

(  $\bar{X}-s$  Charts) 3-8

(Leer Keetchner)

500 4 (Spring)

4  
((9-4) )

.(B,C,D,E) A

1 (F)  
(=AVERAGE(B4:E4)) (F4)  
.(F28) (F5)

( )				
X <sub>4</sub>	X <sub>3</sub>	X <sub>2</sub>	X <sub>1</sub>	
501.10	504.34	501.65	501.02	1
500.41	499.47	498.89	499.80	2
500.41	500.34	498.35	497.12	3
499.44	499.74	501.39	500.68	4
499.44	498.00	500.92	495.87	5
500.03	502.10	499.22	497.89	6
503.51	498.74	501.04	497.24	7
505.37	499.06	504.53	501.22	8
502.39	497.96	501.11	499.15	9
499.33	500.05	505.99	498.90	10
500.72	497.57	497.8	497.38	11
496.48	501.35	500.99	499.70	12
501.27	495.21	500.46	501.44	13
501.27	500.32	495.54	498.26	14
501.22	500.60	497.00	497.57	15
500.44	500.60	502.07	500.95	16
502.36	501.18	500.56	499.7	17
504.98	501.18	502.09	501.57	18
501.84	498.68	500.92	504.20	19
501.84	500.67	501.82	498.61	20
497.36	500.67	501.82	499.05	21
501.95	501.79	494.08	497.85	22
503.56	503.06	503.12	501.08	23
502.88	501.09	501.18	500.75	24
499.39	498.76	501.44	502.03	25
(Springs)				9-4

1 (J)

. (=STDEV(B4:E4)) (J4)

.(J28) (J5)

= ) (P12) .( $\bar{s}$ )

(AVERAGE(J4:J28))

(P16) (= P8\*P12) (P14)

.(= P7\*P12)

2007 : 9960-75-688-2 :

(P7) (P8) (B<sub>3</sub>) (B<sub>4</sub>)

$$CL = \bar{s} = 1.91$$

$$UCL_s = 4.32$$

$$LCL_s = 0$$

$$= \text{AVERAGE}(F4:F28) : (P20) .(\bar{\bar{X}})$$

$$= P20 + P6 * P12 : (P22)$$

$$= P20 - P6 * P12 : (P24)$$

$$(A_3) (P6)$$

$$CL = \bar{\bar{X}} = 500.35$$

$$UCL_{\bar{X}} = 503.45$$

$$LCL_{\bar{X}} = 497.24$$

(14-4)

sample	X1	X2	X3	X4	Xbar	s
1	501.02	501.65	504.34	501.1	502.03	1.57
2	499.0	498.89	499.47	500.41	499.64	0.64
3	497.12	498.35	500.34	500.41	499.06	1.61
4	500.68	501.39	499.74	499.44	500.31	0.89
5	495.87	500.92	498	499.44	498.56	2.15
6	497.89	499.22	502.1	500.03	499.81	1.76
7	497.24	501.04	498.74	503.51	500.13	2.74
8	501.22	504.53	499.06	505.37	502.66	2.93
9	499.15	501.11	497.96	502.39	500.15	1.98
10	498.9	505.99	500.05	499.33	501.07	3.32
11	497.38	497.8	497.57	500.72	498.37	1.58
12	499.7	500.99	501.35	496.48	499.63	2.22
13	501.44	500.46	495.21	501.27	499.60	2.95
14	498.26	495.54	500.32	501.27	498.85	2.54
15	497.57	497	500.6	501.22	499.10	2.12
16	500.95	502.07	500.6	500.44	501.02	0.73
17	499.7	500.56	501.18	502.36	500.95	1.12
18	501.57	502.09	501.18	504.98	502.46	1.72
19	504.2	500.92	498.68	501.84	501.41	2.28
20	498.61	501.82	500.67	501.84	500.74	1.52
21	499.06	501.82	500.67	497.36	499.73	1.94
22	497.85	494.08	501.79	501.95	498.92	3.74
23	501.08	503.12	503.06	503.56	502.71	1.11
24	500.75	501.18	501.09	502.88	501.48	0.95
25	502.03	501.44	498.76	499.39	500.41	1.58

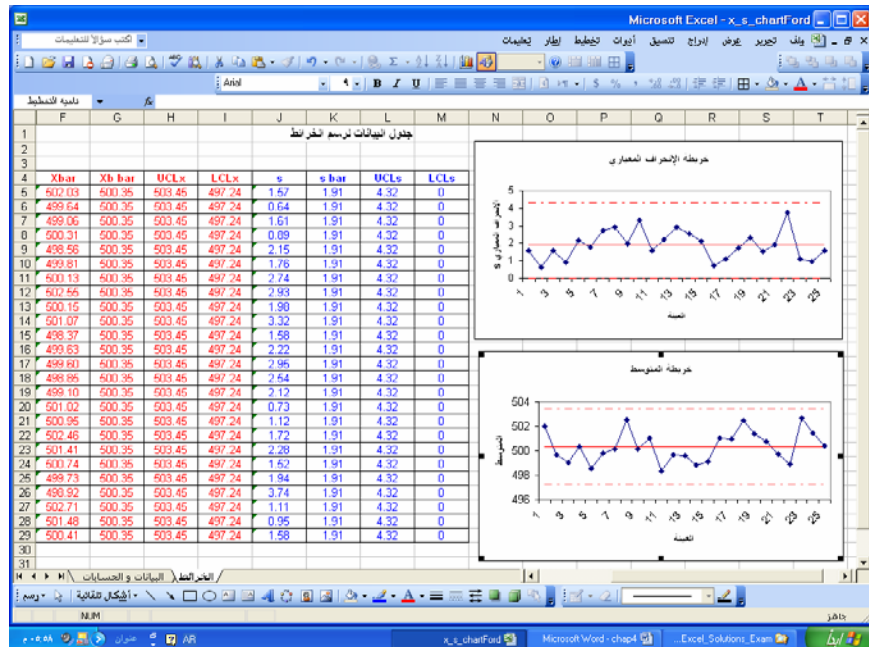
(s)

( $\bar{X}$ )

14-4

:

$(UCL_X)$   $(\bar{\bar{X}})$   $(\bar{X})$   
 $(UCL_s)$   $(\bar{s})$   $(s)$   $(LCL_X)$   
 (Chart Wizard)  $(LCL_s)$   
 (15-4)



15-4

$(16-4)$   $(\bar{X} - s \text{ charts})$

