



HSC Cloud Reporting

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Overview

HSC Cloud can be configured to generate reports via Google Sheets and Microsoft Excel. The steps involved, for either option, are basically the same, but there are key differences outlined below.

Key Differences

Google Sheets	• The completed report is automatically returned to HSC Cloud based on the report settings applied (asset attachments, stakeholders, print queue, etc.). • The completed report can be automatically emailed to other parties. • There is less control over formatting (margins, page breaks, etc.) when compared to Excel.
Microsoft Excel	• The completed report must be manually attached in HSC Cloud. • The completed report must be manually emailed to other parties. • Requires the Excel Add-in to be installed • There is more control over formatting (margins, page breaks, etc.) when compared to Google Sheets.

Creating Google Sheets Reports

The basic steps to creating a report with Google Sheets is as follows.

Steps using Google Sheets:

1. Link Google Account to HSC Cloud Account
2. Create the Google Sheet Report Structure
3. Connect the Workflow(s) to the Google Report
4. Run the Workflow on an Asset
5. Map the Fields on the Report
6. Uncheck "Don't copy the source spreadsheet during the publish process" option

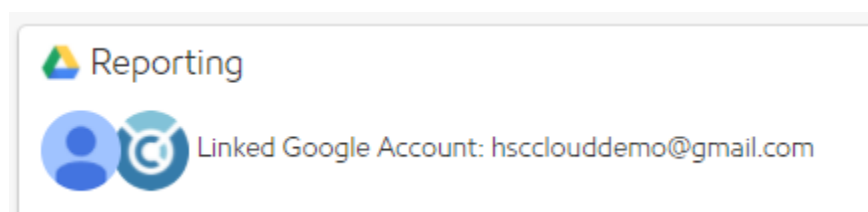
The sections that follow provide details for creating Google Sheet Reports.

Link Google Account to HSC Cloud

HSC Cloud creates a Google account for each customer to support reporting, notifications, and administration. Implementation and Support can provide the login credentials to the Billing Account Administrator.

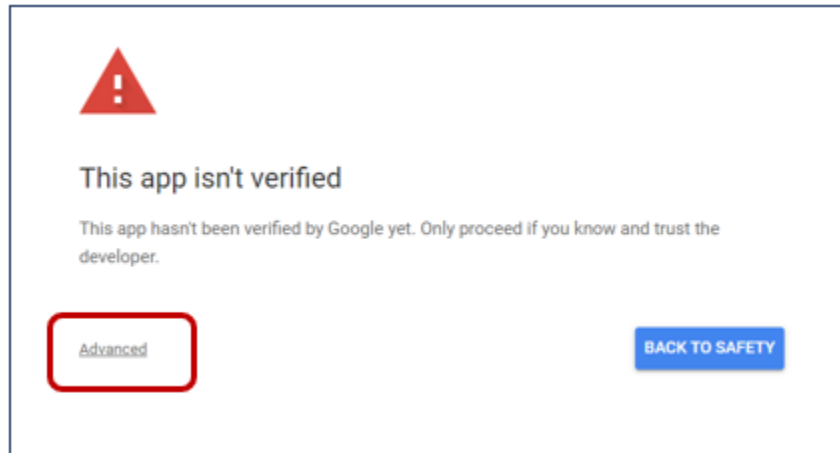
Steps to Link Google Account:

1. Select the Account Tile from the Dashboard.
2. Search for and select an Account.
3. In the bottom right side of the screen, enter a valid Gmail address in the Email field and click Link.

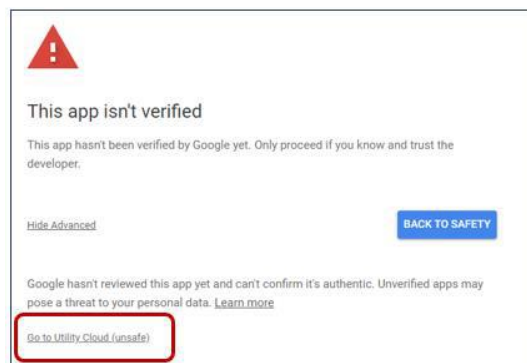


NOTE: HSC Cloud Implementation and Support provides login credentials.

4. Google prompts for the Google Account to link.
5. Choose **Use another account**
6. Enter the Google Account Email provided by HSC Cloud and click **Next**.
7. Enter the password provided by HSC Cloud and click **Next**.
8. The following screen appears. Click **Advanced**.



9. Click **Go to Utility Cloud**.



10. You are returned to HSC Cloud.

Security Role Right Required: Perform Custom Reporting, View Work Scheduler, View Accounts, Edit Accounts

Determine the Type of Report

There are 2 types of reports you can create:

- One-to-One – reports on one workflow performed on one asset
For example: A Regulator Station Inspection workflow on a Regulator Station asset to create a Regulator Station Inspection Report
- Many-to-Many (or Many-to-One) – reports on many workflows on many (or one) asset
For example: Daily Leak Inspections on Gas Leaks to create a Monthly Gas Leak Report

Create a One-to-One Report Structure

Log into the Gmail account that is linked to HSC Cloud:

1. From the Google Drive, create a new Google Sheet.
2. Create a tab labeled **Report**. This appears in a format of your choosing when a workflow is completed. This is the report that is returned to HSC Cloud when the workflow is completed. This tab has data linked to it from the **Data** tab or other sheet(s) with the workflow data.

NOTE: The name of the tab can be anything. **Report** is used in this document for standardization.

3. Create a tab and labeled **Data**. The data tab is the sheet that the workflow data is sent to from HSC Cloud.

NOTE: The name of the tab can be anything. **Data** is used in this document for standardization.

4. Run a report. Completing a workflow that has been scheduled via the Work Scheduler triggers a report to be run from HSC Cloud that is linked to the Google Sheet; this populates the data on the data sheet so that you know which fields to use from the data sheet to populate into your form on the report sheet.

City of Columbus

Gas Department

8225 Green Meadows Dr N, Lewis Center, OH 43035

Gas Leak #	GL-56	Classification	Class 3: Non-Repair
Date Found	12/6/2021	LEL %	22%
Date Inspected			
Source			
Was Line Located	N/A		
Condition of Line	N/A		
Description of Equipment Involved	pipe		
Excavation Damage			
Material or Welds			
Other Outside Damage			
Condition of Soil Environment	good		
Potential Significant Gas Migration	No		
Nearby Ignition Sources	none		
Comments	clear		
Detection Equipment Used	Detector		
Calibration Date	12/2/2021		

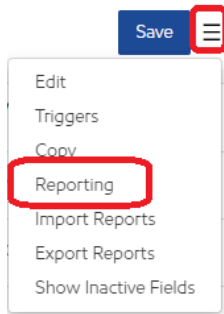
Example of a formatted report

Connect the Workflow to Google Sheets

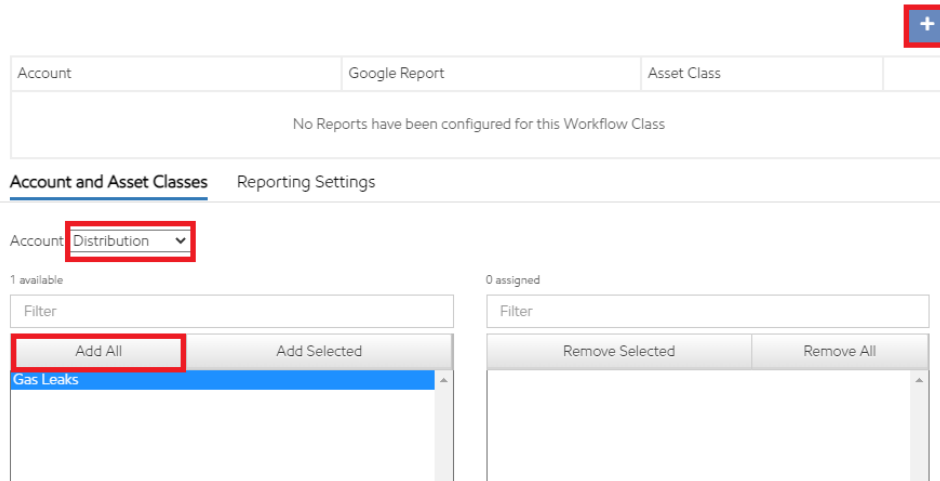
NOTE: The reporting feature is moving from Work Scheduler to Workflow Classes

Reports can be generated from a completed workflow. For example: the results of an inspection can trigger an Inspection Report to be generated. One workflow can be connected to several reports.

1. In the Workflow menu, select **Reporting**.



2. Click the plus sign + to add a new report to the **workflow**.



3. Identify the Account and Asset Class.
4. Click **Report Settings**



Account	Google Report	Asset Class	
No Reports have been configured for this Workflow Class			

Account and Asset Classes **Reporting Settings**

Where should this report publish to?

☒ Google Sheets ☐ Google Docs

Spreadsheet	Worksheet
Leak Inspection Report ▼	Report ▼

Where should the published report be attached?

- ☐ Work Schedule Stakeholders
- ☒ Workflow Class Stakeholders
- ☐ Asset Class Stakeholders
- ☐ Asset Stakeholders
- ☐ Account Stakeholders
- ☒ Asset Attachments
- ☐ Print Queues

Insert data to this worksheet seconds before publishing.

Source Spreadsheet	Source Worksheet
Leak Inspection Report ▼	Data ▼
☒ Don't copy the source spreadsheet during the publish process	

Note: This setting is typically only used in the following cases:

during report development to persist inserted data in the source spreadsheet after the publish process;
other resources depend on the source spreadsheet (cases where Google Scripts are used or where the published resource depends on, but is not the same file where data is inserted).

When using this setting for the cases described in item 2, you must ensure that the report is not executed simultaneously by more than one user at a time or that a user will not execute the report at a higher frequency than the time it takes to publish one report. If this is not ensured, the published resource may include data from the wrong work event.

Page Options

Output type:
☒ pdf ☐ csv

Expected File Size (Minimum) Kilobytes:

Orientation:
☒ Portrait ☐ Landscape

Page Size:
☒ Legal ☐ Letter ☐ A4

☒ Fit to Width

Save	Cancel
------	--------

Complete the Reporting page:

1. Identify where the report is published.

Select **Google Sheets** to create the entire report in Google Sheets. Select **Google Docs** to create a report in **Google Docs**. Selecting **Google Docs** still requires a **Google Sheet** to be created to capture the data. The **Google Doc** then needs to be configured to read the data from the **Google Sheet**.

Select the **Report Spreadsheet** (or Doc). The list displays all files that exist in the linked Google Sheets (or Google Docs) account.

Select the **Source Worksheet** (if Sheets was selected above). The list displays all the tabs within the selected Spreadsheet. Select the tab that contains the formatted report to be returned. Typically, HSC Cloud recommends creating an empty tab in a Google Sheet and labeling it **Report**. Format this tab as desired to create a report.

2. Select where the resource is published.

When the report is created, it can be automatically added to the Attachments section of any of the areas identified. **Asset Attachments** and **Workflow Class Stakeholders** are checked by default.

3. Insert data to this worksheet X seconds before publishing item 1.

This is the length of time the system waits to send the report back to the selected resources. Sending large amounts of data to the Google Sheet can occasionally take longer and may return a blank report. If a report is returned without any data in it, increase this time accordingly. Typically, 30 seconds is long enough to generate the average report. Increase this time in increments of 30 seconds (60, 90, 120) until the report returns the expected data.

4. Select the **Source Spreadsheet** and the **Source Worksheet** to publish the data.

Select a sheet to capture the completed workflow data and asset attribute data when the workflow is saved after work is completed. Typically, HSC Cloud recommends creating an empty tab in a Google Sheet and labeling it **Data**.

5. **Don't copy the source spreadsheet during the publish process** option.

If this box is **unchecked**, when HSC Cloud generates the Report, it makes a copy of the original file, sends the data to the newly created copy of the report, processes the data in the copy, and sends the result back to HSC Cloud. This process supports the ability to have multiple workers complete work and generate reports without conflicting with each other.

If this box is **checked**, HSC Cloud does not create a copy of the original file. The data is posted directly to the original file. This is necessary when the report is being created for the first time to send the data so that it can be hooked up to the report. Once the data has been sent to the Google Sheet for the first time, this box can be **unchecked** again to avoid conflicts.

If any changes need to be made to the report in the future (fields have been added to the workflow or asset that need to appear in the report), this box needs to be checked again in order for the new fields to be sent to the original report. Once the edits have been made to the Google Sheet, this box can be **unchecked** again to avoid conflicts.

6. Identify the Page Options.

7. Click **Save**.

Connecting Data to the Google Report

Now that the report structure has been created and the data has been sent to the Data tab in the Google Sheet, the fields in the report can be mapped to the data.

The data sent to the Data tab includes all fields from the workflow as well as all fields from the asset on which the workflow was performed. The workflow data fields appear in the first set of columns, the asset data fields appear after the workflow fields.

The field titles are the same as the field title in the workflow or asset with “uc_” added as a prefix, and all spaces and special characters removed.

For Example: If the name of the field on the workflow is “Facility Name:”, when the data is passed to the Google Sheet the name of the field becomes “uc_FacilityName”. The spaces and colon are removed and uc_ is appended as a prefix.

It is important to note that if a field is added to the workflow after the report has been mapped, the new field appears at the end of the workflow fields, and *before* the asset fields, essentially moving all of the asset fields to the right. If the report was mapped directly to a specific cell (S2 for example) and a field was added to the workflow, the report is still mapped to cell S2, but the data in that cell may no longer be the data you want displayed in the report. To make the report more resilient, best practice is to refer to the field title using the HLOOKUP function to locate the column name instead of directly referencing a specific cell.

	A	B	C	D	E	F	G	H	I
1	uc_WorkflowDate	uc_WorkflowBy	uc_Signature	uc_WorkflowRe	uc_ReportDate	uc_Source	uc_isleaksource	uc_WasLineLoc	uc_ConditionofL
2	12/6/2021 10:56	HSC Demo Adm	https://ucld.us/G	870859234	12/6/2021 12:00	Service Line	Yes	Yes	Acceptable
3									
4									

HLOOKUP(search_key, range, index, [is_sorted])

search_key - The value to search for. The name of the column “uc_FacilityName”

range - The range to consider for the search. The first row in the range is searched for the key specified in search_key. The range needs to encompass all the columns with data.

index - The row number of the value to be returned, where the first row in range is numbered 1.

For example: =HLOOKUP("uc_FacilityName", Data!A1:T2, 2, False)

This function looks for the word “uc_FacilityName” in row 1 of columns A to T and returns the value found in row 2 of the column where “uc_FacilityName” is found in row 1.

is_sorted - [OPTIONAL - TRUE by default] - Indicates whether the row to be searched (the first row of the specified range) is sorted.

If is_sorted is TRUE or omitted, the nearest match (less than or equal to the search key) is returned. If all values in the search row are greater than the search key, #N/A is returned.

If is_sorted is set to TRUE or omitted, and the first row of the range is not in sorted order, an incorrect value might be returned.

If is_sorted is FALSE, only an exact match is returned. If there are multiple matching values, the content of the cell corresponding to the first value found is returned, and #N/A is returned if no such value is found.

=IFERROR(HLOOKUP("uc_columnheader", Data!A1:T2, 2, False), "")

If index is not between 1 and the number of rows in range, #VALUE! is returned.

Once the report has been mapped to the data, from the workflow report settings screen uncheck the **Don't copy the source spreadsheet during the publish process** option.

Google Sheets Report Creation Process Overview

In the Workflow Report Settings, identify the Google Sheets tab where the data (Data tab) is sent, and the tab of the finished report (Report tab) which is returned to the asset.

Workflow Report Settings

Identifies the tab to send the data and the tab to be returned

Spreadsheet
Leak Inspection Report

Worksheet
Report

Where should the published report be attached?

☐ Work Schedule Stakeholders

☒ Workflow Class Stakeholders

☐ Asset Class Stakeholders

☐ Asset Stakeholders

☐ Account Stakeholders

☒ Asset Attachments

☐ Print Queues

Insert data to this worksheet 30 seconds before publishing.

Source Spreadsheet
Leak Inspection Report

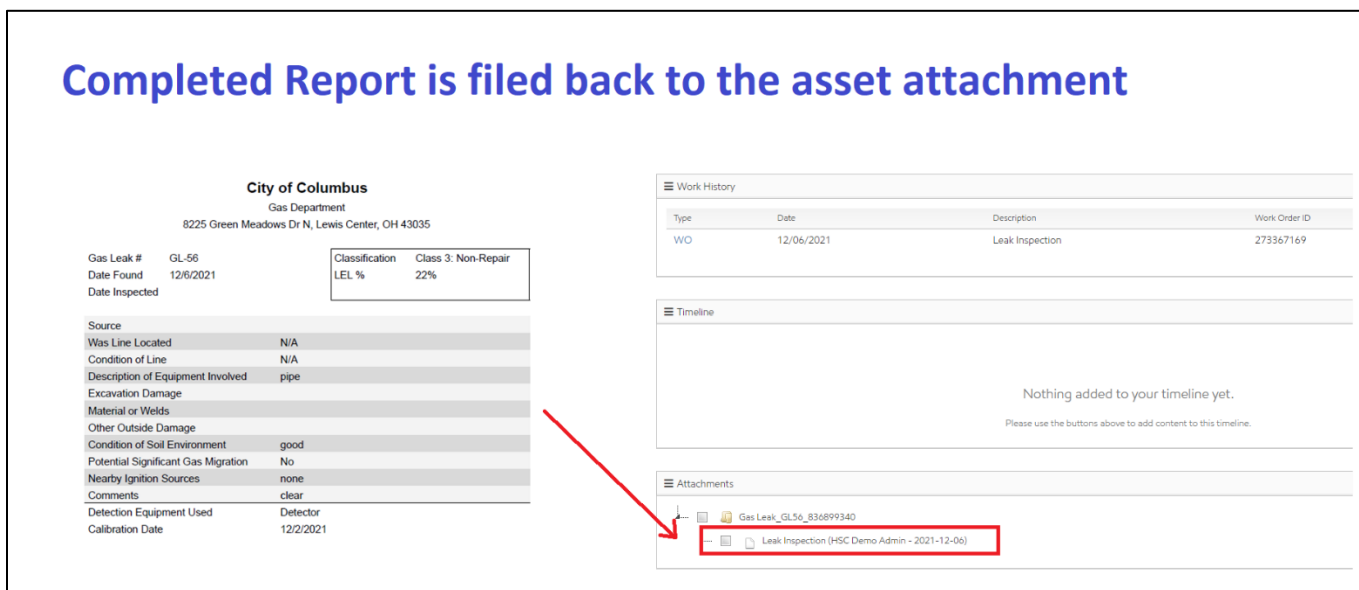
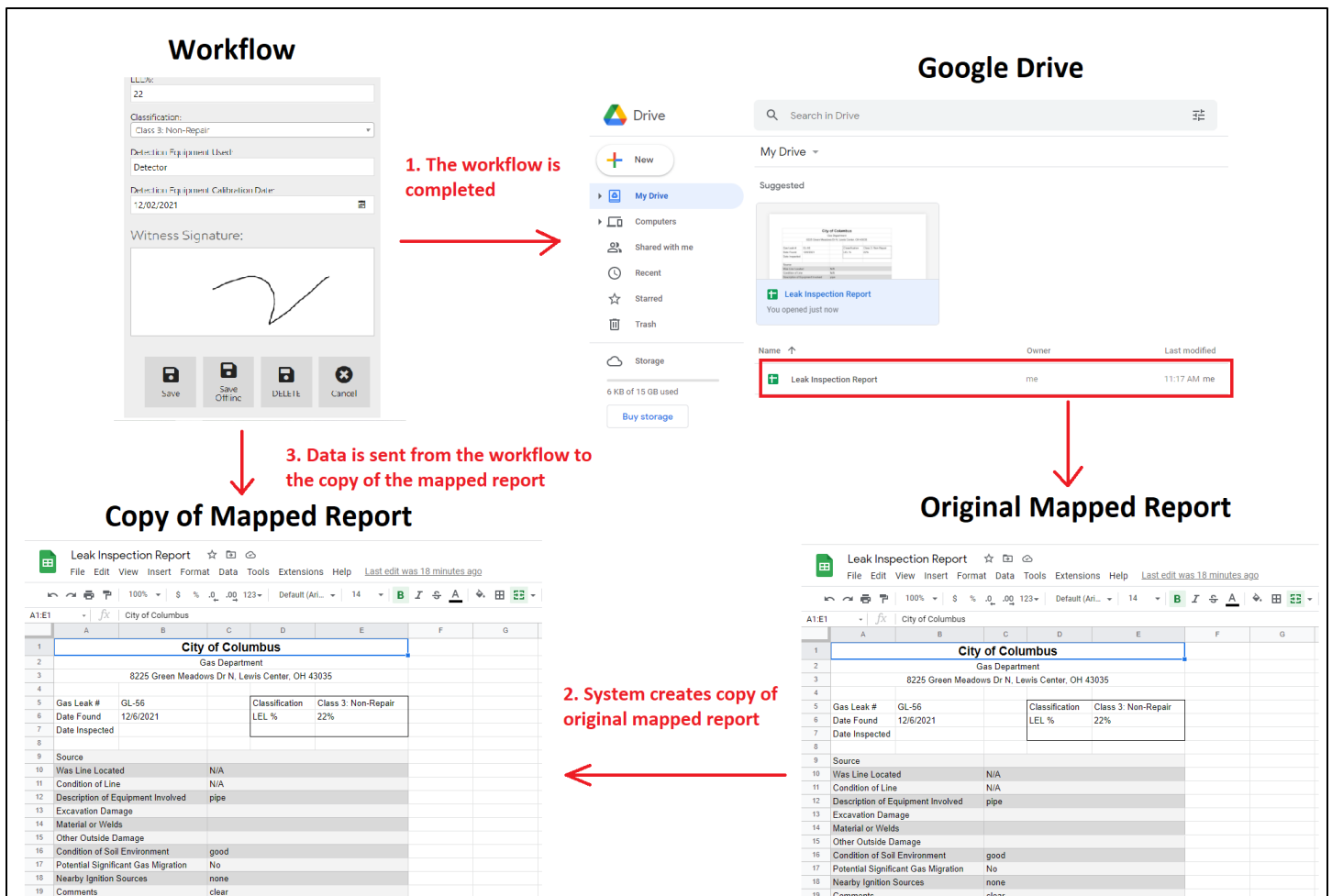
Source Worksheet
Data

Mapped Report

Report tab gets data from the data tab

City of Columbus				
Gas Department				
8225 Green Meadows Dr N, Lewis Center, OH 43035				
Gas Leak #	GL-56		Classification	Class 3: Non-Repair
Date Found	12/6/2021		LEL %	22%
Date Inspected				
Source				
Was Line Located		N/A		
Condition of Line		N/A		
Description of Equipment Involved		pipe		
Excavation Damage				
Material or Welds				
Other Outside Damage				
Condition of Soil Environment		good		
Potential Significant Gas Migration		No		
Nearby Ignition Sources		none		
Comments		clear		
Detection Equipment Used		Detector		
Calibration Date		12/2/2021		

When the workflow is completed, the system creates a copy of the original mapped report and sends the data to the copy of the report. This is done so that when multiple workflows are completed at the same time, the data from the two workflows do not collide creating an inaccurate report.



Create a Many-to-One (or Many-to-Many) Report Structure

The Leak Inspection Report is an example of a many-to-many report as these report on many gas leaks. Once per month these reports are submitted to the Public Utility Commission. This requires a slightly different approach to creating the report.

The initial setup of the report follows the same process as creating a One-to-One Report. Since this type of report uses data from multiple work orders from multiple assets, a Summary Type asset needs to be used to run the report. Create a File Cabinet asset class to serve as the supporting asset to run the reports on multiple assets.

File Cabinet Asset

A workflow requires an asset in order to perform the work. In a Summary Report such as the Leak Inspection Report, it contains data from work performed on multiple assets so the report cannot be run on a single gas leak. It must contain all of them. In order to avoid running a report on several individual assets, a File Cabinet is created to assist in running a single report on multiple assets. A specific workflow must also be created to run the report itself to populate the Data tab. Quite often, the workflow contains only a Starting Date and an Ending Date used to limit the data on the Detailed Data tab but it can contain other data points to capture other data to support the overall report.

Since a workflow report requires an asset to run that workflow, a File Cabinet asset is used to run workflows and store Summary Reports.

Monthly Chemical Addition Report
[EDIT]
Work completed on 4/17/2019 at 12:45 pm by AESC Admin
for Solutions Store (solutions@utilitycloud.us)

Admin Timestamp:

04/17/2019

12:45 PM

Workflow Fields
Start Date:
Example: 1 = January

04/01/2019

End Date:

04/30/2019

Was Treatment Building 1 anti-siphon valve disassembled and inspected in the last 12 months? :

Yes

If Yes, Enter Date (Treatment Building 1):

02/27/2019

Was Treatment Building 2 anti-siphon valve disassembled and inspected in the last 12 months? :

Yes

Reporting Multiple Work Orders and Assets

This requires another tab to capture the data regarding the multiple work orders (Detailed Data).

MA DEP Monthly C-ADD Report ☆

File Edit View Insert Format Data Tools Add-ons Help

100% \$ % .0 .00 123 Arial 14 B I A

Massachusetts Department of Environmental Protection - Drinking Water Program

CHEMICAL ADDITION REPORT -310 CMR 22.15(4) Chemical Addition Reporting Requirements

C-ADD

I. PWS Information Refer to MassDep "Chemical Addition Report Guidance and Instructions" for details

PWS Name: Your Water Treatment Plant Name Town: Anytown USA PWSID: #00000000

Treatment Plant Name: Your Plant Name Treatment Plant ID#: #0000000-001 Reporting Period: 4 2019

II. Chemical & Operational Information

Chemical Name: Potassium Hydroxide Purchased Strength: 0.45 Target Range/min: 7.5

Manufacturer: Borden & Remington Corp. Purchased Density (lbs./gal): 12.2 Target Dose: N/A

Product Name: KOH Dilution Factor or Mix Ratio: 1.0 Alarm Setting (low): 6.8

Reason for Adding Chemical: Corrosion control and pH adjustment NSF Approved (Y/N): Yes Alarm Setting (high): 8.8

Date of last anti-siphon valve inspection/replacement: 2/27/2019

III. Daily Reporting Note: Water quality data reported on C-ADD form may be considered for compliance purposes.

Day	Treated Water	Measured Chemical Used		Calculated Chemical Used (lbs)	Chemical Dosage (mg/L)	Parameters Measured*, Results, Units and Method-(G)rab or Continuous (A)nalyzer			O&M Notes/Comments
	Gallons MG	Volume (gal/day)	Weight (lbs/day)			a. pH daily analyzer reading	b. pH daily grab	c.	
1	254000	27		148.23	69.97	7.71	11.2		PWS note any equipment breakdown, off-line status, changes in purchased product or batch mixing day, measured parameter or dosages that are out of target range, etc.
2				0.00					
3				0.00					
4				0.00					
5				0.00					

Report Date Detail Data

This tab is set up differently and requires some assistance from UC resources.

MA DEP Monthly C-ADD Report ☆

File Edit View Insert Format Data Tools Add-ons Help All changes saved in Drive

100% \$ % .0 .00 123 Arial 10 B I A

Domain <https://ucld.us/>

API Key f71c67b6-ab07-4837-b4db-8d2dabd73042

Account

Asset Class

Workflow 53207760

Asset

Workflow Report

Start 4/1/2019 0:00:00 0:00:00

End 4/30/2019 0:00:00 23:59:59

Sort 1

<https://ucld.us/Get/WFReports.aspx?sr=1&k=f71c67b6-ab07-4837-b4db-8d2dabd73042&c=&acc=53207760&a=&wfr=&s=4-1-2019-0-0-0&e=4-30-2019-23-59-59>

uc_WorkflowDate	uc_WorkflowBy	uc_Signatur	uc_WorkFlowRej	uc_ReportDate	uc_Reportingfor	uc_HypochloriteL	uc_Speed	uc_WellResidual	uc_PortResidual	uc_CL2DayTankI	uc_Cl2DayTankF	uc_VolumeCL2P
4/17/2019 12:41:48 PM	AESC Admin for Solutions Store	772002515	4/17/2019 12:00	Well 2 and 5		65%	0.653	0.65	11.875	10	1.875	

Report Date Detail Data

This tab has specific features that cannot be copied simply by copying the cells from one tab to another. The tab needs to be copied in its entirety. HSC Cloud can provide access to a starter file that contains this tab to allow for easier copying.

Detailed Data Tab Configuration

On this tab, there is the ability to limit the data returned by identifying various parameters.

MA DEP Monthly C-ADD Report
File Edit View Insert Format Data Tools Add-ons Help
All changes saved in Drive

100%
\$ % .0 .00 123
Arial
10
B I
A

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Domain	https://ucld.us/											
2	API Key	f71c67b6-ab07-4837-b4db-8d2dabd73042											
3	Account												
4	Asset Class												
5	Workflow	53207760											
6	Asset												
7	Workflow Report												
8	Start	4/1/2019 0:00:00		0:00:00									
9	End	4/30/2019 0:00:00		23:59:59									
10	Sort		1										
11													
12	https://ucld.us/GetWFReports.aspx?sr=1&k=f71c67b6-ab07-4837-b4db-8d2dabd73042&c=&ac=&wf=53207760&a=&wf=53207760&s=4-1-2019-0-0-0&e=4-30-2019-23-59-59												
13													
14													
15	uc_WorkflowDate	uc_WorkflowBy	uc_Signatur	uc_WorkFlowRej	uc_ReportDate	uc_Reportingfor	uc_Hypochlorite	uc_Speed	uc_WellResidual	uc_PortResidual	uc_CL2DayTank	uc_Cl2DayTankF	uc_VolumeCL2P
16	4/17/2019 12:41:48 PM	AESC Admin for Solutions Store		772002515	4/17/2019 12:00:00	Well 2 and 5		65%	0.653	0.65	11.875	10	1.875
17													
18													
19													
20													
21													
22													
23													
24													
25													
26													

+
Report
Date
Detail Data

Domain	This must remain as is
API Key	This is the API Key for the Admin user Advanced User Information API Key f71c67b6-ab07-4837-b4db-8d2dabd73042 User Key cfd0d767-2d3e-4c36-b99b-1bc800dc8165 Close
Account	Enter the Account ID to limit data returned to a specific account. To return data from all accounts, leave blank.

Asset Class	Enter the Asset Class ID to limit data returned to a specific asset class. To return data from all asset classes, leave blank.  Gas Leaks Pipelines Leak Inspection, Leak Repair Point Asset Count: 38 Trigger Count: 1 Asset Class ID 55414517 Export
Workflow	Enter the Workflow Class ID to limit data returned to a specific workflow class. To return data from all workflow classes, leave blank. NOTE: Returning all workflow classes only returns the basic workflow datapoints but not all fields within all workflows.  Leak Inspection Pipelines Gas Leaks Non-linear Available as Work Order Trigger Count: 5 Workflow ID 53211904 Export
Asset	Enter the Asset ID to limit data returned to a specific asset. To return data from all assets, leave blank.
Workflow Report	Enter the Workflow Report ID to limit data returned to a specific workflow report. To return data from all workflow reports, leave blank.
Start	Refer the start and end dates to the Data tab start and end dates. =Date!F2
End	Refer the start and end dates to the Data tab start and end dates. =Date!G2
Sort	Enter 1 if the data is sorted by workflow report date or 0 if it does not need to be sorted.

Hook up the Starting and Ending Dates.

MA DEP Monthly C-ADD Report

File Edit View Insert Format Data Tools Add-ons Help All changes saved in Drive

100% \$ % .00 123 Arial 10 B I A

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Domain	https://ucld.us/											
2	API Key	f71c67b6-ab07-4837-b4db-8d2dabd73042											
3	Account												
4	Asset Class												
5	Workflow	53207760											
6	Asset												
7	Workflow Report												
8	Start	4/1/2019 0:00:00		0:00:00									
9	End	4/30/2019 0:00:00		23:59:59									
10	Sort		1										
11													
12		https://ucld.us/GetWFReports.ashx?src=1&k=f71c67b6-ab07-4837-b4db-8d2dabd73042&c=&ac=&wf=53207760&a=&wfr=&s=4.1-2019-0-0-0&e=4.30-2019-23-59-59											
13													
14													
15	uc_WorkflowDate	uc_WorkflowBy	uc_Signatur	uc_WorkFlowRej	uc_ReportDate	uc_Reportingfor	uc_Hypochloritel	uc_Speed	uc_WellResidual	uc_PortResidual	uc_CL2DayTankI	uc_CL2DayTankF	uc_VolumeCL2P
16	4/17/2019 12:41:48 PM	AESC Admin for Solutions Store		772002515	4/17/2019 12:00:00	Well 2 and 5		65%	0.653	0.65	11.875	10	1.875
17													
18													
19													
20													
21													
22													
23													
24													
25													
26													

+ Report Date Detail Data

In the Start and End fields on the Detailed Data tab, reference the Start and End Dates on the Data tab.

Example: the formula in the Detailed Data tab reads:

- cell B8 reads =Date!F2
- cell B9 reads =Date!G2

	A	B	C	D	E	F	G	H	I	J
1	uc_WorkflowDate	uc_WorkflowBy	uc_Signature	uc_WorkFlowReportID	uc_ReportDate	uc_StartDate	uc_EndDate	uc_WasTreatmentB	uc_IfYesEnterDateTre	uc_IfNoExplainTre
2	4/17/2019 12:45:30	AESC Admin for Solution	https://ucld.us/GetBase64Image.ashx?&wfrid=77200253	772002539	4/17/2019 12:00:00	2019-04-01	2019-04-30	Yes	2019-02-27	
3										

Using this technique, the Detailed Data tab updates with the dates provided from the Report Summary workflow on the File Cabinet, limiting the detailed data to the same date range.

Creating Microsoft Excel Reports

The basic steps to creating a report with Microsoft Excel is as follows.

Steps using Microsoft Excel:

1. Install the Excel Add-in tool from the link provided
<https://utilitycloud.atlassian.net/wiki/spaces/HSC/pages/2933983487>
2. Gather the data to be used in the report via the Excel Add-in on one worksheet (users can report on Asset Details or Workflow Details)
3. Create the report structure on another worksheet
4. Map the fields on the Report worksheet to the Data worksheet

The sections that follow provide details for creating Microsoft Excel Reports.

Create a One-to-One Report Structure

1. From the Microsoft Excel, create a new workbook.

2. Create a tab labeled **Report**. This appears in a format of your choosing. This tab has data linked to it from the **Data** tab or other sheet(s) with the workflow data.

NOTE: The name of the tab can be anything. **Report** is used in this document for standardization.

3. Create a tab labeled **Data**. The data tab is the sheet that the workflow data is retrieved from the Excel Add-in.

NOTE: The name of the tab can be anything. **Data** is used in this document for standardization.

City of Columbus

Gas Department

8225 Green Meadows Dr N, Lewis Center, OH 43035

Gas Leak #	GL-56	Classification	Class 3: Non-Repair
Date Found	12/6/2021	LEL %	22%
Date Inspected			
Source			
Was Line Located	N/A		
Condition of Line	N/A		
Description of Equipment Involved	pipe		
Excavation Damage			
Material or Welds			
Other Outside Damage			
Condition of Soil Environment	good		
Potential Significant Gas Migration	No		
Nearby Ignition Sources	none		
Comments	clear		
Detection Equipment Used	Detector		
Calibration Date	12/2/2021		

Example of a formatted report

Connect the Data to the Excel Report

Follow the instructions in Connect the Data to the Google Report.

Create a Many-to-One (or Many-to-Many) Report Structure

The Leak Inspection Report is an example of a many-to-many report as these report on many gas leaks. Once per month these reports are submitted to the Public Utility Commission. This requires a slightly different approach to creating the report.

The initial setup of the report follows the same process as creating a One-to-One Report. The creation of separate tabs to capture the relevant data is required.

When reporting on Assets, each time the user updates the report with current Asset data, you must 'Get Assets' to refresh the list of assets.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1																			
2	InternalSys	AssetID	Is Active	AccountNa	AssetClass	AssetDescr	ParentAsse	AssetTag	Stakeholde	Lat	Lon	Gas Leaks	Gas Leaks	Gas Leaks	Gas Leaks	Gas Leaks	CreatedBy	CreatedDat	LastModif
3	836609953	GL-18	Y	Distributio	Gas Leaks	Gas Leak				40.173072	-83.012163	Public	Collin Mor	Class 2: Ne	60	Outside in	HSC Demo	8/11/2021	8/11/2021
4	836609957	GL-19	Y	Distributio	Gas Leaks	Gas Leak				40.171253	-83.015551	Utility		Class 3: No	15	Yard of res	HSC Demo	8/11/2021	8/11/2021
5	836609960	GL-20	Y	Distributio	Gas Leaks	Gas Leak				40.171548	-83.013408	Utility		Class 3: No	13	Parking lot	HSC Demo	8/11/2021	8/11/2021
6	836609966	GL-21	Y	Distributio	Gas Leaks	Gas Leak				40.170132	-83.010536	Utility		Class 3: No	19	Outside ho	HSC Demo	8/11/2021	8/11/2021
7	836609974	GL-22	Y	Distributio	Gas Leaks	Gas Leak				40.167916	-83.009661	Utility		Class 1: Em	82	Near Street	HSC Demo	8/11/2021	8/11/2021
8	836609979	GL-23	Y	Distributio	Gas Leaks	Gas Leak				40.162365	-83.009599	Utility		Class 3: No	9	Yard at cor	HSC Demo	8/11/2021	8/11/2021
9	836609982	GL-24	Y	Distributio	Gas Leaks	Gas Leak				40.169826	-83.014221	Utility		Class 2: Ne	45	Off of stree	HSC Demo	8/11/2021	8/11/2021
10	836650816	GL-26	Y	Distributio	Gas Leaks	Gas Leak				40.17004	-83.009697	Utility		Class 2: Ne	33	side of roa	HSC Demo	8/16/2021	8/16/2021
11	836659412	GL-27	Y	Distributio	Gas Leaks	Gas Leak				40.171851	-83.009358	Utility		Class 2: Ne	45		HSC Demo	8/27/2021	8/27/2021
12	836660042	GL-28	Y	Distributio	Gas Leaks	Gas Leak				40.167656	-83.010248	Utility		Class 2: Ne	35	near buildi	HSC Demo	8/30/2021	8/30/2021
13	836660138	GL-29	Y	Distributio	Gas Leaks	Gas Leak				40.1652	-83.009507	Utility		Class 3: No	35	near comm	HSC Demo	8/30/2021	8/30/2021
14	836660746	GL-31	Y	Distributio	Gas Leaks	Gas Leak				40.169608	-83.010761	Utility		Class 3: No	15	near pond	HSC Demo	8/31/2021	8/31/2021
15	836716839	GL-32	Y	Distributio	Gas Leaks	Gas Leak				40.173255	-83.013205	Public	Jeff	Class 3: No	23	backyard	HSC Demo	9/1/2021	9/1/2021
16	836718668	GL-33	Y	Distributio	Gas Leaks	Gas Leak				40.171429	-83.010339	Utility		Class 3: No	12	Near tree	HSC Demo	9/1/2021	9/1/2021
17	836772829	GL-34	Y	Distributio	Gas Leaks	Gas Leak				40.169015	-83.009717	Utility		Class 3: No	15	outside bui	HSC Demo	9/7/2021	9/7/2021
18	836797173	GL-35	Y	Distributio	Gas Leaks	Gas Leak				40.17038	-83.013194	Public	Jake Fekete	Class 3: No	0	Guys backy	HSC Demo	9/8/2021	9/8/2021
19	836798404	GL-36	Y	Distributio	Gas Leaks	Gas Leak				40.170397	-83.014885	Utility		Class 2: Ne	45	yard	HSC Demo	9/8/2021	9/8/2021

When reporting on Workflows, once the data tab has been created, the user only needs to revise the criteria then click Refresh Current Sheet (or Refresh All Sheets if multiple workflows are being reported on).

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1															
2	Account														
3	Asset Class														
4	Workflow	53211904	Leak Inspection												
5	Asset														
6	Workflow Report														
7	StartDate	8/2/2021 14:11													
8	EndDate	12/6/2021 14:11													
9	Count	38													
10	https://api.ucld.us/prd/getwfreports?sr=0&k=f3573d1b-d54b-40d2-a2ab-c403f59c9cd5&c=&ac=&wf=53211904&a=&wfr=&s=08-02-2021-14-11-00&e=12-06-2021-14-11-00														
11															
12															
13															
14															
15															
16															
17	uc_Workfl	uc_WorkflowBy	uc_Signat	uc_WorkFl	uc_Report	uc_Source	uc_isleaks	uc_WasLir	uc_Condit	uc_Descri	uc_Excava	uc_Materi	uc_Other	uc_Comm	uc_LeakCl
18	12/6/2021	HSC Demo Admin	https://uc 870859234	12/6/2021	Service Lir	Yes	Yes	Acceptabl		No	none	none	clear		
19	12/2/2021	HSC Demo Admin	https://uc 870839175	12/2/2021	Service Lir	Yes	Yes	Acceptabl		No	none	none	clear		
20	12/2/2021	HSC Demo Admin	https://uc 870839044	12/2/2021	Service Lir	Yes	Yes	Acceptabl		No	plastic	none	clear		
21	12/2/2021	HSC Demo Admin	https://uc 870838986	12/2/2021	Service Lir	Yes	Yes	Acceptabl		No			clear		
22	11/4/2021	HSC Demo Admin	https://uc 870637647	11/4/2021	Meter	No				Residenti	No				

Similar to the Google Sheet setup, this sheet can be revised to suit the needs of the report.

Account	Enter the Account ID to limit data returned to a specific account. To return data from all accounts, leave blank.
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Asset Class	Enter the Asset Class ID to limit data returned to a specific asset class. To return data from all asset classes, leave blank.  Gas Leaks Pipelines Leak Inspection, Leak Repair Point Asset Count: 38 Trigger Count: 1 Asset Class ID 55414517 Export
Workflow	Enter the Workflow Class ID to limit data returned to a specific workflow class. To return data from all workflow classes, leave blank. NOTE: Returning all workflow classes only returns the basic workflow datapoints but not all fields within all workflows.  Leak Inspection Pipelines Gas Leaks Non-linear Available as Work Order Trigger Count: 5 Workflow ID 53211904 Export
Asset	Enter the Asset ID to limit data returned to a specific asset. To return data from all assets, leave blank.
Workflow Report	Enter the Workflow Report ID to limit data returned to a specific workflow report. To return data from all workflow reports, leave blank.
Start	Refer the start and end dates to the Data tab start and end dates. =Date!F2
End	Refer the start and end dates to the Data tab start and end dates. =Date!G2
Count	Returns a count of the number of records returned.

After making changes to the criteria data, click “Refresh Current Sheet” to update the data returned. Multiple tabs can be created for the various workflow data needed to support the report.

Helpful Functions and Formulas

Google Sheets Function List: <https://support.google.com/docs/table/25273?hl=en>

Overview of Excel Formulas: <https://support.office.com/en-us/article/overview-of-formulas-in-excel-ecfdc708-9162-49e8-b993-c311f47ca173>

Excel Function List: <https://support.office.com/en-us/article/excel-functions-by-category-5f91f4e9-7b42-46d2-9bd1-63f26a86c0eb>