

Leveraging Technology for Quality Management

COQA – Sugar Land, TX October 25, 2018

Who is Baytek?

Baytek has 35 years experience providing refinery leading LIMS and data management solutions. We are leveraging that experience and our extensive toolsets to provide quality data management outside the lab.

- More than 1/3 of US Refineries Run Baytek BLISS™
 - Web-based, fit-for-purpose software solutions for refining and petroleum laboratories, quality control/SQC/SPC, fuels monitoring, pipelines, and more!
 - Located here in Texas, doing business around the world
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About The Speaker

- I'm one of you!
 - Background
 - Quick show of hands.....
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Keep the following questions in mind:

- If Only?
 - Data vs Information?
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Measurement System Performance

PERFORMANCE SCORECARD

Get your performance scorecards in seconds



Precision KPIs

Test	Instrument	Sigma	R	R'	TPI	No. Points	No. Points Beyond Control Limit	No. Points Violating EWMA	No. Points Violating MR UCL	% Points Violating Limit
D2622 Sulfur	Sindie X-Ray	1.06	2.88	2.95	0.98	91	2	0		3.30%
D3606 Benzene	7890A GC #5	0.012	0.072	0.033	2.18	88	2	1		4.55%
D86 IBP	ADA #2	2.9	15.3	8.0	1.91	26	0	0		0.00%

SITE PRECISION, TPI AND QC PERFORMANCE



Accuracy KPIs

Test	Instrument	ARV	Mean	Bias	R	No. Points	No. Points Beyond Accuracy Tolerance	% Points Violating Limit
D2622 Sulfur	Sindie X-Ray	10.51	10.83	0.32	2.92	16	1	6.25%
D3606 Benzene	7890A GC #5	0.426	0.415	-0.011	0.12	15	0	0.00%
D86 IBP	ADA #2	126.5	126.9	0.4	15.3	18		0.00%

BIAS AND ACCURACY STATISTICS



Interlaboratory Cross-Check Program KPIs

Test	Instrument	No. Points	Avg. Z-Score	% Z-score <1	% Z-score 1-2	% Z-score 2-3	% Points Violating EPA Accuracy Limit
D2622 Sulfur	Sindie X-Ray	10	-0.34	70.00%	20.00%	0.00%	10.00%
D3606 Benzene	7890A GC #5	4	-0.93	25.00%	50.00%	25.00%	0.00%
D86 IBP	ADA #2	10	0.12	80.00%	0.00%	10.00%	0.00%



ASTM D6792 TPI and QC Summary

TPI Range	No. of Tests	% of Violating Results	
TPI Above 1.2:	14	Precision:	3.41%
TPI 0.8 to 1.2:	1	Check Standard Accuracy:	2.04%
TPI Below 0.8:	2	ILCP Accuracy:	4.17%

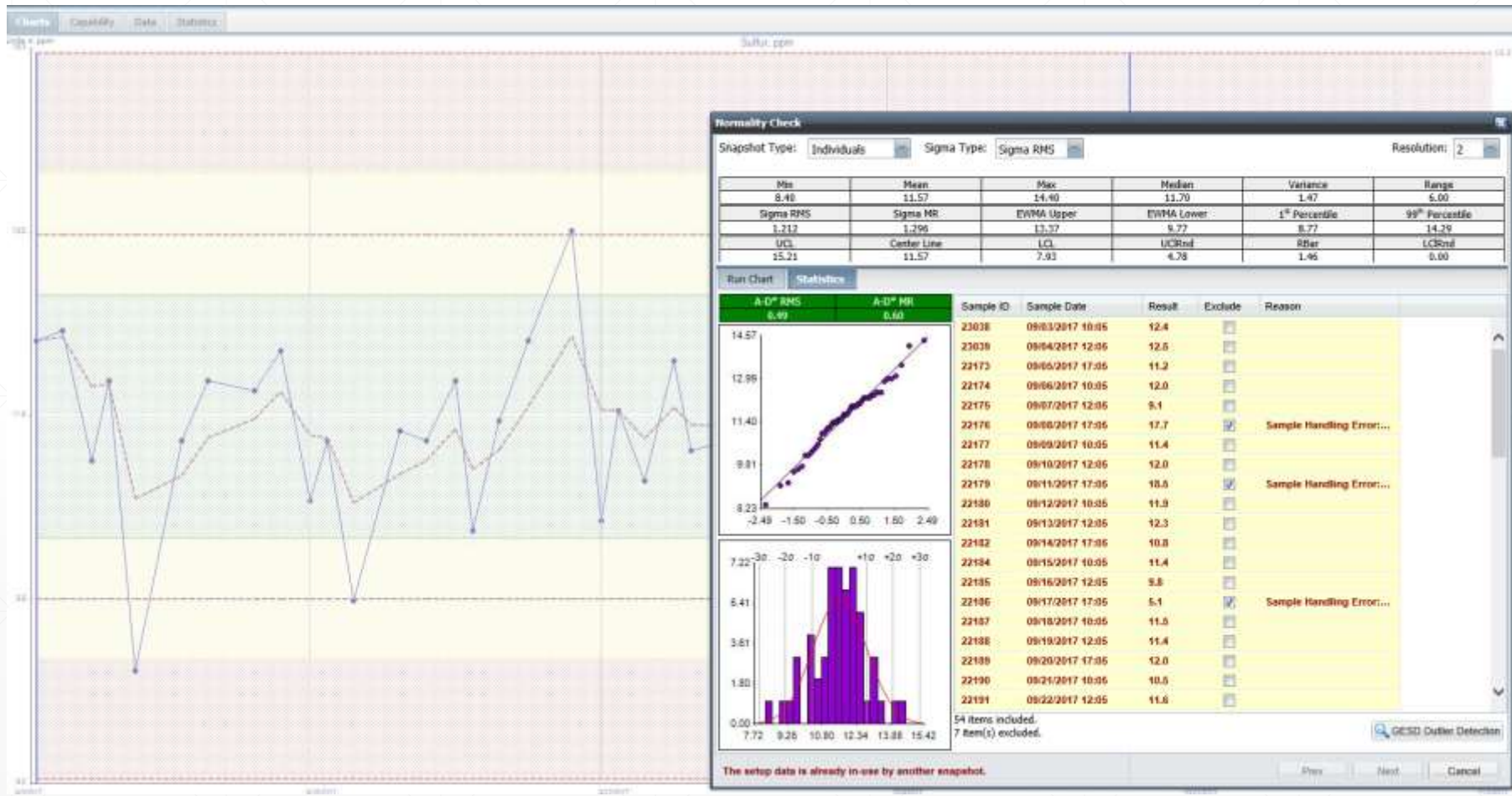
BENCHMARK METHODS AND INSTRUMENTS FROM QUARTER-TO-QUARTER AND BETWEEN LOCATIONS

*Sample reports

Configurable dashboards display real-time charting and analytics



Charting, Data Analysis, Statistical Monitoring and Control



The many automation and quality data management opportunities

- Auto input of data: 3rd Party Lab Results / Lab Instruments / Online Analyzers / Round Robins/ Other data streams
 - Auto spec checking (and specification management tools)
 - Auto trends analysis (SPC)
 - Auto alerts for violations
 - Consolidated dashboard to view data in real time
 - A tool to assess the data, to create actionable information
 - A total lab quality system for ongoing precision and accuracy monitoring; including bias assessment between known value, between instruments, or vs the industry
 - Reports with a click of a button
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CORPUS CHRISTI, TX - BAYTEK INTERNATIONAL HEADQUARTERS



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