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Title: Maintenance Connection (MC) MC Tablet Hybrid Software Training for
Sampler Inspections

Author(s): Smith, Shannon M.

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Maintenance Connection (MC)

MC Tablet Hybrid Software
Training for Sampler Inspections

Training objectives

- To provide an overview of the MC Tablet Hybrid software.
- To communicate changes in Work Order (WO) generation and distribution.
- Provide step by step process for electronic WO data entry for sampler inspection forms.

What is MC Tablet Hybrid?

- Offline windows based software option for use with MC.
- Stores a snapshot of MC
 - Your electronic view of the WO looks like what we see in MC.
- Allows electronic data entry of WOs, which can be directly uploaded into MC.
- Panasonic Toughbooks will be used to run the software.
 - Wireless capability has been disabled and can be only be connected to the yellow network via Ethernet port in TA-00 Bldg 1237 (Pueblo Complex)
 - Route Leads will be assigned a secureDoc account and a LANL WIN domain account

Why Are We Using MC Tablet Hybrid?

- Process Improvement Projects
 - 2011
 - Decrease Maintenance Cycle Time for Storm Water Control Measures
 - 2012
 - 7-Day Holding Time Sample Retrieval and Analysis Process
 - Telemetry Improvement Project
 - 2013
 - Field Based PV Charging of Automated Samplers
 - 2014
 - Work order Data Management Process

Work Order Data Management Process Improvement Project Overview

- The purpose of this process improvement is to ultimately go “paperless”
 - All prepopulated information on the hard copy forms is stored in MC.
 - WOs are currently issued in MC and distributed in hard copy form.
 - During the 2014 field season WOs for a select number of sampling locations per Route will be issued in MC and distributed both electronically via MC Tablet Hybrid and in hard copy form.
 - In future field seasons all WOs will be distributed electronically.

What is the new WO distribution process?

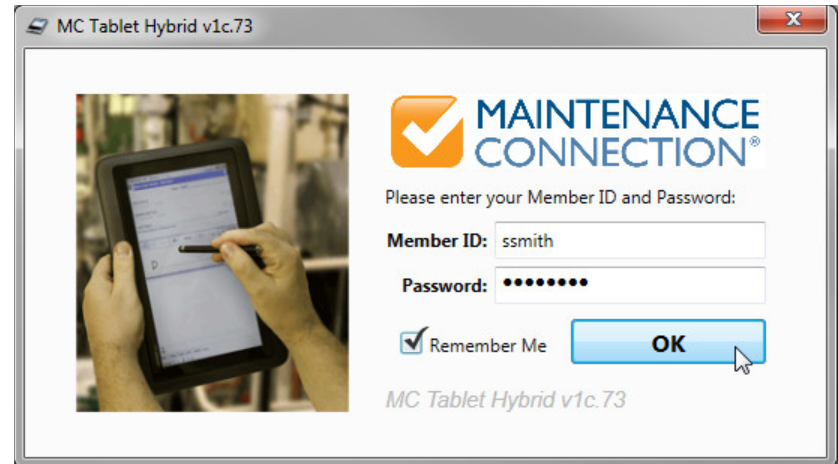
- An account in MC will be set up for each Route.
- Each Route will be assigned the following
 - A Toughbook installed with MC Tablet Hybrid software and an executable backup batch file
 - A flash drive that the executable batch file will be routinely saved to throughout the work day
- Hard copy WO distribution will continue as in previous years.
- Route Leads will need to connect their Toughbook to the yellow network daily to synchronize ('sync') with MC.

What is the new WO distribution process? (Continued)

- During the 'sync' any work orders that have been issued in MC to the Route since the last connection will be downloaded to the Toughbook. Any works order on the Toughbook that have been placed in a "completed" status will be uploaded from the Toughbook back to MC.

Tablet Hybrid tutorial

- Connect to the yellow network using open Ethernet ports in the Pueblo Complex.
- Route Leads will log in using their unique secureDoc and WIN account passwords
- Open the Tablet Hybrid program by clicking on the shortcut icon



Log in using the Route's Member ID and password

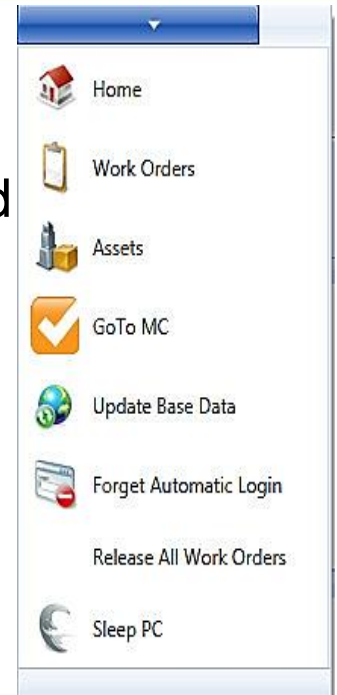
Tablet Hybrid Home Page

- Menu: Access work order page, Asset page, Update base data, or return to home page.
- Sync: Synchronize tablet hybrid software with Maintenance connection
- Previous/Next: Use these buttons to scroll through calendar on Home page
- Display: Displays WOs by either target date or assign date
 - It is recommended to always leave this selection on target date



Tablet Hybrid Home Page Continued

- Menu Dropdown:
 - ‘Home’ will return to the calendar (home page).
 - ‘Work Orders’ will list all work orders currently sync’d to the device.
 - ‘Assets’ will go to the asset hierarchy.
 - ‘Update Base Data’ sync’s any specification or equipment configuration changes that have occurred in MC. *This should be done on a weekly basis while connected to the yellow network.*
 - Forget Automatic login will reset the login preferences.
 - ‘Release All Work Orders’ will upload all work orders back to MC regardless of status.



Work Order Details Page Crosswalk to Current Hard Copy

Maintenance Connection Tablet Hybrid -- v1c.73 - SSMITH

Back Set Tasks Complete Capture Signature New Labor New Material New Other Attach File

Request Info

MC Tablet Hybrid sampler inspection test

Work Order: SMPLR-32337

Status: Issued / Responded

Priority: 2 (Normal)

Asset: SS092701

SS092701

Details

Request Info

Problem: EQUIP MALF
The equipment malfunctioned between inspection on

Requester ID: 184219

Name: Smith, Shannon
Phone: (505) 920-9419
Email: ssmith@adelanteconsulting.com

Work

Procedure: SOP-10013-1 tablet 12c
ISCO Sampler Inspection and Water Retrieval

Target Date: 6/30/2014

Categories

Category: SAMPLERINSPECT
Sampler Inspection

Department: REN
Rendija Canyon

Customer:
Repair Center: SMPLR
Ind Permit Sampler Insp & Maint

Asset

IP
AG038
R003
R-SMA-1.95
SS092701

In Service:
Serial:

32227.pdf - Adobe Acrobat

File Edit View Window Help

SOP-10013-1 Sampler Inspection and Sample Retrieval

Work Order ID: SMPLR-32337

Project ID: P-SMPLR-2847

Date: _____ Time: _____

Name/Z#: _____

Name/Z#: _____

Lead Signature: _____

Route: 1, R003-13-0006-72-R1.95-R5

Target Date: 5/31/2013

Earliest Sample Collect Date: 9/3/2011

"I confirm the information as recorded is true, accurate and complete."

Click on the racecar icon to open the asset details page.




Asset Details Page Crosswalk to Current Hard Copy

The screenshot displays the 'Maintenance Connection Tablet Hybrid' software interface. The main window shows asset details for 'Asset: SS092701' and 'Classification: STATION'. A 'Details' button is highlighted in yellow. A pink box highlights a list of assets: 'IP R0038', 'R003 R-SMA-1.95', and 'SS092701'. A pink box highlights the 'Vicinity: 1, R003-13-0006-72-R1.95-R5' field. A pink box highlights the 'Special Instructions' field with the text '7 day hold time'. An Adobe Acrobat window titled '32227.pdf' is open, showing a document with the following text: 'SOP-10013-1 Sampler Inspection an', 'Work Order ID: SMPLR-32337', 'R003 : R-SMA-1.95 : SS092701', 'Project: Tablet sampler inspection', 'Route: 1, R003-13-0006-72-R1.95-R5', 'Target Date: 5/31/2013', 'Earliest Sample Collect Date: 9/3/2011', 'Next Scheduled Battery Replacement: 7/22/2012', 'Bottle Set Configuration 12c- 6 glass / 6 poly', 'Trip level 0.08 # 7 day hold time', and 'Program Time with Toggle and Reset'. Pink lines connect the pink boxes in the software interface to the corresponding text in the Adobe Acrobat window.

Asset History Page

The screenshot shows a software interface titled "Maintenance Connection Tablet Hybrid -- v1c.73 - SSMITH". The interface includes a navigation bar with "Back" and "New WO" buttons. A sidebar on the left contains a tree view with "IP", "RG-NCOM", "R-004", and "R-SMA-2.05" items. The main content area displays a table of work orders (WO #, Reason, Status, Status Date, Procedure) and a "History" button. To the right, asset details are shown: Asset: R-SMA-2.05, Classification: SMA, In Service: checked, Priority: .

WO #	Reason	Status	Status Date	Procedure
BMP-32029	MC tablet control measure inspection example	Issued	6/24/2014	Storm Water Control Measures Inspection Form
	None			
BMP-38659	IP Rain Event on May 23, 2014 at RG-NCOM	Issued / Finalized	6/2/2014	Storm Water Control Measures Inspection Form
	None			
COMP-36760	Annual Erosion Evaluation Inspection	Closed	3/6/2014	Annual Erosion Evaluation Inspection
	none			
BMP-35486	IP Rain Event on September 12, 2013 at RG-NCOM	Closed	2/20/2014	Storm Water Control Measures Inspection Form
	This also serves as the Significant Event inspection for the rain events %0D%0Aoccurring 9-10-13 through 9-14-2013			

- Quick view of previous inspections to the Asset (SMA) including finding written in the labor report (hard copy additional notes section)
- Click on the clipboard icon for detailed view of previous work orders.
- Use the  button to return to the Asset details of the current WO.

Asset Specifications Crosswalk to Current Hard Copy

The screenshot displays a tablet application window titled "Maintenance Connection Tablet Hybrid -- v1c.73 - SSMITH". The interface includes a top navigation bar with "Back" and "New WO" buttons. A central panel shows asset details for "SS092701", including "Classification: STATION" and "Station". A "Specifications" button is highlighted in yellow. Below this is a table with columns "Name", "Text Value", "Date Value", and "Numerical Value".

Name	Text Value	Date Value	Numerical Value
Bottle Set Configuration	12c- 6 glass / 6 poly		
Program	Time with Toggle and Reset		
Retrieved Collection Date		9/3/2011 12:00:00 AM	
Trip level	0.08 ft		
Battery Schedule		7/22/2012 12:00:00 AM	
Glass Bottle			
Poly Bottle			

An Adobe Acrobat window titled "32227.pdf" is overlaid on the right side of the tablet screen. It displays a document with the following text:

SOP-10013-1 Sampl

Work Order ID: SMPLR-32337

R003 : R-SMA-1.95 : SS092701

Project: Tablet sampler inspection

Route: 1, R003-13-0006-72-R1.95-R5

Target Date: 5/31/2013

Earliest Sample Collect Date: 9/3/2011

Next Scheduled Battery Replacement: 7/22/2012

Bottle Set Configuration 12c- 6 glass / 6 poly

Trip level 0.08 ft 7 day hold time

Program Time with Toggle and Reset

Colored boxes highlight specific text in the PDF, and lines connect these boxes to the corresponding entries in the tablet application's specifications table.

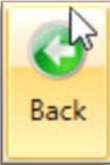
Asset Specifications Crosswalk Continued

The screenshot displays the 'Maintenance Connection Tablet Hybrid' interface. At the top, there are 'Back' and 'New WO' buttons. The main area shows asset details for 'SS092701' with classification 'STATION'. A 'Specifications' section contains a table with columns: Name, Text Value, Date Value, Numeric Value, Minimum, and Maximum. The table lists various specifications such as 'Bottle Set Configuration', 'Program', 'Retrieved Collection Date', 'Trip level', 'Battery Schedule', 'Glass Bottle', and 'Poly Bottle'. A '32227.pdf - Adobe Acrobat' window is overlaid on the right, showing a document titled 'SOP-10013-1 Sampler Inspection and Sample Retrieval' with a table for recording sample data.

Name	Text Value	Date Value	Numeric Value	Minimum	Maximum
Bottle Set Configuration	12c- 6 glass / 6 poly				
Program	Time with Toggle and Reset				
Retrieved Collection Date		9/3/2011 12:00:00 AM			
Trip level	0.08 ft				
Battery Schedule		7/22/2012 12:00:00 AM			
Glass Bottle			0	0	
Poly Bottle			1	2	

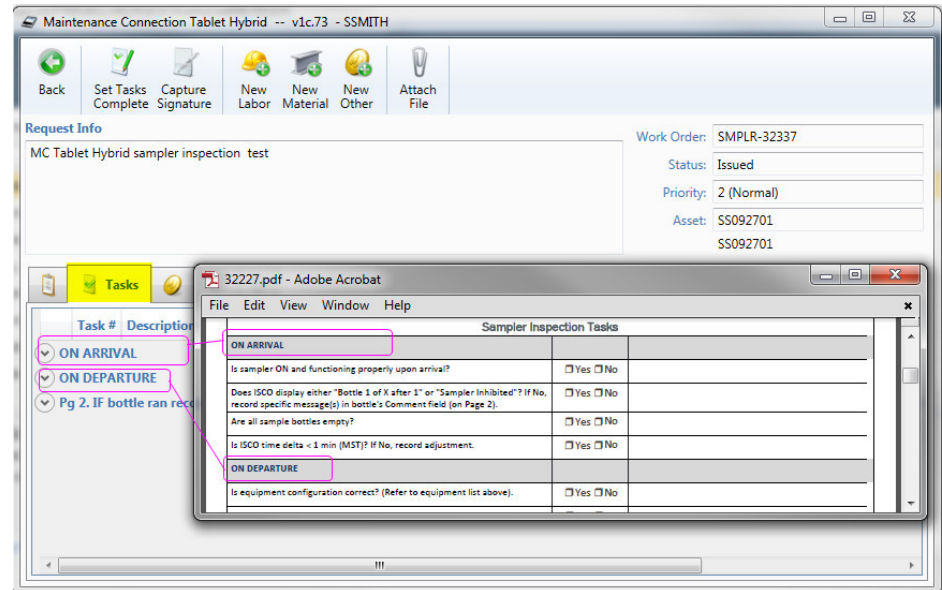
Bottle #	Bottle Type	Date	Time	Volume	Comments
1	□ P □ G				
2	□ P □ G				
3	□ P □ G				
4	□ P □ G				
5	□ P □ G				
6	□ P □ G				
7	□ P □ G				
8	□ P □ G				


To return to the Work Order click  at the top left corner.



Work Order Tasks Overview

- Click on the Tasks tab to open the tasks.
- Each task that is on the hard copy will be displayed. Tasks are displayed in alternating white or grey.
- Section headers on the hard copy are also section headers in MC.



Use the  button to minimize/maximize tasks within sections

Inspection Tasks Crosswalk – Page 1

Maintenance Connection Tablet Hybrid -- v1c.73 - SSMITH

32227.pdf - Adobe Acrobat

Next Scheduled Battery Replacement: 7/22/2012

Equipment	MFG	Model	Serial No.
ISCO 3700 Sampler	Teledyne	3700	204M00458
Actuator	ISCO	1640	213P1940

Bottle Set configuration: 120-6 glass / 6 poly
 Trip level: 0.08 m 7 day hold time
 Program: Time with Toggle and Reset

Sampler Inspection Tasks

ON ARRIVAL

Is sampler ON and functioning properly upon arrival? Yes No

Does ISCO display either "Bottle 1 of X after 1" or "Sampler Inhibited"? If No, record specific message(s) in bottle's Comment field (on Page 2). Yes No

Are all sample bottles empty? Yes No

Is ISCO time delta < 1 min (MST)? If No, record adjustment. Yes No

ON DEPARTURE

Is equipment configuration correct? (Refer to equipment list above). Yes No

Record battery voltage. Is voltage acceptable? Yes No

Task # Description

ON ARRIVAL

10 ISCO 3700 Sampler [204M00458]
 Is sampler ON and functioning properly upon arrival?
 Complete Failed Initials: _____ Rating: _____ Comments: _____
 Readings: Initial: _____ Final: _____ Min: _____ Max: _____
Numeric values go in these textboxes

Observations and notes go in this textbox

20 ISCO 3700 Sampler [204M00458]
 Does ISCO display either "Bottle 1 of X after 1" or "Sampler Inhibited"? If No, record specific message(s) in bottle's Comment field (on Page 2).
 Complete Failed Initials: _____ Rating: _____ Comments: _____
 Readings: Initial: _____ Final: _____ Min: _____ Max: _____

30 Are all sample bottles empty?
 Complete Failed Initials: _____ Rating: _____ Comments: _____
 Readings: Initial: _____ Final: _____ Min: _____ Max: _____

40 ISCO 3700 Sampler [204M00458]
 Is ISCO time delta < 1 min (MST)? If No, record adjustment.
 Complete Failed Initials: _____ Rating: _____ Comments: _____
 Readings: Initial: _____ Final: _____ Min: _____ Max: _____

ON DEPARTURE

Inspection Tasks Data Entry Example – Page 1

The screenshot displays a software interface for 'Maintenance Connection Tablet Hybrid'. The main window shows a list of inspection tasks under the heading 'ON ARRIVAL'. The tasks are:

- Task 10: ISCO 3700 Sampler [204M00458] - 'Is sampler ON and functioning properly upon arrival?' - Status: Complete.
- Task 20: ISCO 3700 Sampler [204M00458] - 'Does ISCO display either "Bottle 1 of X after 1" or "Sampler Inhibited"? If No, record specific message(s) in bottle's Comment field (on Page 2).' - Status: Complete. Comment: Sampler Inhibited.
- Task 30: 'Are all sample bottles empty?' - Status: Complete.
- Task 40: ISCO 3700 Sampler [204M00458] - 'Is ISCO time delta < 1 min (MST)? If No, record adjustment.' - Status: Failed. Readings: 13:25, 13:28.

An Adobe Acrobat PDF overlay is visible, titled 'Scanned from a Xerox multifunction device001 (7).pdf'. It contains a table with the following data:

Equipment	MFG	Model	Serial No.
ISCO 3700 Sampler	Teledyne	3700	204M00458
Actuator	ISCO	1640	213F01940

The PDF also includes a 'Sampler Inspection Tasks' section with the following entries:

- ON ARRIVAL
- Is sampler ON and functioning properly upon arrival? Yes No
- Does ISCO display either "Bottle 1 of X after 1" or "Sampler Inhibited"? If No, record specific message(s) in bottle's Comment field (on Page 2). Yes No (Comment: Sampler Inhibited)
- Are all sample bottles empty? Yes No
- Is ISCO time delta < 1 min (MST)? If No, record adjustment. Yes No (Readings: 13:25 to 13:28)

Red boxes and lines in the image highlight the 'Complete' status for tasks 10 and 20, the 'Failed' status for task 40, and the 'Sampler Inhibited' comment and '13:25 to 13:28' readings. The PDF overlay also has a red box around the 'Sampler Inhibited' comment and a blue box around the '13:25 to 13:28' readings.

Inspection Tasks Crosswalk – Page 2

32227.pdf - Adobe Acrobat

Los Alamos National Laboratory

Page 1 of 2 for SMPLR-32337

SOP-10013-1 Sampler Inspection and Sample Retrieval

Work Order ID: SMPLR-32337 Project ID: P-SMPLR-2847

Complete if sample bottles contain water OR to record ISCO message

Glass Bottles: 0 L-Min 0 L-Max Poly Bottles: 1 L-Min 2 L-Max

Bottle #	Bottle Type	Date	Time	Volume	Comments
1	<input type="checkbox"/> P <input type="checkbox"/> G				
2	<input type="checkbox"/> P <input type="checkbox"/> G				
3	<input type="checkbox"/> P <input type="checkbox"/> G				
4	<input type="checkbox"/> P <input type="checkbox"/> G				

Work Order: SMPLR-32337

Status: Issued

Priority: 2 (Normal)

Asset: SS092701

SS092701

Task # Description

ON ARRIVAL

ON DEPARTURE

Pg 2. IF bottle ran record bottle type (P or G) in Initials field, collection date and time in Readings Initial fields, volume in Readings Final field. Record any ISCO messages in Comments Field

210 Bottle #1?

Complete Failed

Initials: Rating: Comments:

Readings: Initial: Final: Min: Max:

Inspection Tasks Data Entry Example – Page 2

Maintenance Connection Tablet Hybrid -- v1c.73 - SSMITH

Scanned from a Xerox multifunction device001 (12).pdf - Adobe Acrobat

File Edit View Window Help

Complete if sample bottles contain water OR to record ISCO message

Glass Bottles: 0 L-Min 0 L-Max Poly Bottles: 1 L-Min 2 L-Max

Bottle #	Bottle Type	Date	Time	Volume	Comments
1	<input type="checkbox"/> P <input checked="" type="checkbox"/> G	6/5/14	22:12	1 L	Sample collected
2	<input type="checkbox"/> P <input checked="" type="checkbox"/> G	6/5/14	22:13	1 L	Sample collected
3	<input checked="" type="checkbox"/> P <input type="checkbox"/> G	6/5/14	22:14	0 L	Sample missed: No liquid detected
4	<input checked="" type="checkbox"/> P <input type="checkbox"/> G	6/5/14	22:15	0 L	Program Finished
5	<input type="checkbox"/> P <input type="checkbox"/> G				
6	<input type="checkbox"/> P <input type="checkbox"/> G				

Request Info
MC Tablet Hybrid sampler inspection test

Tasks

Task # Description

Pg 2. If bottle ran record bottle type (P or G) in Initials field, collection date and time in Readings Initial fields, volume in Readings Final field. Record any ISCO messages in Comments Field

210 Bottle #1?

Complete Failed Initials: G Rating: Comments: Sample collected

Readings: Initial: /5/14 22:12 Final: 1 L Min: Max:

220 Bottle #2?

Complete Failed Initials: G Rating: Comments: Sample collected

Readings: /2014 22:13 1L Min: Max:

230 Bottle #3?

Complete Failed Initials: P Rating: Comments: Sample missed: No liquid detected

Readings: /5/14 22:14 0L Min: Max:

260 Bottle #4?

Complete Failed Initials: P Rating: Comments: Program Finished.

Readings: /5/14 22:15 0L Min: Max:


Completing the Work Order Crosswalk

After you have completed data entry click the Complete tab.

The screenshot displays the 'Maintenance Connection Tablet Hybrid' software interface. The main window has a toolbar with 'Back', 'Set Tasks Complete', 'Capture Signature', and 'New Labor'. Below the toolbar, the 'Request Info' section shows 'MC Tablet Hybrid sampler inspection test'. To the right, there are fields for 'SMPLR-32337', 'Issued', '2 (Normal)', 'SS092701', and 'SS092701'. A yellow 'Complete' button is highlighted. The 'Status Dates' section includes 'Requested: 6/9/2014 3:39 PM by: SMS', 'Issued: 6/9/2014 3:40 PM by: SMS', 'Responded: Select a date by:', and 'Completed: Select a date by:'. A red box highlights the 'Responded' and 'Completed' date fields. Below this is a 'Labor Report' section with a large empty text area. The 'Meter Readings' section shows 'Meter 1 Reading: 9.00'. The 'Failure Analysis' section includes 'Problem:', 'Failure Reason: NOPOV', and 'Solution: OK'. Two Adobe Acrobat windows are open: the top one shows a form with fields for 'Project ID: P-SMPLR-2847', 'Date:', 'Name/Z#:', 'Lead Signature:', and a note to confirm information; the bottom one shows an 'Additional Notes' section with a text area.

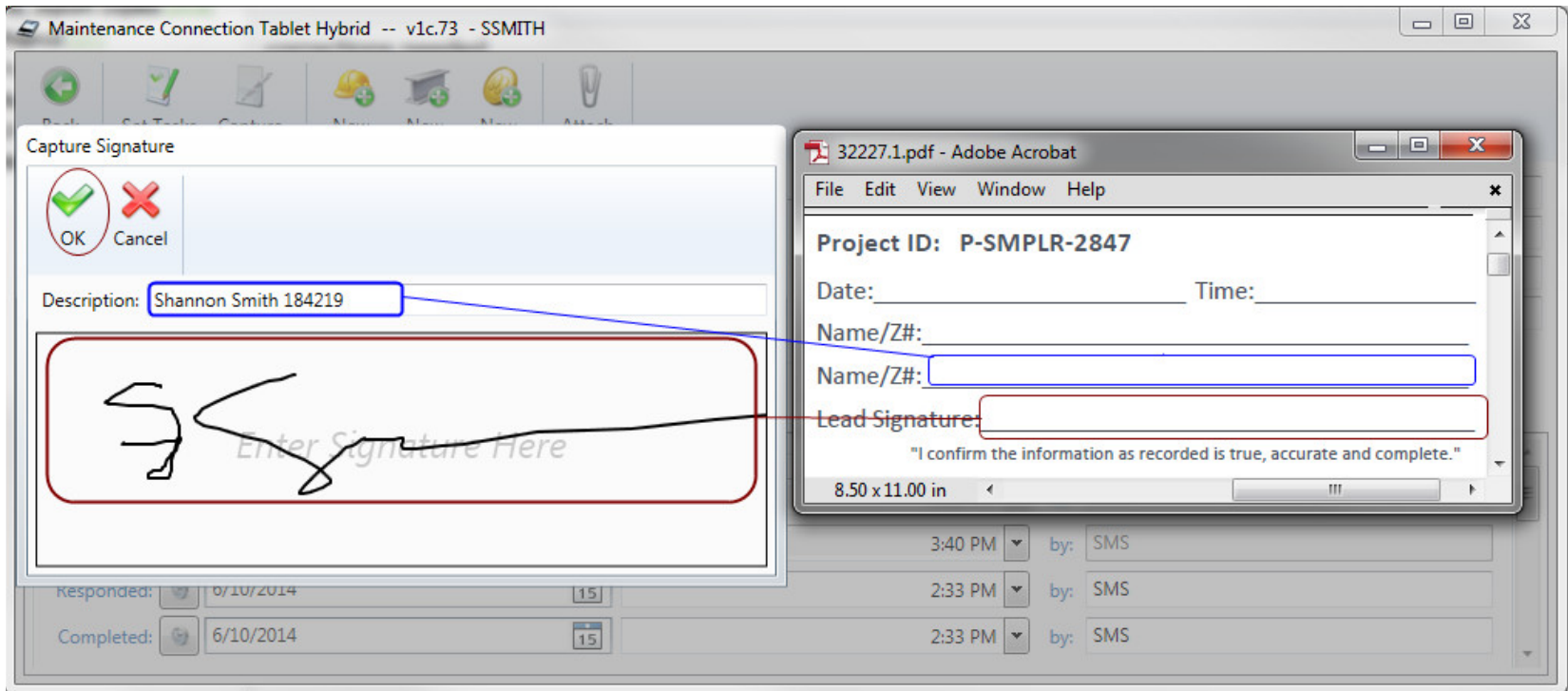
Only fill out the “Completed” fields if you are done with all date entry

Completing the Work Order Crosswalk (Cont'd)

- Click on the  buttons to auto-populate the Responded and Completed date and time fields. You can navigate through the fields to adjust as necessary.
- The “Responded” date must be the same date and time as what is written on the hard copy (i.e. date of inspection) and initials of the individual who signed the hard copy.

Signing the Work Order

- Click the  icon to electronically sign the work order.



The screenshot displays the 'Maintenance Connection Tablet Hybrid' software interface. A 'Capture Signature' dialog box is open, showing a signature capture area with a red border and a blue signature. The 'Description' field contains 'Shannon Smith 184219'. The 'OK' button is highlighted with a green checkmark. To the right, the '32227.1.pdf - Adobe Acrobat' window is open, showing a form with the following fields: 'Project ID: P-SMPLR-2847', 'Date: _____ Time: _____', 'Name/Z#: _____', 'Name/Z#: _____', and 'Lead Signature: _____'. A confirmation statement reads: 'I confirm the information as recorded is true, accurate and complete.' The interface also shows a list of responses and completion dates at the bottom.

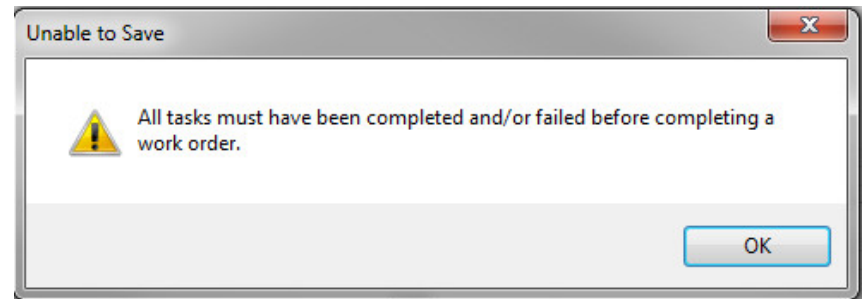
Exiting the Work Order


- Click on the back button



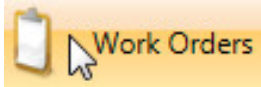
to return to the main work order page.

- If the work order is in “completed” status, unanswered tasks are not allowed (this includes “N/A”). If any exist you will see the following error.



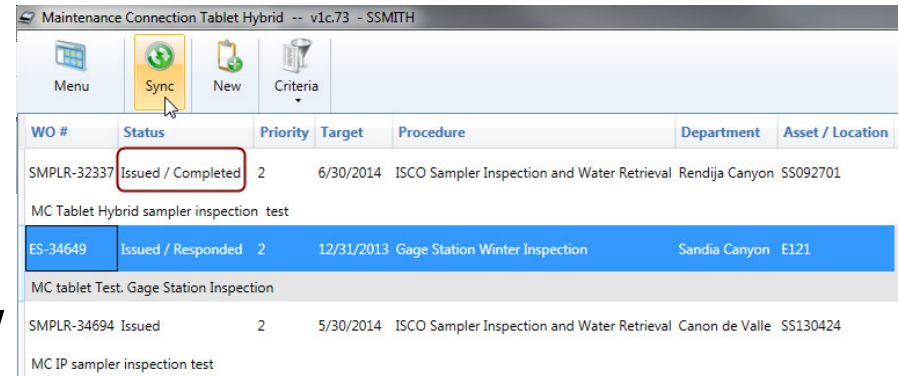
- You must navigate back to the  page and finish answering tasks, then click on the back button.

Releasing a Work Order

- Connect to the yellow network and navigate back to the work order page by choosing the  option from the menu dropdown.
- Confirm that only the work orders you are ready to release are in the Issued/Completed status.
 - Any work order in Issued/Completed status will be uploaded to MC during the sync.
 - Any data entry done on work orders in Issued or Issued/Responded status will sync to MC, but the work order will remain downloaded on the tablet.

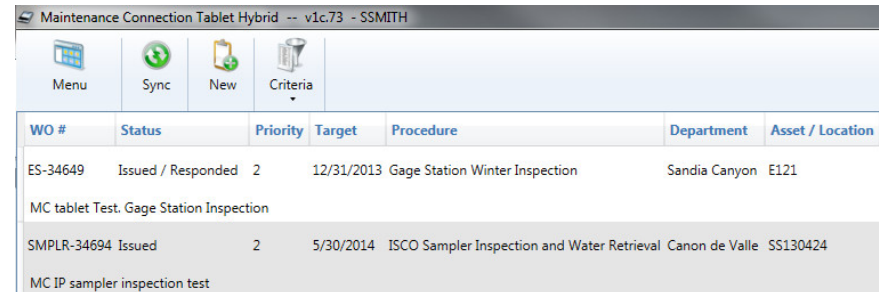
Releasing a Work Order Continued

- Click the Sync button to start the data transfer.
- Close the browser window in the upper right corner to exit out of MC Tablet Hybrid.



Maintenance Connection Tablet Hybrid -- v1c.73 - SSMITH

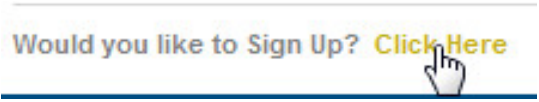
WO #	Status	Priority	Target	Procedure	Department	Asset / Location
SMPLR-32337	Issued / Completed	2	6/30/2014	ISCO Sampler Inspection and Water Retrieval	Rendija Canyon	SS092701
MC Tablet Hybrid sampler inspection test						
ES-34649	Issued / Responded	2	12/31/2013	Gage Station Winter Inspection	Sandia Canyon	E121
MC tablet Test. Gage Station Inspection						
SMPLR-34694	Issued	2	5/30/2014	ISCO Sampler Inspection and Water Retrieval	Canon de Valle	SS130424
MC IP sampler inspection test						



Maintenance Connection Tablet Hybrid -- v1c.73 - SSMITH

WO #	Status	Priority	Target	Procedure	Department	Asset / Location
ES-34649	Issued / Responded	2	12/31/2013	Gage Station Winter Inspection	Sandia Canyon	E121
MC tablet Test. Gage Station Inspection						
SMPLR-34694	Issued	2	5/30/2014	ISCO Sampler Inspection and Water Retrieval	Canon de Valle	SS130424
MC IP sampler inspection test						

What's next?

- Each Route team will need to request an account in Maintenance Connection by going to:
http://envweb.lanl.gov/mc_web/onsite/default.htm
- Click on  at the bottom of the page.
- Choose **I am NOT a Member of the Maintenance Connection.** and click OK.
- The Connection Key is 'LANL'. Click OK.
- Fill out all required information on the Sign Up page.
 - The Member ID and password you choose will be used by all Route members.
 - Choose 'Ind Permit BMP Insp & Maint' from the Repair Center dropdown.
- Click OK.

Available Resources

- Project team members will be available to participate at inspections/during data entry.
- A field guide will be provided to help trouble shoot issues.