SDMS

(Sample Data Management System)

A Solution for LIMS Implementation

NEMC Speaker: Bin Yu

AIS International, Ltd

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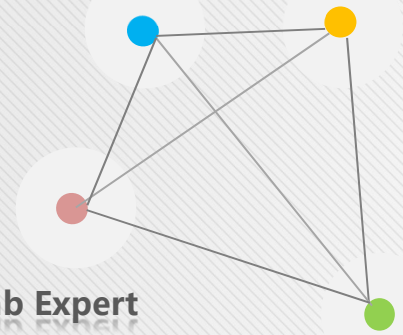
About us

Headquarters: Houston, TX
Employees: 40+
Funded: 2008
Products: BTLIMS, Inventory Management, LDM, SDMS

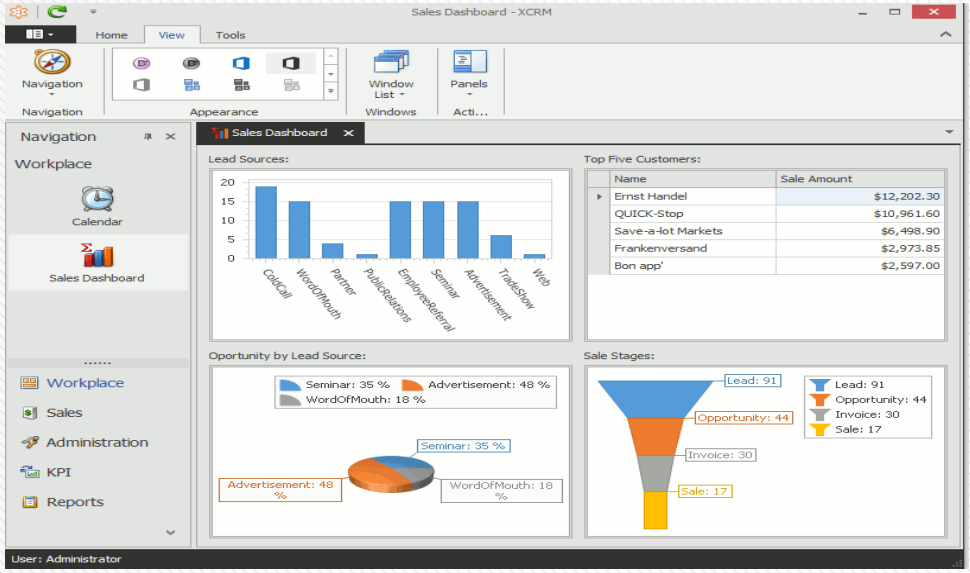
International Laboratory Standard

ISO/IEC17025



Lab Expert

Quality Assurance



Lab Data Master

Sample Data Management System (SDMS)

- What is SDMS? What can SDMS do? What is it different versus LIMS?

  We always face challenges during the LIMS implementations:

  Customization, Customization, Customization…on:

  Original sample analysis reports
  Original data entry templates

No end…

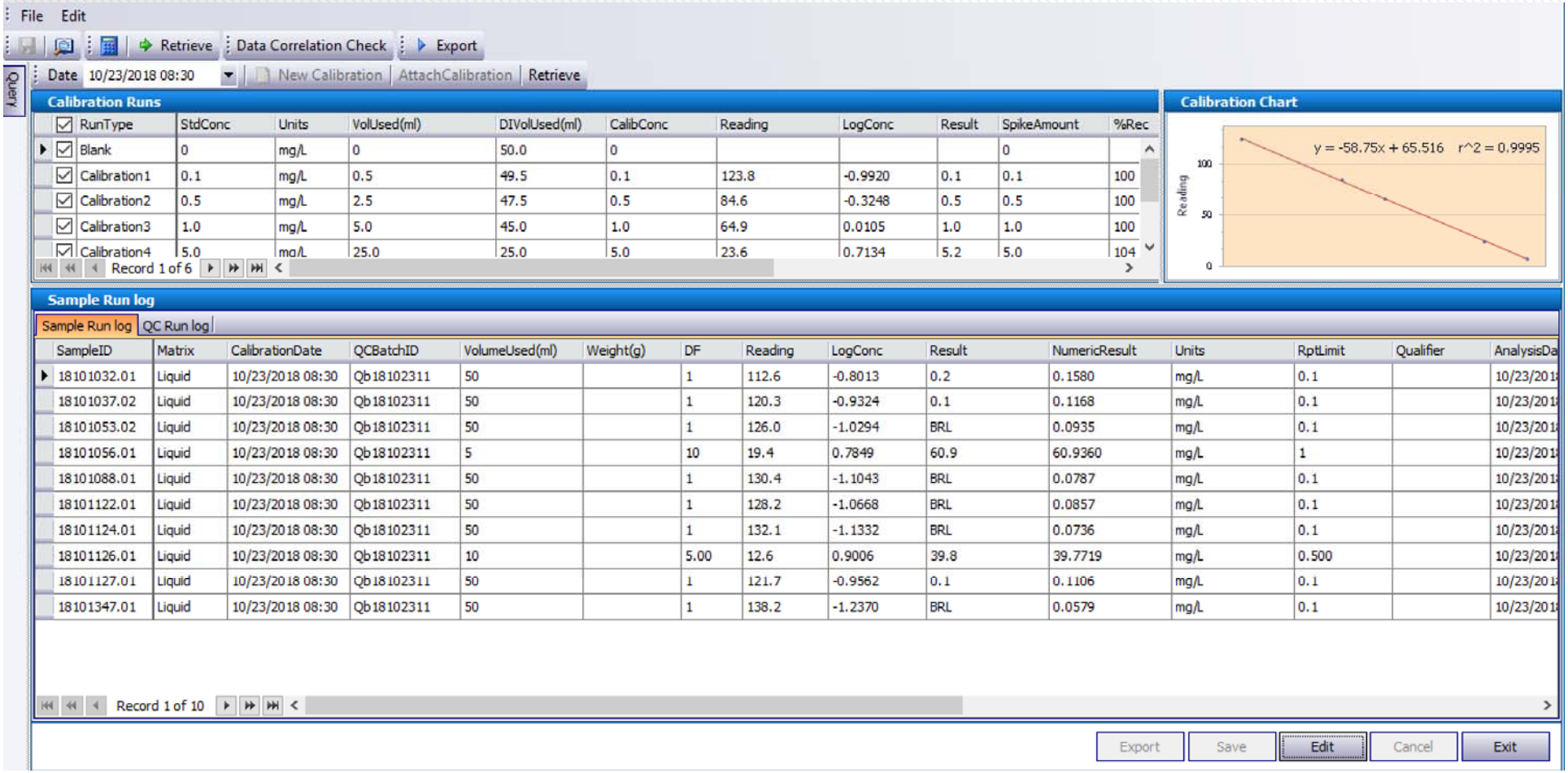
Original Sample Analysis Reports and Data Entry Templates

The report and data entry layout design could be varied based on:

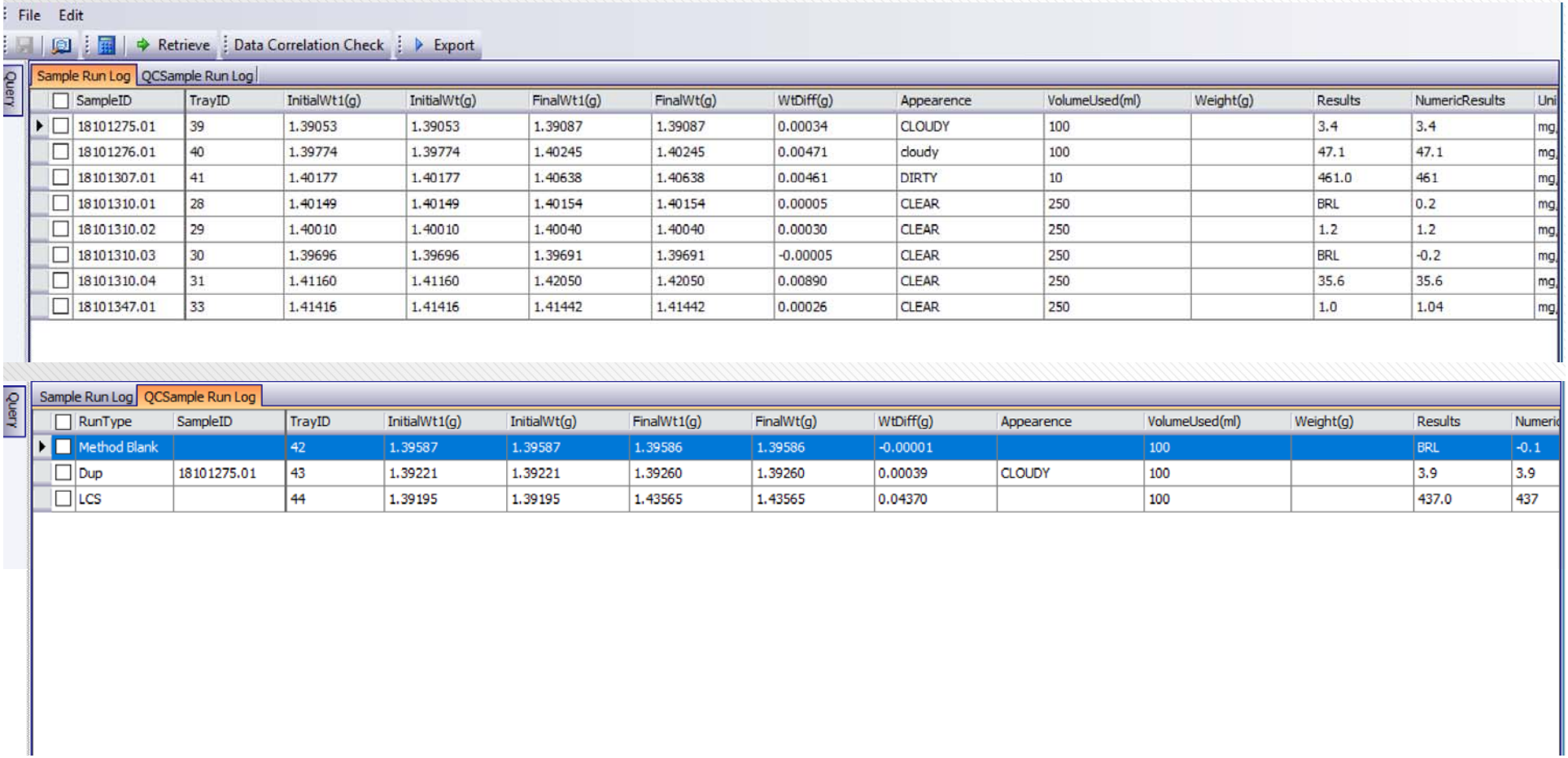
- Industries: Environmental, Industry, Food, Clinical, Microbiology, Asbestos…
- Elements: Water, Soil, Air, Gas, Media, Noise…
- Data Capture: Static Sampling; Dynamic Sampling (Frequency)
- Custom Preference: The templates that have been used for long time
- More…

Comparisons: The way regular LIMS handles vs the way clients prefer

Normal LIMS_ELN Data Entry: Ammonia



Normal LIMS_ELN Data Entry: TSS



File Edit

Retrieve | Data Correlation Check | Export

Query

Sample Run Log | QCSample Run Log

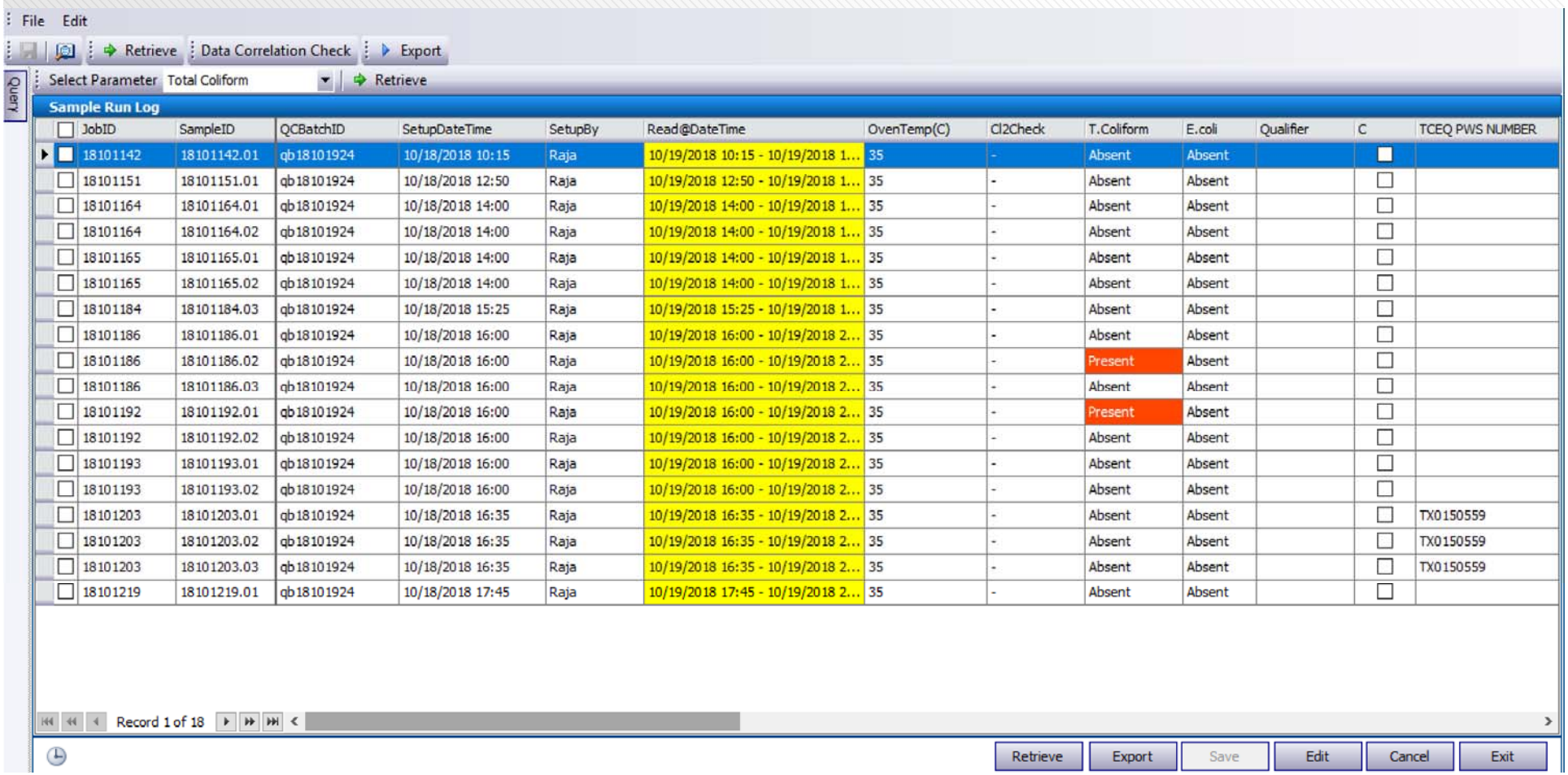
SampleID	TrayID	InitialWt1(g)	InitialWt(g)	FinalWt1(g)	FinalWt(g)	WtDiff(g)	Appearence	VolumeUsed(ml)	Weight(g)	Results	NumericResults	Uni
18101275.01	39	1.39053	1.39053	1.39087	1.39087	0.00034	CLOUDY	100		3.4	3.4	mg
18101276.01	40	1.39774	1.39774	1.40245	1.40245	0.00471	cloudy	100		47.1	47.1	mg
18101307.01	41	1.40177	1.40177	1.40638	1.40638	0.00461	DIRTY	10		461.0	461	mg
18101310.01	28	1.40149	1.40149	1.40154	1.40154	0.00005	CLEAR	250		BRL	0.2	mg
18101310.02	29	1.40010	1.40010	1.40040	1.40040	0.00030	CLEAR	250		1.2	1.2	mg
18101310.03	30	1.39696	1.39696	1.39691	1.39691	-0.00005	CLEAR	250		BRL	-0.2	mg
18101310.04	31	1.41160	1.41160	1.42050	1.42050	0.00890	CLEAR	250		35.6	35.6	mg
18101347.01	33	1.41416	1.41416	1.41442	1.41442	0.00026	CLEAR	250		1.0	1.04	mg

Query

Sample Run Log | QCSample Run Log

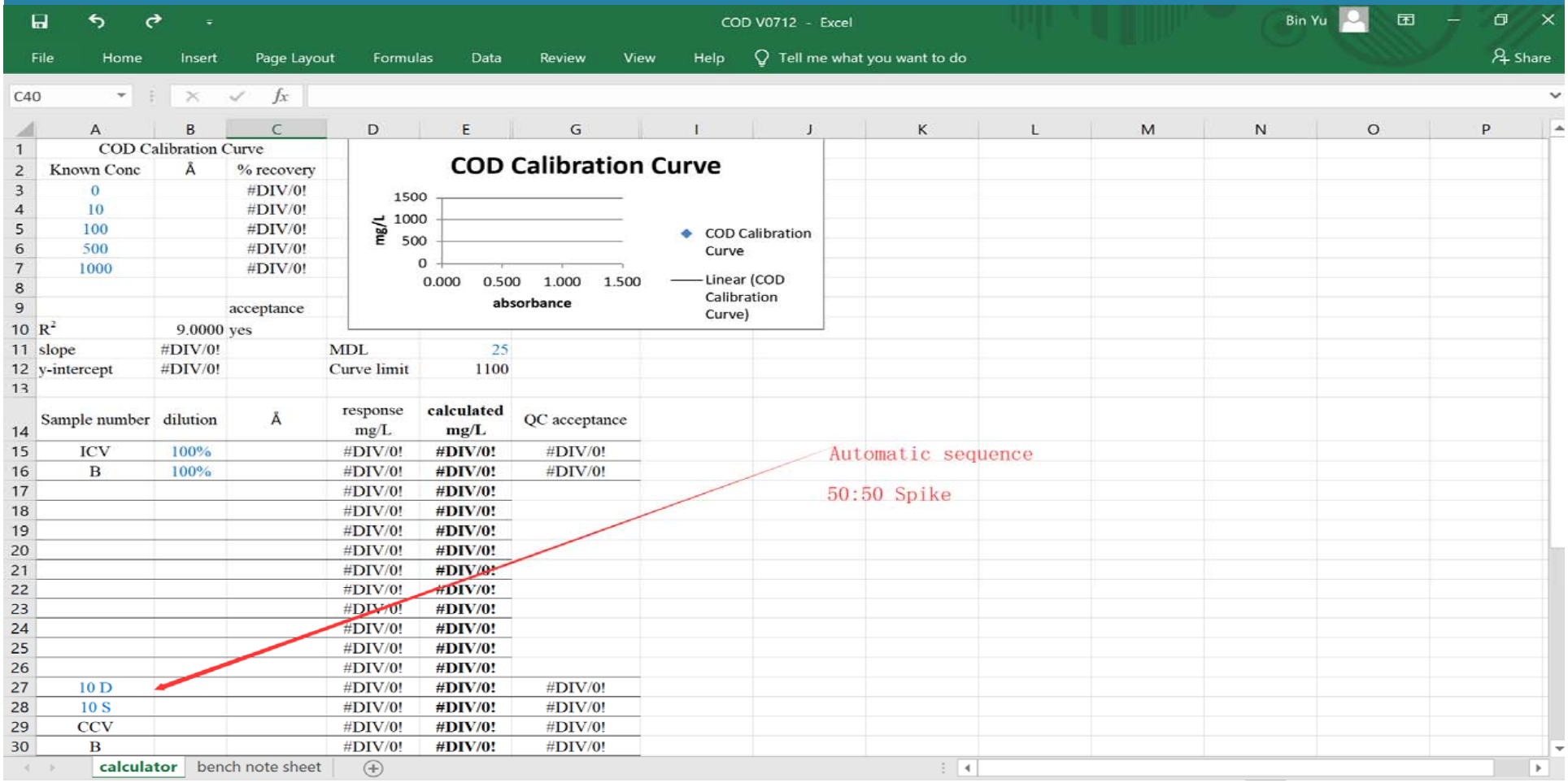
RunType	SampleID	TrayID	InitialWt1(g)	InitialWt(g)	FinalWt1(g)	FinalWt(g)	WtDiff(g)	Appearence	VolumeUsed(ml)	Weight(g)	Results	Numeric
Method Blank		42	1.39587	1.39587	1.39586	1.39586	-0.00001		100		BRL	-0.1
Dup	18101275.01	43	1.39221	1.39221	1.39260	1.39260	0.00039	CLOUDY	100		3.9	3.9
LCS		44	1.39195	1.39195	1.43565	1.43565	0.04370		100		437.0	437

Normal LIMS_ELN Data Entry: Total Coliform



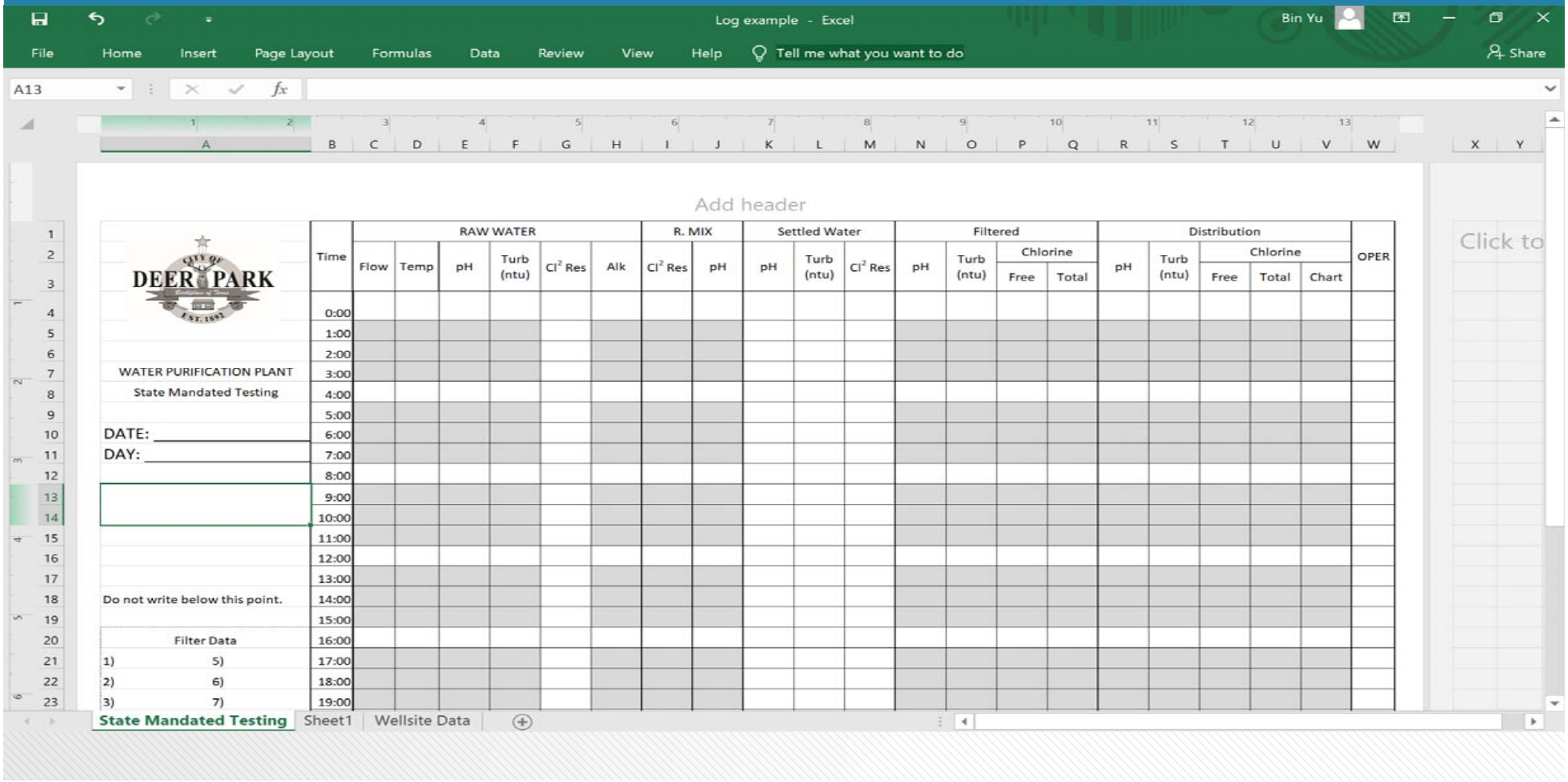
JobID	SampleID	QCBatchID	SetupDateTime	SetupBy	Read@DateTime	OvenTemp(C)	Cl2Check	T.Coliform	E.coli	Qualifier	C	TCEQ PWS NUMBER
18101142	18101142.01	qb18101924	10/18/2018 10:15	Raja	10/19/2018 10:15 - 10/19/2018 1...	35	-	Absent	Absent			
18101151	18101151.01	qb18101924	10/18/2018 12:50	Raja	10/19/2018 12:50 - 10/19/2018 1...	35	-	Absent	Absent			
18101164	18101164.01	qb18101924	10/18/2018 14:00	Raja	10/19/2018 14:00 - 10/19/2018 1...	35	-	Absent	Absent			
18101164	18101164.02	qb18101924	10/18/2018 14:00	Raja	10/19/2018 14:00 - 10/19/2018 1...	35	-	Absent	Absent			
18101165	18101165.01	qb18101924	10/18/2018 14:00	Raja	10/19/2018 14:00 - 10/19/2018 1...	35	-	Absent	Absent			
18101165	18101165.02	qb18101924	10/18/2018 14:00	Raja	10/19/2018 14:00 - 10/19/2018 1...	35	-	Absent	Absent			
18101184	18101184.03	qb18101924	10/18/2018 15:25	Raja	10/19/2018 15:25 - 10/19/2018 1...	35	-	Absent	Absent			
18101186	18101186.01	qb18101924	10/18/2018 16:00	Raja	10/19/2018 16:00 - 10/19/2018 2...	35	-	Absent	Absent			
18101186	18101186.02	qb18101924	10/18/2018 16:00	Raja	10/19/2018 16:00 - 10/19/2018 2...	35	-	Present	Absent			
18101186	18101186.03	qb18101924	10/18/2018 16:00	Raja	10/19/2018 16:00 - 10/19/2018 2...	35	-	Absent	Absent			
18101192	18101192.01	qb18101924	10/18/2018 16:00	Raja	10/19/2018 16:00 - 10/19/2018 2...	35	-	Present	Absent			
18101192	18101192.02	qb18101924	10/18/2018 16:00	Raja	10/19/2018 16:00 - 10/19/2018 2...	35	-	Absent	Absent			
18101193	18101193.01	qb18101924	10/18/2018 16:00	Raja	10/19/2018 16:00 - 10/19/2018 2...	35	-	Absent	Absent			
18101193	18101193.02	qb18101924	10/18/2018 16:00	Raja	10/19/2018 16:00 - 10/19/2018 2...	35	-	Absent	Absent			
18101203	18101203.01	qb18101924	10/18/2018 16:35	Raja	10/19/2018 16:35 - 10/19/2018 2...	35	-	Absent	Absent			TX0150559
18101203	18101203.02	qb18101924	10/18/2018 16:35	Raja	10/19/2018 16:35 - 10/19/2018 2...	35	-	Absent	Absent			TX0150559
18101203	18101203.03	qb18101924	10/18/2018 16:35	Raja	10/19/2018 16:35 - 10/19/2018 2...	35	-	Absent	Absent			TX0150559
18101219	18101219.01	qb18101924	10/18/2018 17:45	Raja	10/19/2018 17:45 - 10/19/2018 2...	35	-	Absent	Absent			

Customer raw data entry template (Single analyte): COD



	A	B	C	D	E	G
1	COD Calibration Curve					
2	Known Conc	Å	% recovery			
3	0		#DIV/0!			
4	10		#DIV/0!			
5	100		#DIV/0!			
6	500		#DIV/0!			
7	1000		#DIV/0!			
8						
9			acceptance			
10	R^2	9.0000	yes			
11	slope	#DIV/0!		MDL	25	
12	y-intercept	#DIV/0!		Curve limit	1100	
13						
14	Sample number	dilution	Å	response mg/L	**calculated mg/L**	QC acceptance
15	ICV	100%		#DIV/0!	**#DIV/0!**	#DIV/0!
16	B	100%		#DIV/0!	**#DIV/0!**	#DIV/0!
17				#DIV/0!	**#DIV/0!**	
18				#DIV/0!	**#DIV/0!**	
19				#DIV/0!	**#DIV/0!**	
20				#DIV/0!	**#DIV/0!**	
21				#DIV/0!	**#DIV/0!**	
22				#DIV/0!	**#DIV/0!**	
23				#DIV/0!	**#DIV/0!**	
24				#DIV/0!	**#DIV/0!**	
25				#DIV/0!	**#DIV/0!**	
26				#DIV/0!	**#DIV/0!**	
27	10 D			#DIV/0!	**#DIV/0!**	#DIV/0!
28	10 S			#DIV/0!	**#DIV/0!**	#DIV/0!
29	CCV			#DIV/0!	**#DIV/0!**	#DIV/0!
30	B			#DIV/0!	**#DIV/0!**	#DIV/0!

Customer raw data entry template (multiple analytes): Monitoring



Log example - Excel

Bin Yu

File Home Insert Page Layout Formulas Data Review View Help Tell me what you want to do Share

A13

Add header

DEER PARK

WATER PURIFICATION PLANT

State Mandated Testing

DATE: _____

DAY: _____

Do not write below this point.

Filter Data

1) 5)

2) 6)

3) 7)

Time	RAW WATER						R. MIX		Settled Water			Filtered				Distribution					OPER
	Flow	Temp	pH	Turb (ntu)	Cl^2 Res	Alk	Cl^2 Res	pH	pH	Turb (ntu)	Cl^2 Res	pH	Turb (ntu)	Chlorine		pH	Turb (ntu)	Chlorine			
														Free	Total			Free	Total	Chart	
0:00																					
1:00																					
2:00																					
3:00																					
4:00																					
5:00																					
6:00																					
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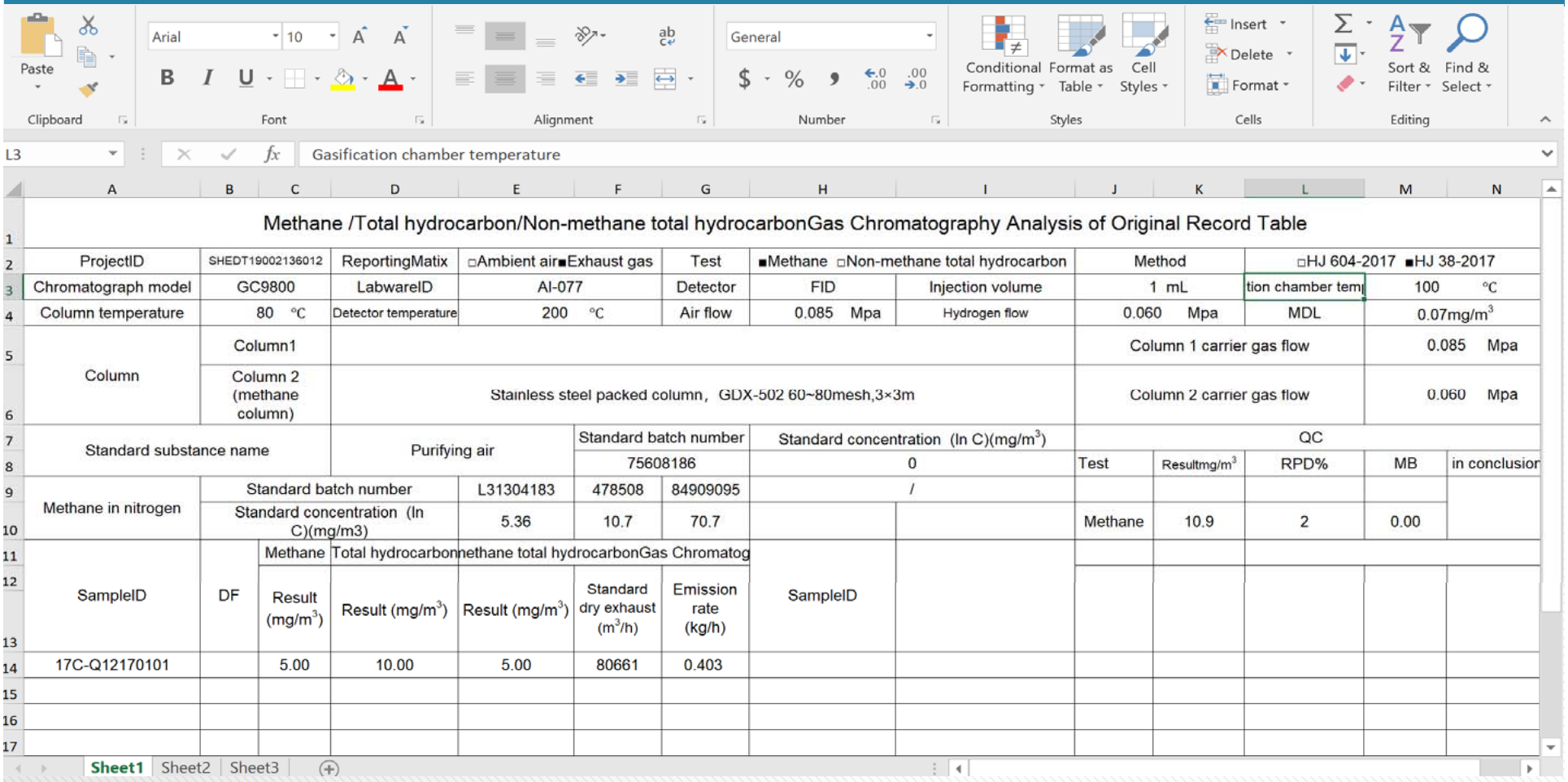
16:00																					
17:00																					
18:00																					
19:00																					

State Mandated Testing | Sheet1 | Wellsite Data

Click to

Customer raw data entry template (complex): TH/Methane



Paste | Arial | 10 | General | Conditional Formatting | Format as Table | Cell Styles | Insert | Delete | Format | Sort & Filter | Find & Select

Clipboard | Font | Alignment | Number | Styles | Cells | Editing

L3 | Gasification chamber temperature

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Methane /Total hydrocarbon/Non-methane total hydrocarbonGas Chromatography Analysis of Original Record Table													
2	ProjectID	SHEDT19002136012		ReportingMatix	□Ambient air■Exhaust gas		Test	■Methane □Non-methane total hydrocarbon		Method		□HJ 604-2017 ■HJ 38-2017		
3	Chromatograph model	GC9800		LabwareID	AI-077		Detector	FID	Injection volume	1 mL		tion chamber tem	100 ℃	
4	Column temperature	80 ℃		Detector temperature	200 ℃		Air flow	0.085 Mpa	Hydrogen flow	0.060 Mpa		MDL	0.07mg/m^3	
5	Column	Column1								Column 1 carrier gas flow			0.085 Mpa	
6		Column 2 (methane column)		Stainless steel packed column, GDX-502 60~80mesh,3×3m						Column 2 carrier gas flow			0.060 Mpa	
7	Standard substance name			Purifying air		Standard batch number		Standard concentration (ln C)(mg/m^3)		QC				
8						75608186		0		Test	Resultmg/m^3	RPD%	MB	in conclusion
9	Methane in nitrogen	Standard batch number			L31304183	478508	84909095	/						
10		Standard concentration (ln C)(mg/m3)			5.36	10.7	70.7			Methane	10.9	2	0.00	
11	SampleID	DF	Methane	Total hydrocarbon	nethane total hydrocarbonGas Chromatog			SampleID						
12			Result (mg/m^3)	Result (mg/m^3)	Result (mg/m^3)	Standard dry exhaust (m^3/h)	Emission rate (kg/h)							
13														
14	17C-Q12170101		5.00	10.00	5.00	80661	0.403							
15														
16														
17														

Sheet1 | Sheet2 | Sheet3

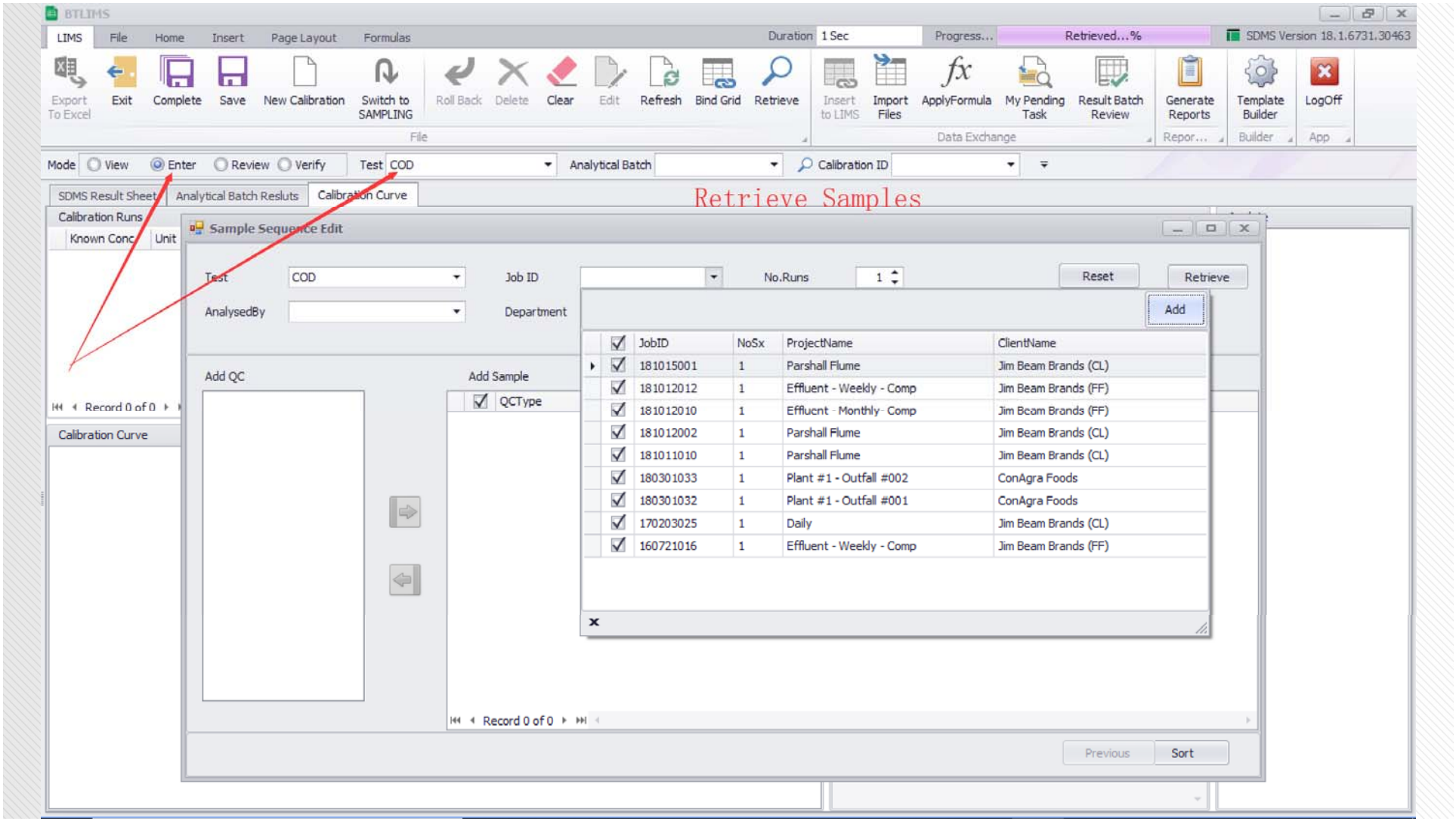
The Solutions and Goals to be Achieved

Be able to

1) design any custom raw data result entry templates
2) create multiple level calibration regression curve
3) manage single or multiple parameters (analytes)
4) set up formulas for calculations in any field
5) have data parsing functions to define fields and save to database
6) have functions to build simple parsers for instrument data imports
7) have functions to design and create complex custom raw data reports
8) have functions to set up run sequences with automatic QC batch creation
9) set up multi-level result approval process

Solve the Problems with SDMS!

Examples to demonstrate what we have achieved with our Sample Data Management System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LIMS
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Home
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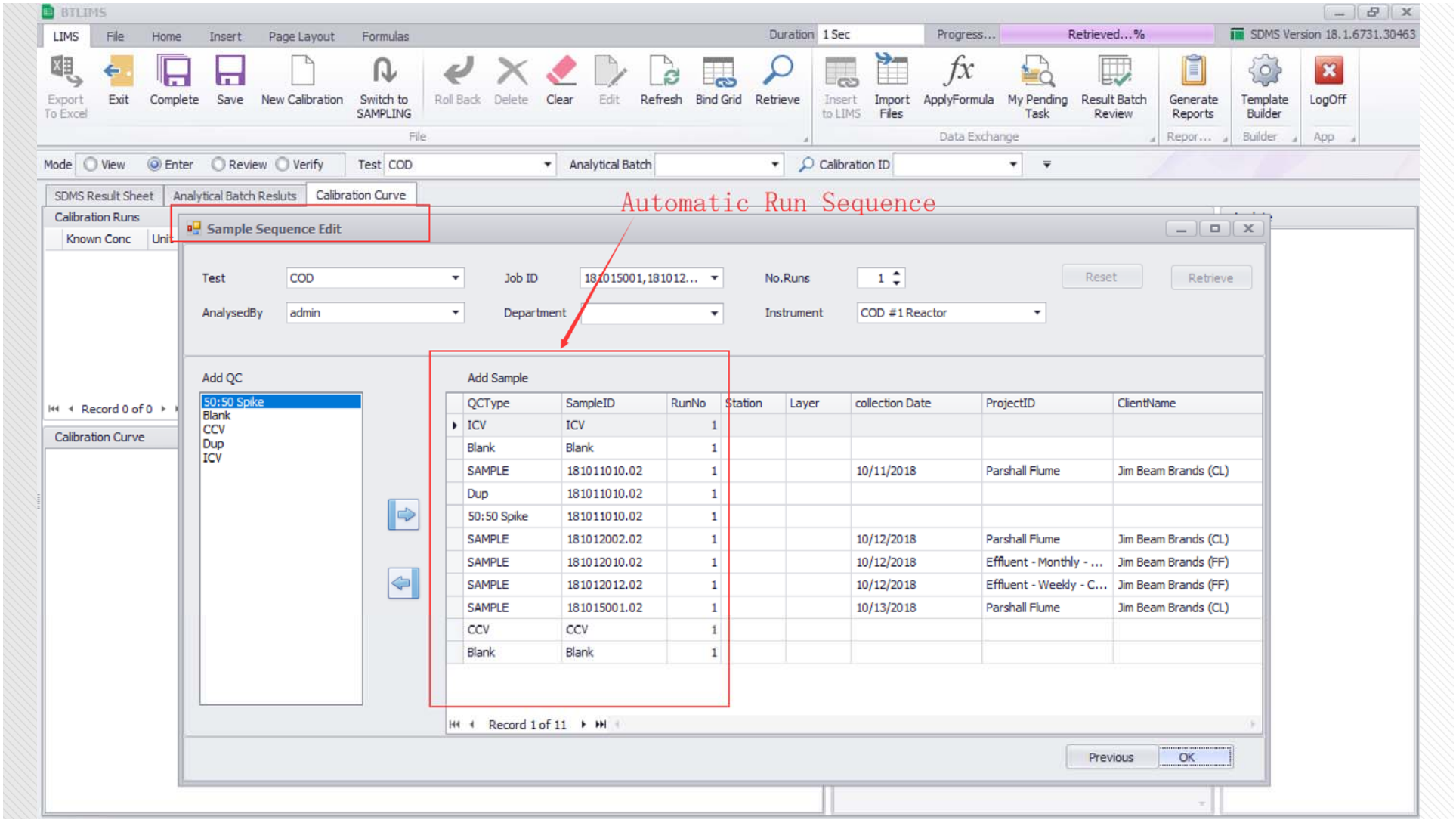
Page Layout
Formulas
Duration 1 Sec
Progress...
Retrieved...%
SDMS Version 18.1.6731.30463
Export To Excel
Exit
Complete
Save
New Calibration
Switch to SAMPLING
Roll Back
Delete
Clear
Edit
Refresh
Bind Grid
Retrieve
Insert to LIMS
Import Files
ApplyFormula
My Pending Task
Result Batch Review
Generate Reports
Template Builder
LogOff
File
Data Exchange
Repor...
Builder
App
Mode View Enter Review Verify
Test COD
Analytical Batch
Calibration ID
SDMS Result Sheet
Analytical Batch Resluts
Calibration Curve
Retrieve Samples
Calibration Runs
Known Conc
Unit
Record 0 of 0
Calibration Curve
Sample Sequence Edit
Test COD
Job ID
No.Runs 1
Reset
Retrieve
AnalysedBy
Department
Add
JobID NoSx ProjectName ClientName
181015001 1 Parshall Flume Jim Beam Brands (CL)
181012012 1 Effluent - Weekly - Comp Jim Beam Brands (FF)
181012010 1 Effluent - Monthly - Comp Jim Beam Brands (FF)
181012002 1 Parshall Flume Jim Beam Brands (CL)
181011010 1 Parshall Flume Jim Beam Brands (CL)
180301033 1 Plant #1 - Outfall #002 ConAgra Foods
180301032 1 Plant #1 - Outfall #001 ConAgra Foods
170203025 1 Daily Jim Beam Brands (CL)
160721016 1 Effluent - Weekly - Comp Jim Beam Brands (FF)
Add QC
Add Sample
QCType
Record 0 of 0
Previous
Sort


BTLIMS
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Home
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Page Layout
Formulas
Duration 1 Sec
Progress...
Retrieved...%
SDMS Version 18.1.6731.30463
Export To Excel
Exit
Complete
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New Calibration
Switch to SAMPLING
Roll Back
Delete
Clear
Edit
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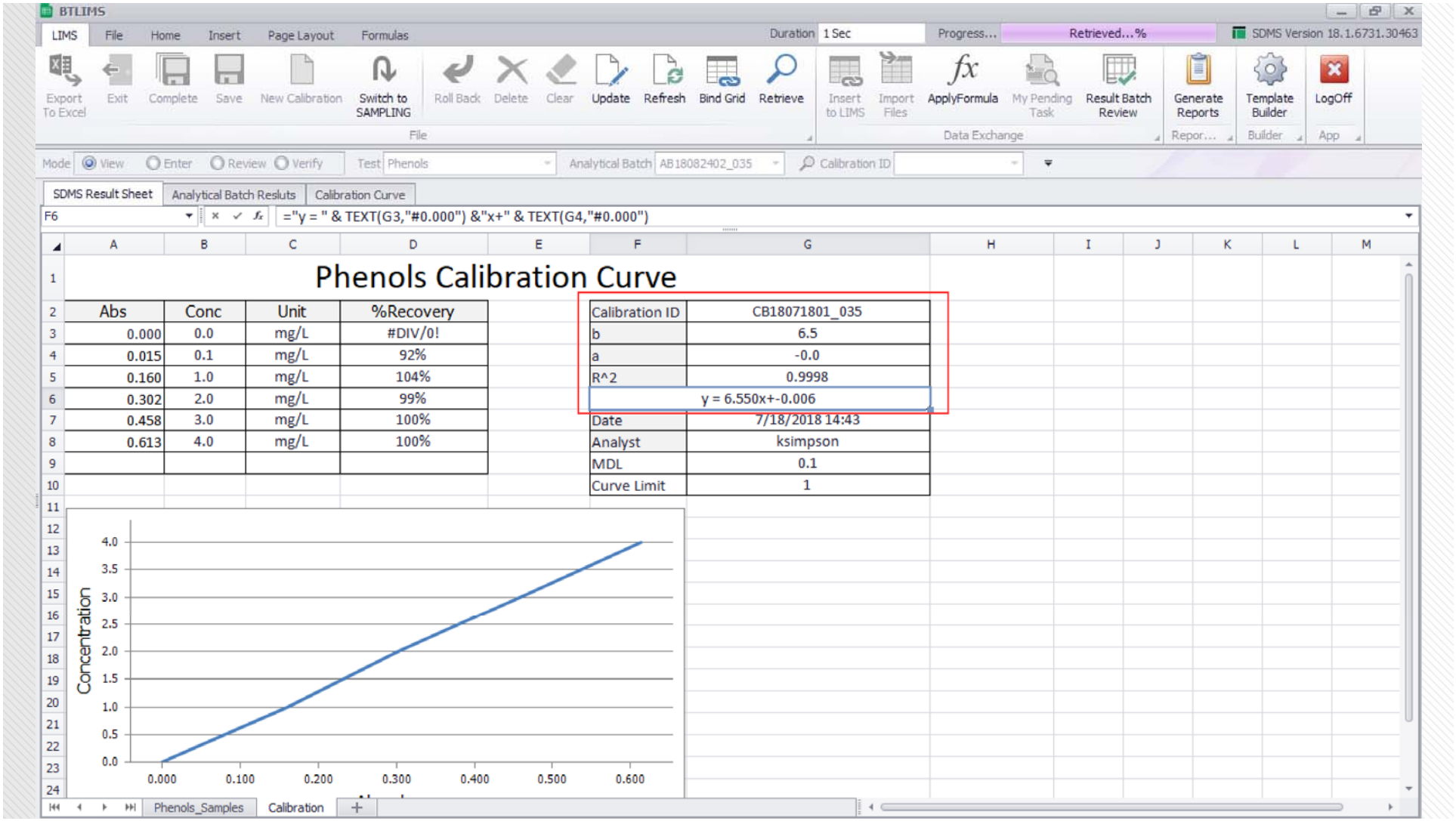
Retrieve
Insert to LIMS
Import Files
ApplyFormula
My Pending Task
Result Batch Review
Generate Reports
Template Builder
LogOff
File
Data Exchange
Repor...
Builder
App
Mode View Enter Review Verify
Test COD
Analytical Batch
Calibration ID
SDMS Result Sheet
Analytical Batch Resluts
Calibration Curve
Automatic Run Sequence
Calibration Runs
Known Conc
Unit
Record 0 of 0
Calibration Curve
Sample Sequence Edit
Test COD
Job ID 181015001,181012...
No.Runs 1
Reset
Retrieve
AnalysedBy admin
Department
Instrument COD #1 Reactor
Add QC
50:50 Spike
Blank
CCV
Dup
ICV
Add Sample
QCType SampleID RunNo Station Layer collection Date ProjectID ClientName
ICV ICV 1
Blank Blank 1
SAMPLE 181011010.02 1 10/11/2018 Parshall Flume Jim Beam Brands (CL)
Dup 181011010.02 1
50:50 Spike 181011010.02 1
SAMPLE 181012002.02 1 10/12/2018 Parshall Flume Jim Beam Brands (CL)
SAMPLE 181012010.02 1 10/12/2018 Effluent - Monthly - ... Jim Beam Brands (FF)
SAMPLE 181012012.02 1 10/12/2018 Effluent - Weekly - C... Jim Beam Brands (FF)
SAMPLE 181015001.02 1 10/13/2018 Parshall Flume Jim Beam Brands (CL)
CCV CCV 1
Blank Blank 1
Record 1 of 11
Previous
OK


BTLIMS
LIMS
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Duration 1 Sec
Progress...
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SDMS Version 18.1.6731.30463
Export To Excel
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New Calibration
Switch to SAMPLING
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Insert to LIMS
Import Files
ApplyFormula
My Pending Task
Result Batch Review
Generate Reports
Template Builder
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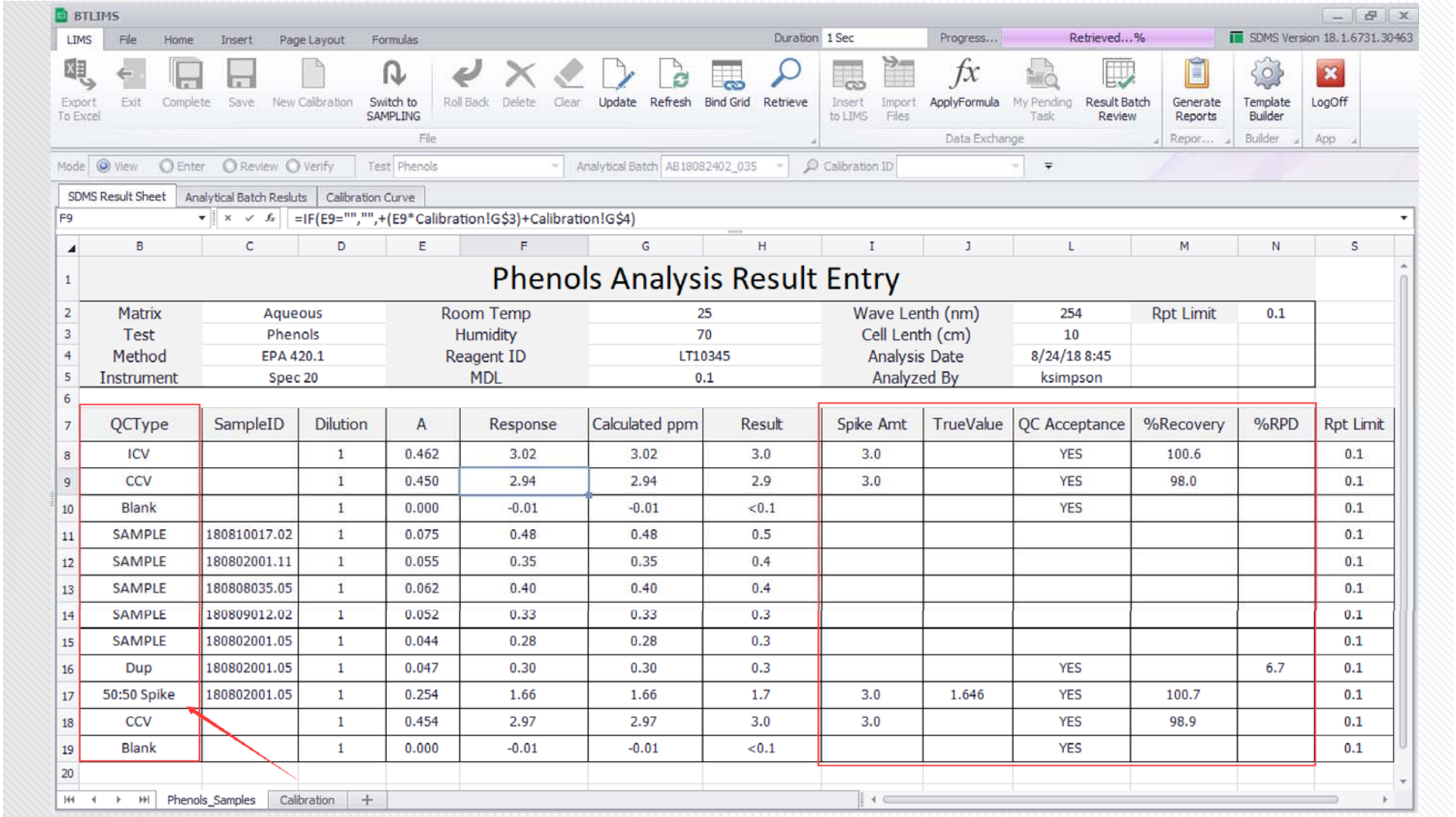
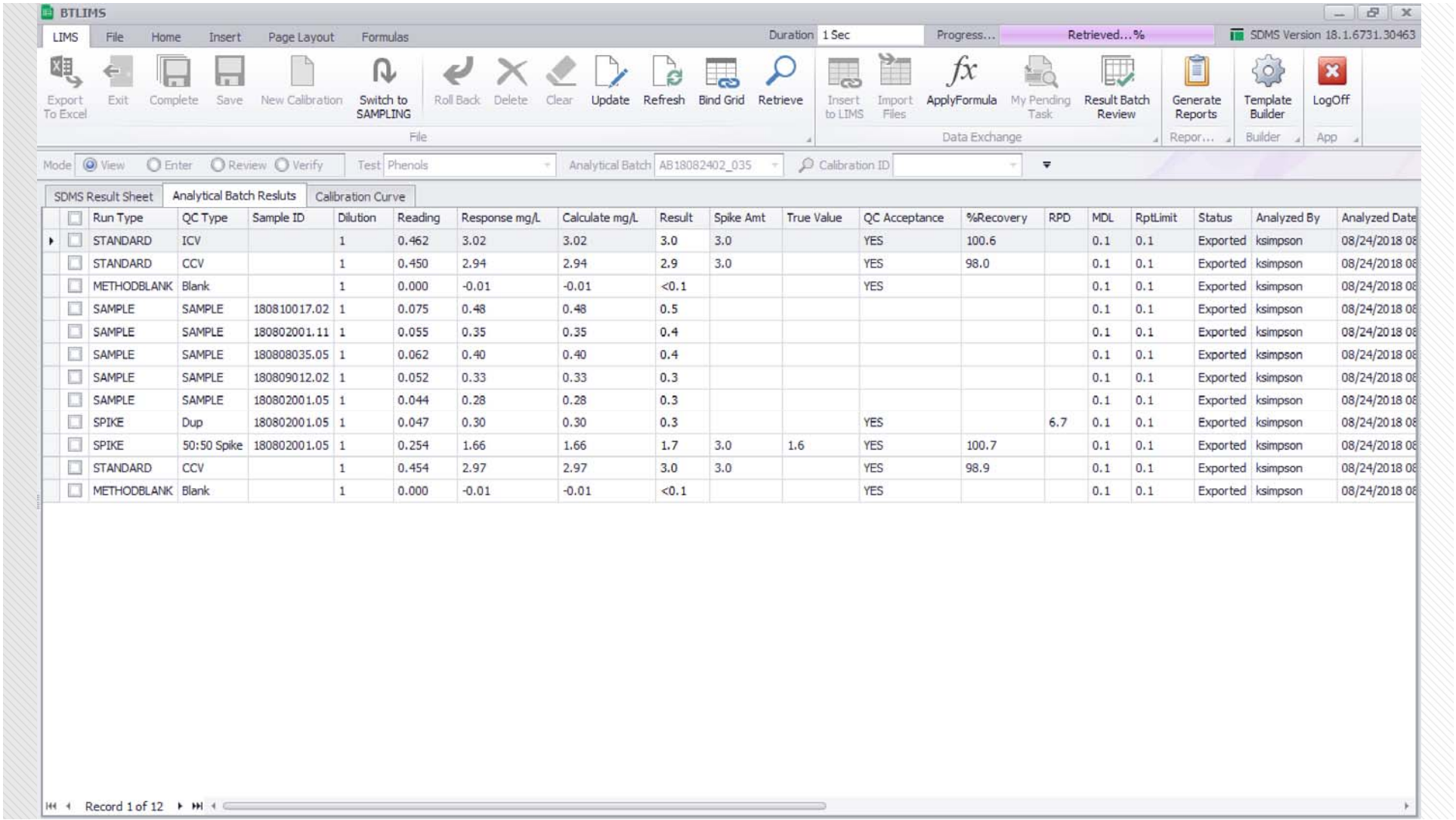
File
Data Exchange
Repor...
Builder
App
Mode View Enter Review Verify
Test Phenols
Analytical Batch AB18082402_035
Calibration ID
SDMS Result Sheet
Analytical Batch Resluts
Calibration Curve
F6
="y = " & TEXT(G3,"#0.000") &"x+" & TEXT(G4,"#0.000")
Phenols Calibration Curve
Abs
Conc
Unit
%Recovery
0.000 0.0 mg/L #DIV/0!
0.015 0.1 mg/L 92%
0.160 1.0 mg/L 104%
0.302 2.0 mg/L 99%
0.458 3.0 mg/L 100%
0.613 4.0 mg/L 100%
Calibration ID CB18071801_035
b 6.5
a -0.0
R^2 0.9998
y = 6.550x+-0.006
Date 7/18/2018 14:43
Analyst ksimpson
MDL 0.1
Curve Limit 1
Concentration
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0.000
0.100
0.200
0.300
0.400
0.500
0.600
Phenols_Samples
Calibration



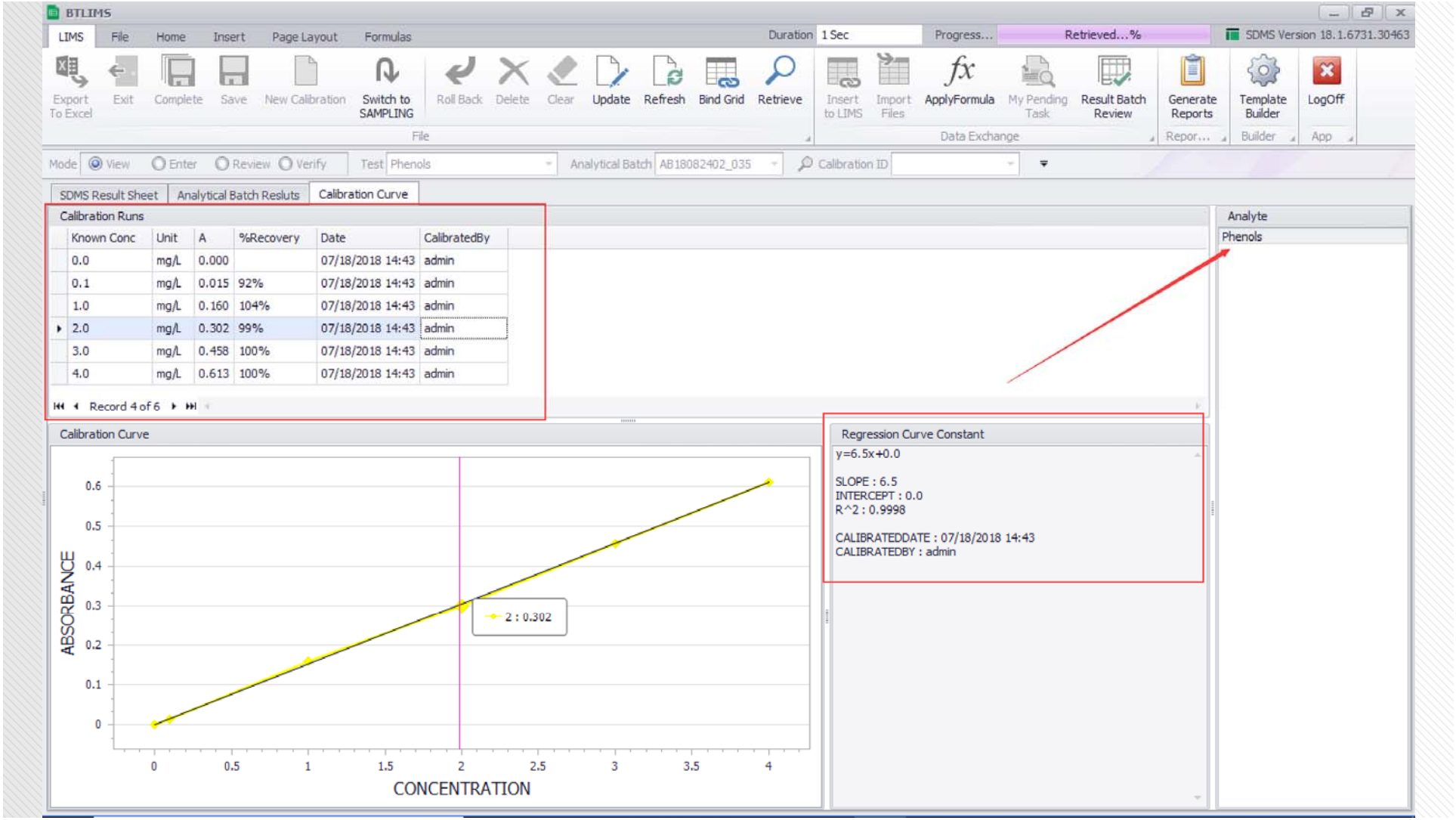
Phenols Analysis Result Entry

Matrix	Aqueous	Room Temp	25	Wave Lenth (nm)	254	Rpt Limit	0.1
Test	Phenols	Humidity	70	Cell Lenth (cm)	10		
Method	EPA 420.1	Reagent ID	LT10345	Analysis Date	8/24/18 8:45		
Instrument	Spec 20	MDL	0.1	Analyzed By	ksimpson		

QCType	SampleID	Dilution	A	Response	Calculated ppm	Result	Spike Amt	TrueValue	QC Acceptance	%Recovery	%RPD	Rpt Limit
ICV		1	0.462	3.02	3.02	3.0	3.0		YES	100.6		0.1
CCV		1	0.450	2.94	2.94	2.9	3.0		YES	98.0		0.1
Blank		1	0.000	-0.01	-0.01	<0.1			YES			0.1
SAMPLE	180810017.02	1	0.075	0.48	0.48	0.5						0.1
SAMPLE	180802001.11	1	0.055	0.35	0.35	0.4						0.1
SAMPLE	180808035.05	1	0.062	0.40	0.40	0.4						0.1
SAMPLE	180809012.02	1	0.052	0.33	0.33	0.3						0.1
SAMPLE	180802001.05	1	0.044	0.28	0.28	0.3						0.1
Dup	180802001.05	1	0.047	0.30	0.30	0.3			YES		6.7	0.1
50:50 Spike	180802001.05	1	0.254	1.66	1.66	1.7	3.0	1.646	YES	100.7		0.1
CCV		1	0.454	2.97	2.97	3.0	3.0		YES	98.9		0.1
Blank		1	0.000	-0.01	-0.01	<0.1			YES			0.1



Run Type	QC Type	Sample ID	Dilution	Reading	Response mg/L	Calculate mg/L	Result	Spike Amt	True Value	QC Acceptance	%Recovery	RPD	MDL	RptLimit	Status	Analyzed By	Analyzed Date
STANDARD	ICV		1	0.462	3.02	3.02	3.0	3.0		YES	100.6		0.1	0.1	Exported	ksimpson	08/24/2018 08
STANDARD	CCV		1	0.450	2.94	2.94	2.9	3.0		YES	98.0		0.1	0.1	Exported	ksimpson	08/24/2018 08
METHODBLANK	Blank		1	0.000	-0.01	-0.01	<0.1			YES			0.1	0.1	Exported	ksimpson	08/24/2018 08
SAMPLE	SAMPLE	180810017.02	1	0.075	0.48	0.48	0.5						0.1	0.1	Exported	ksimpson	08/24/2018 08
SAMPLE	SAMPLE	180802001.11	1	0.055	0.35	0.35	0.4						0.1	0.1	Exported	ksimpson	08/24/2018 08
SAMPLE	SAMPLE	180808035.05	1	0.062	0.40	0.40	0.4						0.1	0.1	Exported	ksimpson	08/24/2018 08
SAMPLE	SAMPLE	180809012.02	1	0.052	0.33	0.33	0.3						0.1	0.1	Exported	ksimpson	08/24/2018 08
SAMPLE	SAMPLE	180802001.05	1	0.044	0.28	0.28	0.3						0.1	0.1	Exported	ksimpson	08/24/2018 08
SPIKE	Dup	180802001.05	1	0.047	0.30	0.30	0.3			YES		6.7	0.1	0.1	Exported	ksimpson	08/24/2018 08
SPIKE	50:50 Spike	180802001.05	1	0.254	1.66	1.66	1.7	3.0	1.6	YES	100.7		0.1	0.1	Exported	ksimpson	08/24/2018 08
STANDARD	CCV		1	0.454	2.97	2.97	3.0	3.0		YES	98.9		0.1	0.1	Exported	ksimpson	08/24/2018 08
METHODBLANK	Blank		1	0.000	-0.01	-0.01	<0.1			YES			0.1	0.1	Exported	ksimpson	08/24/2018 08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Test Phenols
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Calibration ID
SDMS Result Sheet
Analytical Batch Resluts
Calibration Curve
Calibration Runs
Known Conc | Unit | A | %Recovery | Date | CalibratedBy
0.0 | mg/L | 0.000 | | 07/18/2018 14:43 | admin
0.1 | mg/L | 0.015 | 92% | 07/18/2018 14:43 | admin
1.0 | mg/L | 0.160 | 104% | 07/18/2018 14:43 | admin
2.0 | mg/L | 0.302 | 99% | 07/18/2018 14:43 | admin
3.0 | mg/L | 0.458 | 100% | 07/18/2018 14:43 | admin
4.0 | mg/L | 0.613 | 100% | 07/18/2018 14:43 | admin
Record 4 of 6
Analyte
Phenols
Calibration Curve
ABSORBANCE
CONCENTRATION
2 : 0.302
Regression Curve Constant
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SLOPE : 6.5
INTERCEPT : 0.0
R^2 : 0.9998
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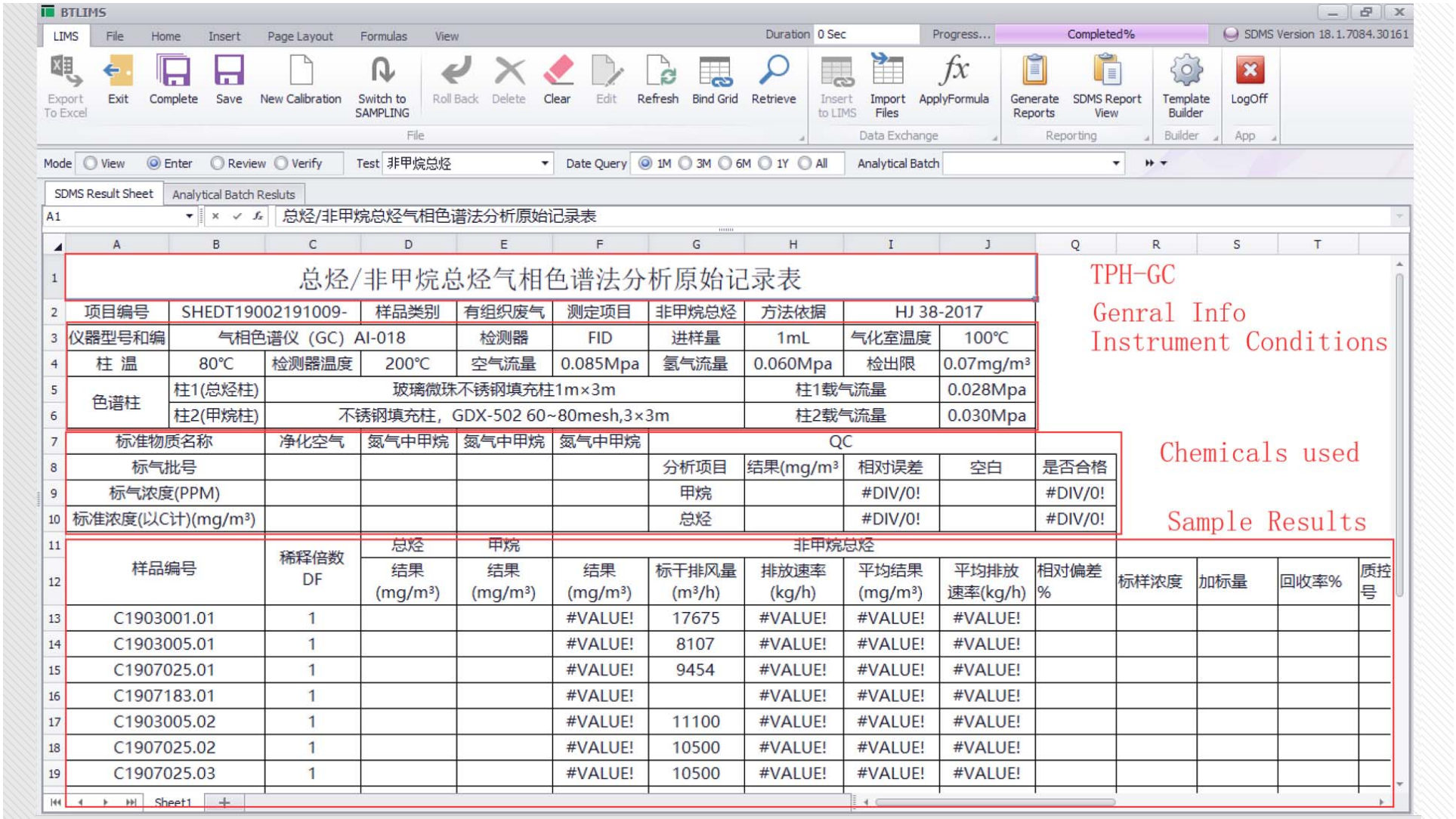
CALIBRATEDBY : admin



总烃/非甲烷总烃气相色谱法分析原始记录表

项目编号	SHEDT19002191009-		样品类别	有组织废气	测定项目	非甲烷总烃	方法依据	HJ 38-2017	
仪器型号和编	气相色谱仪（GC）AI-018			检测器	FID	进样量	1mL	气化室温度	100℃
柱 温	80℃	检测器温度	200℃	空气流量	0.085Mpa	氢气流量	0.060Mpa	检出限	0.07mg/m³
色谱柱	柱1(总烃柱)	玻璃微珠不锈钢填充柱1m×3m					柱1载气流量		0.028Mpa
	柱2(甲烷柱)	不锈钢填充柱，GDX-502 60~80mesh,3×3m					柱2载气流量		0.030Mpa

标准物质名称	净化空气	氮气中甲烷	氮气中甲烷	氮气中甲烷	QC				
标气批号					分析项目	结果(mg/m³	相对误差	空白	是否合格
标气浓度(PPM)					甲烷		#DIV/0!		#DIV/0!
标准浓度(以C计)(mg/m³)					总烃		#DIV/0!		#DIV/0!

样品编号	稀释倍数 DF	总烃	甲烷	非甲烷总烃									
		结果 (mg/m³)	结果 (mg/m³)	结果 (mg/m³)	标干排风量 (m³/h)	排放速率 (kg/h)	平均结果 (mg/m³)	平均排放速率(kg/h)	相对偏差 %	标样浓度	加标量	回收率%	质控号
C1903001.01	1			#VALUE!	17675	#VALUE!	#VALUE!	#VALUE!					
C1903005.01	1			#VALUE!	8107	#VALUE!	#VALUE!	#VALUE!					
C1907025.01	1			#VALUE!	9454	#VALUE!	#VALUE!	#VALUE!					
C1907183.01	1			#VALUE!		#VALUE!	#VALUE!	#VALUE!					
C1903005.02	1			#VALUE!	11100	#VALUE!	#VALUE!	#VALUE!					
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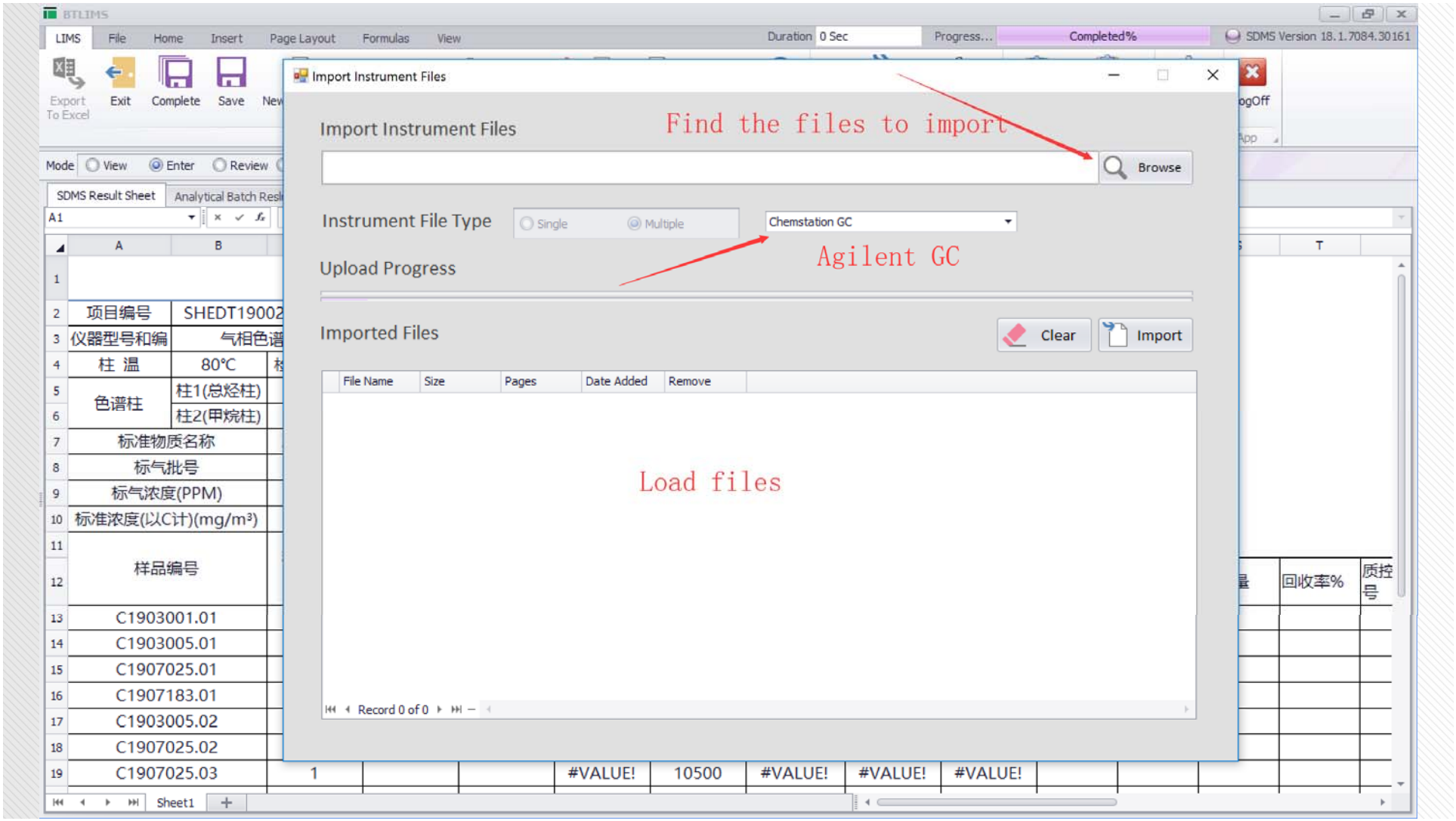
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Import Instrument Files
Import Instrument Files
Find the files to import
Browse
Instrument File Type
Single
Multiple
Chemstation GC
Agilent GC
Upload Progress
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Clear
Import
File Name
Size
Pages
Date Added
Remove
Load files
Record 0 of 0
项目编号
SHEDT19002
仪器型号和编
气相色谱
柱 温
80℃
色谱柱
柱1(总烃柱)
柱2(甲烷柱)
标准物质名称
标气批号
标气浓度(PPM)
标准浓度(以C计)(mg/m³)
样品编号
回收率%
质控号
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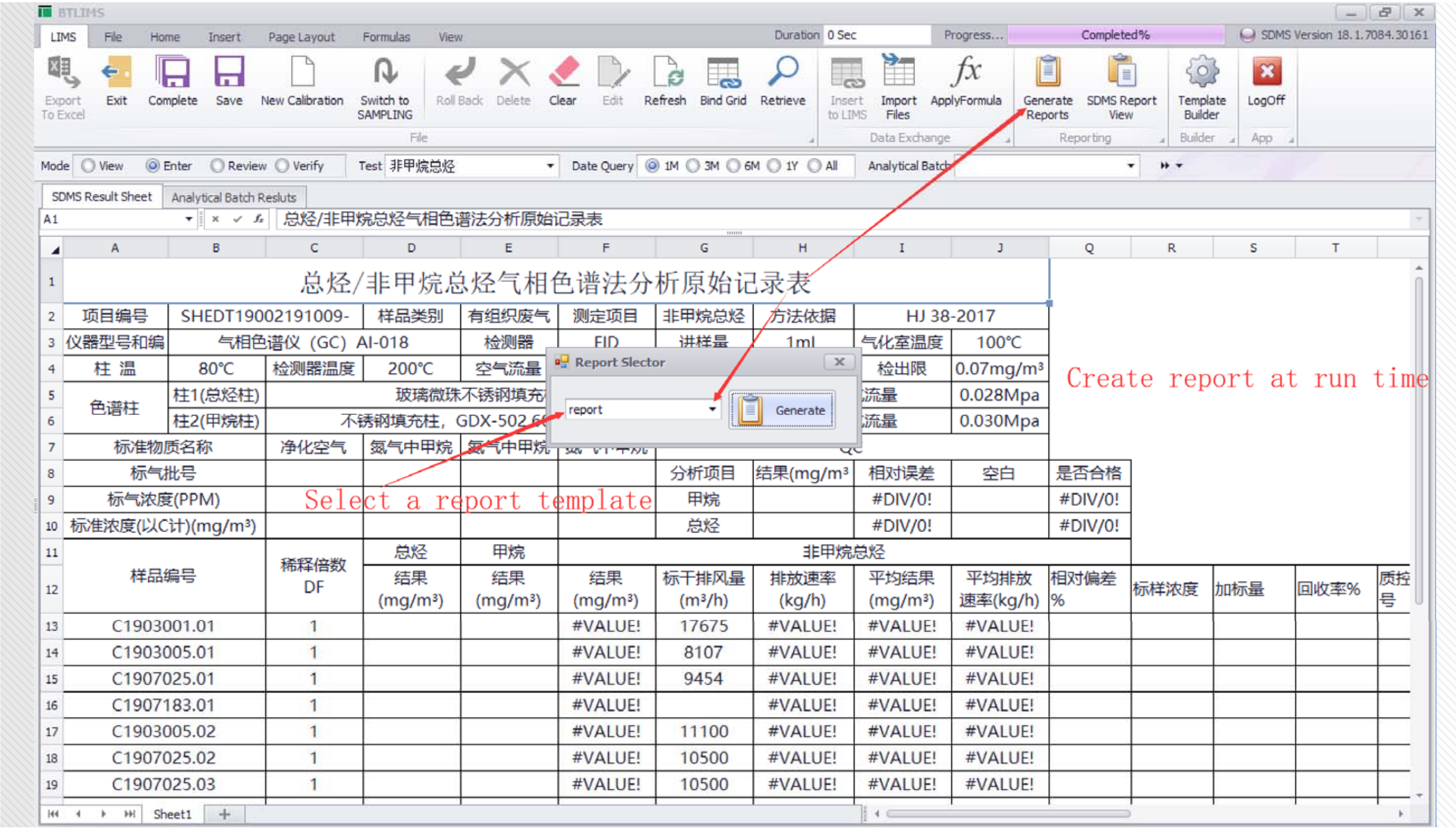
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Retrieve
Insert to LIMS
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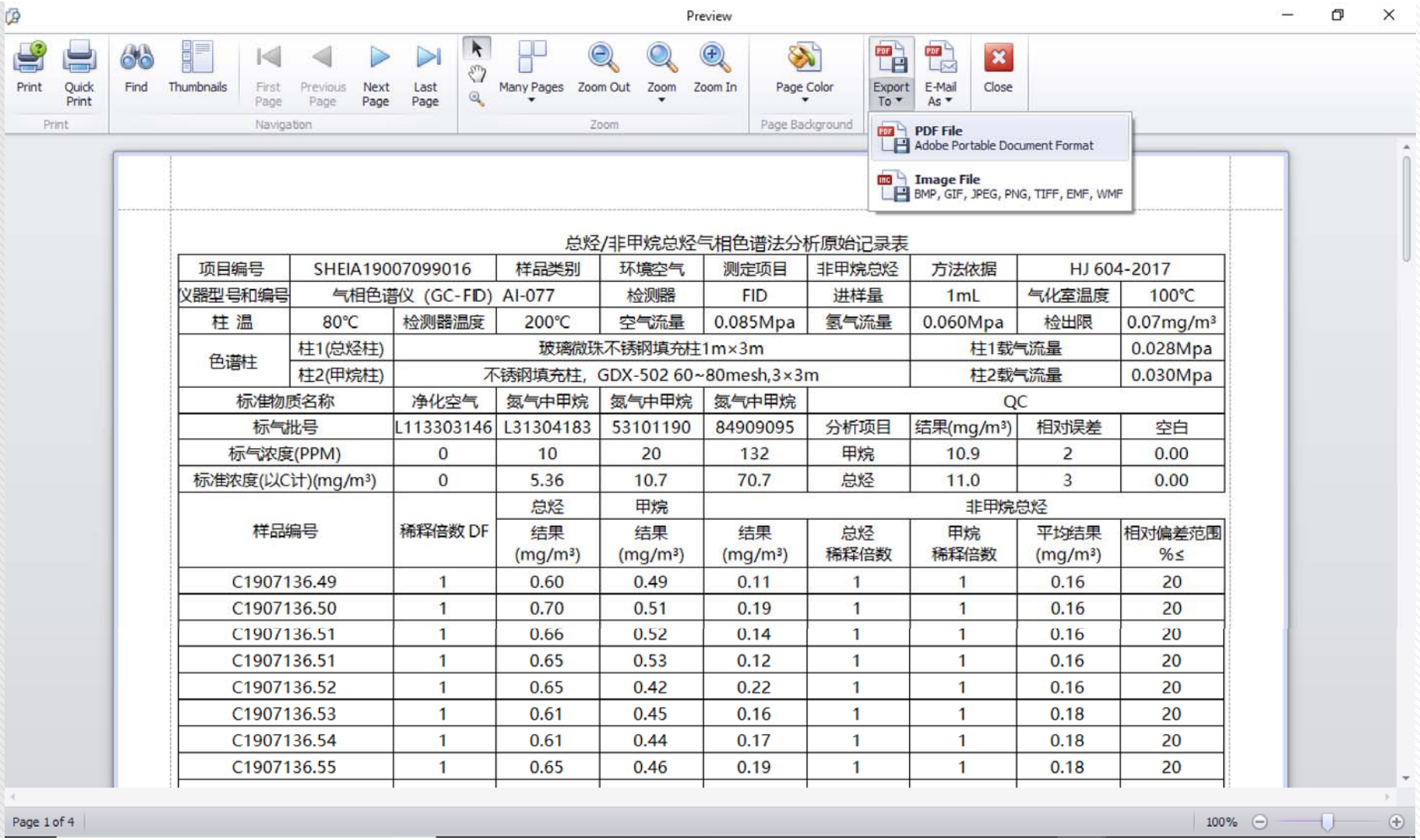
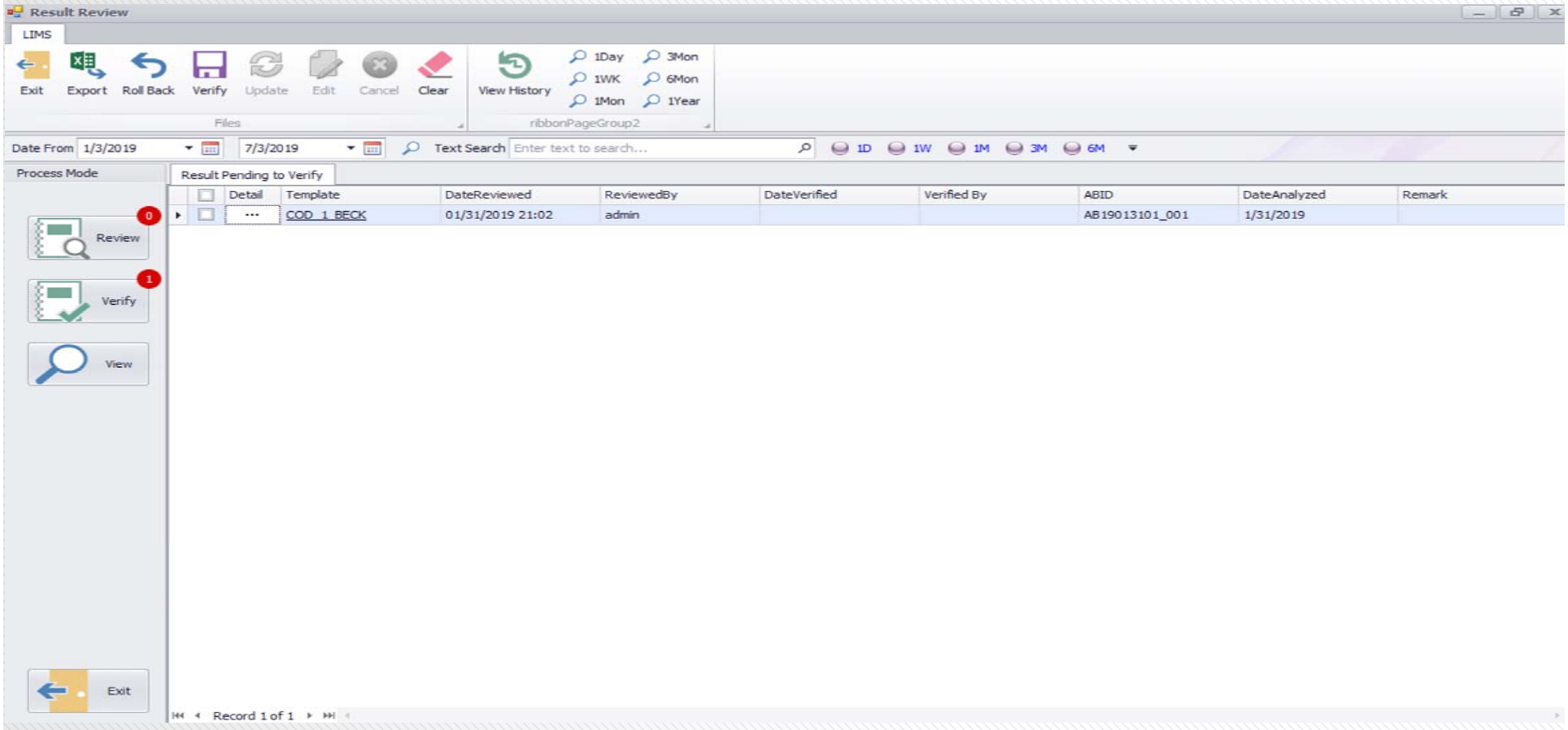
Generate Reports
SDMS Report View
Template Builder
LogOff
File
Data Exchange
Reporting
Builder
App
Mode View Enter Review Verify
Test 非甲烷总烃
Date Query 1M 3M 6M 1Y All
Analytical Batch
SDMS Result Sheet
Analytical Batch Resluts
总烃/非甲烷总烃气相色谱法分析原始记录表
Report Slector
report
Generate
Create report at run time
Select a report template
Sheet1



总烃/非甲烷总烃气相色谱法分析原始记录表

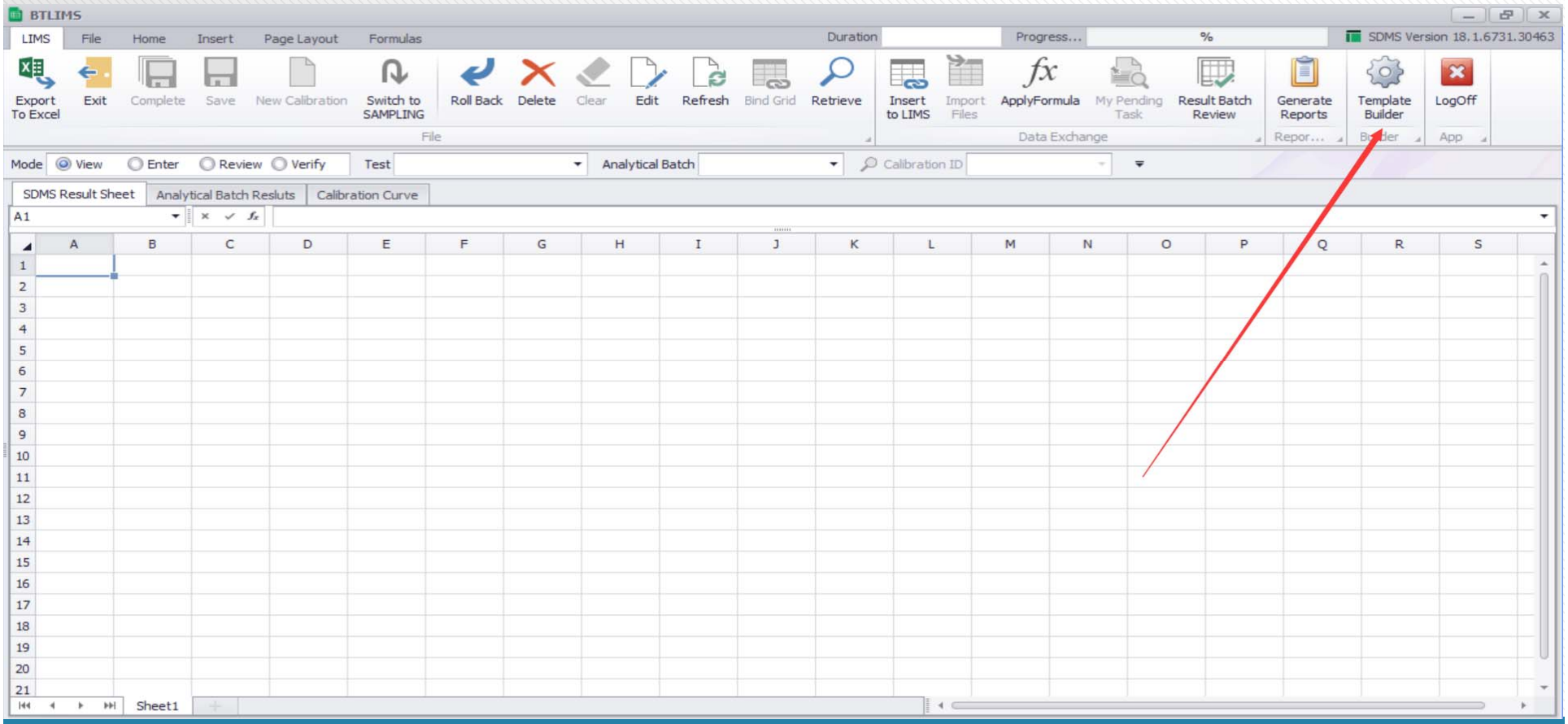
项目编号	SHEIA19007099016		样品类别	环境空气	测定项目	非甲烷总烃	方法依据	HJ 604-2017	
仪器型号和编号	气相色谱仪（GC-FID）AI-077			检测器	FID	进样量	1mL	气化室温度	100℃
柱 温	80℃	检测器温度	200℃	空气流量	0.085Mpa	氢气流量	0.060Mpa	检出限	0.07mg/m³
色谱柱	柱1(总烃柱)	玻璃微珠不锈钢填充柱1m×3m					柱1载气流量		0.028Mpa
	柱2(甲烷柱)	不锈钢填充柱，GDX-502 60~80mesh,3×3m					柱2载气流量		0.030Mpa
标准物质名称		净化空气	氮气中甲烷	氮气中甲烷	氮气中甲烷	QC			
标气批号		L113303146	L31304183	53101190	84909095	分析项目	结果(mg/m³)	相对误差	空白
标气浓度(PPM)		0	10	20	132	甲烷	10.9	2	0.00
标准浓度(以C计)(mg/m³)		0	5.36	10.7	70.7	总烃	11.0	3	0.00
样品编号		稀释倍数 DF	总烃	甲烷	非甲烷总烃				
			结果 (mg/m³)	结果 (mg/m³)	结果 (mg/m³)	总烃 稀释倍数	甲烷 稀释倍数	平均结果 (mg/m³)	相对偏差范围 %≤
C1907136.49		1	0.60	0.49	0.11	1	1	0.16	20
C1907136.50		1	0.70	0.51	0.19	1	1	0.16	20
C1907136.51		1	0.66	0.52	0.14	1	1	0.16	20
C1907136.51		1	0.65	0.53	0.12	1	1	0.16	20
C1907136.52		1	0.65	0.42	0.22	1	1	0.16	20
C1907136.53		1	0.61	0.45	0.16	1	1	0.18	20
C1907136.54		1	0.61	0.44	0.17	1	1	0.18	20
C1907136.55		1	0.65	0.46	0.19	1	1	0.18	20

SDMS Result Validation and Approval

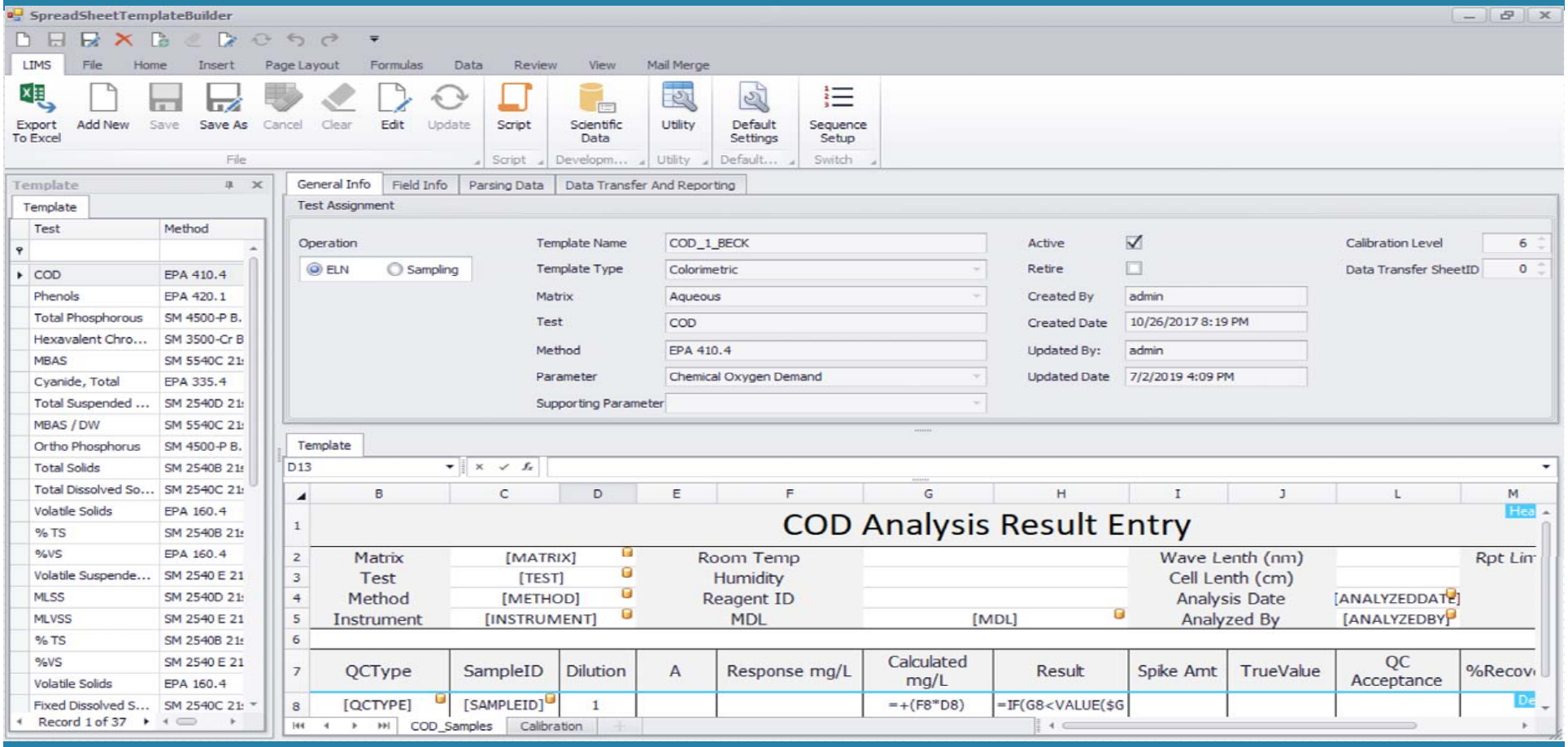


Lab Data Master

Select Template Builder

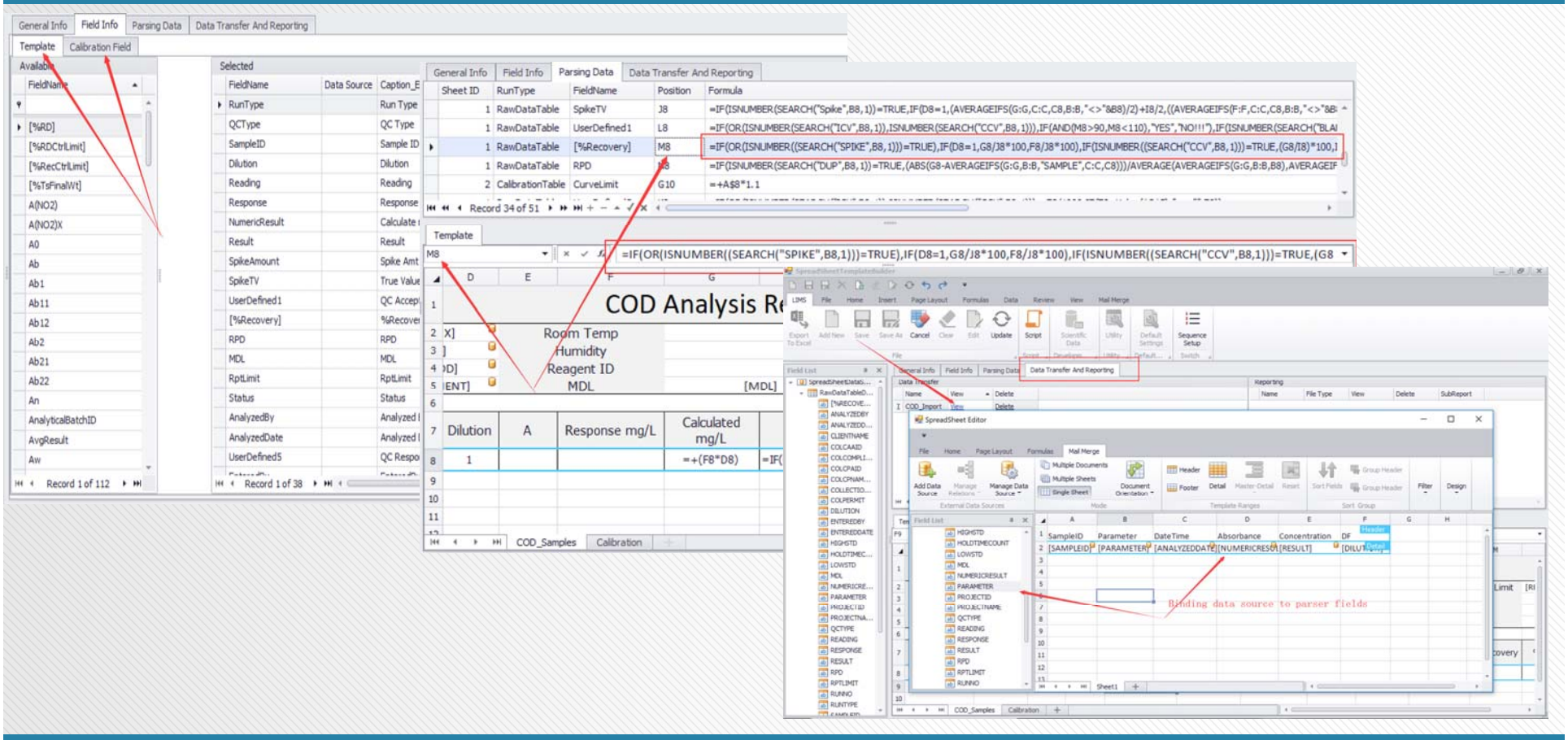


Build an SDMS Template

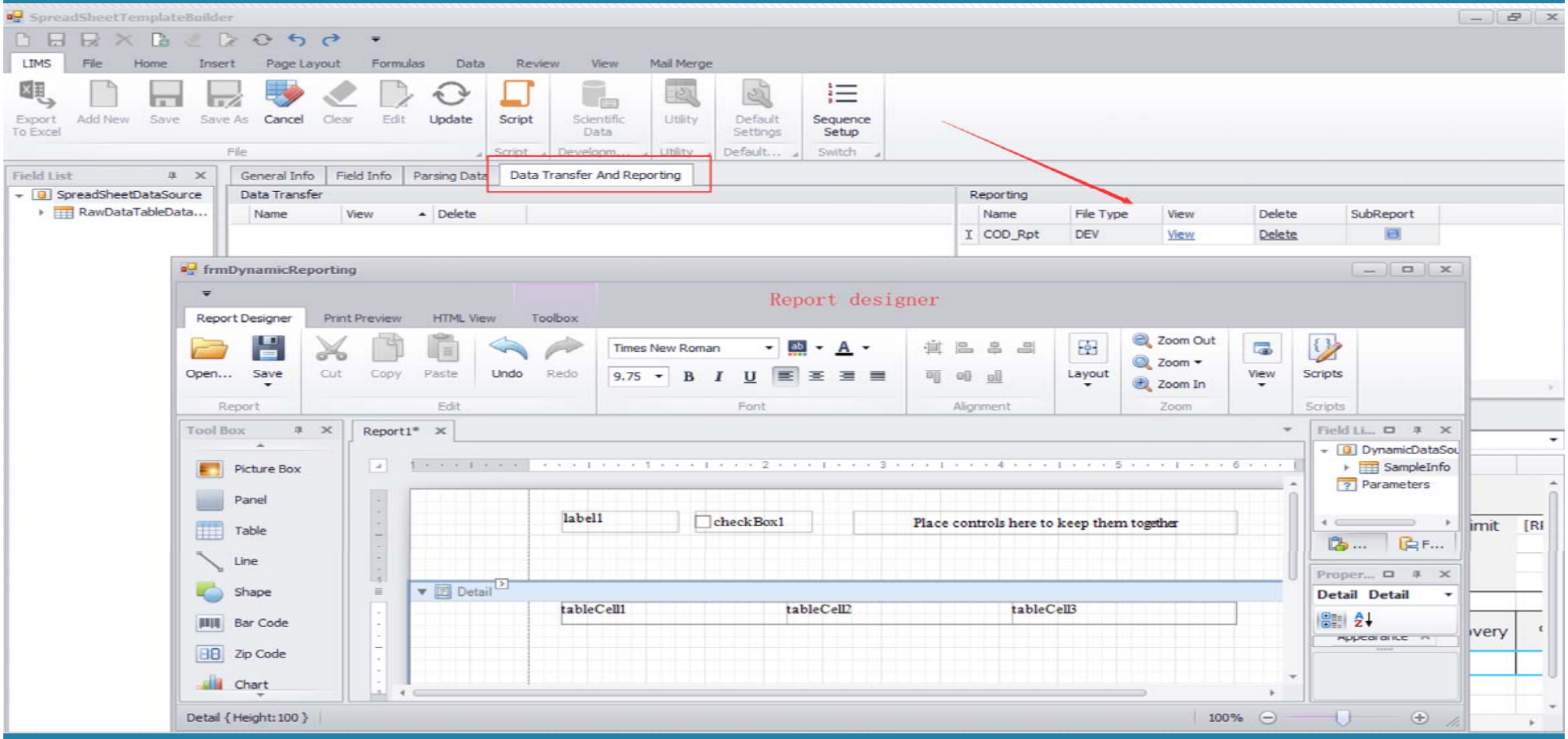


Lab Data Master

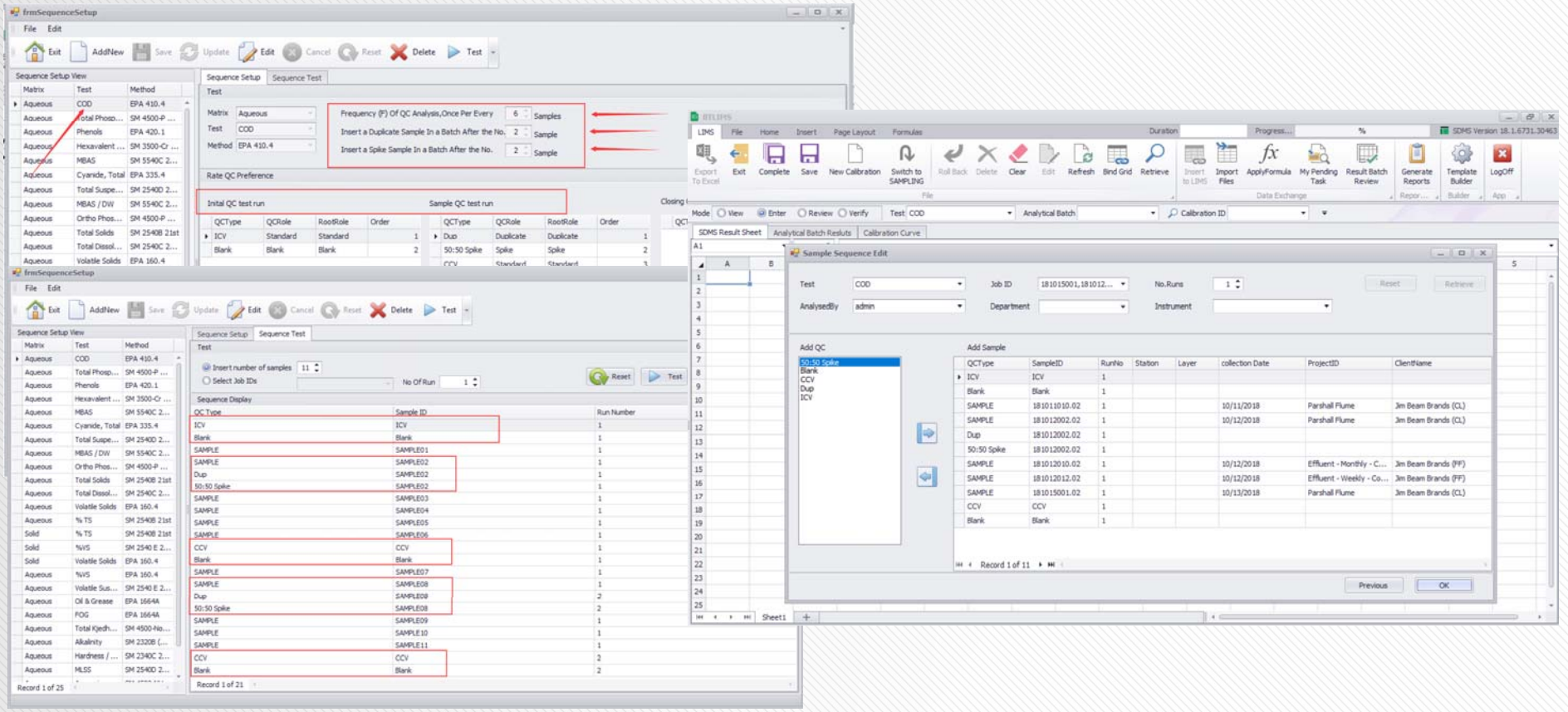
Building a Test Template – Data Field Settings in the Sheets



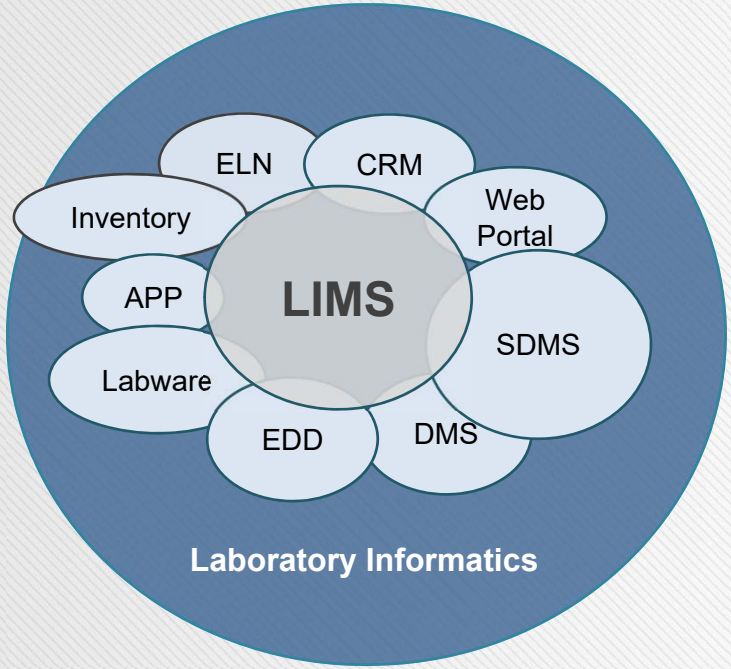
Design an Analysis Report



Set up a Run Sequence



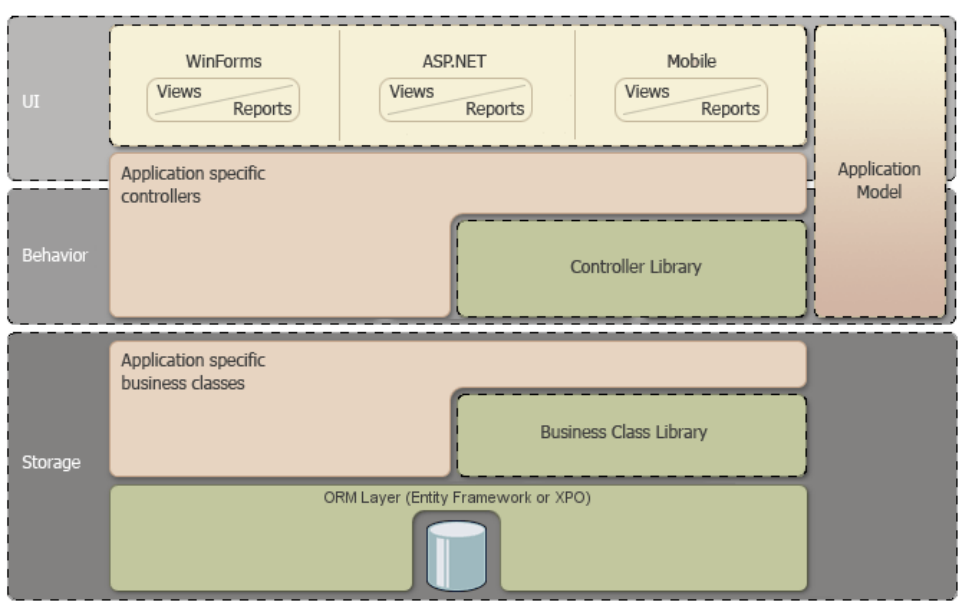
SDMS vs LIMS

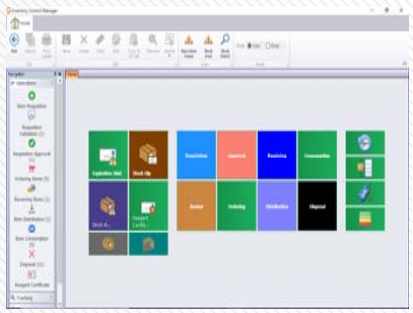


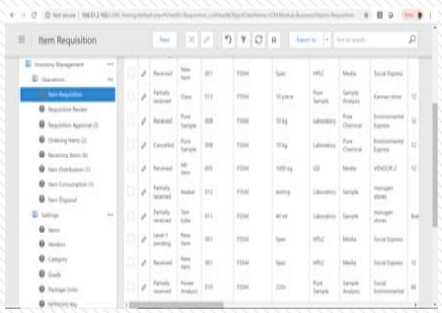
LIMS	SDMS
Covers entire workflow	A plug-in module; a tool
Industry dependent characteristics are obvious	A supplement to LIMS; Provides functionality that most LIMS do not have
Difficult to manage ongoing customization requests	Able to manage any customization on raw data result entry and report templates
Not easy to implement	Easily implemented

Product Architecture

Windows, Web, Mobile







SDMS Technology for Every Lab









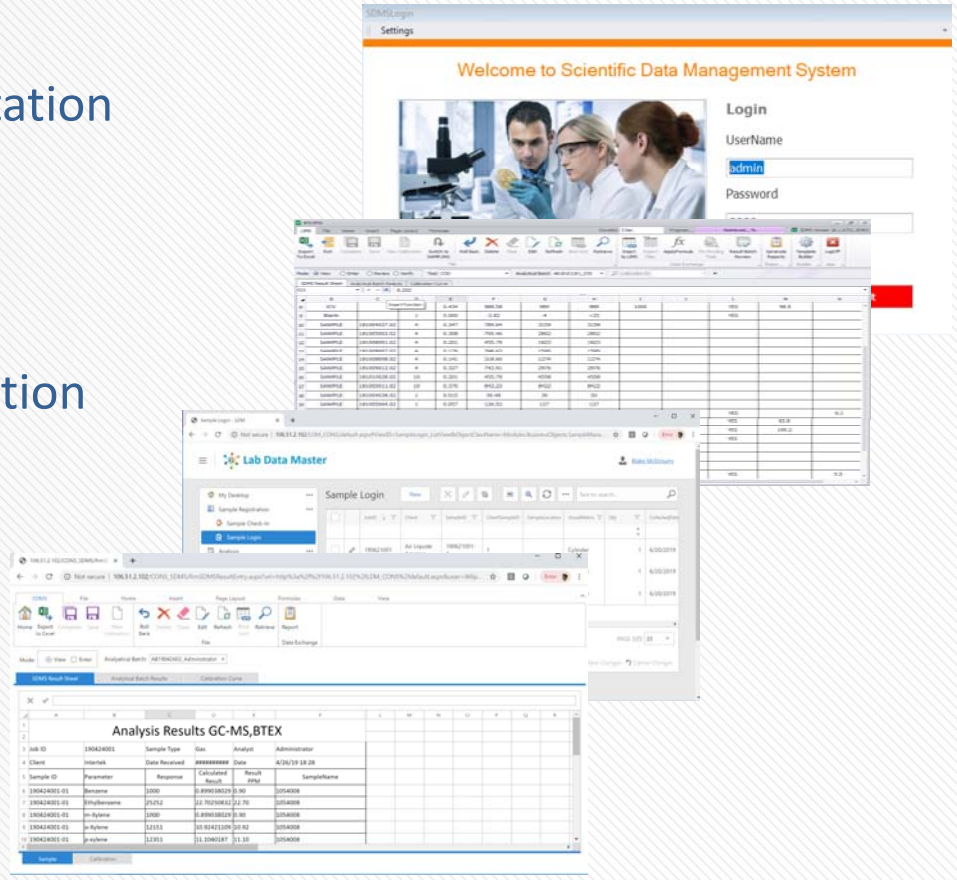






Summary

1. A practical solution to LIMS implementation
2. No programming involved
3. Easy operation and popular
4. Wide adaptability and scope of application
5. Simple integration or stand-alone
6. Improved productivity and ROI



Thank you !

We will now be answering questions

Contact: Bin Yu

http://www.labdatamaster.com/ 713-253-1684 info@labdatamaster.com