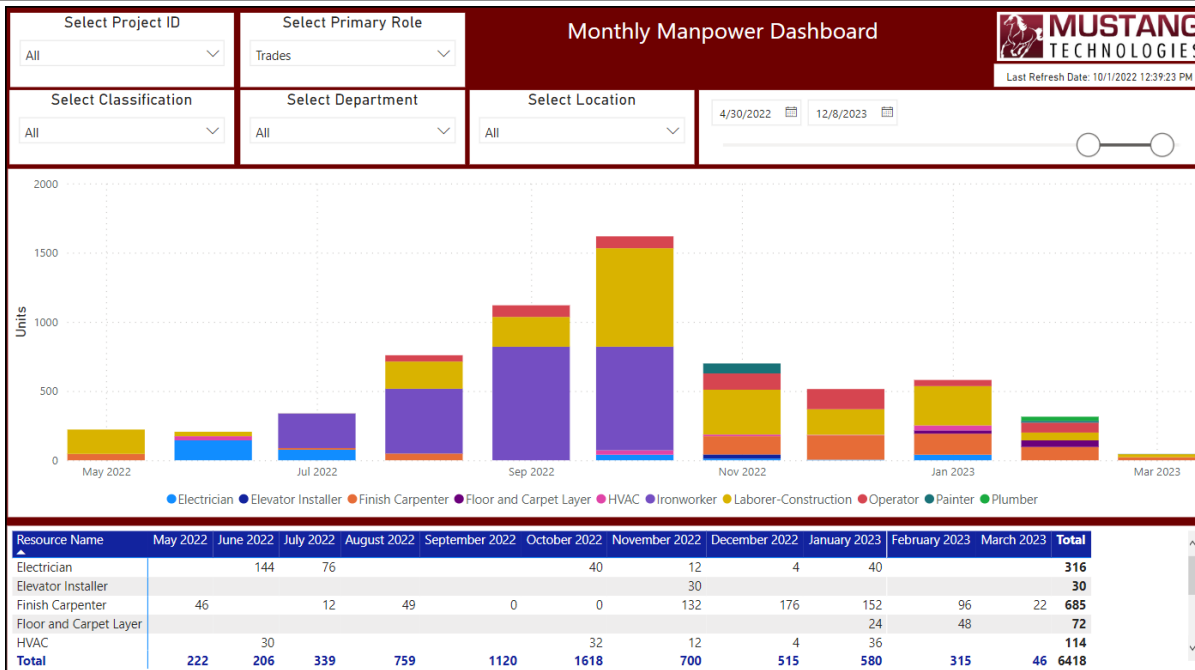


Report 4 – Monthly Manpower Dashboard

This dashboard shows the manpower requirements for each month for a single project, multiple projects, or all projects. Users can narrow the results by selecting a Primary Role or a Resource Code such as Classification, Department and/or Location.

The table, below the chart, displays the manhours per month by Resource Name.

In addition, users can narrow the timeframe of the dashboard by adjusting the time-scale slicer.

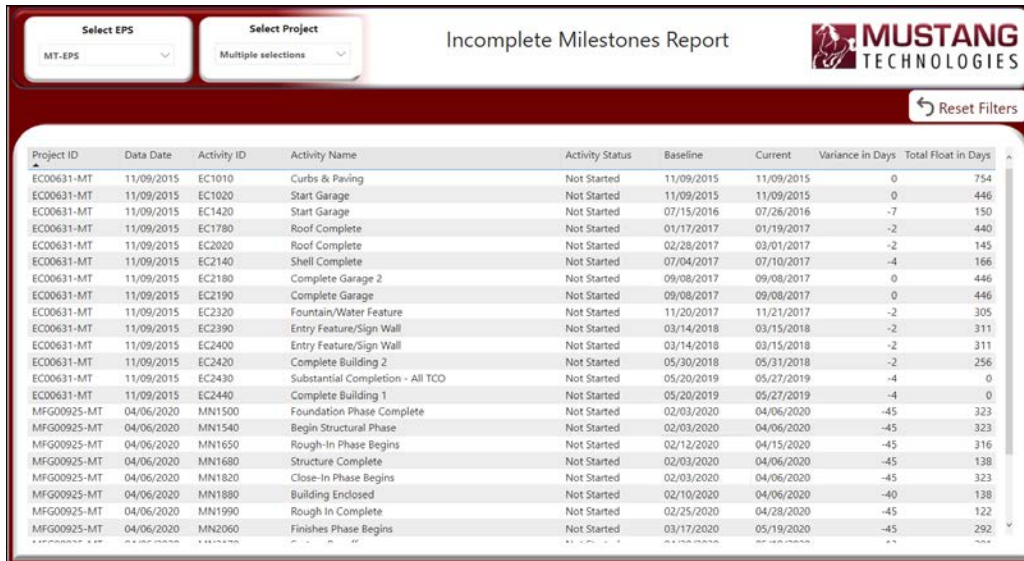


Report 5 - Incomplete Milestones Report

This report has all the incomplete Start and Finish Milestones for all projects.

Using the **Select EPS** and **Select Project** filters, users can select a subset of activities by selecting 1 or more EPS nodes and/or projects.

The results can be exported to an EXCEL file.



Select EPS: MT-EPS
Select Project: Multiple selections
Reset Filters

Project ID	Data Date	Activity ID	Activity Name	Activity Status	Baseline	Current	Variance in Days	Total Float in Days
EC00631-MT	11/09/2015	EC1010	Curbs & Paving	Not Started	11/09/2015	11/09/2015	0	754
EC00631-MT	11/09/2015	EC1020	Start Garage	Not Started	11/09/2015	11/09/2015	0	446
EC00631-MT	11/09/2015	EC1420	Start Garage	Not Started	07/15/2016	07/26/2016	-7	150
EC00631-MT	11/09/2015	EC1780	Roof Complete	Not Started	01/17/2017	01/19/2017	-2	440
EC00631-MT	11/09/2015	EC2020	Roof Complete	Not Started	02/28/2017	03/01/2017	-2	145
EC00631-MT	11/09/2015	EC2140	Shell Complete	Not Started	07/04/2017	07/10/2017	-4	166
EC00631-MT	11/09/2015	EC2180	Complete Garage 2	Not Started	09/08/2017	09/08/2017	0	446
EC00631-MT	11/09/2015	EC2190	Complete Garage	Not Started	09/08/2017	09/08/2017	0	446
EC00631-MT	11/09/2015	EC2320	Fountain/Water Feature	Not Started	11/20/2017	11/21/2017	-2	305
EC00631-MT	11/09/2015	EC2390	Entry Feature/Sign Wall	Not Started	03/14/2018	03/15/2018	-2	311
EC00631-MT	11/09/2015	EC2400	Entry Feature/Sign Wall	Not Started	03/14/2018	03/15/2018	-2	311
EC00631-MT	11/09/2015	EC2420	Complete Building 2	Not Started	05/30/2018	05/31/2018	-2	256
EC00631-MT	11/09/2015	EC2430	Substantial Completion - All TCO	Not Started	05/20/2019	05/27/2019	-4	0
EC00631-MT	11/09/2015	EC2440	Complete Building 1	Not Started	05/20/2019	05/27/2019	-4	0
MFG00925-MT	04/06/2020	MN1500	Foundation Phase Complete	Not Started	02/03/2020	04/06/2020	-45	323
MFG00925-MT	04/06/2020	MN1540	Begin Structural Phase	Not Started	02/03/2020	04/06/2020	-45	323
MFG00925-MT	04/06/2020	MN1650	Rough-In Phase Begins	Not Started	02/12/2020	04/15/2020	-45	316
MFG00925-MT	04/06/2020	MN1680	Structure Complete	Not Started	02/03/2020	04/06/2020	-45	138
MFG00925-MT	04/06/2020	MN1820	Close-In Phase Begins	Not Started	02/03/2020	04/06/2020	-45	323
MFG00925-MT	04/06/2020	MN1880	Building Enclosed	Not Started	02/10/2020	04/06/2020	-40	138
MFG00925-MT	04/06/2020	MN1990	Rough In Complete	Not Started	02/25/2020	04/28/2020	-45	122
MFG00925-MT	04/06/2020	MN2060	Finishes Phase Begins	Not Started	03/17/2020	05/19/2020	-45	292

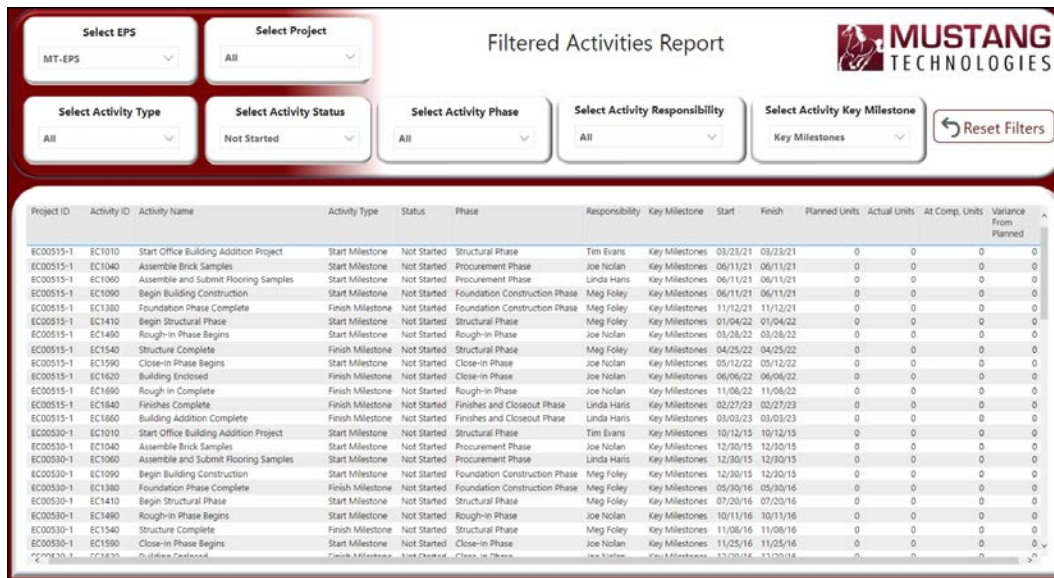
Report 6 - Filtered Activities Report

This report has all activities from all projects.

Using the EPS, Project, Activity Type and Activity Status filters, users can select a subset of activities by selecting 1 or more EPS nodes, Projects, Activity Types and/or Activity Statuses.

And if activities were assigned one of the 3 activity codes (Phase, Responsibility, and/or Key Milestone), users can further refine their selection by selecting activity codes too.

The results can be exported to an EXCEL file.



Select EPS: MT-EPS
Select Project: All
Select Activity Type: All
Select Activity Status: Not Started
Select Activity Phase: All
Select Activity Responsibility: All
Select Activity Key Milestone: Key Milestones
Reset Filters

Project ID	Activity ID	Activity Name	Activity Type	Status	Phase	Responsibility	Key Milestone	Start	Finish	Planned Units	Actual Units	At Comp. Units	Variance From Planned
EC00515-1	EC1010	Start Office Building Addition Project	Start Milestone	Not Started	Structural Phase	Tim Evans	Key Milestones	03/23/21	03/23/21	0	0	0	0
EC00515-1	EC1040	Assemble Brick Samples	Start Milestone	Not Started	Procurement Phase	Joe Nolan	Key Milestones	06/11/21	06/11/21	0	0	0	0
EC00515-1	EC1060	Assemble and Submit Flooring Samples	Start Milestone	Not Started	Procurement Phase	Linda Harris	Key Milestones	06/11/21	06/11/21	0	0	0	0
EC00515-1	EC1090	Begin Building Construction	Start Milestone	Not Started	Foundation Construction Phase	Meg Foley	Key Milestones	06/11/21	06/11/21	0	0	0	0
EC00515-1	EC1380	Foundation Phase Complete	Finish Milestone	Not Started	Foundation Construction Phase	Meg Foley	Key Milestones	11/12/21	11/12/21	0	0	0	0
EC00515-1	EC1410	Begin Structural Phase	Start Milestone	Not Started	Structural Phase	Meg Foley	Key Milestones	01/04/22	01/04/22	0	0	0	0
EC00515-1	EC1490	Rough-in Phase Begins	Start Milestone	Not Started	Rough-in Phase	Joe Nolan	Key Milestones	03/28/22	03/28/22	0	0	0	0
EC00515-1	EC1540	Structure Complete	Finish Milestone	Not Started	Structural Phase	Meg Foley	Key Milestones	04/25/22	04/25/22	0	0	0	0
EC00515-1	EC1590	Close-in Phase Begins	Start Milestone	Not Started	Close-in Phase	Joe Nolan	Key Milestones	05/12/22	05/12/22	0	0	0	0
EC00515-1	EC1620	Building Enclosed	Finish Milestone	Not Started	Close-in Phase	Joe Nolan	Key Milestones	06/06/22	06/06/22	0	0	0	0
EC00515-1	EC1690	Rough-in Complete	Finish Milestone	Not Started	Rough-in Phase	Joe Nolan	Key Milestones	11/08/22	11/08/22	0	0	0	0
EC00515-1	EC1840	Finishes Complete	Finish Milestone	Not Started	Finishes and Closeout Phase	Linda Harris	Key Milestones	02/27/23	02/27/23	0	0	0	0
EC00515-1	EC1860	Building Addition Complete	Finish Milestone	Not Started	Finishes and Closeout Phase	Linda Harris	Key Milestones	03/03/23	03/03/23	0	0	0	0
EC00530-1	EC1010	Start Office Building Addition Project	Start Milestone	Not Started	Structural Phase	Tim Evans	Key Milestones	10/12/15	10/12/15	0	0	0	0
EC00530-1	EC1040	Assemble Brick Samples	Start Milestone	Not Started	Procurement Phase	Joe Nolan	Key Milestones	12/30/15	12/30/15	0	0	0	0
EC00530-1	EC1060	Assemble and Submit Flooring Samples	Start Milestone	Not Started	Procurement Phase	Linda Harris	Key Milestones	12/30/15	12/30/15	0	0	0	0
EC00530-1	EC1090	Begin Building Construction	Start Milestone	Not Started	Foundation Construction Phase	Meg Foley	Key Milestones	12/30/15	12/30/15	0	0	0	0
EC00530-1	EC1380	Foundation Phase Complete	Finish Milestone	Not Started	Foundation Construction Phase	Meg Foley	Key Milestones	05/30/16	05/30/16	0	0	0	0
EC00530-1	EC1410	Begin Structural Phase	Start Milestone	Not Started	Structural Phase	Meg Foley	Key Milestones	07/20/16	07/20/16	0	0	0	0
EC00530-1	EC1490	Rough-in Phase Begins	Start Milestone	Not Started	Rough-in Phase	Joe Nolan	Key Milestones	10/11/16	10/11/16	0	0	0	0
EC00530-1	EC1540	Structure Complete	Finish Milestone	Not Started	Structural Phase	Meg Foley	Key Milestones	11/08/16	11/08/16	0	0	0	0
EC00530-1	EC1590	Close-in Phase Begins	Start Milestone	Not Started	Close-in Phase	Joe Nolan	Key Milestones	11/25/16	11/25/16	0	0	0	0
EC00530-1	EC1630	Building Enclosed	Finish Milestone	Not Started	Close-in Phase	Joe Nolan	Key Milestones	13/20/16	13/20/16	0	0	0	0

The above six Power BI example reports are provided “as is” without warranty or support.

P6ETL[®] users, with Power BI report development experience, can modify and enhance these reports using SQL, DAX, and/or Power Query without any financial obligation to Mustang. The above reports were created using P6 data, not OPC data. Oracle has not completed the Web Services for OPC therefore the data for the **Resource Progress Report** is not available. However, an experienced Power BI report developer could spread the OPC data in the Power BI report to create an S-Curve report.

For a presentation, please contact Mustang Technologies at 888-P6ETL33 (888-763-8533) or email us at info@MustangTechnologies.com

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