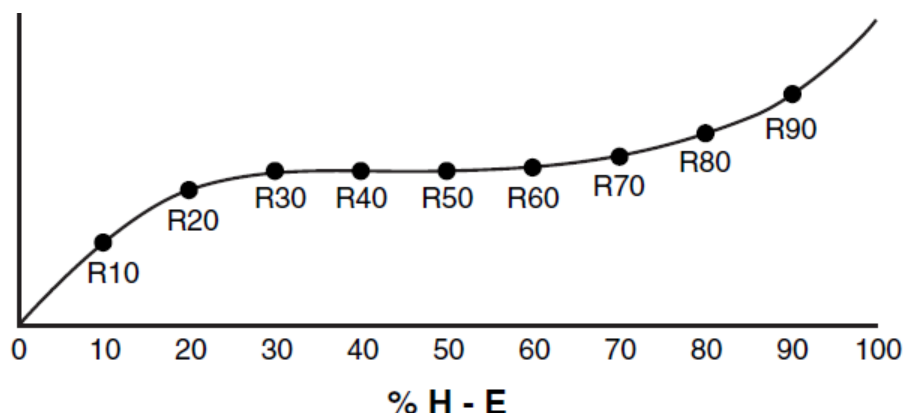


GROUND TESTING WITH 647X: Creating Fall-of-Potential Plots with DataView®

There are 2 different methods for creating a Fall-of-Potential plot from your measurement results. Using one of our Multi-Function Ground Testers (Models 6470-B, 6471 or 6472), this plot can be easily created.

Saving tests in the instrument's memory according to the 3-point Fall-of-Potential – Full Method is needed to create this plot.

When testing using the **Full Method**, the S(Y) electrode is moved in 10 % increments away from the E(X) towards the H(Z) electrode. This results in 9 readings, 1 each from (10 to 90) % distance. Under normal testing conditions and circumstances, a distinct plateau around (50 to 70) % should result as shown below:



The Fall-of-Potential plot can be created with 2 different methods.

Method #1 – Distance Entry on the instrument before saving to memory.

This is the easiest and recommended method for generating Fall-of-Potential plots.

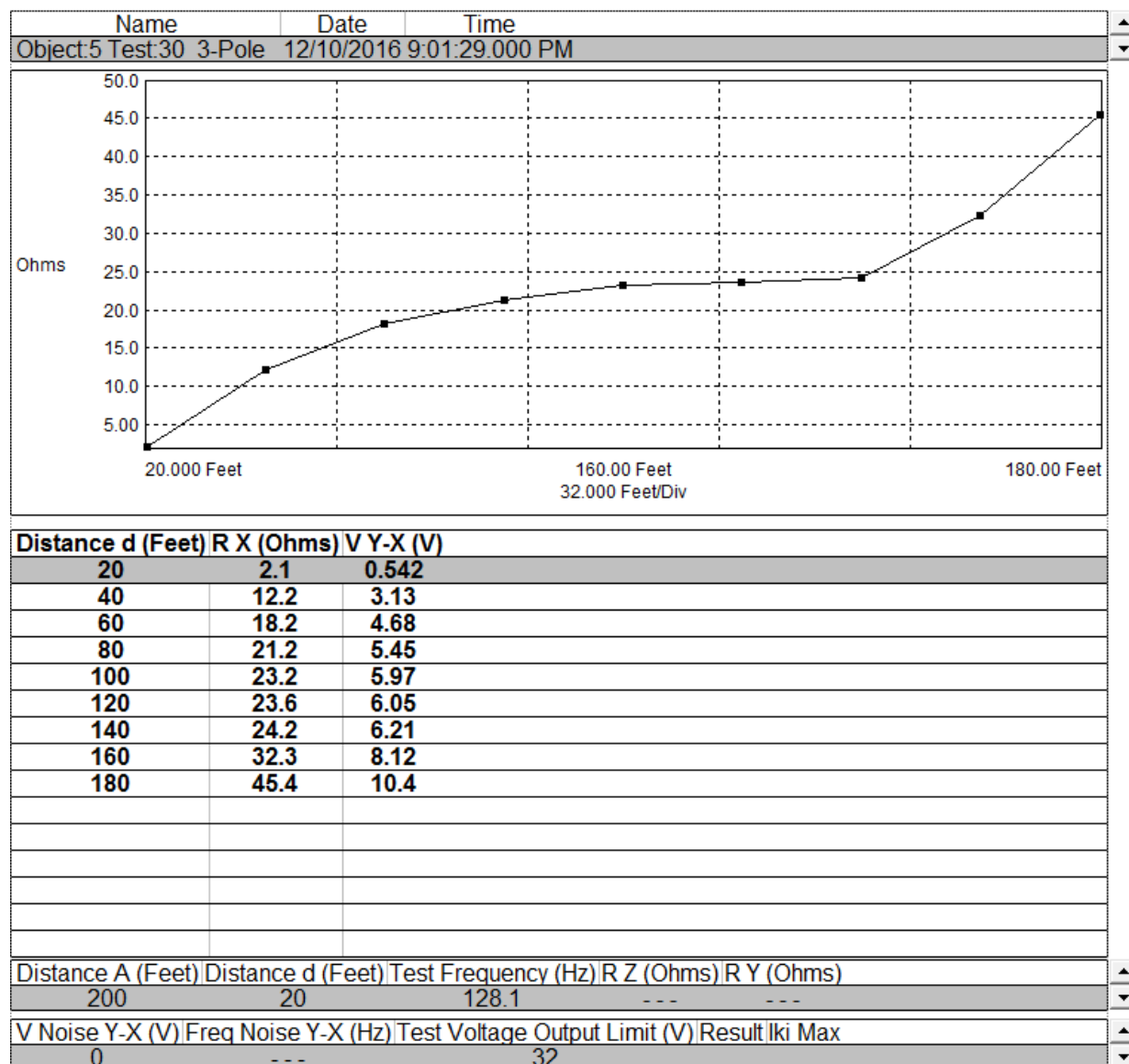
After the test result is achieved, enter the distances into the meter before saving to memory. The meter will detect that distances are entered and continue to save each successive result to the same TEST:OBJECT number memory location. On the meter's interface, distance **A** represents the H(Z) electrode distance. This **A** number will be entered once and will not change for the entire survey. Distance **d** is the S(Y) electrode distance. This **d** distance number will be entered by the user in 10 % increments for each successive test.

Once all 9 tests have been entered, the test results will all be contained in the same TEST:OBJECT number. When connected to a computer and viewing the internal recordings through the DataView® Ground Tester Control Panel, the Fall-of-Potential tests will be obvious as there will a TEST:OBJECT with 9 tests contained, similar to screenshot below for recorded TEST 5:OBJECT 30.

12/10/2016	8:16:20 PM	5	28	3-Pole	9	---	1.34	0.261	---	---	5.12
12/10/2016	8:56:19 PM	5	29	3-Pole	4	---	1.06	0.258	---	---	4.1
12/10/2016	9:01:29 PM	5	30	3-Pole	9	---	0.542	0.258	---	---	2.1

Create DataView Report	Create Spreadsheet	Refresh
View	Select All	Delete All

You can simply select those tests by clicking on that line, then clicking the button labelled **Create DataView Report**. The resultant DataView report will look similar to this screenshot:



This report can then be converted to PDF and sent to your client/customer.

Method #2 – Distance Entry on the instrument before saving to memory.

This is slightly more complicated but it is still an effective method for generating Fall-of-Potential plots.

If the distances are not entered before saving to memory, each test result is saved into its' own TEST:OBJECT location. This results in 9 separate memory locations that contain all of your results from the Fall-of-Potential - Full Method. Under normal circumstances with free memory, each memory location will be incremental and easily identifiable when looking at recorded data in the Ground Tester Control Panel.

See screenshot below for an example of 9 tests in individual memory locations:

12/10/2016	9:01:29 PM	5	30	3-Pole	9	...	0.542	0.258	...	...	2.1
12/10/2016	9:13:58 PM	5	31	3-Pole	1	...	0.543	0.258	...	...	2.1
12/10/2016	9:14:11 PM	5	32	3-Pole	1	...	3.13	0.258	...	...	12.2
12/10/2016	9:14:29 PM	5	33	3-Pole	1	...	4.68	0.257	...	...	18.2
12/10/2016	9:14:44 PM	5	34	3-Pole	1	...	5.46	0.257	...	...	21.2
12/10/2016	9:14:58 PM	5	35	3-Pole	1	...	5.97	0.257	...	...	23.2
12/10/2016	9:15:11 PM	5	36	3-Pole	1	...	6.05	0.256	...	...	23.6
12/10/2016	9:15:32 PM	5	37	3-Pole	1	...	6.21	0.256	...	...	24.2
12/10/2016	9:15:48 PM	5	38	3-Pole	1	...	8.04	0.249	...	...	32.3
12/10/2016	9:16:03 PM	5	39	3-Pole	1	...	10.3	0.227	...	...	45.3
Create DataView Report						Create Spreadsheet			Refresh		
View						Select All			Delete All		

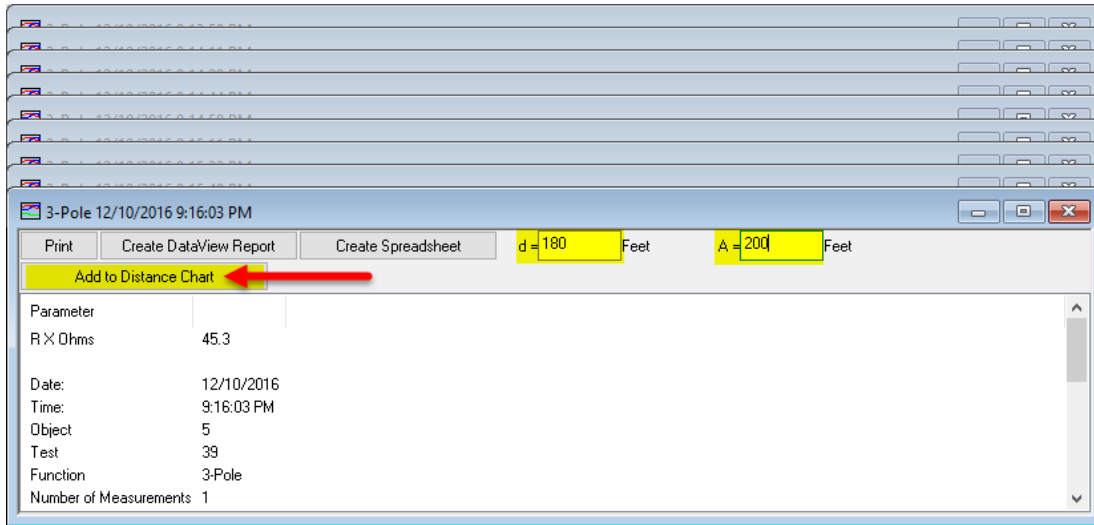
In the above case, TEST 5:OBJECT 31 through 39 contain the test results for the Fall-of-Potential – Full Method.

You will need to download these tests within the Ground Tester Control Panel and assign distances for each test manually.

To do this, highlight the first test in the list, which should be the 10% result from your survey, then hold the SHIFT key and click the last test in the survey. 9 tests should be highlighted, as seen below:

12/10/2016	9:01:29 PM	5	30	3-Pole	9	...	0.542	0.258	...	...	2.1
12/10/2016	9:13:58 PM	5	31	3-Pole	1	...	0.543	0.258	...	...	2.1
12/10/2016	9:14:11 PM	5	32	3-Pole	1	...	3.13	0.258	...	...	12.2
12/10/2016	9:14:29 PM	5	33	3-Pole	1	...	4.68	0.257	...	...	18.2
12/10/2016	9:14:44 PM	5	34	3-Pole	1	...	5.46	0.257	...	...	21.2
12/10/2016	9:14:58 PM	5	35	3-Pole	1	...	5.97	0.257	...	...	23.2
12/10/2016	9:15:11 PM	5	36	3-Pole	1	...	6.05	0.256	...	...	23.6
12/10/2016	9:15:32 PM	5	37	3-Pole	1	...	6.21	0.256	...	...	24.2
12/10/2016	9:15:48 PM	5	38	3-Pole	1	...	8.04	0.249	...	...	32.3
12/10/2016	9:16:03 PM	5	39	3-Pole	1	...	10.3	0.227	...	...	45.3
Create DataView Report						Create Spreadsheet			Refresh		
View						Select All			Delete All		

Then click **View**. This will download all 9 tests from the meter and present them to you in the Ground Tester Control Panel, with the 9th test (90 %) presented on top of the stack:

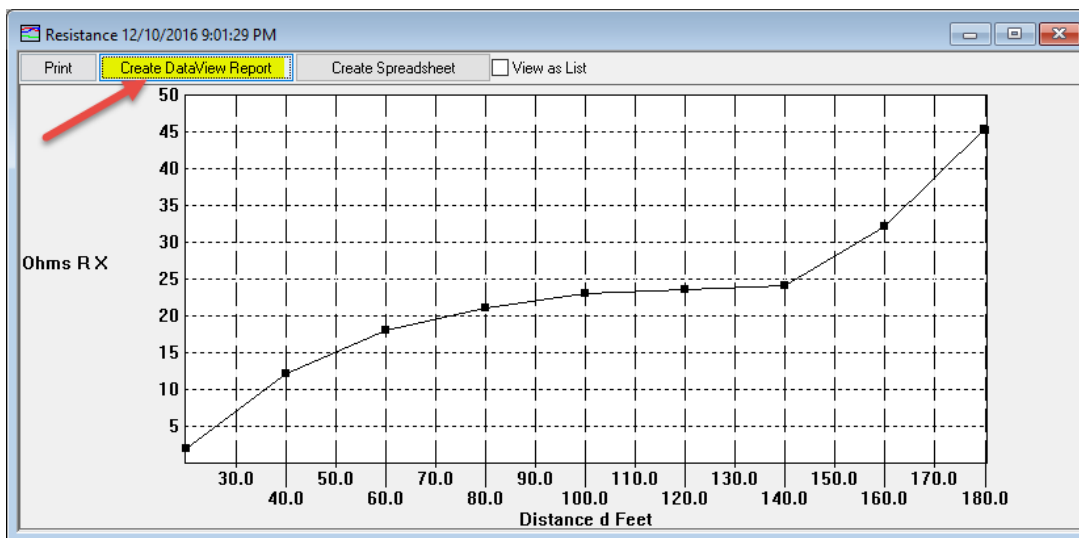


In the highlighted fields, you will then need to enter the overall distance **A** which represents the H(Z) electrode distance. You will also enter the distance **d** which represents the S(Y) electrode distance at the 90 % spacing. For this example: A=200 ft and A*90 % or d=180 ft.

Once these distances are entered, click the **Add to Distance Chart** button. This will then create a chart where the Fall-of-Potential results will be plotted.

You can now minimize the 90 % reading. The next viewable window will be the 80 % reading. You'll need to enter the full and 80 % distances and add this result to the Distance Chart.

Repeat above steps on every result from your survey. Once all 9 tests have been viewed, characterized and added to the chart, you should see something similar to the below screenshot:



Click **Create DataView Report** and this chart will be exported to DataView and look like the report results achieved with Method #1.

Both methods work with duplicate results.

We recommend Method #1 and entering distances into the meter at the time of measurement. This is a more efficient and reliable way that requires only 1 TEST:OBJECT to be downloaded.

If you have any questions, contact AEMC® Technical Support at 1-800-343-1391 x351 or email techsupport@aemc.com.

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