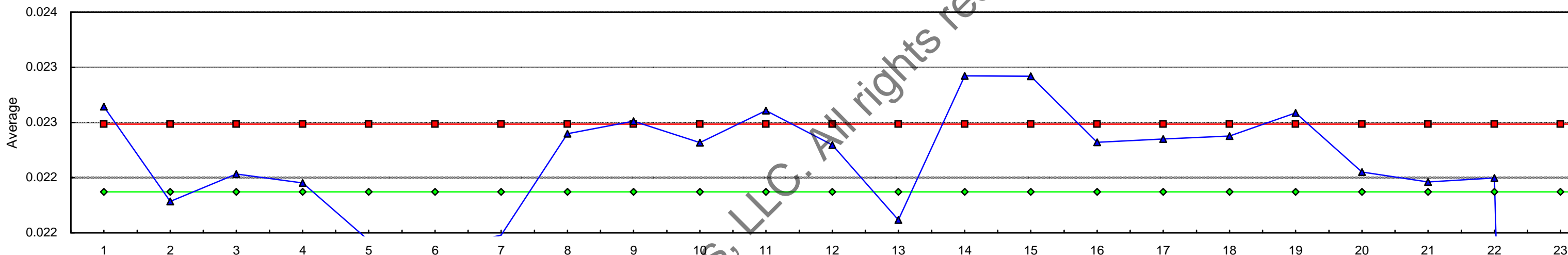


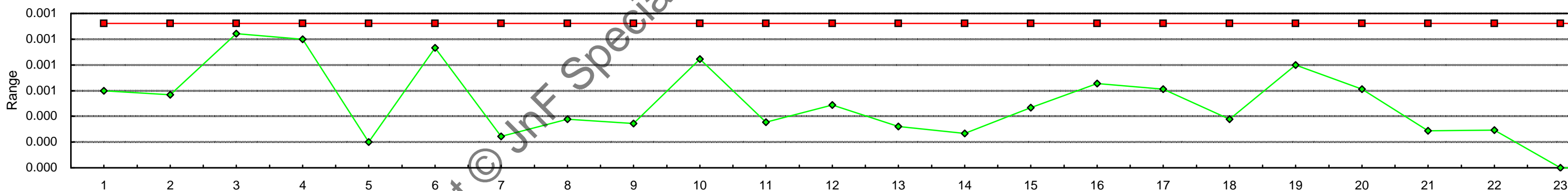
X-Bar Chart

Add to Cart

Sample #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	19	18	19	20	21	22
Comments:																							
Date:																							
Time:	11:19	11:35	11:51	12:07	12:30	01:30	03:30	06:09	06:58	07:46	08:34	09:22	10:11	10:59	11:47	12:35	01:24	01:24	02:12	04:44	05:33	06:21	
Operator:	YS	YS	YS	YS	RC	RC	RC	IS	IS	RC	DD	DD	IS	IS	RC	DD	YS	DD	DD	IS	IS	IS	
Sample 1	0.0229	0.0215	0.0218	0.0217	0.0214	0.0208	0.0216	0.0225	0.0225	0.0223	0.0226	0.0221	0.0214	0.0230	0.0226	0.0227	0.0222	0.0223	0.0230	0.0221	0.0220	0.0220	
Sample 2	0.0228	0.0220	0.0216	0.0224	0.0213	0.0216	0.0213	0.0223	0.0226	0.0224	0.0227	0.0225	0.0217	0.0228	0.0227	0.0220	0.0226	0.0224	0.0226	0.0219	0.0218	0.0218	
Sample 3	0.0223	0.0217	0.0226	0.0220	0.0215	0.0217	0.0216	0.0222	0.0224	0.0228	0.0224	0.0222	0.0217	0.0229	0.0231	0.0226	0.0221	0.0226	0.0222	0.0219	0.0219	0.0220	
Sample 4	0.0224	0.0218	0.0222	0.0214	0.0215	0.0212	0.0215	0.0224	0.0223	0.0219	0.0227	0.0221	0.0217	0.0229	0.0230	0.0222	0.0222	0.0224	0.0228	0.0219	0.0219	0.0220	
Sample 5	0.0227	0.0219	0.0220	0.0223	0.0215	0.0214	0.0215	0.0225	0.0227	0.0222	0.0226	0.0226	0.0217	0.0230	0.0231	0.0222	0.0227	0.0222	0.0223	0.0225	0.0221	0.0221	
Sum:	0.1132	0.1089	0.1102	0.1098	0.1072	0.1067	0.1074	0.1120	0.1126	0.1116	0.1130	0.1115	0.1081	0.1146	0.1146	0.1116	0.1118	0.1119	0.1129	0.1103	0.1098	0.1100	
Average: (x)	0.0226	0.0218	0.0220	0.0220	0.0214	0.0213	0.0215	0.0224	0.0225	0.0223	0.0226	0.0223	0.0216	0.0229	0.0229	0.0223	0.0224	0.0224	0.0226	0.0221	0.0220	0.0220	
Range - R	0.0006	0.0006	0.0010	0.0010	0.0002	0.0009	0.0002	0.0004	0.0003	0.0008	0.0004	0.0005	0.0003	0.0003	0.0005	0.0007	0.0006	0.0004	0.0008	0.0006	0.0003	0.0003	
Xbar Control ?	?	?	O.K.	O.K.	?	?	?	O.K.	?	O.K.	?	O.K.	?	?	?	O.K.	O.K.	O.K.	?	O.K.	O.K.	O.K.	



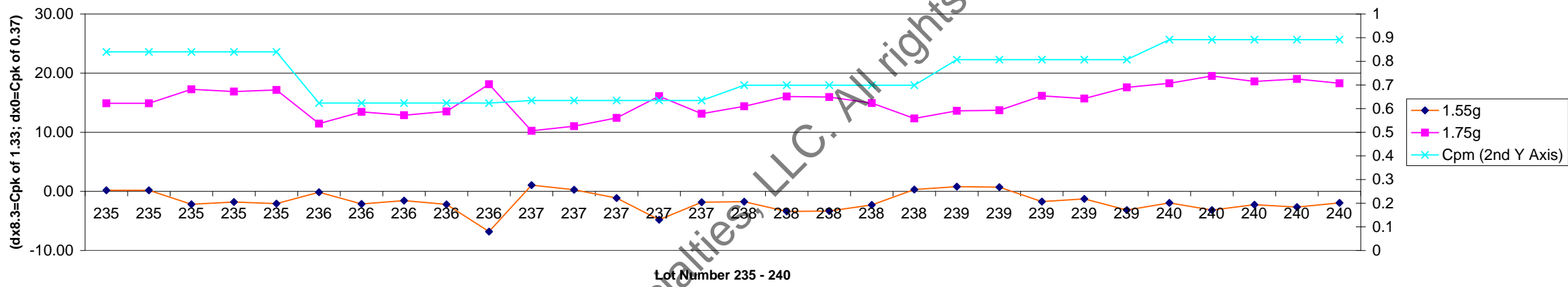
Range Control ?	O.K.	O.K.	O.K.	O.K.	O.K.	O.K.	O.K.	O.K.	O.K.	O.K.	O.K.	O.K.	O.K.	O.K.	O.K.	O.K.	O.K.	O.K.	O.K.	O.K.	O.K.	O.K.	
-----------------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	--



The upper and lower control limit calculations are located under the x-bar graph

Cpk-Cpm Yield Chart

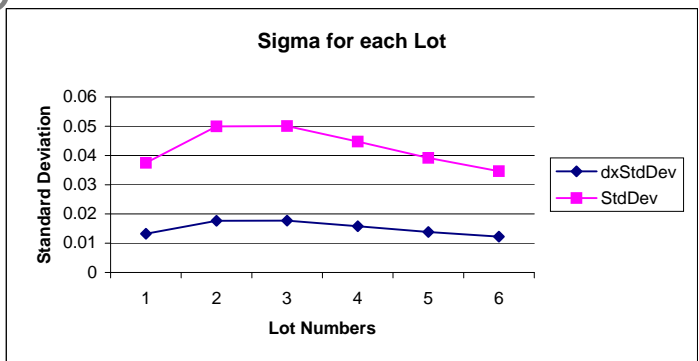
USL, g:	1.75					LSL, g: 1.55					Sample Process										Process Acceptance Chart									
Lot#:	235					236					237					238					239									
Comment:																														
Date:																														
1	1.76	1.75	1.84	1.82	1.77	1.74	1.78	1.76	1.78	1.91	1.75	1.76	1.78	1.78	1.80	1.80	1.84	1.85	1.80	1.77	1.76									
2	1.73	1.73	1.84	1.80	1.84	1.76	1.71	1.79	1.79	1.84	1.75	1.75	1.78	1.79	1.86	1.82	1.71	1.85	1.77	1.77	1.76									
3	1.75	1.74	1.73	1.81	1.76	1.73	1.76	1.76	1.77	1.93	1.68	1.69	1.79	1.88	1.73	1.81	1.85	1.77	1.81	1.80	1.72									
4	1.74	1.66	1.76	1.78	1.75	1.76	1.78	1.80	1.74	1.88	1.67	1.74	1.73	1.85	1.75	1.83	1.77	1.77	1.78	1.76	1.77									
5	1.77	1.81	1.74	1.75	1.75	1.73	1.84	1.81	1.79	1.85	1.78	1.76	1.77	1.88	1.83	1.78	1.85	1.81	1.80	1.67	1.73									
6	1.79	1.77	1.80	1.76	1.77	1.76	1.81	1.71	1.78	1.88	1.79	1.73	1.75	1.81	1.79	1.76	1.79	1.80	1.78	1.66	1.75									
7	1.72	1.76	1.77	1.75	1.83	1.76	1.81	1.78	1.83	1.85	1.70	1.75	1.76	1.83	1.77	1.70	1.84	1.77	1.76	1.78	1.71									
8	1.72	1.76	1.75	1.72	1.75	1.78	1.81	1.81	1.83	1.82	1.73	1.78	1.80	1.86	1.73	1.72	1.78	1.80	1.79	1.75	1.71									
Average:	1.75	1.75	1.78	1.77	1.78	1.75	1.79	1.78	1.79	1.87	1.73	1.75	1.77	1.84	1.78	1.78	1.80	1.80	1.79	1.75	1.74									



81
 .63
 K.
 113
 0716

$$dx = \frac{avg - LSL}{\sigma / \sqrt{n}} > 4\sqrt{n} - 3$$

$$dx = \frac{USL - avg}{\sigma / \sqrt{n}} > 4\sqrt{n} - 3$$



dx provides a means to answer the question
 Are we making acceptable parts? -- instead of -- Are we in control?

The Cpm capability index depends on both variability and centering.

This is not a control chart

Acceptance is based on the Lower Acceptance Limit