

Eighth Annual QUIKLOOK Users Group Meeting

Marion, MA
August 20 & 21st, 2014

Eric Solla
QUIKLOOK Product Manager

Quiklook Software Update



TELEDYNE TEST SERVICES
Everywhereyoulook™



Quiklook Software

- Version 2013.256
 - Released August 2013
 - Quiklook II
- Version 2013.309
 - Released September 2013
 - Quiklook 3 only
- Version 2014.058
 - Released February 2014
 - Quiklook 3 only
- Version 2014.197
 - Released August 2014
 - Quiklook II & Quiklook 3



Software Error Notices

- Version 2014.058
 - Error Notice 2014.058-1
 - AOV Calculated results for Rotary Valves in metric
 - The units are incorrect for the following results:
 - Seat Force
 - Seat Load
 - Unseating Force
 - Valve Friction – Min, Max, Avg.
 - Units are stated as kg-m or kg-m/mm.
 - Stated results are actually daN-mm and daN-mm/mm.



Software Error Notices

- Error Notice 2014.058-1
 - Workaround:
 - To convert results to kg-m divide results by 980.665
 - Preferred units are N-m. To convert results to N-m divide results by 100.

 - Notes:
 - This error only occurs for rotary valves tested in metric. This error occurs on all versions of QUIKLOOK software prior to and including QUIKLOOK 2014.058 which contains AOV analysis.

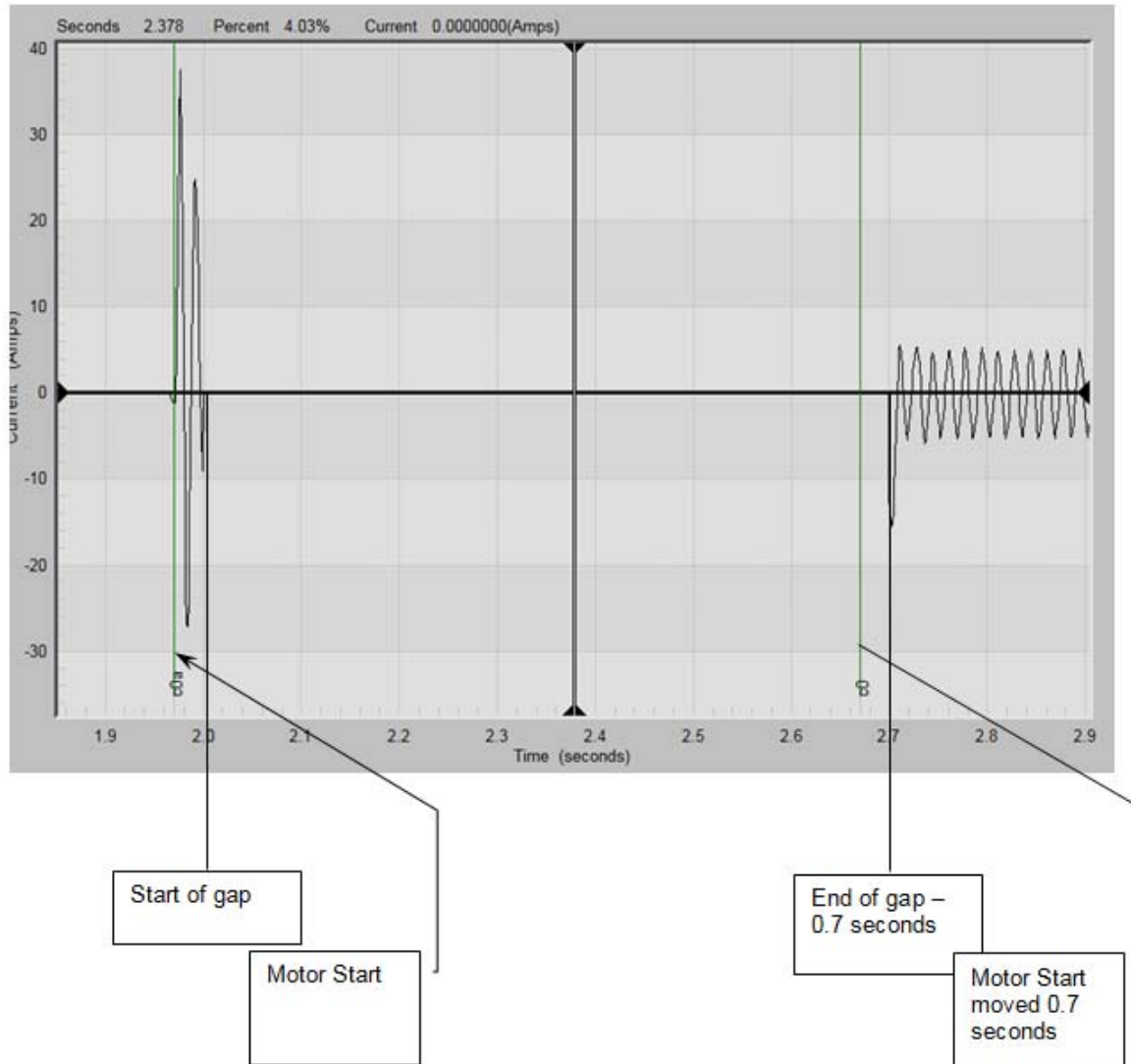


Software Error Notices

- Version 2014.058
 - Error Notice 2014.058-2
 - When acquiring data using a trigger, sometimes a gap will appear in the data right after the trigger time.
 - This gap is extra time inserted into the start of the test.
 - The gap contains no real data and the data after the gap is a continuation of the data before the gap
 - No data is lost.
 - No data is missing from the trace but this gap causes an increase in stroke time.
 - This problem exists for all channels. The gap will be a multiple of 100 milliseconds.

Software Error Notices

- Error Notice 2014.058-1
 - Workaround:
 - To compensate for this, move the marker for motor start forward in time by an amount equal to the gap. This will make all the stroke time and light calculations correct
 - Rerun the test.
 - Notes:
 - This error only occurs in Quiklook 3 Versions 2013.309 & 2014.058





2013.256 – New Features



2013.256 – New Features

- Configuration
 - Edit Sensor Database from Configuration Screen

Configure 16 Channel Quiklook Test - C:\TestData\TestData 2012\Auto-Marking\

Load Valve Save Valve Default Valve Define Graph Channels **Edit Sensors** Return Help

Primary Name Secondary Name

Description

Title

Comment

Comment

Channel Assignments

Ch	Name	Units	Type	Range	Sensitivity	Offset	Save
1	Current	(Amps)	Differential	+160 mVdc	1.00000 E+00	0.00000 E+00	*
2	Thrust	(Lbs)	4-Wire Strain Gage	+2.0 mV/Vdc	1.00000 E+00	0.00000 E+00	*
3	Torque	(Ft-Lbs)	4-Wire Strain Gage	+2.0 mV/Vdc	1.00000 E+00	0.00000 E+00	*
4	CST	(mA)	Differential	+1.28 Vdc	1.00000 E+00	0.00000 E+00	*
5	Open	(mA)	Differential	+1.28 Vdc	1.00000 E+00	0.00000 E+00	*
6	Close	(mA)	Differential	+1.28 Vdc	1.00000 E+00	0.00000 E+00	*
7	ByPass	(mA)	Differential	+1.28 Vdc	1.00000 E+00	0.00000 E+00	*
8	SprPack	(In)	Differential	+5.12 Vdc	1.00000 E+00	0.00000 E+00	*
9	Va	(Volts)	Single Ended	+1.28 Vdc	1.38200 E+03	0.00000 E+00	*
10	Ia	(Amps)	Differential	+640 mVdc	1.00000 E+00	0.00000 E+00	*
11	Vb	(Volts)	Single Ended	+1.28 Vdc	1.38200 E+03	0.00000 E+00	*
12	Ib	(Amps)	Differential	+640 mVdc	1.00000 E+00	0.00000 E+00	*
13	Vc	(Volts)	Single Ended	+1.28 Vdc	1.38200 E+03	0.00000 E+00	*
14	Ic	(Amps)	Differential	+640 mVdc	1.00000 E+00	0.00000 E+00	*
15	Spare		Differential	+20 mVdc	1.00000 E+00	0.00000 E+00	*
16	Spare		Differential	+20 mVdc	1.00000 E+00	0.00000 E+00	*

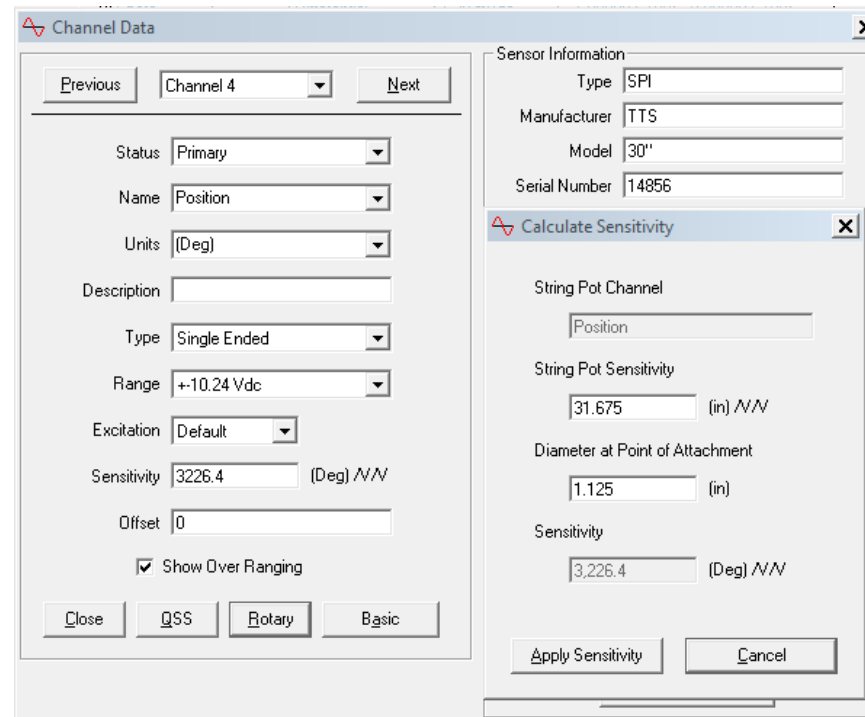
Channel Data

Test Type

8 Channels
 Quiklook
 MOV
 16 Channels
 Sentry
 ADV

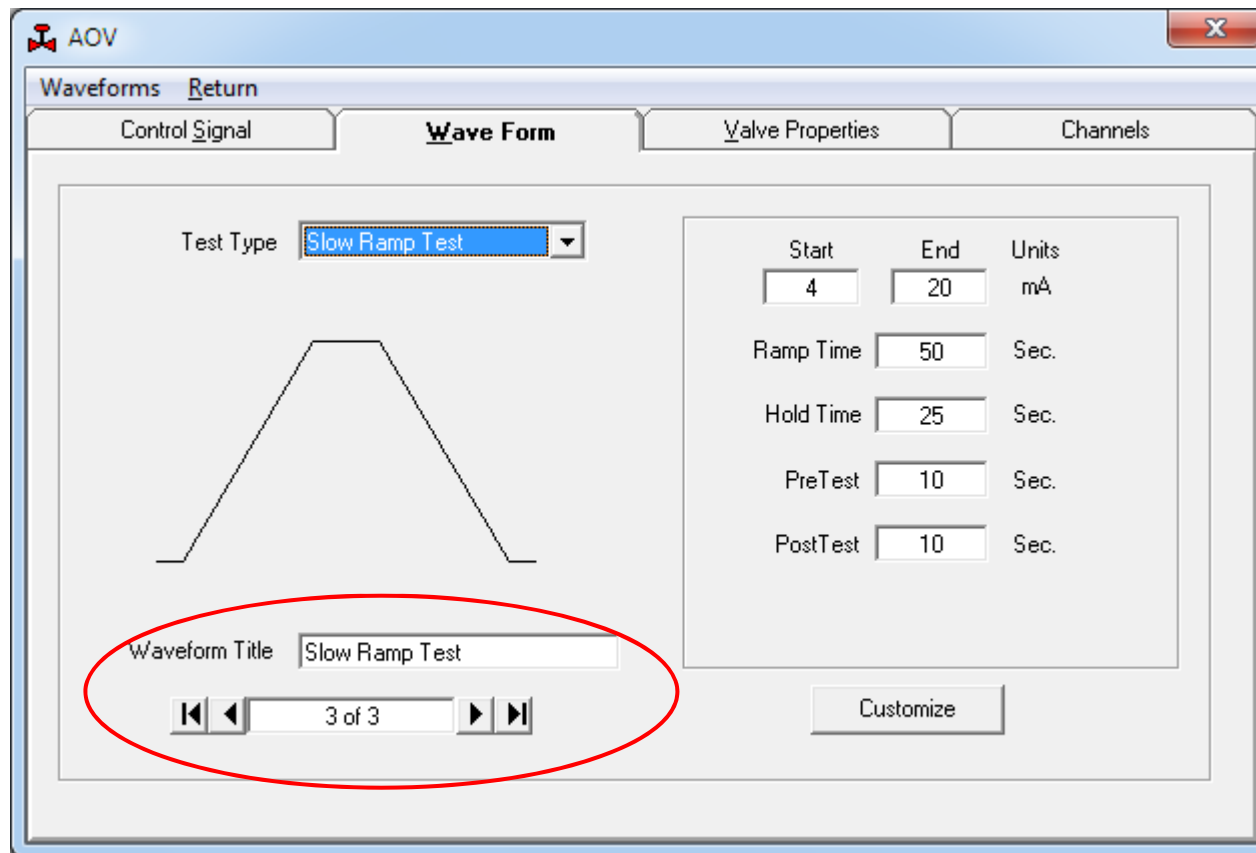
2013.256 – New Features

- Configuration
 - Calculate Rotary Sensitivity – Available for MOV & AOV
 - Remembers String Pot Sensitivity

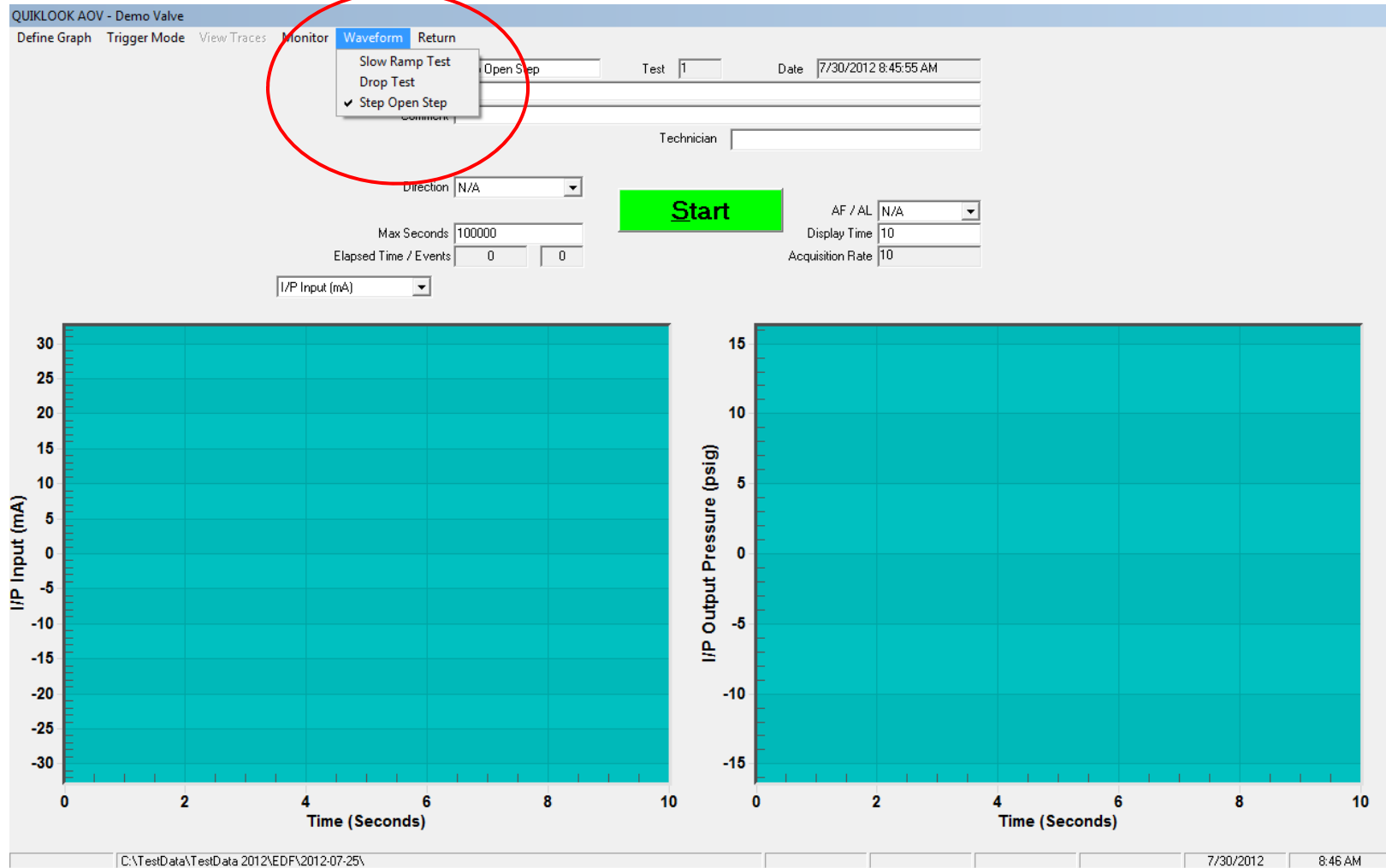


2013.256 – New Features

- AOV Multiple Waveforms

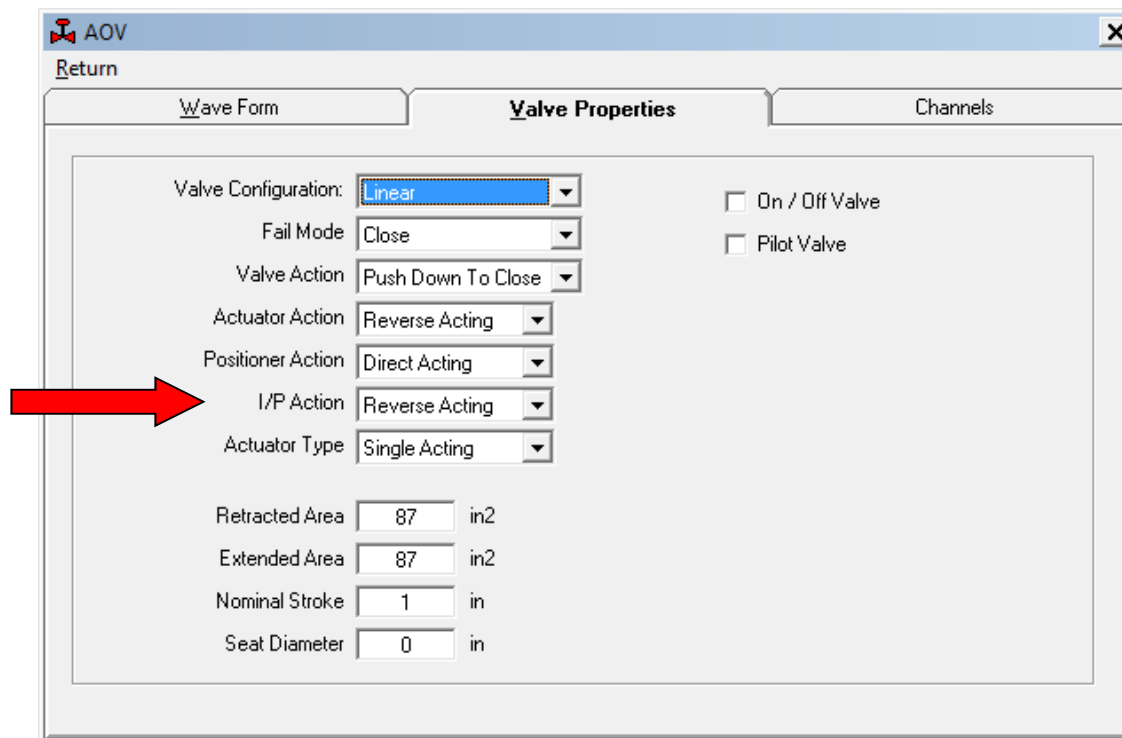


2013.256 – New Features

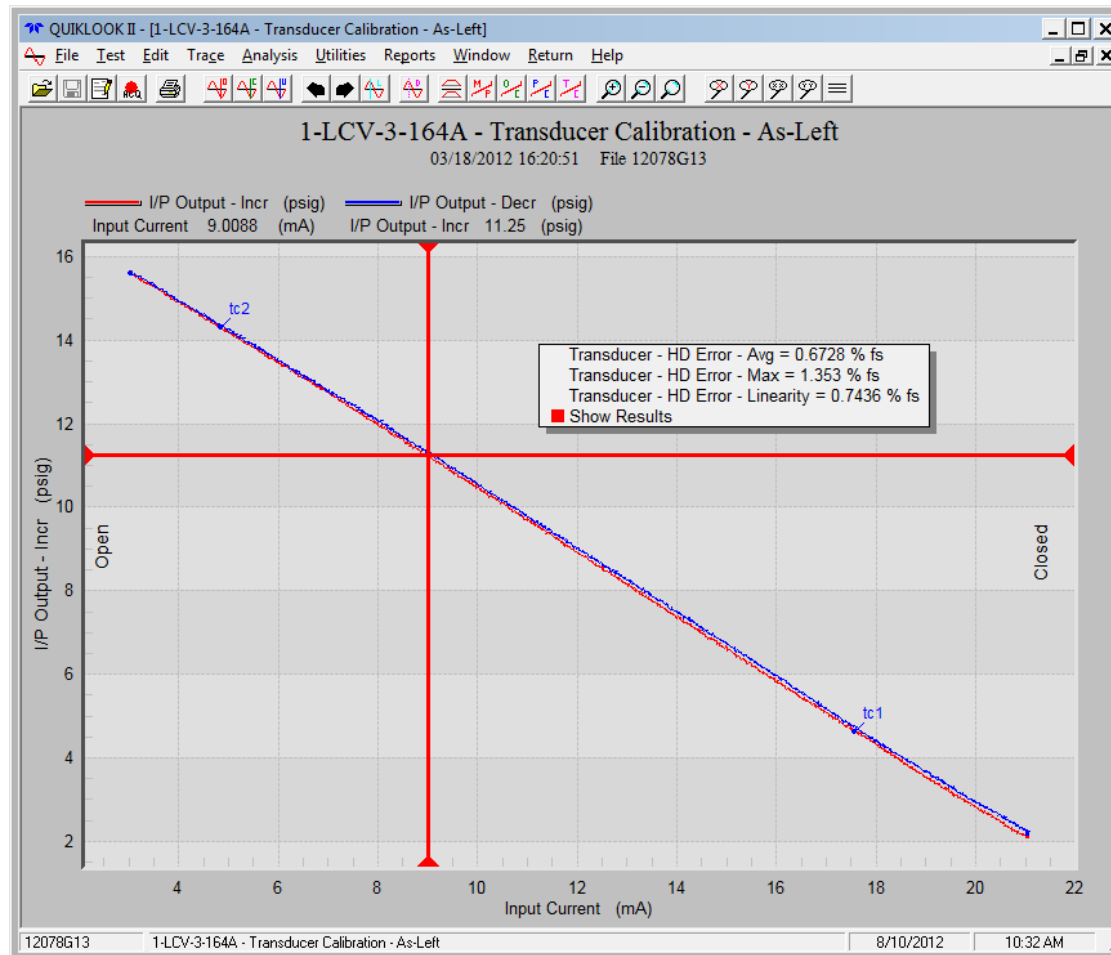


2013.256 – New Features

- Configuration / Analysis
 - Add I/P Action



2013.256 – New Features

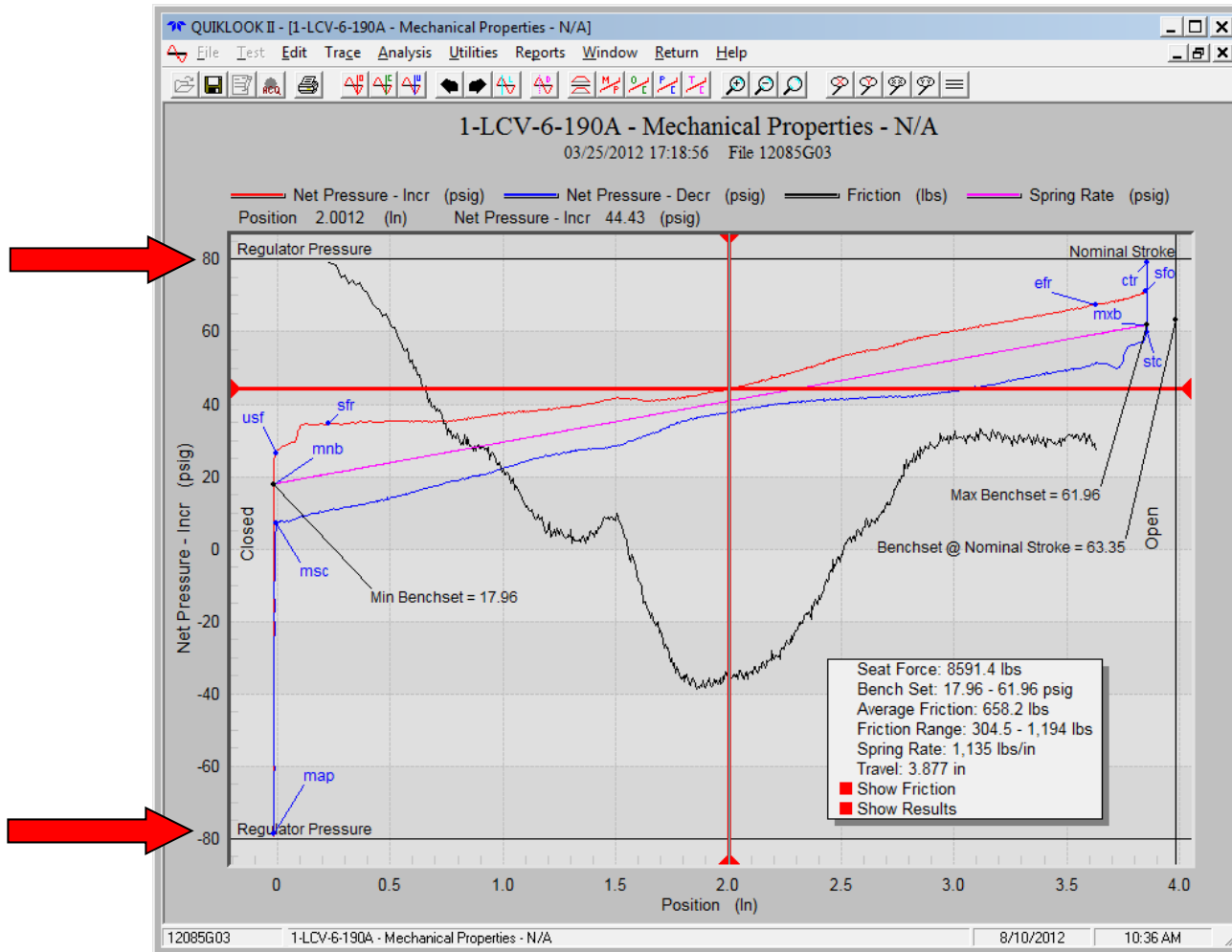


2013.256 – New Features

- Analysis
 - Mechanical Properties –
 - Double Acting Valves
 - Add line to show Negative Regulator Pressure



2013.256 – New Features



2013.256 – New Features

- Analysis
 - Time Plot Icon should return to previous configured time plot



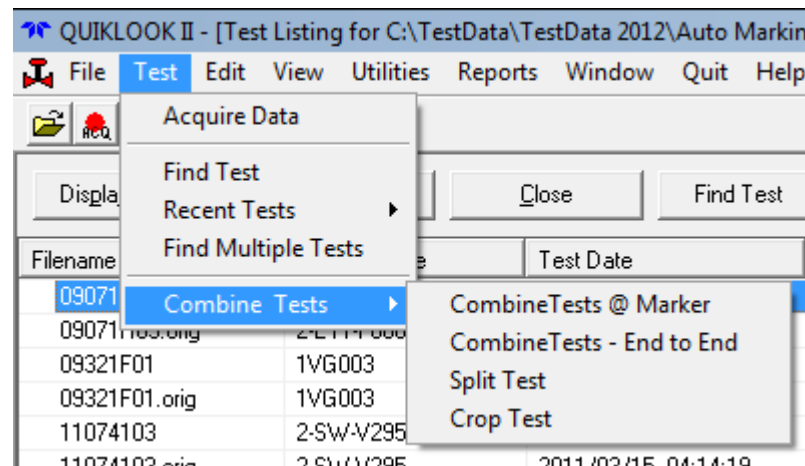
2013.256 – New Features

- Acquisition – Monitor Screen
 - Warning if pressure channels are zeroed with a large offset.
 - Disable zero for I/P Input Channel



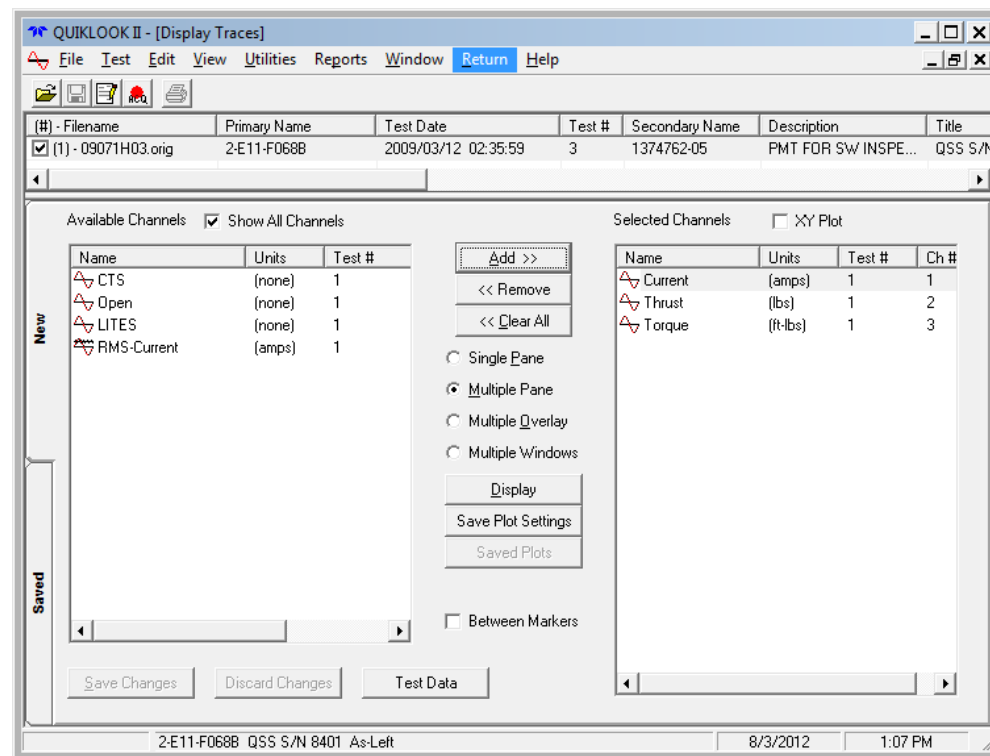
2013.256 – New Features

- Test Menu
 - Combine test
 - Combine two tests @ marker
 - Combine two tests end to end
 - Split test into two tests
 - Crop a test saving only data between two markers
 - In each case a new test file will be created leaving the original tests intact.



2013.256 – New Features

- Replay
 - Plot between markers



2013.256 – New Features

- Analysis
 - Automark MOV traces

Name	Time (Seconds)	Time (Percent)	Current (Amps)	Thrust (Lbs)	Torque (Ft-Lbs)	CST (mA)	Green (mA)	Red Light (mA)	Open (mA)	SprPack (In)
c0	1.974	9.87%	0.02899	442.7	7.489	0.3590	-0.00007E	-0.02728	0.000190	0.001081
c1	1.986	9.93%	18.86	521.3	5.044	-0.07397	0.000228	-0.03593	0.001259	0.001189
c4	2.185	10.93%	4.623	-521.3	-5.846	-0.2098	-0.00034E	-0.02846	-0.000381	-0.001117
c6	2.266	11.33%	3.877	-564.0	-4.700	-0.3105	-0.00022E	0.01854	-0.00095E	-0.00115E
c5	8.286	41.43%	0.3815	-478.7	-4.738	0.1225	0.1606	-0.05505	0.000839	-0.00118E
c11	8.402	42.01%	1.497	-521.3	-4.681	0.07637	0.1187	-0.05817	0.000534	-0.00122E
c14	8.863	44.32%	6.657	-9.637	-98.54	-0.2989	-0.2549	-0.01259	-0.00057E	-0.01243
c8	8.865	44.33%	6.587	-9.627	-99.27	0.02235	-0.1992	-0.01041	0.00057E	-0.01290
c15	8.887	44.44%	-3.117	-9.756	-104.3	0.002480	0.2598	-0.00110E	-0.00003E	-0.01773
t16	8.974	44.87%	-0.03204	-11.332	-115.0	-0.00003E	0.09743	-0.00007E	0.000152	-0.02425
c16	8.985	44.93%	-0.05951	-11.483	-113.0	0.000000	0.1190	-0.00003E	0.00007E	-0.02450
c17	10.576	52.88%	0.01373	-11.252	-102.2	-0.00003E	-0.1199	-0.00003E	0.000000	-0.02414
o0	12.168	60.84%	-0.01831	-11.197	-101.4	0.2536	0.1944	-0.00007E	0.01888	-0.02425
o1	12.189	60.95%	-30.70	-11.130	-38.97	0.3097	0.1296	-0.000267	0.01011	-0.02414
o11	12.283	61.42%	2.887	-8.182	-13.70	0.02987	0.1018	-0.000114	0.006409	-0.02378
o9	12.854	64.27%	-5.038	5.394	55.67	0.4104	0.2642	-0.000801	0.01083	0.001729
o13	12.997	64.99%	4.932	614.8	9.285	-0.2872	-0.1403	-0.02495	-0.01553	0.001117
o12	15.909	79.55%	1.718	516.4	8.406	-0.2972	-0.2522	0.04261	-0.1767	0.001081
o14	18.801	94.01%	-3.896	565.6	9.189	0.4096	0.2633	-0.01225	0.3922	0.001189
o15	18.891	94.46%	1.711	573.8	8.444	-0.3122	-0.2734	0.03708	-0.09068	0.001297
o17	18.901	94.51%	-3.976	613.2	9.094	-0.01431	0.01228	-0.01163	0.002022	0.001081
end	19.999	100.00%	0.003052	477.1	7.011	-0.00007E	0.000000	-0.04131	0.000000	0.001153



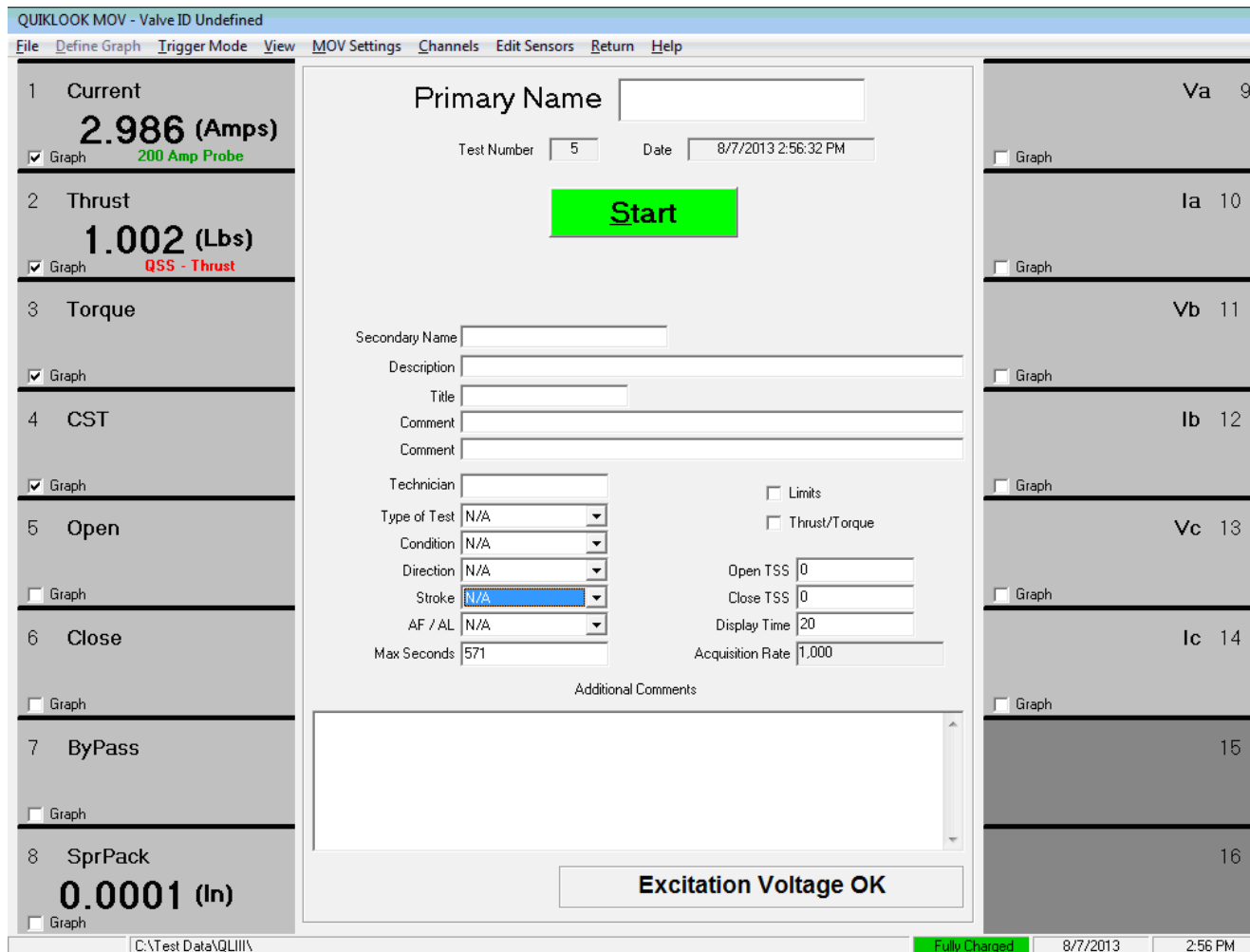
2013.309 – New Features

- Initial Release of Quiklook 3
 - New Data Acquisition Boards
 - Replaced Configure / Acquisition / Monitor Screens with a Single Screen
 - TEDS – Transducer Electronic Data Sheets
 - QL3 contains batteries allowing it to run without AC power.
 - Independent Channel Excitation
 - Increased acquisition rates
 - Increase Marker Names to 5 characters

Quiklook 3 – Software Design Objectives

- Reducing Dose (ALARA)
- Reduce Setup Time
- Reduce Analysis Time
- Reduce Training Requirements
 - ✓ Plug and Play Sensor Recognition – Open Source Industry Standard (TEDS)
 - ✓ Simplified and Consolidated Setup & Acquisition Screens
 - ✓ Remote Voltage Sensing – (6) wire strain gauge feature
 - ✓ Easier Excitation Voltage Check
 - ✓ Battery Operation
 - ✓ Auto Marking
- Support Wide range of Valve Types (AOV, MOV, Check & Solenoid)
 - ✓ Increased Acquisition Rates
- Improve Trace Quality
 - ✓ Improving Signal to Noise Ratio
 - ✓ Eliminating EMF noise from pumps and motors

2013.309 – New Features – Acquisition Screen



The screenshot displays the 'Acquisition Screen' in the Quiklook software. The window title is 'QUIKLOOK MOV - Valve ID Undefined'. The menu bar includes 'File', 'Define Graph', 'Trigger Mode', 'View', 'MOV Settings', 'Channels', 'Edit Sensors', 'Return', and 'Help'.

On the left side, there is a vertical list of test parameters:

- 1 Current: **2.986 (Amps)** (200 Amp Probe)
- 2 Thrust: **1.002 (Lbs)** (QSS - Thrust)
- 3 Torque
- 4 CST
- 5 Open
- 6 Close
- 7 ByPass
- 8 SprPack: **0.0001 (In)**

The central area contains the 'Primary Name' field, 'Test Number' (5), and 'Date' (8/7/2013 2:56:32 PM). A prominent green 'Start' button is visible. Below these are fields for 'Secondary Name', 'Description', 'Title', and 'Comment'. Test configuration options include 'Limits', 'Thrust/Torque', 'Open TSS', 'Close TSS', 'Display Time', and 'Acquisition Rate' (1,000). A 'Max Seconds' field is set to 571. An 'Excitation Voltage OK' button is located at the bottom of the central panel.

On the right side, there is a vertical list of channels:

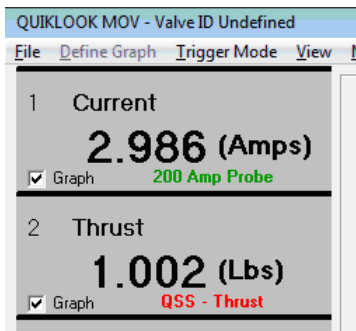
- Va 9
- Ia 10
- Vb 11
- Ib 12
- Vc 13
- Ic 14
- 15
- 16

The status bar at the bottom shows 'C:\Test Data\QLIII\ Fully Charged 8/7/2013 2:56 PM'.

2013.309 – New Features

TEDS – Transducer Electronic Data Sheet

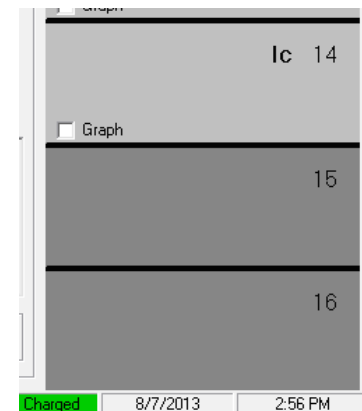
IEEE Standard - IEEE P1451.4/2.0



- All Sensors will have a TEDS Chip
- TEDS Chip may contain all - none of the configuration data.
- When sensor is present Channel Values and Units Appear
- Sensor Description is Shown

- **Green** – All sensor data is on chip no further configuration is necessary
- **Red** – Some configuration data is missing. Configuration should be reviewed
- **Black** – Configuration has been reviewed

- Dark Gray Box – Channel Inactive
- Light Gray Box - Channel Active
- Red Box – Channel is Over Ranging
- Channel Name Shows for Active Channels
- Channels wo Sensors will Not be Acquired and will be Turned Off



2013.309 – New Features

The screenshot displays the Quiklook MOV software interface for a test run. The main window is titled "QUIKLOOK MOV - ValveID Undefined" and includes a menu bar with options: File, Define Graph, Trigger Mode, View, MOV Settings, Channels, Edit Sensors, Return, and Help.

Left Panel (Test Parameters):

- 1 Current: **2.986 (Amps)** (200 Amp Probe)
- 2 Thrust: **1.002 (Lbs)** (QSS - Thrust)
- 3 Torque
- 4 CST
- 5 Open
- 6 Close
- 7 ByPass
- 8 SprPack: **0.0001 (In)**

Central Panel (Test Configuration):

- Primary Name: [Text Field]
- Test Number: 5 | Date: 8/7/2013 2:56:32 PM
- Start** (Green Button)
- Secondary Name: [Text Field]
- Description: [Text Field]
- Title: [Text Field]
- Comment: [Text Field]
- Comment: [Text Field]
- Technician: [Text Field]
- Type of Test: N/A
- Condition: N/A
- Direction: N/A
- Stroke: N/A
- AF / AL: N/A
- Max Seconds: 571
- Limits: Limits
- Thrust/Torque: Thrust/Torque
- Open TSS: 0
- Close TSS: 0
- Display Time: 20
- Acquisition Rate: 1,000
- Additional Comments: [Text Area]
- Excitation Voltage OK** (Text)

Right Panel (Channels):

- Va 9
- Ia 10
- Vb 11
- Ib 12
- Vc 13
- Ic 14
- 15
- 16

Status Bar:

- Location: C:\Test Data\QL3\I\
- Charge Status: **Fully Charged** (Green indicator, circled in red)
- Date/Time: 8/7/2013 2:56 PM

2013.309 – New Features – Battery Status

- Run Time to Empty
- Battery Status:
 - Voltage
 - Current
 - Charge
 - Capacity
 - Temperature

Battery Status		
<u>R</u> eturn		
Current	-2.511	Amps
Power	40.7	Watts
Avg Charge	99 %	
Status	Discharging	
Run Time to Empty	4 hrs 53 mins	
Battery	1	2
Status		Fc
Voltage (volts)	16.229	16.199
Current (amps)	-1.5	-0.98
Temp C	28.1	27.1
Charge	99 %	100 %
Capacity (Amp-hrs)	6.45	5.85



2013.309 – New Features

The screenshot displays the Quiklook MOV software interface. On the left, a vertical list of test parameters is shown:

- 1 Current: 2.986 (Amps) (200 Amp Probe)
- 2 Thrust: 1.002 (Lbs) (QSS - Thrust)
- 3 Torque
- 4 CST
- 5 Open
- 6 Close
- 7 ByPass
- 8 SprPack: 0.0001 (In)

The main central area contains a configuration form for a test:

- Primary Name: [Text Field]
- Test Number: 5
- Date: 8/7/2013 2:56:32 PM
- Start** (Green Button)
- Secondary Name: [Text Field]
- Description: [Text Field]
- Title: [Text Field]
- Comment: [Text Field]
- Comment: [Text Field]
- Technician: [Text Field]
- Type of Test: N/A
- Condition: N/A
- Direction: N/A
- Stroke: N/A
- AF / AL: N/A
- Max Seconds: 571
- Limits:
- Thrust/Torque:
- Open TSS: 0
- Close TSS: 0
- Display Time: 20
- Acquisition Rate: 1,000
- Additional Comments: [Text Area]

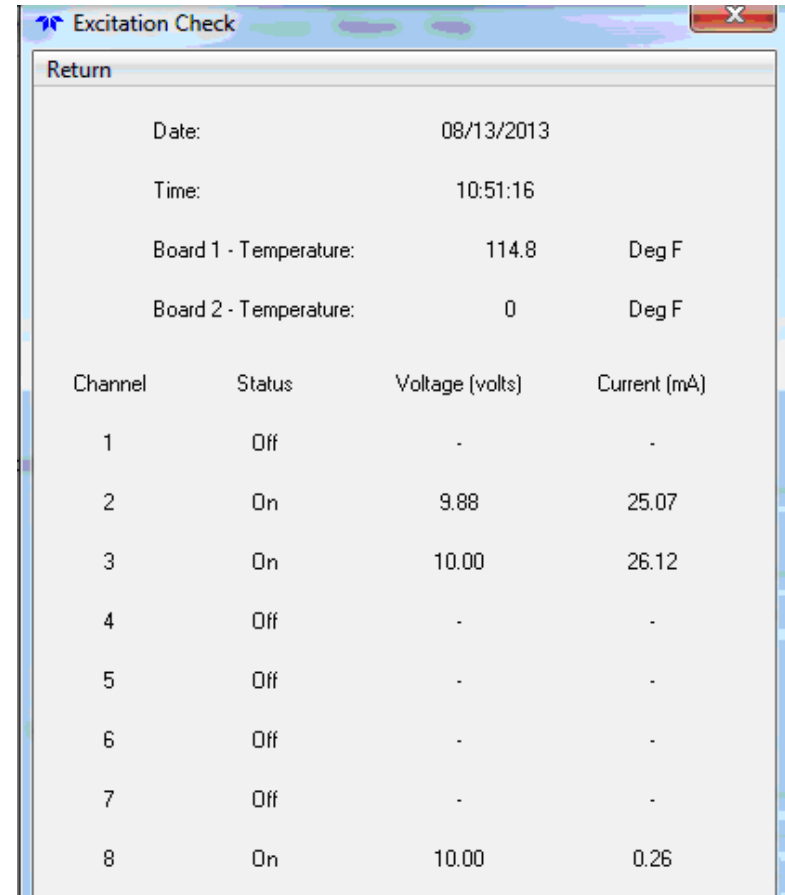
On the right side, there is a vertical list of channels:

- Va 9
- Ia 10
- Vb 11
- Ib 12
- Vc 13
- Ic 14
- 15
- 16

At the bottom of the interface, a status bar shows "Excitation Voltage OK" (highlighted with a red circle), "Fully Loaded", "8/7/2013", and "2:56 PM".

2013.309 – New Features – Excitation Check

- Each Channel has independent Excitation
- Shorting out one channel will not effect the others
- Only Channels with Excitation are Checked
- Board Temperatures are shown
- Excitation Voltage
- Excitation Current

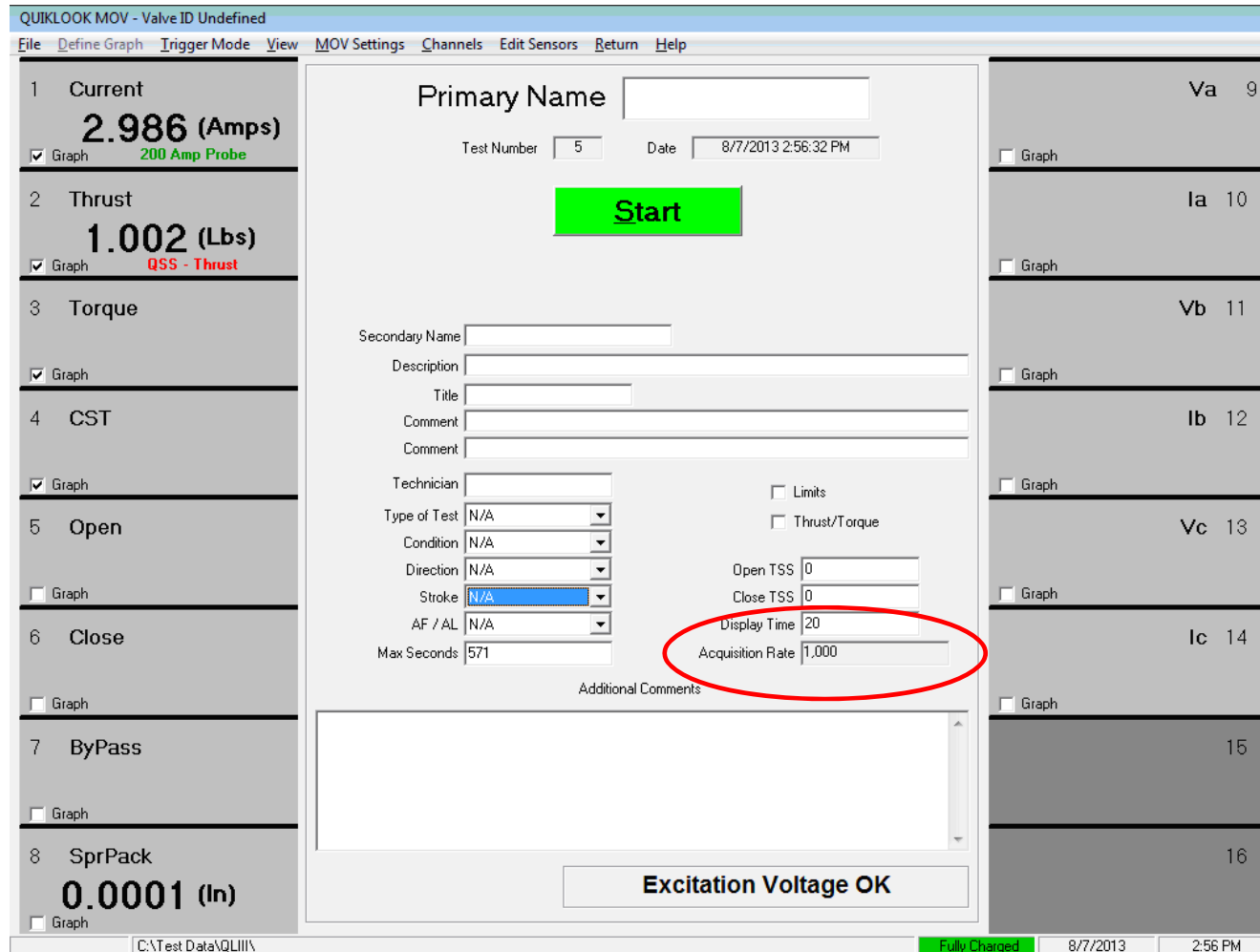


The screenshot shows a window titled "Excitation Check" with a "Return" button. It displays the following information:

- Date: 08/13/2013
- Time: 10:51:16
- Board 1 - Temperature: 114.8 Deg F
- Board 2 - Temperature: 0 Deg F

Channel	Status	Voltage (volts)	Current (mA)
1	Off	-	-
2	On	9.88	25.07
3	On	10.00	26.12
4	Off	-	-
5	Off	-	-
6	Off	-	-
7	Off	-	-
8	On	10.00	0.26

2013.309 – New Features

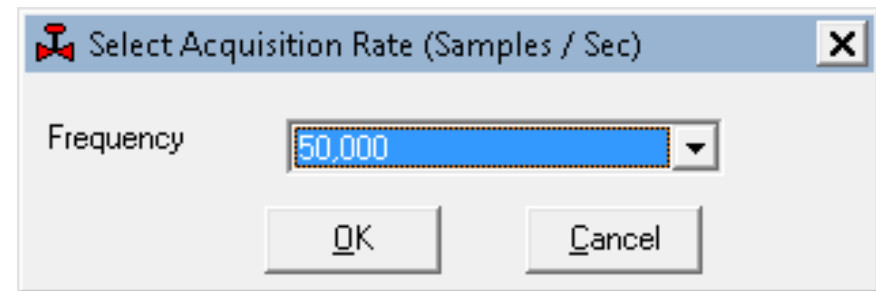


The screenshot displays the Quiklook MOV software interface for a Valve ID Undefined test. The interface is divided into several sections:

- Left Panel:** A vertical list of test parameters with their current values and graph options:
 - 1 Current: 2.986 (Amps), 200 Amp Probe, Graph checked.
 - 2 Thrust: 1.002 (Lbs), QSS - Thrust, Graph checked.
 - 3 Torque: Graph checked.
 - 4 CST: Graph checked.
 - 5 Open: Graph unchecked.
 - 6 Close: Graph unchecked.
 - 7 ByPass: Graph unchecked.
 - 8 SprPack: 0.0001 (In), Graph unchecked.
- Central Panel:** Test configuration fields including:
 - Primary Name: [Empty]
 - Test Number: 5, Date: 8/7/2013 2:56:32 PM
 - Start button (green)
 - Secondary Name: [Empty]
 - Description: [Empty]
 - Title: [Empty]
 - Comment: [Empty]
 - Comment: [Empty]
 - Technician: [Empty]
 - Type of Test: N/A, Condition: N/A, Direction: N/A, Stroke: N/A, AF / AL: N/A, Max Seconds: 571
 - Limits and Thrust/Torque checkboxes (unchecked)
 - Open TSS: 0, Close TSS: 0, Display Time: 20, Acquisition Rate: 1,000 (circled in red)
 - Additional Comments: [Empty text area]
 - Excitation Voltage OK button
- Right Panel:** A vertical list of test channels with graph options:
 - Va 9: Graph unchecked
 - Ia 10: Graph unchecked
 - Vb 11: Graph unchecked
 - Ib 12: Graph unchecked
 - Vc 13: Graph unchecked
 - Ic 14: Graph unchecked
 - 15: Graph unchecked
 - 16: Graph unchecked
- Bottom Status Bar:** Shows file path (C:\Test Data\QLIII\), battery status (Fully Charged), date (8/7/2013), and time (2:56 PM).

2013.309 – New Features – Acquisition Rates

- 10 Hz (AOV Default)
- 25 Hz
- 50 Hz
- 100 Hz
- 200 Hz
- 500 Hz
- 1,000 Hz (MOV Default)
- 2,000 Hz
- 5,000 Hz
- 10,000 Hz
- 20,000 Hz
- 50,000 Hz



2013.309 – New Features

The screenshot displays the Quiklook MOV software interface for a test run. The window title is "QUIKLOOK MOV - Valve ID Undefined". The menu bar includes "File", "Define Graph", "Trigger Mode", "View", "MOV Settings", "Channels", "Edit Sensors", "Return", and "Help".

On the left side, there is a vertical list of test parameters, each with a "Graph" checkbox:

- 1 Current: 2.986 (Amps) (200 Amp Probe) - Graph checked
- 2 Thrust: 1.002 (Lbs) (QSS - Thrust) - Graph checked
- 3 Torque - Graph checked
- 4 CST - Graph checked
- 5 Open - Graph unchecked
- 6 Close - Graph unchecked
- 7 ByPass - Graph unchecked
- 8 SprPack: 0.0001 (In) - Graph unchecked

The main area contains the following controls:

- Primary Name: [Text Field]
- Test Number: 5
- Date: 8/7/2013 2:56:32 PM
- Start: [Green Button]
- Secondary Name: [Text Field]
- Description: [Text Field]
- Title: [Text Field]
- Comment: [Text Field]
- Comment: [Text Field]
- Technician: [Text Field]
- Type of Test: N/A
- Condition: N/A
- Direction: N/A
- Stroke: N/A
- AF / AL: N/A
- Max Seconds: 571
- Limits: [Unchecked]
- Thrust/Torque: [Unchecked]
- Open TSS: 0
- Close TSS: 0
- Display Time: 20
- Acquisition Rate: 1,000
- Additional Comments: [Text Area]
- Excitation Voltage OK: [Green Button]

On the right side, there is a vertical list of channels, each with a "Graph" checkbox:

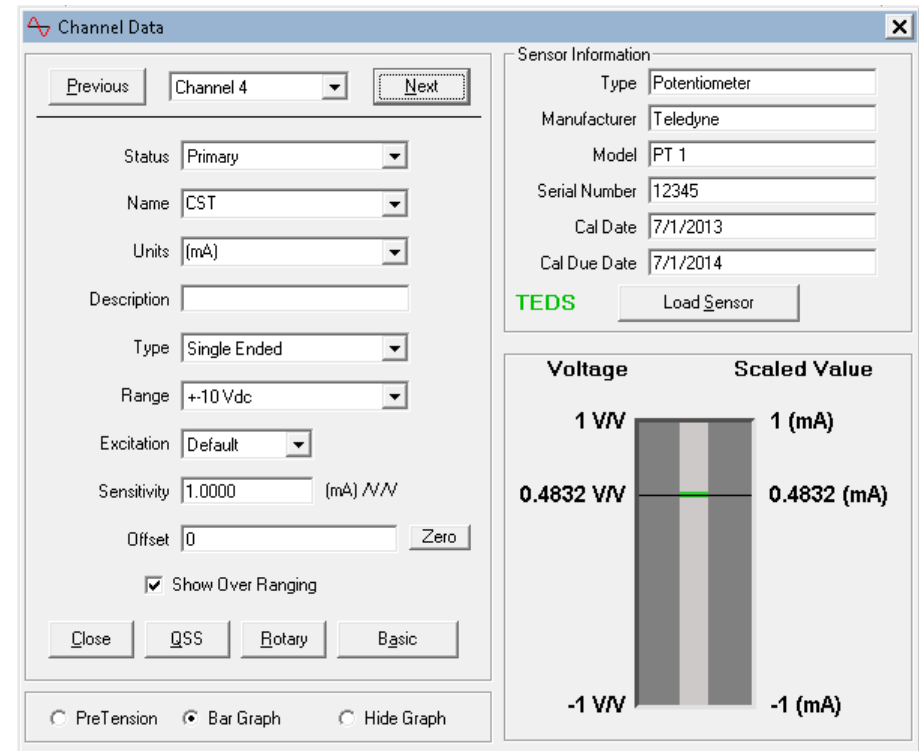
- Va 9 - Graph unchecked
- Ia 10 - Graph unchecked
- Vb 11 - Graph unchecked
- Ib 12 - Graph unchecked
- Vc 13 - Graph unchecked
- Ic 14 - Graph unchecked
- 15 - Graph unchecked
- 16 - Graph unchecked

The status bar at the bottom shows: "C:\Test Data\QLIII\ Fully Charged 8/7/2013 2:56 PM".



2013.309 – New Features – Channel Setup

- Same Basic Setup Form as Previous Versions
- Information fill in by TEDS:
 - Same as “Load Sensor”
 - Type
 - Range
 - Excitation
 - Sensitivity
 - Sensor Information
- Graph showing live values
- Actual Voltage on left
- Scaled values using setup on right
- Green band shown representing noise band
- (Peak to Peak values for current)
- Zero button next to offset to zero channel



Channel Data

Previous Channel 4 Next

Status Primary

Name CST

Units (mA)

Description

Type Single Ended

Range +10 Vdc

Excitation Default

Sensitivity 1.0000 (mA) /VV

Offset 0 Zero

Show Over Ranging

Close QSS Rotary Basic

PreTension Bar Graph Hide Graph

Sensor Information

Type Potentiometer

Manufacturer Teledyne

Model PT 1

Serial Number 12345

Cal Date 7/1/2013

Cal Due Date 7/1/2014

TEDS Load Sensor

Voltage Scaled Value

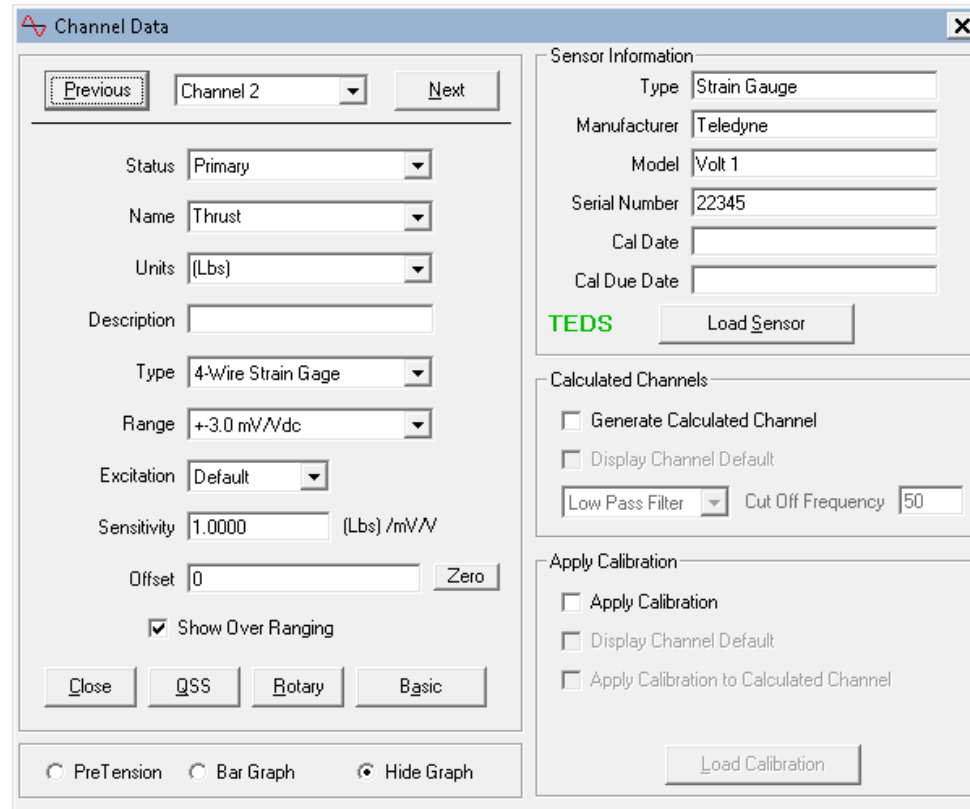
1 V/V 1 (mA)

0.4832 V/V 0.4832 (mA)

-1 V/V -1 (mA)

2013.309 – New Features – Channel Setup

- Hide Graph
 - Gives access to Calculated Channels (MOV only)



Channel Data

Previous Channel 2 Next

Status Primary

Name Thrust

Units (Lbs)

Description

Type 4-Wire Strain Gage

Range +-3.0 mV/Vdc

Excitation Default

Sensitivity 1.0000 (Lbs) /mV/V

Offset 0 Zero

Show Over Ranging

Close QSS Rotary Basic

PreTension Bar Graph Hide Graph

Sensor Information

Type Strain Gauge

Manufacturer Teledyne

Model Volt 1

Serial Number 22345

Cal Date

Cal Due Date

TEDS Load Sensor

Calculated Channels

Generate Calculated Channel

Display Channel Default

Low Pass Filter Cut Off Frequency 50

Apply Calibration

Apply Calibration

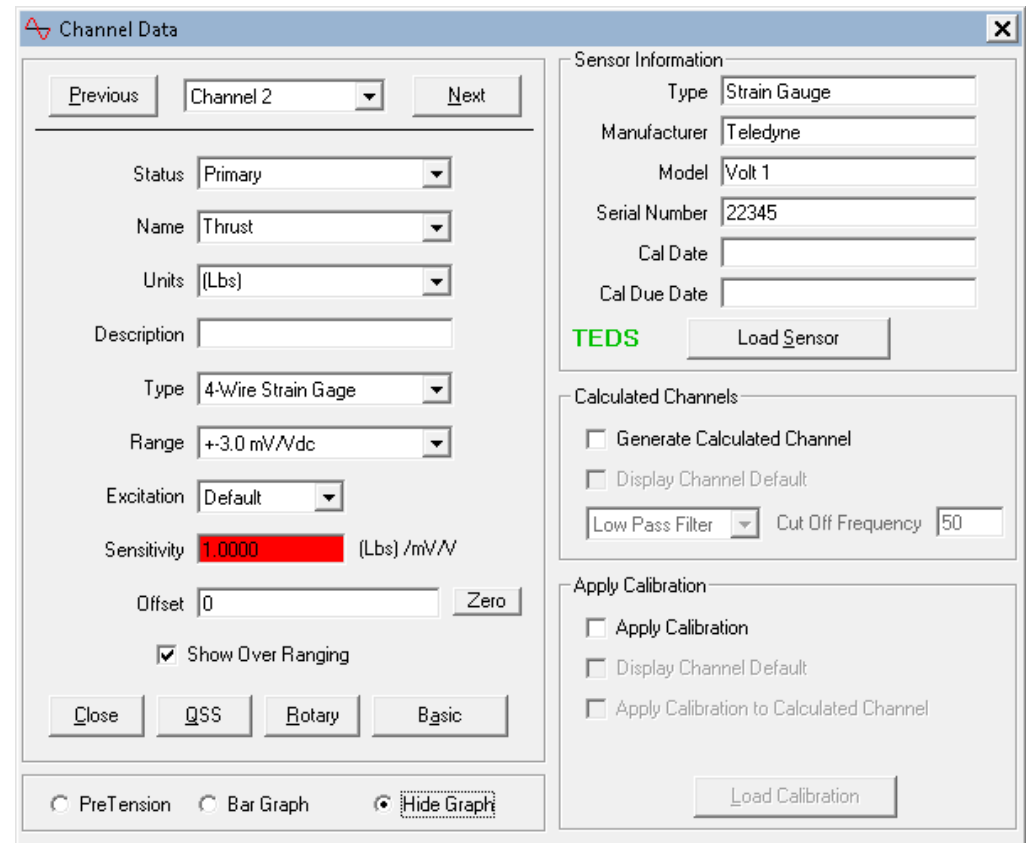
Display Channel Default

Apply Calibration to Calculated Channel

Load Calibration

2013.309 – New Features – Channel Setup

- Red on Sensitivity Field indicates that setup information was not on the TEDS chip
- Red background will only appear on first review
- After review TEDS description on main form will turn Black



Channel Data

Previous Channel 2 Next

Status: Primary

Name: Thrust

Units: (Lbs)

Description:

Type: 4-Wire Strain Gage

Range: +3.0 mV/Vdc

Excitation: Default

Sensitivity: 1.0000 (Lbs) /mV/V

Offset: 0 Zero

Show Over Ranging

Close QSS Rotary Basic

PreTension Bar Graph **Hide Graph**

Sensor Information

Type: Strain Gauge

Manufacturer: Teledyne

Model: Volt 1

Serial Number: 22345

Cal Date:

Cal Due Date:

TEDS Load Sensor

Calculated Channels

Generate Calculated Channel

Display Channel Default

Low Pass Filter Cut Off Frequency: 50

Apply Calibration

Apply Calibration

Display Channel Default

Apply Calibration to Calculated Channel

Load Calibration

2013.309 – New Features – Channel Setup

- An out of date calibration will also cause a Red Flag
- This Red Flag will not go away and will remain on main screen

Channel Data

Previous Channel 1 Next

Status: Primary

Name: Current

Units: (Amps)

Description:

Type: Single Ended

Range: +-30 mVdc

Excitation: N/A

Sensitivity: 1.0000 (Amps) /mV

Offset: 0 Zero

Show Over Ranging

Close QSS Rotary Basic

PreTension Bar Graph Hide Graph

Sensor Information

Type: Voltage

Manufacturer: Teledyne

Model: Volt 1

Serial Number: 112233

Cal Date: 8/1/2012

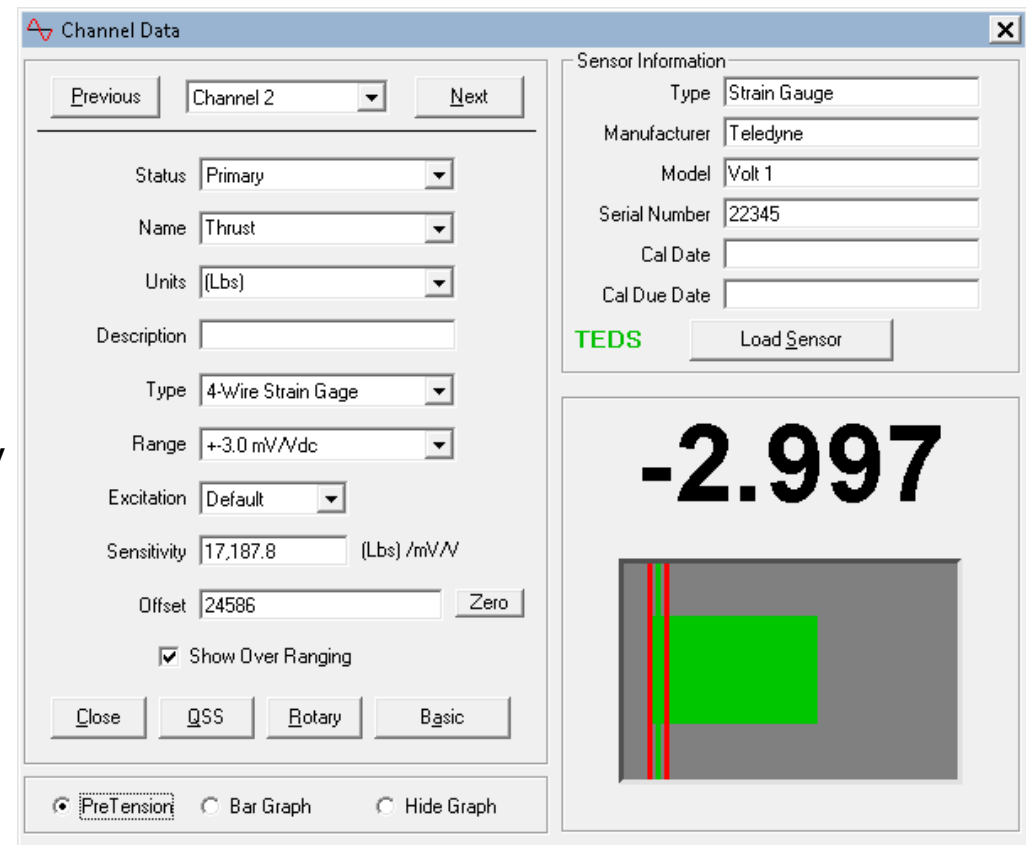
Cal Due Date: 8/1/2013

TEDS Load Sensor

Voltage	Scaled Value
30 mV	30 (Amps)
2.983 mV	2.983 (Amps)
-30 mV	-30 (Amps)

2013.309 – New Features – Channel Setup

- PreTension Graph (C Clamps)
- Same as Monitor Screen in QLII
- Turns Green between -2.7 & -3.0 mV/V



Channel Data

Previous Channel 2 Next

Status Primary

Name Thrust

Units (Lbs)

Description

Type 4-Wire Strain Gage

Range +-3.0 mV/Vdc

Excitation Default

Sensitivity 17,187.8 (Lbs)/mV/V

Offset 24586 Zero

Show Over Ranging

Close QSS Rotary Basic

PreTension Bar Graph Hide Graph

Sensor Information

Type Strain Gauge

Manufacturer Teledyne

Model Volt 1

Serial Number 22345

Cal Date

Cal Due Date

TEDS Load Sensor

-2.997

2013.309 – New Features – Acquiring Data

The screenshot displays the Quiklook MOV software interface. On the left, a vertical list of test parameters is shown:

- 1 Current: 2.986 (Amps) (200 Amp Probe)
- 2 Thrust: 1.002 (Lbs) (QSS - Thrust)
- 3 Torque
- 4 CST
- 5 Open
- 6 Close
- 7 ByPass
- 8 SprPack: 0.0001 (In)

The central panel is titled "Primary Name" and contains the following fields and controls:

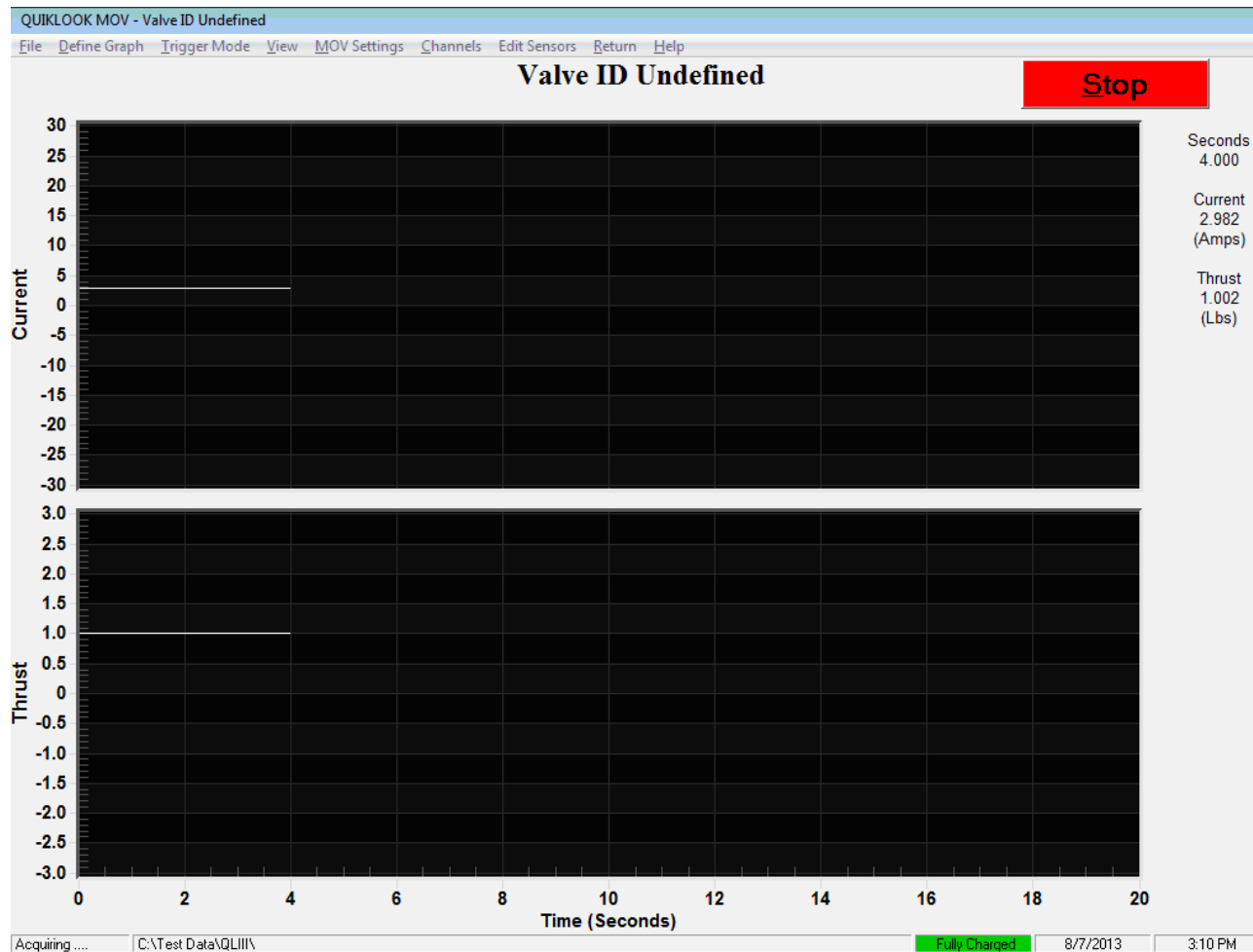
- Test Number: 3
- Date: 8/7/2013 2:56:32 PM
- Start** button (highlighted with a red circle)
- Secondary Name: [Empty]
- Description: [Empty]
- Title: [Empty]
- Comment: [Empty]
- Comment: [Empty]
- Technician: [Empty]
- Type of Test: N/A
- Condition: N/A
- Direction: N/A
- Stroke: N/A
- AF / AL: N/A
- Max Seconds: 571
- Limits:
- Thrust/Torque:
- Open TSS: 0
- Close TSS: 0
- Display Time: 20
- Acquisition Rate: 1,000
- Additional Comments: [Empty text area]
- Excitation Voltage OK button

On the right side, a vertical list of channels is shown:

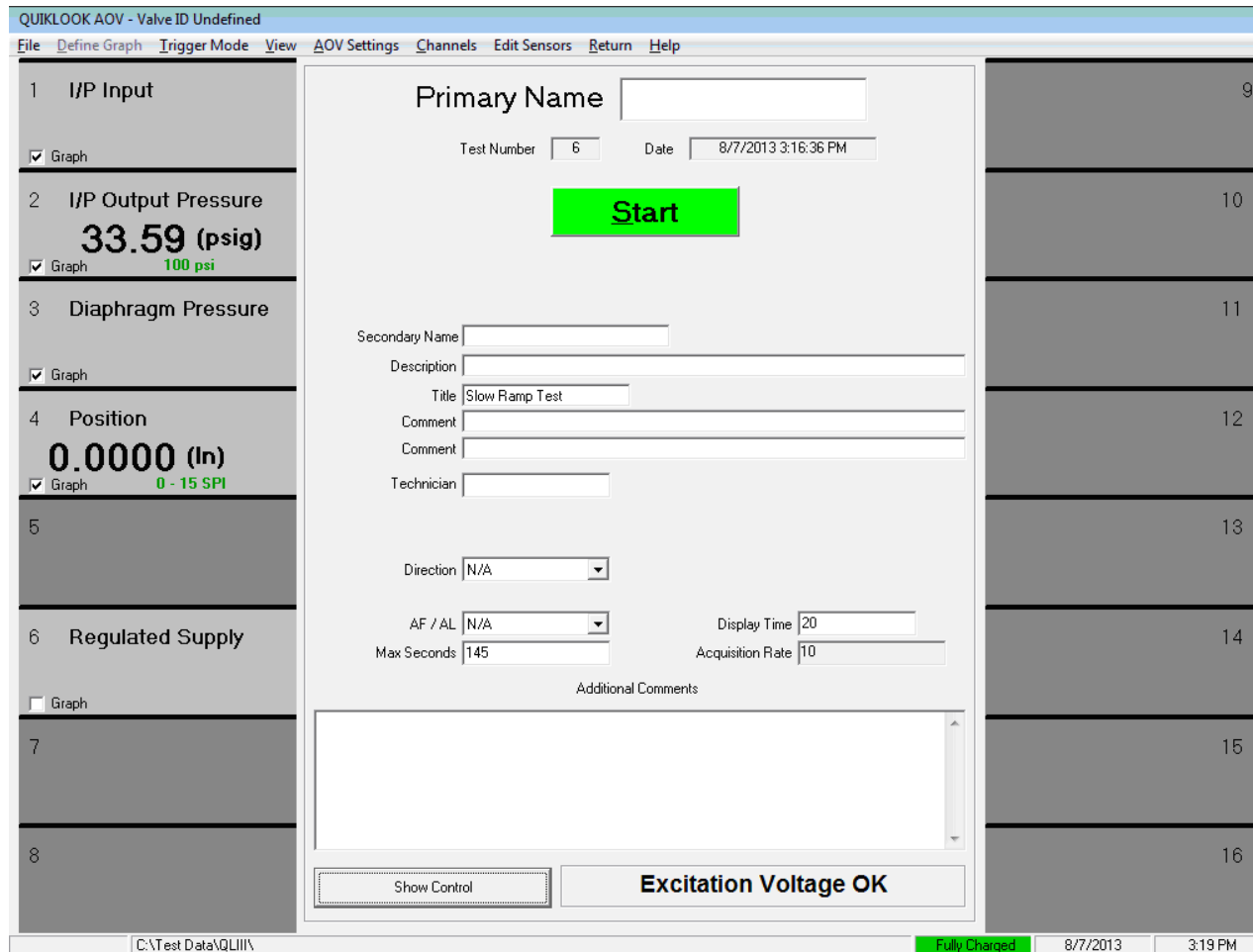
- Va 9
- Ia 10
- Vb 11
- Ib 12
- Vc 13
- Ic 14
- 15
- 16

The status bar at the bottom indicates: Fully Charged, 8/7/2013, 2:56 PM.

2013.309 – New Features – Acquiring Data



2013.309 – New Features - AOV



The screenshot displays the Quiklook AOV software interface. The window title is "QUIKLOOK AOV - Valve ID Undefined". The menu bar includes "File", "Define Graph", "Trigger Mode", "View", "AOV Settings", "Channels", "Edit Sensors", "Return", and "Help".

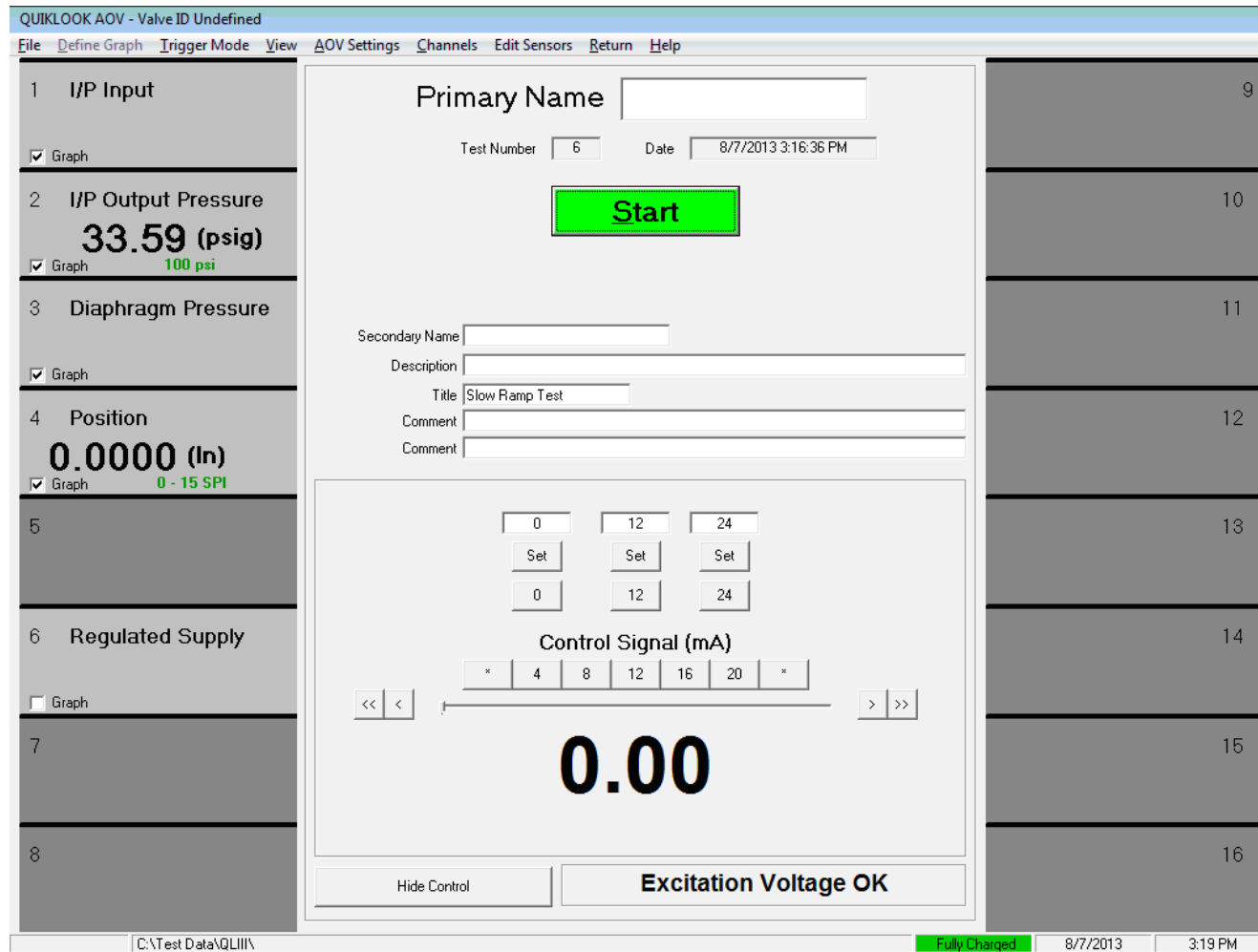
The interface is divided into several sections:

- Channel List (Left):** A vertical list of channels with checkboxes for graphing. Channel 2 is selected and shows a value of 33.59 (psig) with a range of 100 psi. Channel 4 shows a value of 0.0000 (In) with a range of 0 - 15 SPI.
- Control Panel (Center):** Contains a "Primary Name" field, "Test Number" (6), "Date" (8/7/2013 3:16:36 PM), a prominent green "Start" button, and fields for "Secondary Name", "Description", "Title" (Slow Ramp Test), "Comment", and "Technician".
- Settings (Bottom):** Includes "Direction" (N/A), "AF / AL" (N/A), "Max Seconds" (145), "Display Time" (20), and "Acquisition Rate" (10). There is also an "Additional Comments" text area.
- Status (Bottom):** A "Show Control" button and a status indicator "Excitation Voltage OK".

The status bar at the bottom shows the file path "C:\Test Data\QLIII\...", a green "Fully Charged" indicator, the date "8/7/2013", and the time "3:19 PM".



2013.309 – New Features - AOV

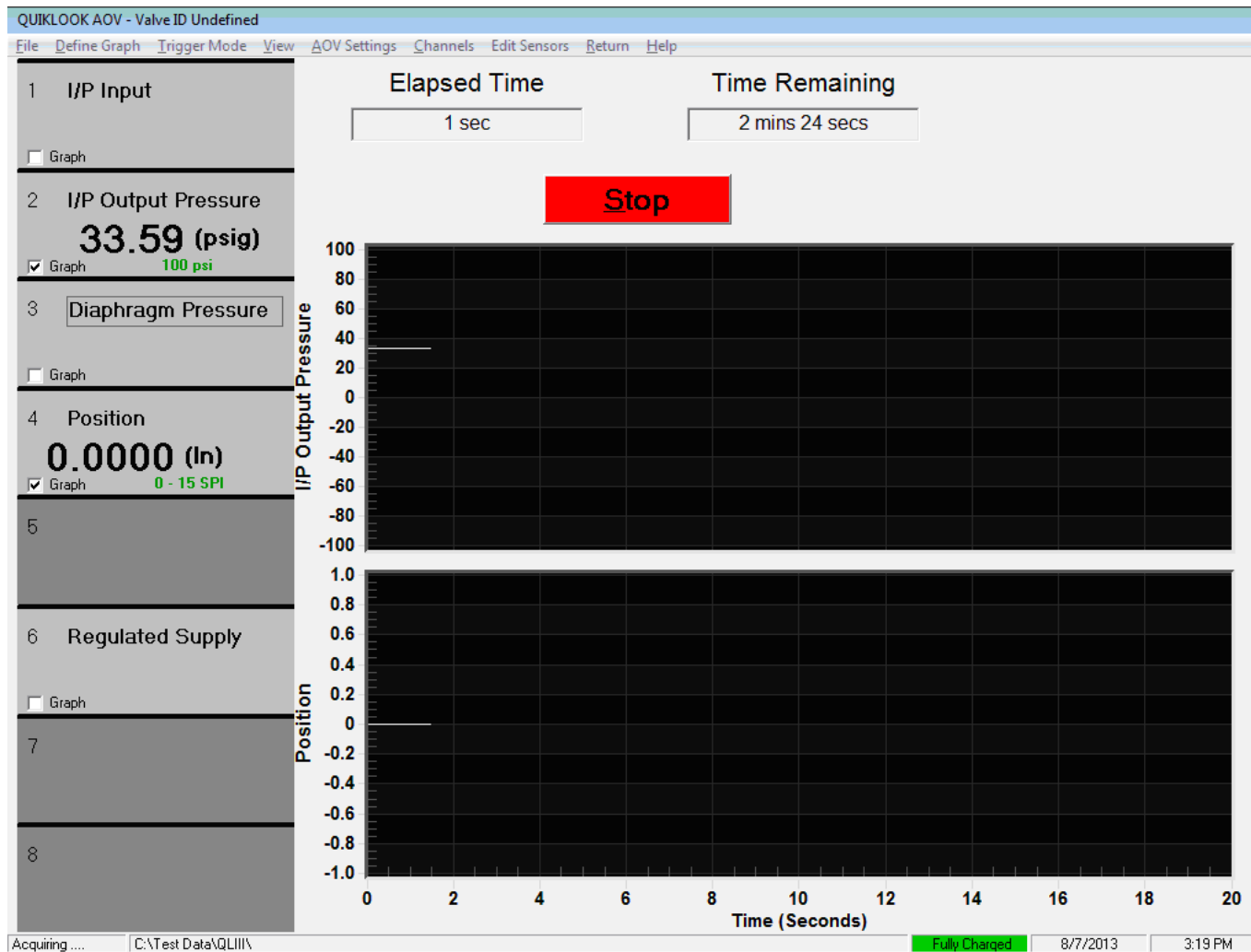


The screenshot displays the Quiklook AOV software interface with the following components:

- Left Panel (Sensor List):**
 - 1 I/P Input: Graph
 - 2 I/P Output Pressure: **33.59 (psig)**, Graph, 100 psi
 - 3 Diaphragm Pressure: Graph
 - 4 Position: **0.0000 (In)**, Graph, 0 - 15 SPI
 - 5
 - 6 Regulated Supply: Graph
 - 7
 - 8
- Central Control Panel:**
 - Primary Name:
 - Test Number: Date:
 - Start** (Green button)
 - Secondary Name:
 - Description:
 - Title:
 - Comment:
 - Comment:
 - Control Signal (mA) display: **0.00**
 - Control Signal (mA) range: (with Set buttons)
 - Control Signal (mA) range:
 - Control Signal (mA) range: (with navigation arrows)
 - Excitation Voltage OK (Green indicator)
 - Hide Control (Button)
- Right Panel (Channel List):**
 - 9
 - 10
 - 11
 - 12
 - 13
 - 14
 - 15
 - 16
- Status Bar:**
 - C:\Test Data\QLIII\
 - Fully Charged
 - 8/7/2013
 - 3:19 PM



2013.309 – New Features - AOV



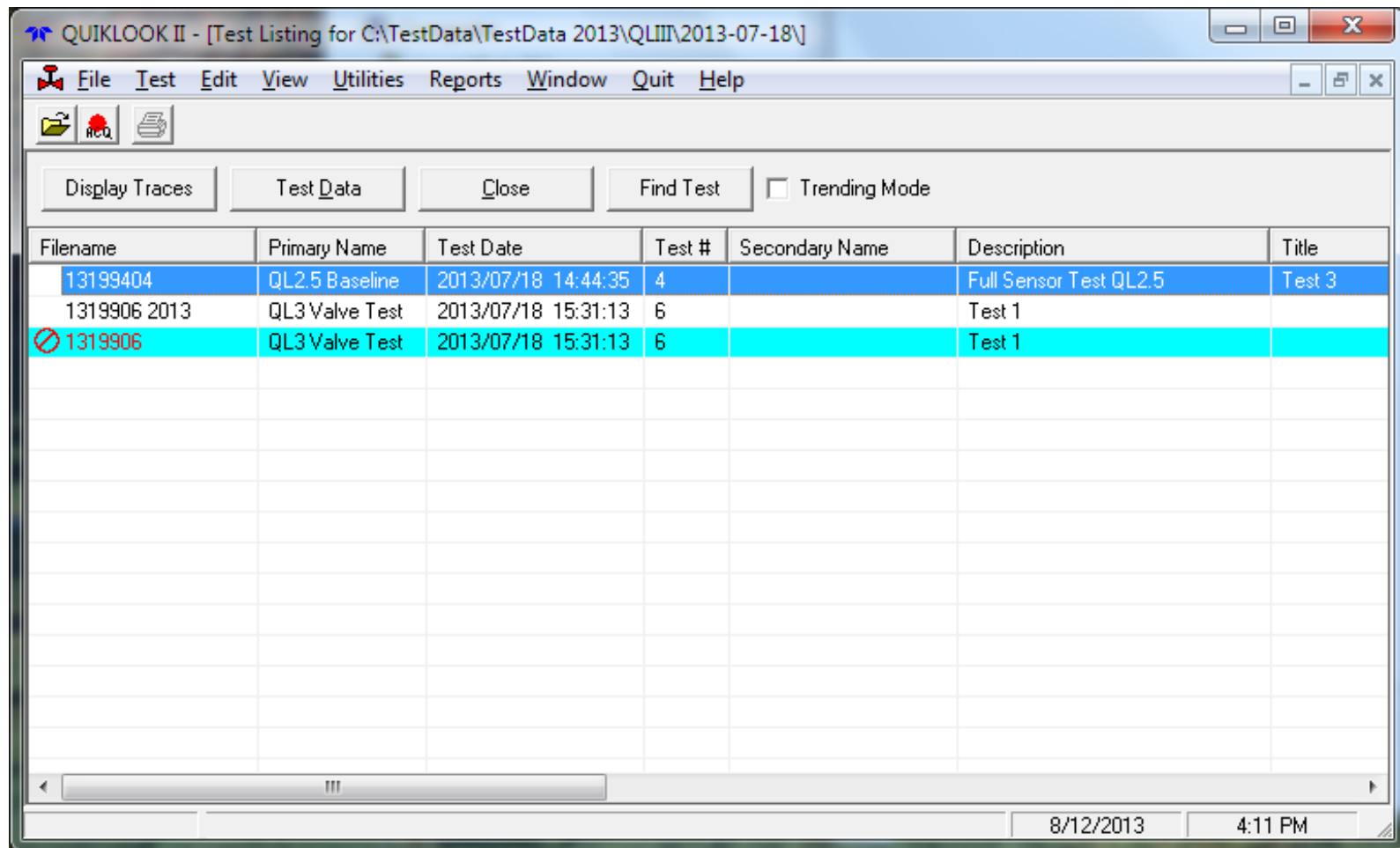


2013.309 – New Features – Software Compatibility


- Tests taken with Quiklook 3 will be incompatible with previous versions of Quiklook.
- Tests taken with previous versions of Quiklook will be compatible with QL 3
- The c00 file will still be maintained for compatibility with Midas
- When purchasing a Quiklook 3 all desktop installs of Quiklook should be upgraded
- Quiklook II systems do not have to be upgraded but may be



2013.309 – New Features – Software Compatibility



The screenshot shows the QUIKLOOK II software window. The title bar reads "QUIKLOOK II - [Test Listing for C:\TestData\TestData 2013\QLIII\2013-07-18\]". The menu bar includes File, Test, Edit, View, Utilities, Reports, Window, Quit, and Help. Below the menu bar are icons for file operations and a toolbar with buttons for "Display Traces", "Test Data", "Close", "Find Test", and a "Trending Mode" checkbox.

Filename	Primary Name	Test Date	Test #	Secondary Name	Description	Title
13199404	QL2.5 Baseline	2013/07/18 14:44:35	4		Full Sensor Test QL2.5	Test 3
1319906 2013	QL3 Valve Test	2013/07/18 15:31:13	6		Test 1	
 1319906	QL3 Valve Test	2013/07/18 15:31:13	6		Test 1	

The status bar at the bottom right shows the date "8/12/2013" and the time "4:11 PM".



2014.058 – New Features

- Minor Release of Quiklook 3
 - Sometimes after a test was complete while using triggers the test would be lost
 - Default Trigger not set properly
 - Changed Sensor Logic-
 - If no sensors detected then no acquisition - No channels disabled
 - If Active Channels Without Sensors then Warning. If Yes selected then channels without sensors disabled.
 - If Trigger Channel has no sensor then message and acquisition cannot continue. No channels disabled.

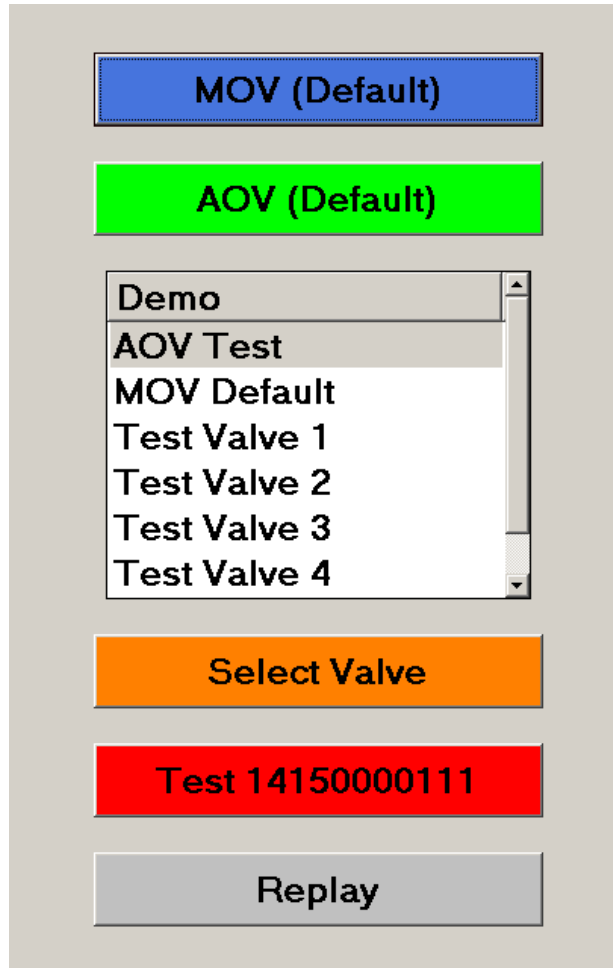
2014.197 – New Features

- QL3 – Redirector
- Save stem geometry for cof in tag
- Threads per inch in fractions
- Added Excitation method “Power Supply” to allow for the use of Piezo Electric pressure transducers
- Preference for Time Plot to be Single or Multi pane for AOV after acquisition
- Speed improvements while scanning for sensors
- QLII Acquisition

2014.197 – New Features - Redirector

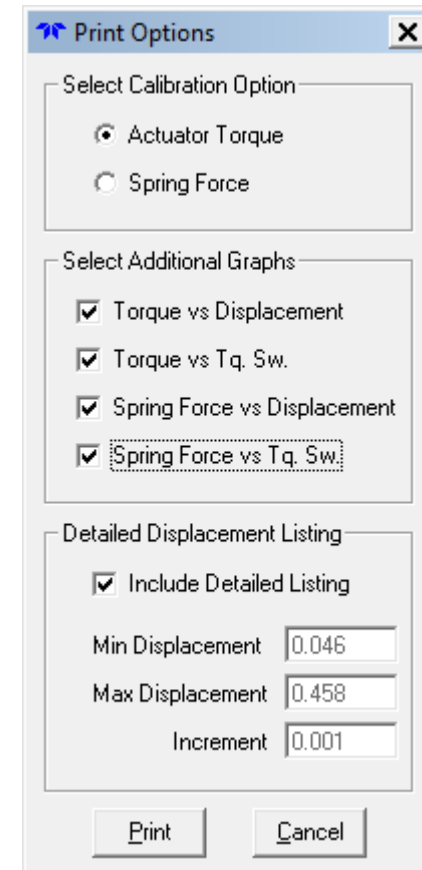
- Preference Setting would set a base directory
- Each Subdirectory Name would be a Valve ID
- Each Directory will contain one configuration file
- When Quiklook starts you will be presented with a list of Valve IDs based on directory names
- Quiklook will then go directly into the acquisition screen using the configuration for the selected valve

2014.197 – New Features - Redirector



2014 – New Features – Spring Pack Software

- Changed Report
 - Changed Table on front page
 - Added Graphs
 - Added Detailed Listing
- Measured X-Dim is now calculated
- Added option to show coefficients in Spring Force



2014 – New Features – Spring Pack Software

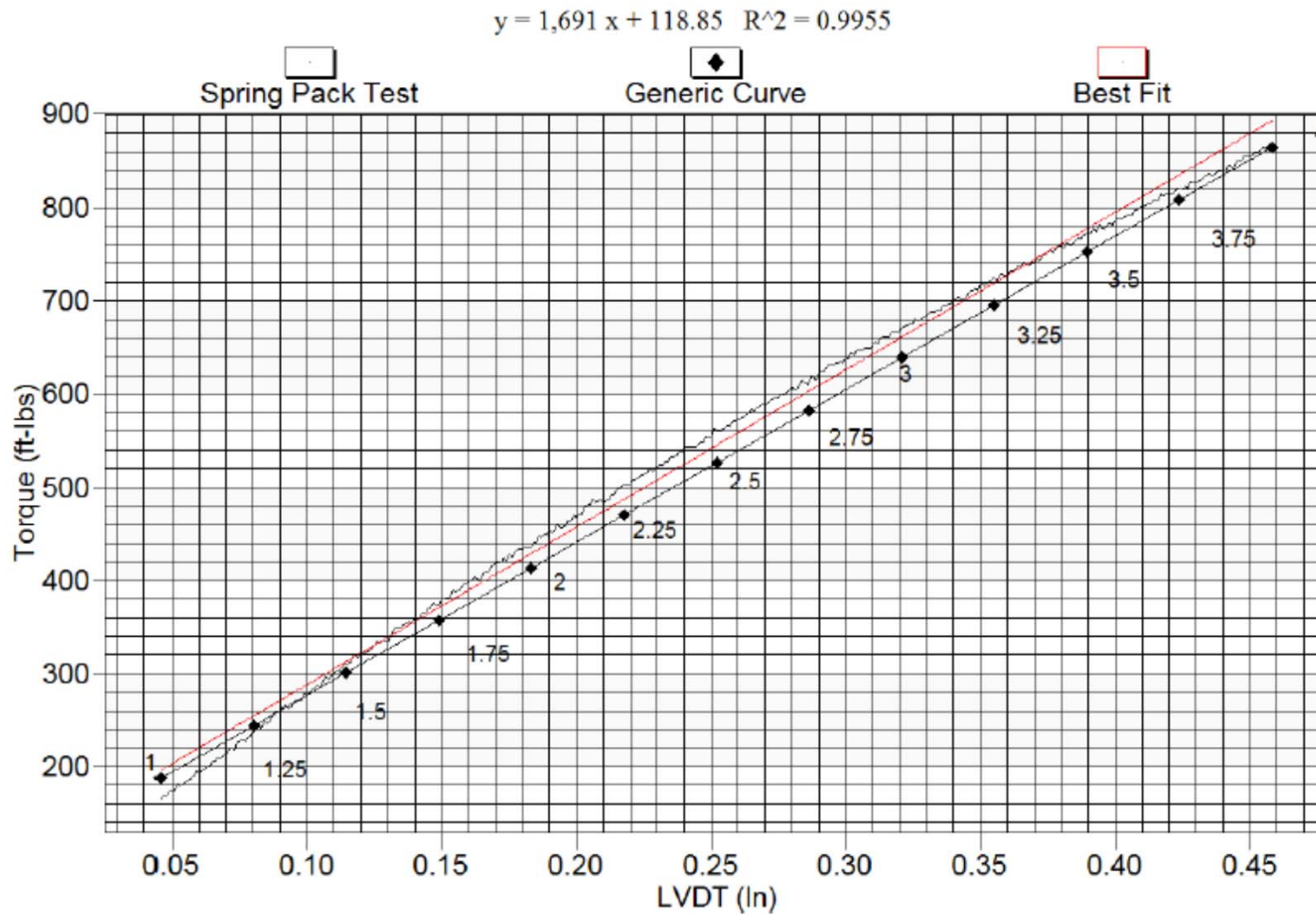
CERTIFICATE OF CALIBRATION				
Test: <u>14198X05</u>		Cal Date: <u>07/17/2014 13:19:52</u>		
Valve ID: <u>3PSW-6</u>	Spring Pack: <u>0901-211</u>	SMB Type: <u>2</u>		
Work Order #: _____	S. P. Serial #: _____	Measured X-Dim (in): <u>0.64</u>		
CALIBRATION STANDARD				
Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Due
Teledyne	160025V2.5	16451	3/15/2014	3/15/2015
Generic / Limitorque Curve			Calibrated / Test Results	
Tq Sw Setting	Nominal Displacement (in)	Nominal Torque (ft-lbs)	Actuator Torque (ft-lbs)	Spring Force (lbs)
1.00	0.046	188.0	196.6	649.8
1.25	0.080	244.4	254.7	841.7
1.50	0.115	300.8	312.8	1033.6
1.75	0.149	357.3	370.8	1225.4
2.00	0.183	413.7	428.9	1417.3
2.25	0.218	470.1	486.9	1609.2
2.50	0.252	526.5	545.0	1801.0
2.75	0.286	582.9	603.0	1992.9
3.00	0.321	639.3	661.1	2184.8
3.25	0.355	695.8	719.2	2376.6
3.50	0.389	752.2	777.2	2568.5
3.75	0.424	808.6	835.3	2760.4
4.00	0.458	865.0	893.3	2952.2

2014 – New Features – Spring Pack Software

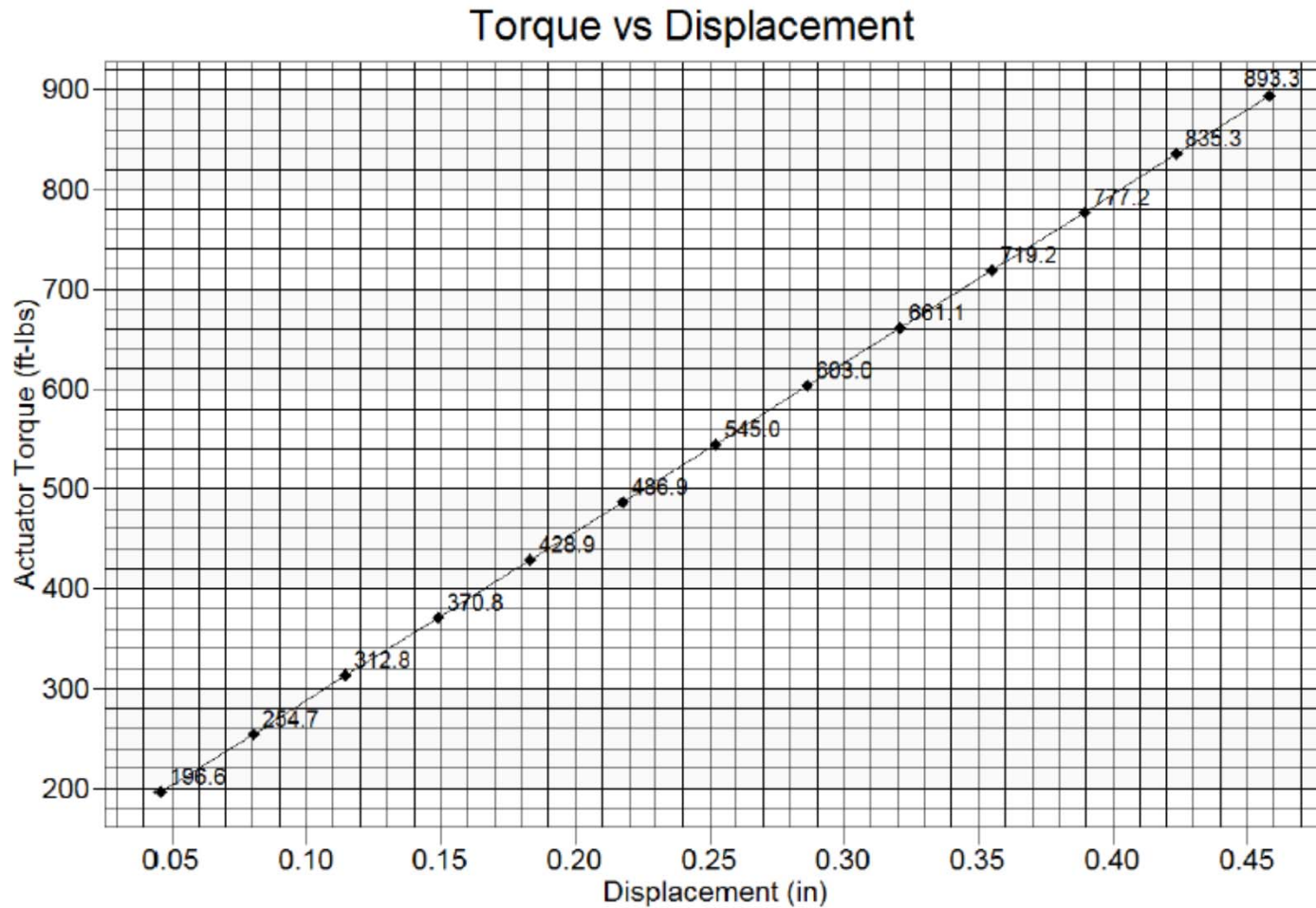
CERTIFICATE OF CALIBRATION		
Test: <u>14198X05</u>	Cal Date: <u>07/17/2014 13:19:52</u>	
Valve ID: <u>3PSW-6</u>	Spring Pack: <u>0901-211</u>	SMB Type: <u>2</u>
Work Order #: _____	S. P. Serial #: _____	Measured X-Dim (in): <u>0.64</u>
Detailed Calibrated Results		
Nominal Displacement (in)	Actuator Torque (ft-lbs)	Spring Force (lbs)
0.046	196.6	649.8
0.047	198.3	655.4
0.048	200.0	661.0
0.049	201.7	666.6
0.050	203.4	672.2
0.051	205.1	677.8
0.052	206.8	683.3
0.053	208.5	688.9
0.054	210.2	694.5
0.055	211.9	700.1
0.056	213.5	705.7
0.057	215.2	711.3
0.058	216.9	716.9
0.059	218.6	722.5
0.060	220.3	728.1
0.061	222.0	733.6
0.062	223.7	739.2
0.063	225.4	744.8
0.064	227.1	750.4
0.065	228.8	756.0
0.066	230.5	761.6
0.067	232.1	767.2
0.068	233.8	772.8
0.069	235.5	778.3
0.070	237.2	783.9



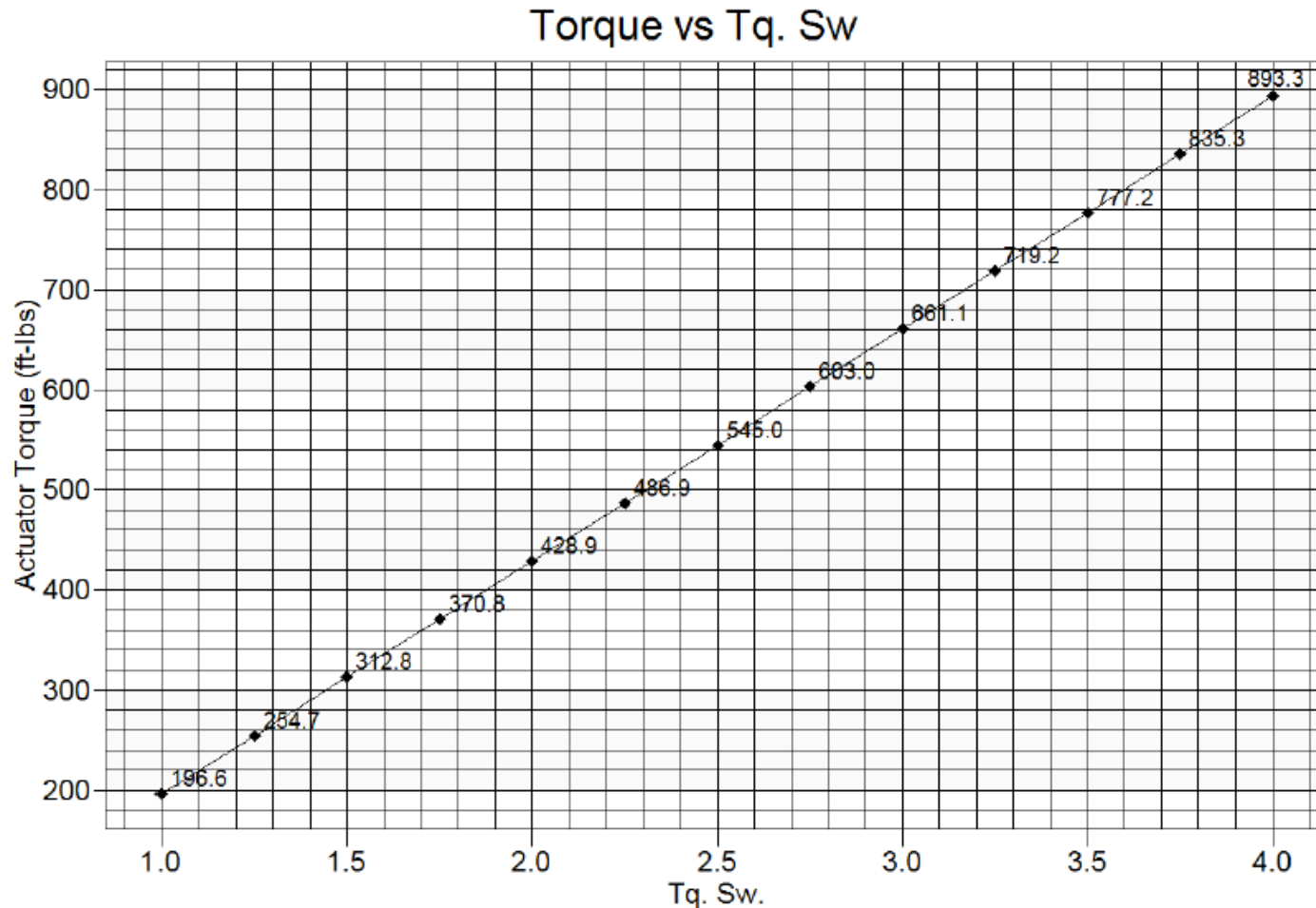
2014 – New Features – Spring Pack Software



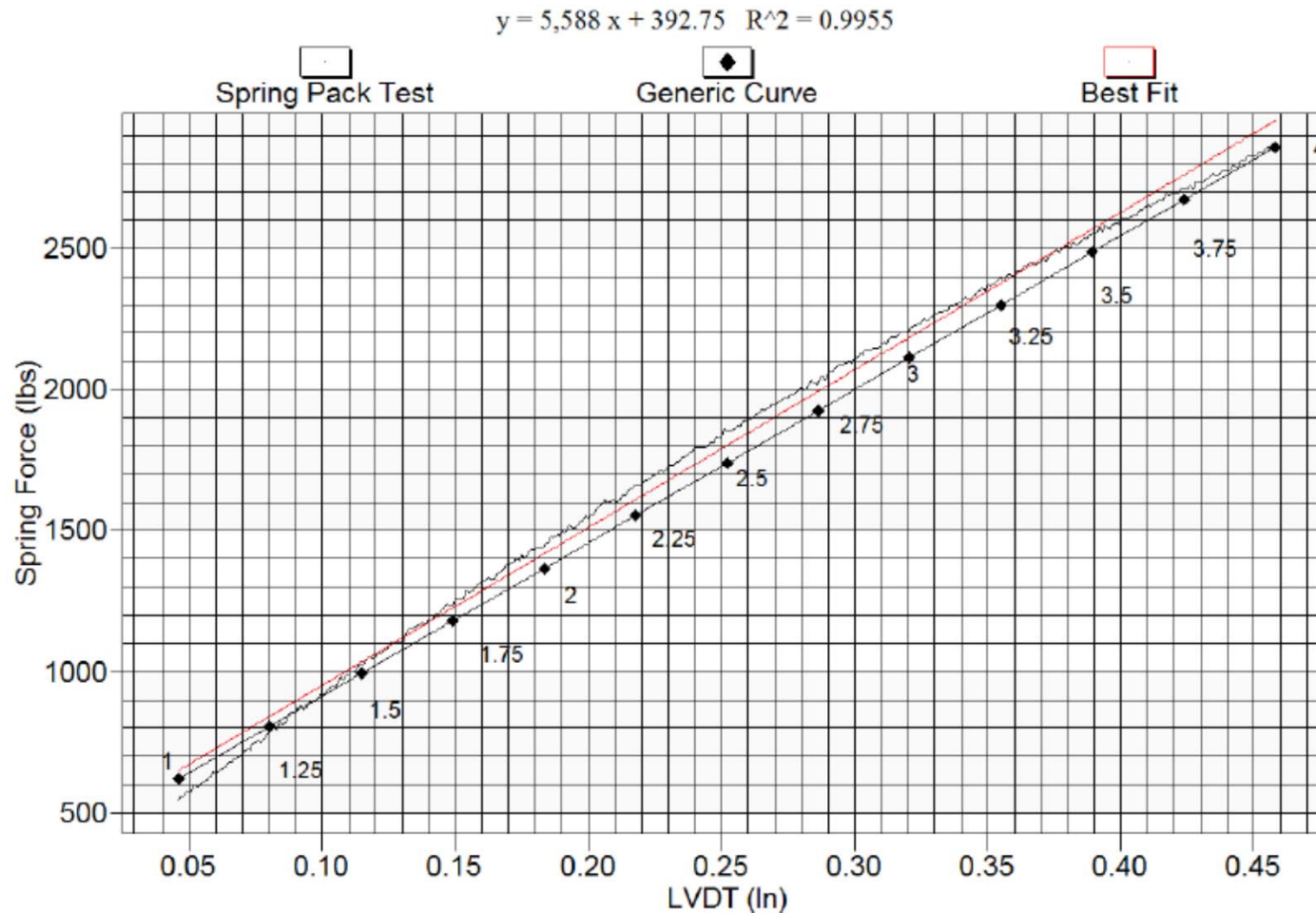
2014 – New Features – Spring Pack Software



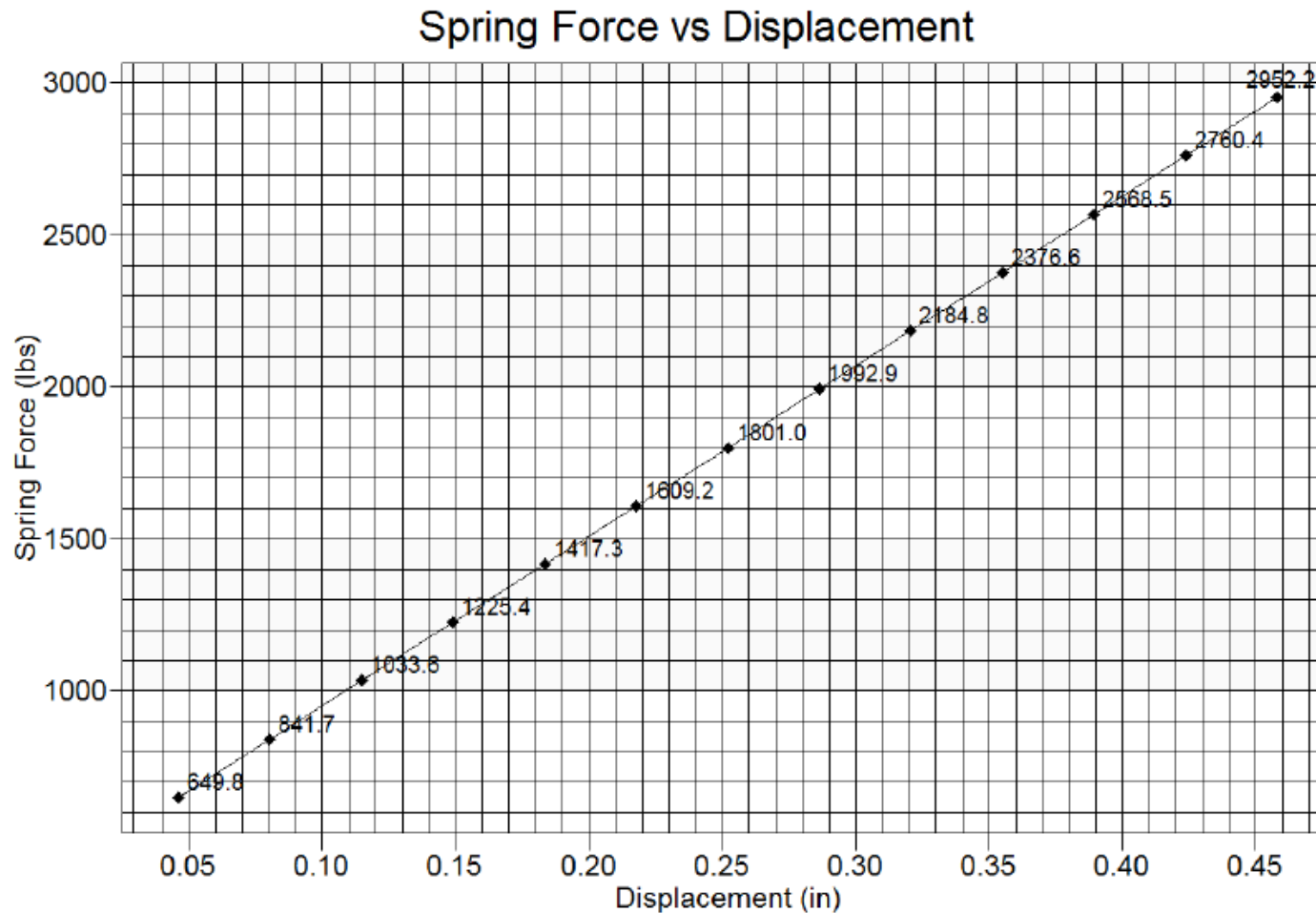
2014 – New Features – Spring Pack Software



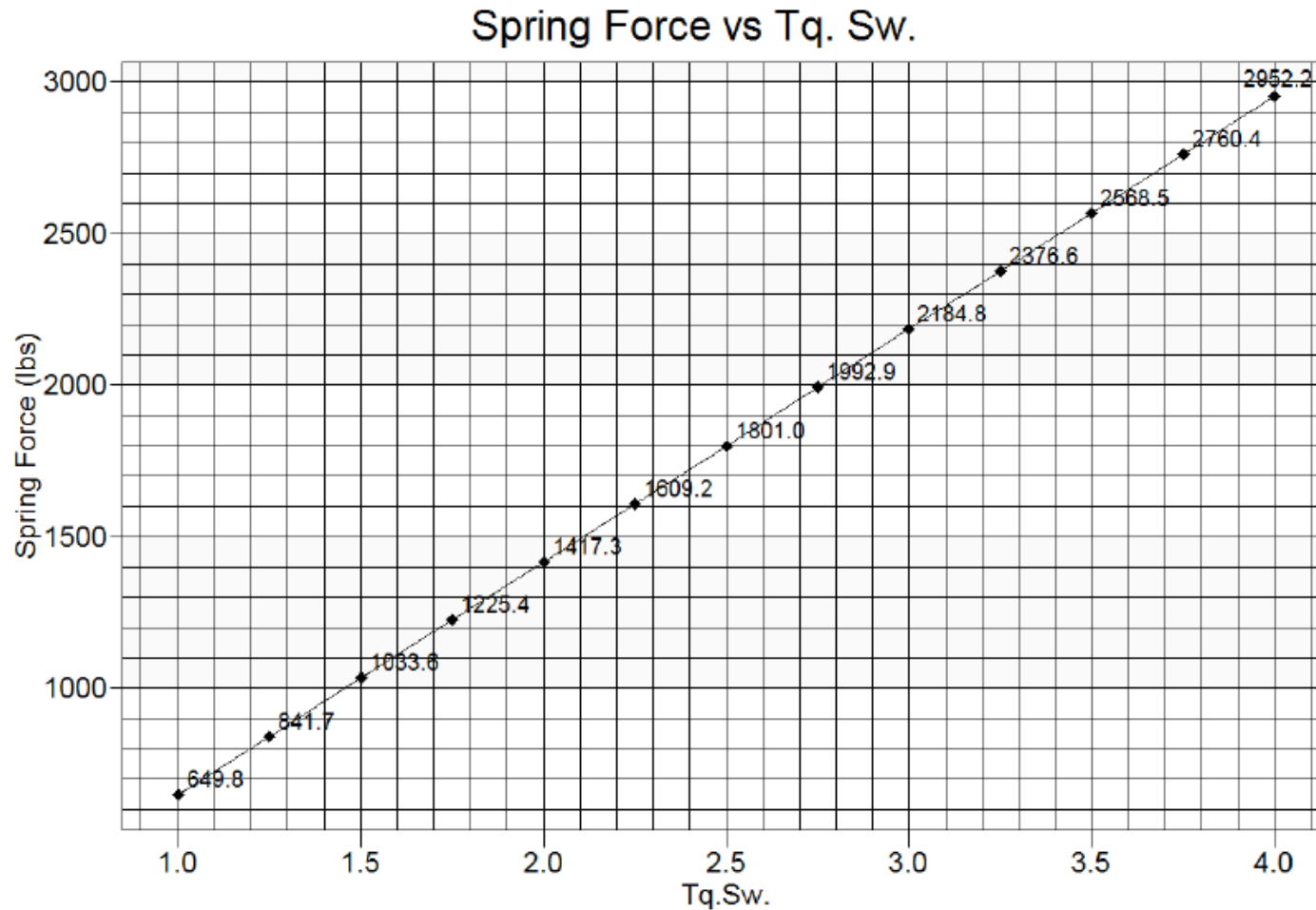
2014 – New Features – Spring Pack Software



2014 – New Features – Spring Pack Software



2014 – New Features – Spring Pack Software





2014 – New Features – Calibration Software

- Export to Excel
- Added additional information to Report
 - Added Quiklook Version
 - Added Analog Out board
- Custom Report Footer
- Added additional Fluke Standards to Approved List

2015 – New Features

- C-Clamp pretension indication on main screen
- Cursor Options – Hide Cursor
- Delta Y
- Overlay tests with different acquisition rates
- Overlay of Torque or Thrust on Mechanical properties Plot
- Encoder Channels
- Refine the QUIKLOOK 3 testing platform to take the best from both Quiklook and FlowScanner in the AOV testing domain. This update will build on features that both Quiklook and FlowScanner users like.

Any Questions?

THANK YOU



TELEDYNE TEST SERVICES
Everywhereyoulook™