



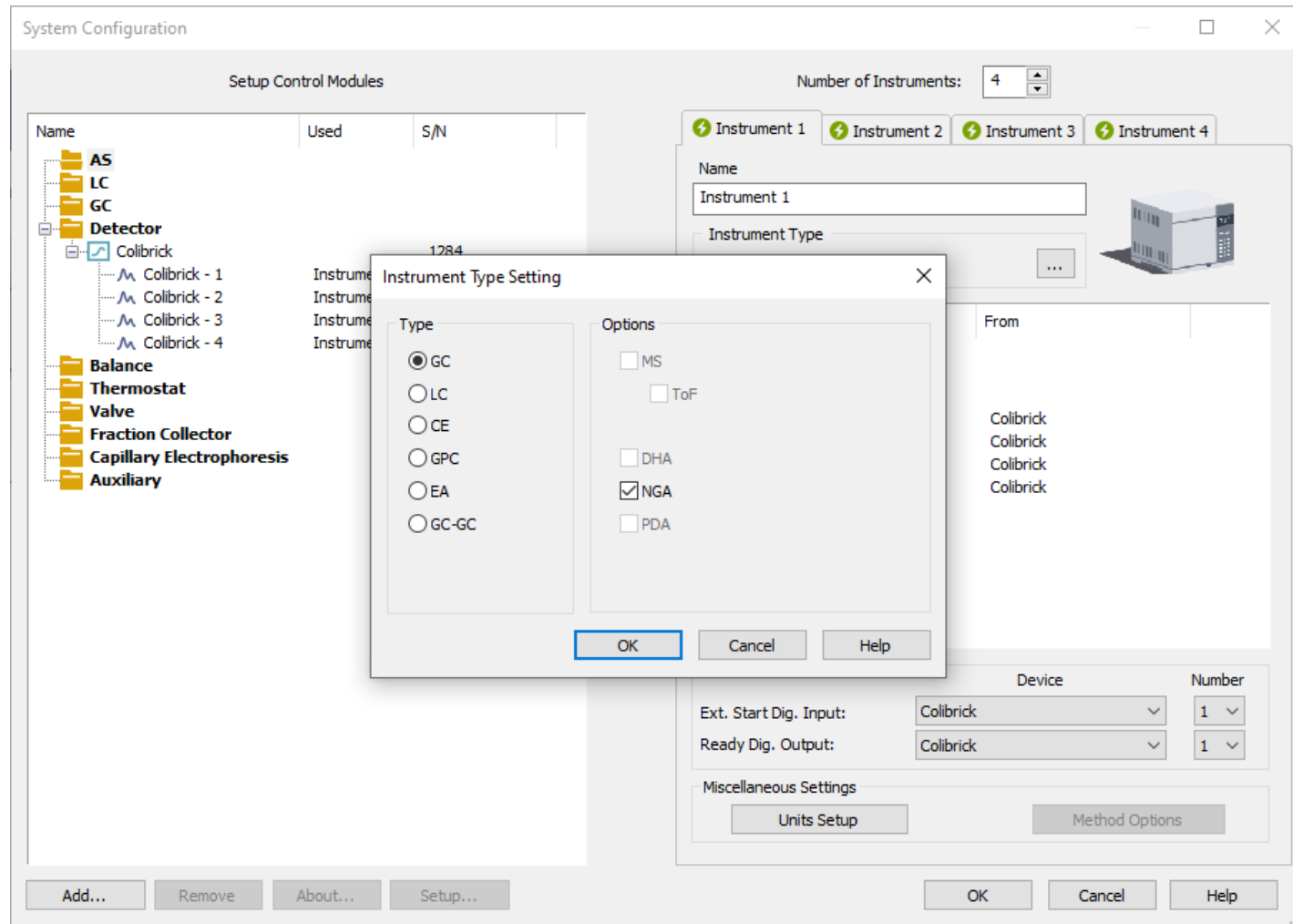
NGA – NATURAL GAS ANALYSIS

CLARITY EXTENSION

P017/80A 04/2020

NGA Extension

- Natural or LPG Gas Analysis
- Calculates the Calorific values according to
 - Natural Gas ISO 6976-95
 - Natural Gas ASTM D 3588-98 and GPA 2172-09
 - LPG ASTM D 2598-02 / 2421-02
 - LPG ISO 8973-97 / EN589-04
- Multiple detectors supported
- Individual or Summary results
- Export of results



- NGA Instrument is configured in System Configuration window
- NGA can be enabled on station where p/n A32 is purchased



NGA Settings

NGA Method: C:\Clarity83\DataFiles\DEMO_NGA\Demo_nga.nga (MODIFIED)

New Open... Save Save As...

Link Table

Edit Link Table...

Choose a Norm: Natural Gas ISO 6976-95

Source Amount Molar Percent

Calorific Value Calculation Basis Molar Basis

Temperatures Combustion 15°C / Metering 15°C

Ideal / Real Gas Ideal Gas

Ideal Heating Type Dry Basis

ST Results NGA NGA Summary

Overlay

- New NGA Result tab in chromatogram window
- Select method
- Edit Link Table...
- Choose a Norm and set preferences



NGA Amounts (Data\nga - 1_9_2009 5_42_17 PM)

	Compound Name	Signal	Amount [Mole %]	Amount [Molar %]
1	Methane	FID	98,817	97,53
2	Ethane	FID	0,027	0,03
3	Propane	FID	0,000	0,00
4	i-Butane	FID		-
5	n-Butane	FID		
6	Neopentane	FID		-
7	i-pentane	FID		-
8	n-pentane	FID		
9	hexane	FID	0,003	?
10	Nitrogen	TCD	2,450	2,42
11	CO2	TCD	0,025	0,02
			101,320	100,00

NGA Results | NGA Amounts

Results | Summary | Performance | Integration | Measurement Conditions

For Help, press F1

- Display the amounts and Amount% calculated over all signals
- Shows warnings for individual compounds:
 - Compound name not found in NGA table
 - Compound not used in selected norm
 - same compound used on several signals



Results for Norm: Natural Gas ISO 6976-95
Chromatogram Name: Data\nga - 1_9_2009 5_42_17 PM
Norm Table Signature Status: Valid (Last Signed by: DataApex, Ltd.)

NGA Results

Property	Value	Units
Compound Links	1 Errors	
Gas	Ideal	
Mean Molecular Weight	16,343	
Relative Density	0,5643	
Density	0,6912	kg/m3
Superior Calorific Value	869,97	kJ/mol
Inferior Calorific Value	783,25	kJ/mol
Wobbe Index	48,98	MJ/m3

NGA Results NGA Amounts

Results Summary Performance Integration Measurement Conditions SST

For Help, press F1

- Shows the calculated results
- Shows the method and norm info

NGA Calibration

- Compound names from the NGA Norm table are offered in calibration
- Link Table allows for linking other names to those listed in Norm table
- In multisignal chromatograms each compound could be used on one signal only

Instrument 1 - Calibration Calib\nga <-- ESTD (MODIFIED)

File Edit Display Calibration View Window Help

1 Automatic Calibration on All Signals

Calibration Summary Table (ESTD - Calib\nga - Signal 1)

	Used	Compound Name	Reten. Time	Left Window	Right Window	Peak Type	Named Groups	Is ISTD
1	<input type="checkbox"/>	Nitrogen	0,547	0,040 min	0,040 min	Ordnr		None
2	<input checked="" type="checkbox"/>	Methane	0,670	0,040 min	0,040 min	Ordnr		None
3	<input type="checkbox"/>	CO2	1,123	0,200 min	0,200 min	Ordnr		None
4	<input checked="" type="checkbox"/>	Acqua	2,183	0,200 min	0,200 min	Ordnr		None
5	<input checked="" type="checkbox"/>	Acqua	4,187	0,200 min	0,200 min	Ordnr		None
6	<input checked="" type="checkbox"/>	Aria	5,873	0,200 min	0,200 min	Ordnr		None
7	<input checked="" type="checkbox"/>	Propane	6,267	0,200 min	0,200 min	Ordnr		None
8	<input checked="" type="checkbox"/>	1,2-Butadiene	7,400	0,200 min	0,200 min	Ordnr		None
9	<input checked="" type="checkbox"/>	1,2-Pentadene	8,123	0,100 min	0,100 min	Ordnr		None
10	<input checked="" type="checkbox"/>	1,3-Butadiene	8,397	0,100 min	0,100 min	Ordnr		None
11	<input checked="" type="checkbox"/>	hexane	10,247	0,200 min	0,200 min	Ordnr		None

Compounds Nitrogen Methane CO2 Acqua Propane i-Butane

For Help, press F1

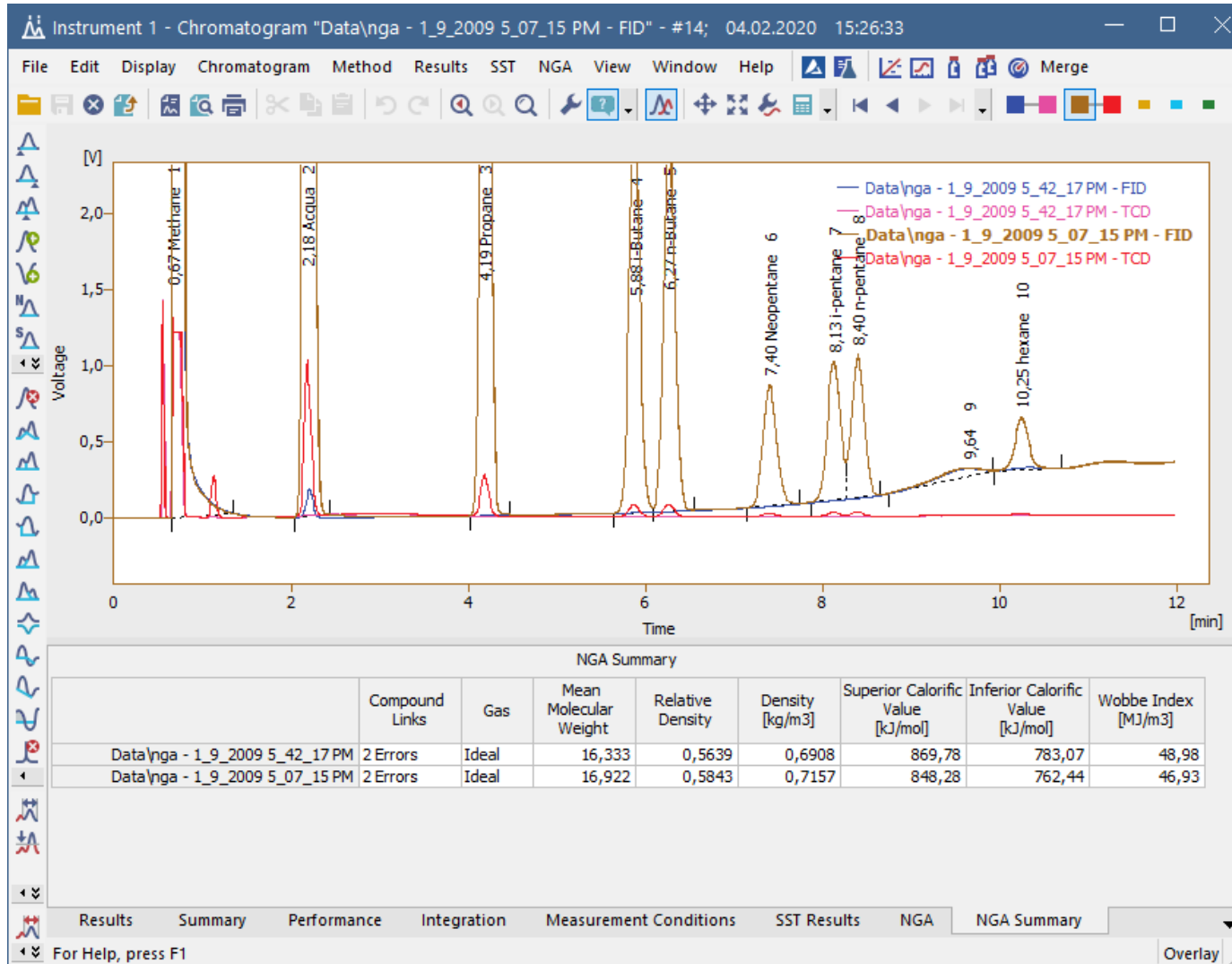
Link Table

Here, you can link your custom compound names to the norm compound names:

	Compound Name	Name in Norms
1	Acqua	Water
2	Aria	Air
3	Propane	Propane

Add... Remove OK Cancel Help

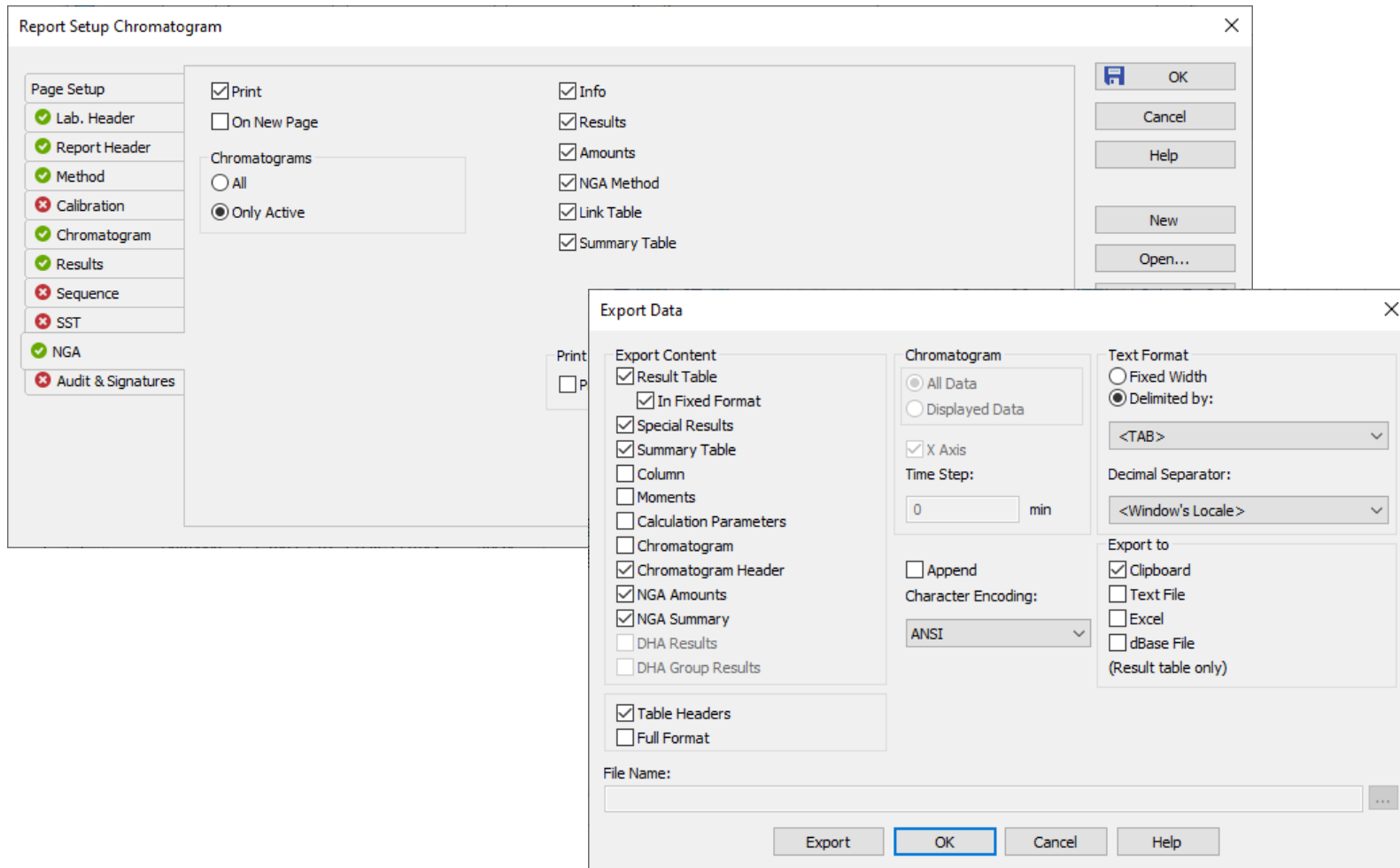
Fact	Rec No.
2279	1/1 ...
0000	1/1 ...
0000	1/1 ...
0000	1/1 ...
0000	1/1 ...
0000	1/1 ...
0000	1/1 ...
0000	1/1 ...
0000	1/1 ...
0000	1/1 ...
0000	1/1 ...



→ NGA results could be shown for all chromatograms in overlay



→ Options for NGA appear in the Report Setup and in the Export Data windows





...THANK YOU FOR YOUR TIME



SUPPORT@DATAAPEX.COM
WWW.DATAAPEX.COM