

MI5 Flow Chart

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MI5 Tool with downloader

Introduction

The Icefield MI5 Multishot Orientation Tool orients Advanced Piston Corer (APC) cores by taking orientation measurements for a short period of time just prior to when the core is taken. During this time the drill string is kept steady while the tool measures and stores: • azimuth • inclination • toolface gravity • toolface magnetism • total magnetic field strength • magnetic dip angle • probe temperature. The orientation tool contains triaxial accelerometers and magnetometers and is run on the APC bottomhole assembly (BHA) within a nonmagnetic collar. The tool is synchronized with the Meazura™ MEZ1000 Palm device (yellow object in photo below) prior to deployment. After deployment, the recorded data are downloaded to the Palm device.

Setting up and Starting a Survey

See Figure 1 for a flow chart of the following steps.

1. Install Batteries in Multishot tool Open Inclin on Palm
2. Select SURVEY
3. Name Survey – Click on the symbol with the hand over a keyboard to enter text (Site---Hole---First Core of survey) (ex. 1440A1H) (8 character max)
4. Select Done
5. Select OK
6. Select BY DELAY
7. Set Delay to 0 seconds
8. Select OK
9. Set Shot Interval to 10 Sec
10. Select OK
11. In Header Information window set declination to 0
12. Select OK
13. Connect Palm to Probe via cable
14. Select OK
15. Note battery voltage (not below 9 volts if starting a 12 hour survey) and tool memory (should be 0% full) Select OK in the information window that appears. Green light will flash every second and red light every ten seconds when tool is collecting data.
16. Disconnect cable from probe. Select OK on Palm. Replace brass cap on tool.
17. Survey is now running. Place tool in pressure casing and pass it to the core tech. You do not need to press GO. Do not press DONE until survey is complete. Palm can be shut off/go to sleep while survey is collected.

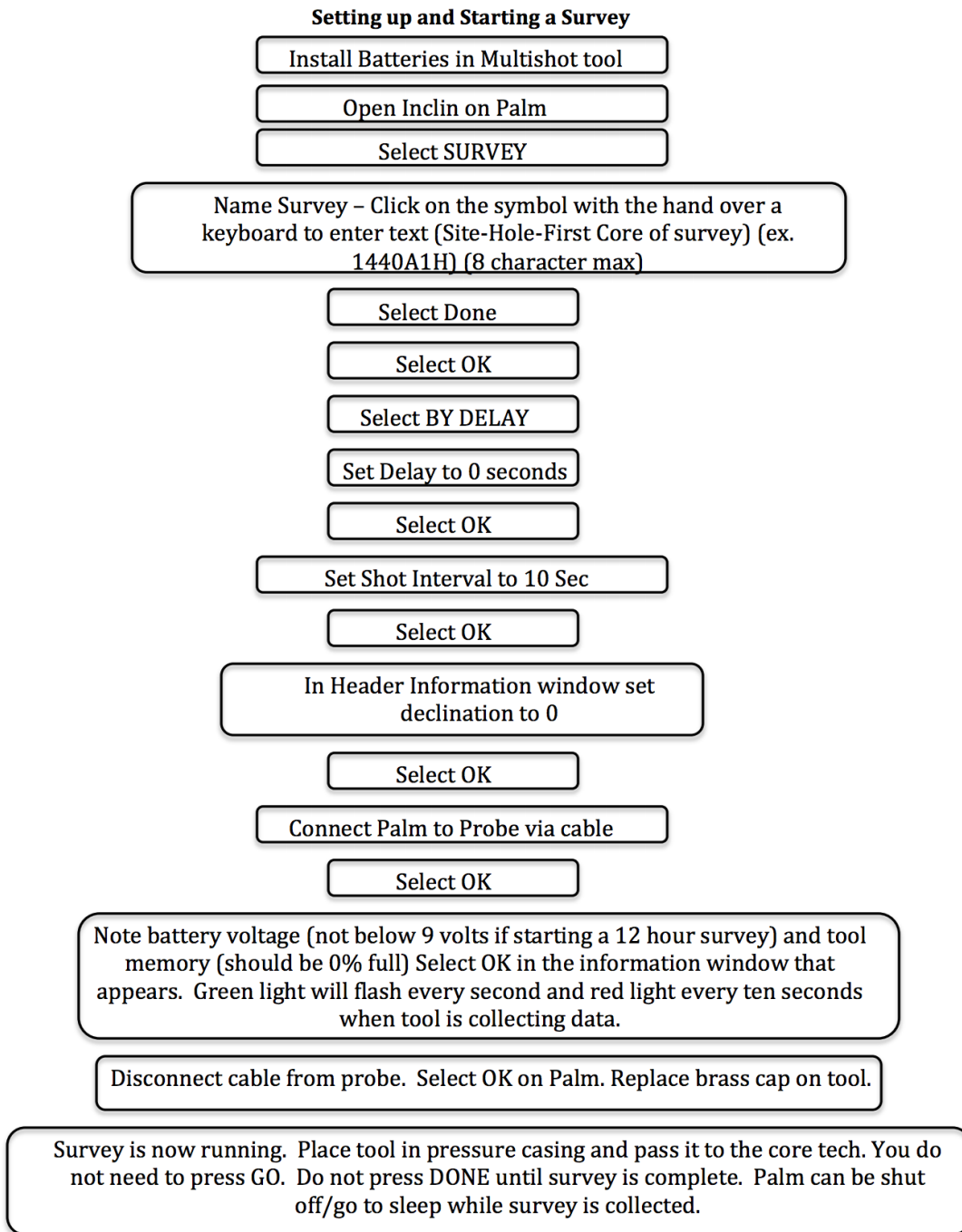


Figure 1. Flow chart for setting up and starting a survey

Ending a Survey and Collecting Data

See Figure 2 for a flow chart of the following steps.

1. Remove Tool from Pressure Case
2. Turn on Palm (Palm should display the Monitor Survey Window)
3. Select DONE
4. Palm will go to main Inclination screen (Survey, Collect Data, and Manage Data)
5. Select Collect Data
6. Select RECOVER DATA
7. Select YES when confirmation screen appears
8. Connect Probe to Palm via Cable
9. Select YES
10. Wait for Download to complete. Large surveys will take longer.

11. Palm will go to the main Incln Screen (Survey, Collect Data, Manage Data) when download is complete. Palm may go to sleep when download is complete.
12. Disconnect Probe from Palm

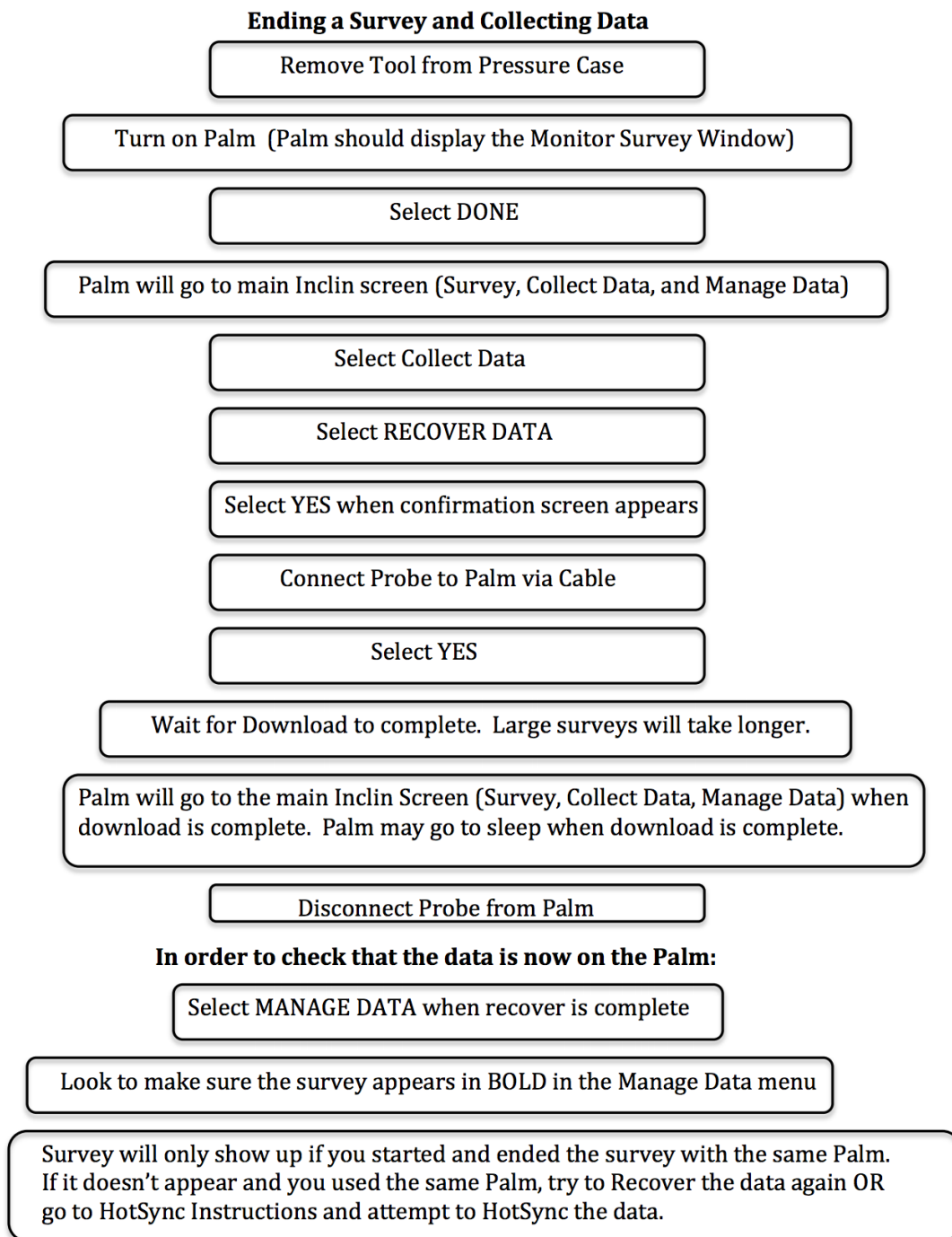


Figure 2. Flow chart for ending a survey and collecting data.

In order to check that the data is now on the Palm

1. Select MANAGE DATA when recover is complete
2. Look to make sure the survey appears in BOLD in the Manage Data menu
3. Survey will only show up if you started and ended the survey with the same Palm. If it doesn't appear and you used the same Palm, try to Recover the data again OR go to HotSync Instructions and attempt to HotSync the data.

Hotsync Data to PC and Process with Incln

See Figure 3 for a flow chart of the following steps.

1. Go to Palm Main Window (Click on the little house) Connect Palm to PC via USB cable
2. Select HotSync on Palm
3. Press HotSync Symbol (square with a circle and two arrows) in the middle of the screen on Palm
4. Wait. Large Files may take a few minutes. Palm will sound when HotSync begins and ends. A status bar will appear on the PC and the Palm.
5. Open the Inclin Data folder from the desktop.
6. Open the Recover Data Folder from within the Inclin Data folder
7. Rename the .txt file so that it matches the Survey name assigned when the survey was initiated the hole name (ie U1440A1Htxt)
8. Log in to Novell
9. Copy the .raw and the .txt files to Data (JR1)- Data1--- Paleomagnetism CORIENT ICEFIELD folder on server
10. Ensure all data is backed up. Wait to clear the probe and palm until you need the tool for the next run. This will allow the magnetics technician to check that the data downloaded correctly and fix any outstanding issues.

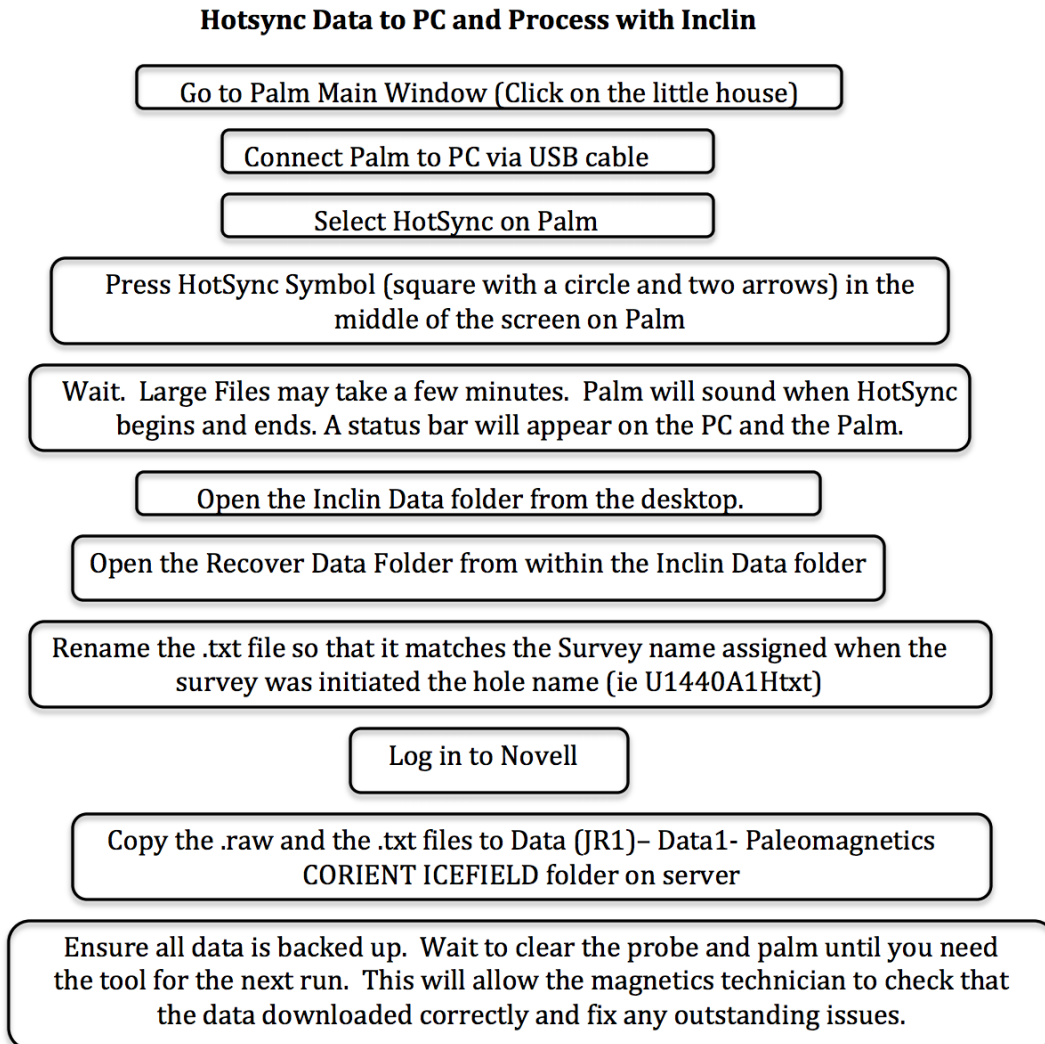


Figure 3. Flow chart for syncing data to a PC and processing.

Clearing Data from the Palm and the Probe

Note: Only clear the Palm and Probe if necessary. Otherwise leave clearing the tool and palm to the Paleomagnetism Technician. Do NOT clear the probe before the data has been hotsynced and backed up to the server.

Reasons to clear the tool and palm:

1. All three tools have been run and one of them must be deployed before the paleomagnetism technician arrives on shift
2. One of the probes is not functioning and you must reuse a tool

Clearing the Probe:

1. Connect Palm to Probe
2. Open InclIn on Palm
3. Tap the word InclIn at the top of the main InclIn window (window displaying survey, collect data, recover data)
4. Select Options menu
5. Select Clear Probe
6. Confirm that you want to clear the probe memory. Select NO to continue clearing the probe (window asks if you want to abort the process)
7. Confirm that you want to continue. Select Yes.
8. Palm will contact Probe and notify user when probe is cleared.

Clearing the Palm:

The Palm should be cleared before starting a new survey otherwise the data files will contain multiple surveys when HotSynced. Make sure the data is already downloaded and backed up. If possible choose to use a Palm that is already clear.

1. Select Manage Data from the main InclIn screen on the Palm
2. Tap on Select Survey at the top of the screen
3. You may choose to delete selected items (if you have selected specific items) or you may delete all of the surveys on the palm. Typically Delete all will be the option used.
4. The warning menu will appear explaining that the survey names should not be reused until the probe is also cleared. Select OK.
5. Confirm that you want to delete all holes by selecting Yes.
6. A second confirm window will appear telling the user the data has not been backed up. This is due to our method of using Recover Data. As long as the survey name is no longer in bold text and you have confirmed the data is on a PC and on the server, select YES.

Icefield Tool Work Flow

1. Set up and start survey. The Palm and Tool should not have existing surveys when a new survey is started. If they do, try to use a different tool/Palm if possible. Existing data may indicate that the previous survey has not been downloaded or verified yet.
2. Record User Name, Tool Number (2043, 2052, or 2007), Palm ID (Vanilla Ice, Ice T, or Ice Cube), Time Survey started (in GMT), Survey Name (Site---Hole--- FirstCore), and any additional comments in blue core orientation notebook.
3. Deploy Orientation tool downhole. Deployment should be approximately **8-12 hours**, unless otherwise specified.
4. When the survey time is almost over, setup a second tool. Communicate with the Core Tech to let them know that a new tool needs to be deployed.
5. Deploy second tool
6. Recover data from the first tool and back it up to the Computer: DATA (JR1): data 1: 13.5 Paleomagnetism CORIENT ICEFIELD core orientation folder.
 - a. Once data is backed up, set the tool and Palm aside for the paleomagnetism technician. Once they verify they survey data has downloaded properly, they will clear the tool and Palm
 - b. If you have used all three tools and no paleomagnetism technician has cleared the tools, ensure the data has been backed up and clear a tool and palm (using flow chart instructions). Make sure to open the data files to verify the transfer was successful.
7. Repeat process of recovering and deploying tools. If you have used all three tools and no paleomagnetism technician has cleared the tools, ensure the data has been backed up and clear a tool and palm (using flow chart instructions)

Credits

This document originated from the file MI5Flowchartversion3.pdf (see Archived Versions below for a pdf copy) that was written by B. Novak (2015-03-24). Credits for subsequent changes to this document are given in the page history.

Archived Versions

- [MI5Flowchartversion3.pdf](#): Original file written by B. Novak