ภาคผนวก

ภาคผนวก ก

การแบ่งกลุ่มสินค้าด้วยวิธี ABC (ABC Classification)

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1	0-011725-00	91.92	141,504	13,007,068	13,007,068	4.69	A
2	0-006755-00	58.00	137,800	7,992,420	20,999,488	7.57	A
3	5-099107-00	35.79	202,800	7,258,350	28,257,838	10.19	A
4	0-991374-00	703.76	8,385	5,901,064	34,158,902	12.32	A
5	0-003138-00	172.60	30,000	5,178,020	39,336,922	14.19	A
6	0-113001-00	188.21	26,928	5,068,057	44,404,979	16.02	A
7	4-209000-00	106.97	46,590	4,983,779	49,388,758	17.82	A
8	0-016008-00	55.95	84,200	4,710,758	54,099,516	19.51	A
9	0-018817-00	188.65	22,925	4,324,732	58,424,248	21.07	A
10	5-038328-00	67.45	47,400	3,197,084	61,621,332	22.23	A
11	3-030292-01	39.01	73,550	2,869,043	64,490,375	23.26	A
12	0-109354-00	63.14	40,950	2,585,471	67,075,846	24.20	A
13	8-665801-01	7.44	345,500	2,570,315	69,646,161	25.12	A
14	4-207000-00	40.22	56,620	2,277,295	71,923,456	25.94	A
15	3-097084-01	57.75	38,000	2,194,520	74,117,976	26.74	A
16	0-400218-00	2,425.37	901	2,185,260	76,303,236	27.52	A
17	8-500102-00	67.76	32,200	2,181,892	78,485,128	28.31	A
18	0-004349-00	620.44	3,500	2,171,548	80,656,676	29.09	A
19	5-096004-00	864.86	2,500	2,162,150	82,818,826	29.87	A
20	0-400217-00	2,274.96	900	2,047,466	84,866,292	30.61	A
21	0-004440-01	241.29	8,200	1,978,598	86,844,890	31.33	A
22	0-000226-01	222.00	8,505	1,888,130	88,733,020	32.01	A
23	8-901000-00	36.19	49,100	1,777,046	90,510,066	32.65	A
24	5-006045-00	73.19	24,000	1,756,574	92,266,640	33.28	A

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
25	5-004370-00	13.33	129,000	1,719,513	93,986,153	33.90	A
26	3-074361-00	502.69	3,400	1,709,152	95,695,305	34.52	A
27	5-039243-00	7.70	222,000	1,708,859	97,404,164	35.13	A
28	5-004173-00	28.34	59,275	1,679,725	99,083,889	35.74	A
29	0-051120-00	1,581.20	1,050	1,660,261	100,744,150	36.34	A
30	9-002015-00	1,823.73	900	1,641,361	102,385,511	36.93	A
31	5-004149-00	96.03	16,544	1,588,750	103,974,261	37.50	A
32	0-004391-00	297.59	5,320	1,583,204	105,557,465	38.08	A
33	5-004124-00	82.71	19,057	1,576,183	107,133,648	38.64	A
34	1-527200-00	270.65	5,700	1,542,697	108,676,345	39.20	A
35	5-822152-00	26.90	56,200	1,511,907	110,188,252	39.75	A
36	0-004282-01	193.03	7,787	1,503,160	111,691,412	40.29	A
37	0-004420-01	151.90	9,639	1,464,140	113,155,552	40.82	A
38	0-014951-01	13.65	107,000	1,460,570	114,616,122	41.34	A
39	5-001242-00	19.70	72,600	1,430,573	116,046,695	41.86	A
40	1-000044-00	212.82	6,480	1,379,067	117,425,762	42.36	A
41	0-106156-01	34.18	40,300	1,377,551	118,803,313	42.85	A
42	0-501101-00	2,627.53	500	1,313,767	120,117,080	43.33	A
43	0-040357-00	1,005.39	1,300	1,307,008	121,424,088	43.80	A
44	5-096005-00	526.44	2,300	1,210,815	122,634,903	44.24	A
45	5-090056-00	713.98	1,669	1,191,639	123,826,542	44.67	A
46	9-008016-00	8.28	142,100	1,176,891	125,003,433	45.09	A
47	8-500204-00	33.14	35,000	1,159,920	126,163,353	45.51	A
48	7-506206-00	9.37	122,398	1,146,889	127,310,242	45.92	A
49	0-051100-00	1,108.54	1,000	1,108,535	128,418,777	46.32	A
50	0-075016-01	261.40	3,969	1,037,499	129,456,276	46.70	B
51	5-004136-00	32.78	31,470	1,031,616	130,487,892	47.07	B
52	8-500907-01	34.00	29,100	989,420	131,477,312	47.43	B
53	0-027109-00	4.02	239,000	960,800	132,438,112	47.77	B
54	5-011245-00	26.69	35,000	934,170	133,372,282	48.11	B
55	3-074315-00	74.40	12,500	929,982	134,302,264	48.44	B

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ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
56	0-044778-00	1,290.27	700	903,187	135,205,451	48.77	B
57	3-074392-00	351.96	2,475	871,113	136,076,564	49.08	B
58	5-038297-00	43.15	19,477	840,459	136,917,023	49.39	B
59	5-038964-00	67.96	12,153	825,969	137,742,992	49.69	B
60	8-505102-01	4.62	173,760	803,392	138,546,384	49.98	B
61	0-040528-00	798.49	1,000	798,487	139,344,871	50.26	B
62	5-922010-00	122.66	6,500	797,277	140,142,148	50.55	B
63	0-004342-00	172.93	4,600	795,466	140,937,614	50.84	B
64	0-004417-00	197.33	3,900	769,574	141,707,188	51.12	B
65	1-000002-00	2,926.08	250	731,520	142,438,708	51.38	B
66	1-000043-01	405.01	1,800	729,020	143,167,728	51.64	B
67	0-040523-00	1,165.71	600	699,423	143,867,151	51.89	B
68	3-074261-00	239.28	2,873	687,463	144,554,614	52.14	B
69	1-007033-00	100.54	6,800	683,665	145,238,279	52.39	B
70	0-018340-00	22.56	29,700	670,052	145,908,331	52.63	B
71	0-004201-00	135.00	4,954	668,809	146,577,140	52.87	B
72	8-909000-00	7.52	88,400	664,705	147,241,845	53.11	B
73	0-000701-00	134.72	4,895	659,464	147,901,309	53.35	B
74	7-506003-00	10.59	62,200	658,718	148,560,027	53.59	B
75	5-090030-00	542.88	1,195	648,737	149,208,764	53.82	B
76	0-051127-00	588.49	1,100	647,343	149,856,107	54.05	B
77	0-004397-00	104.68	6,180	646,933	150,503,040	54.29	B
78	9-000066-00	1,845.06	350	645,770	151,148,810	54.52	B
79	5-038826-00	35.08	18,400	645,383	151,794,193	54.75	B
80	0-990310-00	22.48	28,400	638,452	152,432,645	54.98	B
81	0-004439-01	277.49	2,286	634,346	153,066,991	55.21	B
82	0-004413-00	255.33	2,430	620,455	153,687,446	55.44	B
83	0-099081-01	158.45	3,894	617,008	154,304,454	55.66	B
84	5-042025-00	121.46	5,000	607,298	154,911,752	55.88	B
85	9-603201-00	627.31	966	605,982	155,517,734	56.10	B
86	3-074318-00	201.18	3,000	603,536	156,121,270	56.31	B

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
87	5-007032-00	4.33	137,500	594,845	156,716,115	56.53	B
88	3-030207-01	51.07	11,614	593,156	157,309,271	56.74	B
89	9-002003-00	5.72	102,000	583,906	157,893,177	56.95	B
90	0-099530-00	27.31	21,120	576,706	158,469,883	57.16	B
91	5-090031-00	640.67	900	576,603	159,046,486	57.37	B
92	8-115016-00	376.02	1,530	575,312	159,621,798	57.58	B
93	8-502403-01	19.50	29,300	571,439	160,193,237	57.78	B
94	0-000601-00	130.70	4,255	556,139	160,749,376	57.98	B
95	0-039091-00	11.06	49,400	546,280	161,295,656	58.18	B
96	0-004307-00	777.50	700	544,247	161,839,903	58.38	B
97	2-301000-00	17.92	30,000	537,670	162,377,573	58.57	B
98	1-503101-00	1,583.32	330	522,497	162,900,070	58.76	B
99	0-902000-00	22.90	22,680	519,392	163,419,462	58.95	B
100	5-095019-01	518.49	1,000	518,489	163,937,951	59.13	B
101	0-000274-00	391.06	1,325	518,161	164,456,112	59.32	B
102	5-090057-00	725.73	704	510,911	164,967,023	59.51	B
103	0-091098-00	300.00	1,690	506,995	165,474,018	59.69	B
104	3-074376-00	231.18	2,192	506,752	165,980,770	59.87	B
105	8-095016-01	815.32	614	500,609	166,481,379	60.05	B
106	0-099531-01	11.31	44,200	499,752	166,981,131	60.23	B
107	1-022034-00	42.23	11,800	498,275	167,479,406	60.41	B
108	0-040542-00	824.44	600	494,664	167,974,070	60.59	B
109	5-002500-00	49.27	10,000	492,650	168,466,720	60.77	B
110	0-039089-00	8.12	60,000	487,262	168,953,982	60.94	B
111	3-089021-00	124.67	3,862	481,476	169,435,458	61.12	B
112	0-051106-00	343.32	1,400	480,652	169,916,110	61.29	B
113	8-503604-00	14.57	32,500	473,545	170,389,655	61.46	B
114	3-074338-00	169.59	2,784	472,144	170,861,799	61.63	B
115	3-074369-00	233.26	2,000	466,514	171,328,313	61.80	B
116	5-364508-01	8.28	56,000	463,811	171,792,124	61.97	B
117	0-044753-01	110.55	4,100	453,271	172,245,395	62.13	B

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
118	0-023001-01	300.01	1,500	450,020	172,695,415	62.29	B
119	3-074313-00	149.63	2,970	444,406	173,139,821	62.45	B
120	9-670101-00	22.92	19,200	440,118	173,579,939	62.61	B
121	1-022021-00	42.23	10,300	434,938	174,014,877	62.77	B
122	0-027127-01	9.61	45,200	434,356	174,449,233	62.93	B
123	9-024011-00	15.88	27,188	431,870	174,881,103	63.08	B
124	0-040544-00	301.63	1,400	422,275	175,303,378	63.23	B
125	9-090049-00	325.02	1,296	421,220	175,724,598	63.39	B
126	9-005201-00	123.87	3,400	421,151	176,145,749	63.54	B
127	7-506102-00	3.28	127,500	418,220	176,563,969	63.69	B
128	6-029019-00	9.20	45,000	413,858	176,977,827	63.84	B
129	7-551102-00	6.43	64,200	413,108	177,390,935	63.99	B
130	0-099098-00	169.77	2,414	409,828	177,800,763	64.13	B
131	0-705005-00	339.75	1,200	407,704	178,208,467	64.28	B
132	6-001600-00	225.93	1,800	406,676	178,615,143	64.43	B
133	8-505508-00	13.87	29,200	405,024	179,020,167	64.57	B
134	0-538202-01	16.34	24,640	402,723	179,422,890	64.72	B
135	8-665101-01	8.11	49,400	400,738	179,823,628	64.86	B
136	0-002501-00	81.64	4,894	399,538	180,223,166	65.01	B
137	0-014950-01	20.84	19,000	395,980	180,619,146	65.15	B
138	0-004501-00	100.51	3,879	389,860	181,009,006	65.29	B
139	5-001241-00	20.51	19,000	389,660	181,398,666	65.43	B
140	5-002089-00	545.26	700	381,683	181,780,349	65.57	B
141	9-004001-00	76.34	5,000	381,677	182,162,026	65.71	B
142	5-364507-01	7.44	50,900	378,685	182,540,711	65.84	B
143	0-091103-00	198.99	1,900	378,076	182,918,787	65.98	B
144	0-004127-00	25.74	14,660	377,333	183,296,120	66.12	B
145	1-999008-00	38.71	9,744	377,184	183,673,304	66.25	B
146	5-035675-00	53.53	7,000	374,727	184,048,031	66.39	B
147	3-030266-00	169.72	2,190	371,676	184,419,707	66.52	B
148	9-604001-00	303.42	1,213	368,044	184,787,751	66.66	B

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
149	0-024001-00	9.25	39,670	366,856	185,154,607	66.79	B
150	6-007087-00	376.52	970	365,224	185,519,831	66.92	B
151	0-018341-00	19.51	18,700	364,792	185,884,623	67.05	B
152	7-501900-00	86.33	4,220	364,333	186,248,956	67.18	B
153	4-708002-00	8.66	42,000	363,772	186,612,728	67.31	B
154	0-091102-00	180.76	2,000	361,525	186,974,253	67.44	B
155	0-027011-00	64.75	5,570	360,652	187,334,905	67.57	B
156	6-002501-01	1.86	191,880	356,886	187,691,791	67.70	B
157	0-004386-00	509.32	700	356,523	188,048,314	67.83	B
158	0-005622-00	5.99	59,500	356,431	188,404,745	67.96	B
159	3-030291-01	36.24	9,800	355,161	188,759,906	68.09	B
160	5-038612-00	42.37	8,294	351,457	189,111,363	68.21	B
161	0-501201-00	694.22	500	347,110	189,458,473	68.34	B
162	5-011243-00	15.69	22,000	345,077	189,803,550	68.46	B
163	4-910001-00	10.77	32,000	344,659	190,148,209	68.59	B
164	6-420004-00	161.70	2,100	339,565	190,487,774	68.71	B
165	0-005321-00	20.83	16,300	339,533	190,827,307	68.83	B
166	9-611603-00	188.62	1,800	339,514	191,166,821	68.96	B
167	3-030260-00	241.97	1,400	338,757	191,505,578	69.08	B
168	4-216000-00	110.60	3,060	338,422	191,844,000	69.20	B
169	6-001200-00	58.60	5,766	337,908	192,181,908	69.32	B
170	5-045050-00	8.43	40,000	337,088	192,518,996	69.44	B
171	5-095015-01	90.26	3,700	333,945	192,852,941	69.56	B
172	9-603201-00	627.52	530	332,584	193,185,525	69.68	B
173	9-006901-00	671.53	490	329,050	193,514,575	69.80	B
174	8-501903-00	9.93	33,000	327,710	193,842,285	69.92	B
175	0-500601-00	186.61	1,710	319,102	194,161,387	70.04	B
176	0-035576-00	1,056.32	300	316,895	194,478,282	70.15	B
177	0-004801-00	64.35	4,910	315,949	194,794,231	70.26	B
178	1-703000-00	9.47	33,000	312,627	195,106,858	70.38	B
179	3-003326-00	7.24	43,100	311,942	195,418,800	70.49	B

ลำดับ	รหัสวัตถุดิบ	ราคาต่อ หน่วย	ปริมาณการใช้ ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
180	9-639701-00	164.09	1,900	311,767	195,730,567	70.60	B
181	0-091104-00	155.69	2,000	311,385	196,041,952	70.71	B
182	9-991051-00	8.42	36,900	310,826	196,352,778	70.83	B
183	9-651671-00	8.85	34,400	304,316	196,657,094	70.94	B
184	9-012101-00	168.51	1,784	300,622	196,957,716	71.05	B
185	0-015965-00	150.03	2,000	300,060	197,257,776	71.15	B
186	4-006205-00	594.80	500	297,400	197,555,176	71.26	B
187	0-091099-00	151.90	1,940	294,679	197,849,855	71.37	B
188	5-090060-00	186.37	1,570	292,597	198,142,452	71.47	B
189	3-074375-00	146.20	2,000	292,407	198,434,859	71.58	B
190	0-500701-00	169.72	1,710	290,217	198,725,076	71.68	B
191	0-004433-00	278.84	1,040	289,997	199,015,073	71.79	B
192	4-034903-00	129.10	2,200	284,023	199,299,096	71.89	B
193	0-000279-00	156.42	1,812	283,435	199,582,531	71.99	B
194	0-044748-01	24.25	11,600	281,303	199,863,834	72.09	B
195	0-501701-00	254.77	1,100	280,245	200,144,079	72.19	B
196	0-099100-00	179.64	1,553	278,987	200,423,066	72.30	B
197	8-029302-00	7.00	39,500	276,327	200,699,393	72.39	B
198	8-506802-00	9.49	29,000	275,230	200,974,623	72.49	B
199	9-011601-00	88.37	3,100	273,949	201,248,572	72.59	B
200	0-070054-00	19.50	14,000	272,972	201,521,544	72.69	B
201	5-007060-00	5.23	52,000	272,188	201,793,732	72.79	B
202	5-096003-00	112.81	2,400	270,751	202,064,483	72.89	B
203	3-030272-00	72.79	3,700	269,337	202,333,820	72.98	B
204	0-990403-00	27.17	9,910	269,275	202,603,095	73.08	B
205	0-000069-01	103.01	2,570	264,730	202,867,825	73.18	B
206	9-501402-00	8.96	29,400	263,444	203,131,269	73.27	B
207	5-036947-00	8.34	31,500	262,614	203,393,883	73.37	B
208	0-113002-00	189.02	1,386	261,987	203,655,870	73.46	B
209	8-502503-01	8.24	31,700	261,296	203,917,166	73.56	B
210	5-038918-00	2.83	92,000	260,730	204,177,896	73.65	B

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
211	0-001175-00	61.61	4,200	258,775	204,436,671	73.74	B
212	3-030299-01	61.21	4,200	257,088	204,693,759	73.84	B
213	5-001239-00	13.82	18,500	255,598	204,949,357	73.93	B
214	9-007301-00	513.51	492	252,647	205,202,004	74.02	B
215	6-000300-00	99.38	2,537	252,122	205,454,126	74.11	B
216	0-028146-01	1.88	134,000	251,940	205,706,066	74.20	B
217	7-604401-00	4.95	50,500	249,758	205,955,824	74.29	B
218	0-010003-00	82.85	3,000	248,544	206,204,368	74.38	B
219	6-001500-00	139.03	1,747	242,888	206,447,256	74.47	C
220	0-009999-00	49.47	4,900	242,384	206,689,640	74.56	C
221	0-091101-00	127.22	1,900	241,716	206,931,356	74.64	C
222	9-009086-00	214.02	1,125	240,770	207,172,126	74.73	C
223	8-503204-00	7.82	30,603	239,335	207,411,461	74.82	C
224	0-064267-00	3.62	66,000	238,940	207,650,401	74.90	C
225	0-001333-00	2.49	95,700	238,433	207,888,834	74.99	C
226	9-321001-00	48.26	4,910	236,967	208,125,801	75.07	C
227	3-039012-00	9.10	26,000	236,620	208,362,421	75.16	C
228	5-001244-00	24.13	9,740	235,036	208,597,457	75.24	C
229	1-821050-00	2.98	78,000	232,386	208,829,843	75.33	C
230	9-012001-00	129.10	1,785	230,445	209,060,288	75.41	C
231	0-001024-01	43.28	5,310	229,794	209,290,082	75.49	C
232	0-616000-00	8.07	28,000	226,024	209,516,106	75.58	C
233	0-035577-00	488.85	461	225,359	209,741,465	75.66	C
234	9-607901-00	36.20	6,200	224,410	209,965,875	75.74	C
235	0-018893-00	31.11	7,180	223,387	210,189,262	75.82	C
236	7-608803-00	89.12	2,500	222,810	210,412,072	75.90	C
237	9-011301-00	147.79	1,500	221,689	210,633,761	75.98	C
238	9-603201-00	627.35	350	219,572	210,853,333	76.06	C
239	5-208001-00	20.19	10,800	218,087	211,071,420	76.14	C
240	5-007028-00	26.94	7,970	214,746	211,286,166	76.21	C
241	0-005234-00	24.05	8,875	213,431	211,499,597	76.29	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
242	9-645001-00	73.37	2,900	212,765	211,712,362	76.37	C
243	0-023012-01	4.20	50,419	211,880	211,924,242	76.44	C
244	0-000088-01	286.03	739	211,374	212,135,616	76.52	C
245	0-088006-00	65.15	3,200	208,490	212,344,106	76.60	C
246	9-005601-00	160.20	1,300	208,260	212,552,366	76.67	C
247	7-608704-00	82.73	2,500	206,829	212,759,195	76.74	C
248	5-090035-00	42.95	4,800	206,162	212,965,357	76.82	C
249	3-079511-00	21.03	9,800	206,127	213,171,484	76.89	C
250	0-006149-00	34.31	6,000	205,865	213,377,349	76.97	C
251	0-091100-00	108.23	1,900	205,638	213,582,987	77.04	C
252	1-609000-00	12.69	16,200	205,564	213,788,551	77.12	C
253	0-007029-00	37.85	5,400	204,410	213,992,961	77.19	C
254	0-990314-00	6.72	30,400	204,308	214,197,269	77.26	C
255	0-000087-01	416.04	489	203,444	214,400,713	77.34	C
256	0-990402-00	37.19	5,420	201,590	214,602,303	77.41	C
257	9-617601-00	154.84	1,300	201,295	214,803,598	77.48	C
258	3-011055-00	2.48	81,000	201,170	215,004,768	77.55	C
259	0-990401-00	36.28	5,520	200,286	215,205,054	77.63	C
260	9-203006-00	20.11	9,900	199,069	215,404,123	77.70	C
261	7-604601-00	102.57	1,939	198,884	215,603,007	77.77	C
262	0-508601-00	185.87	1,059	196,835	215,799,842	77.84	C
263	8-105023-01	588.76	334	196,647	215,996,489	77.91	C
264	8-501801-00	3.36	58,500	196,580	216,193,069	77.98	C
265	7-602502-00	325.77	600	195,464	216,388,533	78.05	C
266	5-095008-01	57.41	3,400	195,177	216,583,710	78.12	C
267	1-013002-00	72.78	2,676	194,753	216,778,463	78.19	C
268	6-618001-01	0.75	260,400	194,699	216,973,162	78.26	C
269	0-044783-00	278.07	700	194,647	217,167,809	78.34	C
270	0-027050-00	28.55	6,800	194,163	217,361,972	78.41	C
271	5-500007-00	26.45	7,300	193,100	217,555,072	78.47	C
272	0-501801-00	162.24	1,180	191,446	217,746,518	78.54	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
273	0-007032-00	23.53	8,100	190,576	217,937,094	78.61	C
274	9-002701-00	390.90	486	189,978	218,127,072	78.68	C
275	1-030008-10	0.40	469,000	189,710	218,316,782	78.75	C
276	9-004701-00	134.92	1,400	188,885	218,505,667	78.82	C
277	5-006094-00	18.71	10,000	187,102	218,692,769	78.89	C
278	0-000501-01	7.20	25,900	186,431	218,879,200	78.95	C
279	0-044767-00	80.16	2,320	185,973	219,065,173	79.02	C
280	1-007022-00	92.50	2,000	185,006	219,250,179	79.09	C
281	5-095016-00	57.07	3,213	183,354	219,433,533	79.15	C
282	0-005401-00	14.07	13,000	182,968	219,616,501	79.22	C
283	0-990301-00	1.41	130,000	182,849	219,799,350	79.28	C
284	7-610702-00	78.97	2,300	181,638	219,980,988	79.35	C
285	9-004601-00	120.43	1,500	180,647	220,161,635	79.41	C
286	5-001232-00	18.50	9,744	180,258	220,341,893	79.48	C
287	9-002801-00	163.71	1,100	180,079	220,521,972	79.54	C
288	0-015965-00	150.04	1,200	180,044	220,702,016	79.61	C
289	5-038492-00	7.00	25,500	178,495	220,880,511	79.67	C
290	0-113004-00	112.61	1,584	178,382	221,058,893	79.74	C
291	9-005800-01	55.69	3,200	178,218	221,237,111	79.80	C
292	8-571202-00	7.21	24,600	177,273	221,414,384	79.87	C
293	8-011174-01	4.51	39,000	175,930	221,590,314	79.93	C
294	5-453003-01	4.46	39,300	175,332	221,765,646	79.99	C
295	0-044765-00	289.98	600	173,990	221,939,636	80.06	C
296	5-045050-00	8.43	20,500	172,767	222,112,403	80.12	C
297	9-005701-00	114.32	1,500	171,482	222,283,885	80.18	C
298	5-090061-00	103.33	1,653	170,804	222,454,689	80.24	C
299	0-020132-01	20.10	8,322	167,309	222,621,998	80.30	C
300	4-006205-00	595.19	280	166,653	222,788,651	80.36	C
301	9-005301-00	24.44	6,800	166,214	222,954,865	80.42	C
302	0-000257-00	129.20	1,274	164,595	223,119,460	80.48	C
303	9-002401-00	404.96	405	164,009	223,283,469	80.54	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อ หน่วย	ปริมาณการใช้ ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
304	0-018023-00	0.80	204,000	163,785	223,447,254	80.60	C
305	0-000088-02	435.05	376	163,580	223,610,834	80.66	C
306	5-020239-00	14.30	11,400	162,969	223,773,803	80.72	C
307	8-105024-01	812.57	200	162,514	223,936,317	80.78	C
308	9-005501-00	147.42	1,100	162,160	224,098,477	80.84	C
309	0-000089-01	175.02	922	161,370	224,259,847	80.89	C
310	9-603501-00	208.62	773	161,260	224,421,107	80.95	C
311	1-510601-00	80.44	2,000	160,880	224,581,987	81.01	C
312	0-004701-00	32.98	4,871	160,640	224,742,627	81.07	C
313	9-002801-00	163.71	980	160,436	224,903,063	81.13	C
314	3-406001-00	20.11	7,850	157,852	225,060,915	81.18	C
315	5-002265-00	16.09	9,800	157,663	225,218,578	81.24	C
316	9-030006-03	0.35	445,600	157,031	225,375,609	81.30	C
317	5-004098-00	15.39	10,200	156,951	225,532,560	81.35	C
318	3-003154-00	40.22	3,882	156,135	225,688,695	81.41	C
319	6-028021-00	15.61	10,000	156,120	225,844,815	81.46	C
320	7-502000-00	36.20	4,300	155,680	226,000,495	81.52	C
321	5-099110-00	32.29	4,800	154,993	226,155,488	81.58	C
322	7-502300-00	37.40	4,100	153,360	226,308,848	81.63	C
323	5-090064-00	262.53	583	153,055	226,461,903	81.69	C
324	5-090066-00	190.86	800	152,684	226,614,587	81.74	C
325	5-090065-00	260.48	584	152,121	226,766,708	81.80	C
326	8-007001-00	3.62	42,000	152,001	226,918,709	81.85	C
327	9-005301-00	196.10	775	151,974	227,070,683	81.91	C
328	5-076012-00	100.55	1,500	150,821	227,221,504	81.96	C
329	1-026010-04	1.68	90,000	150,769	227,372,273	82.02	C
330	9-004301-00	553.82	271	150,084	227,522,357	82.07	C
331	4-990075-00	14.41	10,400	149,864	227,672,221	82.12	C
332	6-012720-00	28.11	5,300	148,999	227,821,220	82.18	C
333	9-002701-00	390.91	380	148,547	227,969,767	82.23	C
334	0-018211-00	1.02	144,000	147,291	228,117,058	82.28	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
335	1-503301-00	442.42	330	146,000	228,263,058	82.34	C
336	4-031604-00	243.33	600	146,000	228,409,058	82.39	C
337	9-006001-00	14.07	10,300	144,971	228,554,029	82.44	C
338	0-008022-00	23.33	6,200	144,624	228,698,653	82.49	C
339	9-030006-00	0.20	724,800	144,372	228,843,025	82.55	C
340	5-020067-00	28.55	5,050	144,200	228,987,225	82.60	C
341	8-508905-00	4.08	35,050	143,024	229,130,249	82.65	C
342	3-030263-00	102.16	1,400	143,022	229,273,271	82.70	C
343	7-502100-00	17.50	8,135	142,383	229,415,654	82.75	C
344	9-005401-00	83.25	1,700	141,532	229,557,186	82.80	C
345	0-020111-00	10.78	13,100	141,187	229,698,373	82.86	C
346	9-006901-00	671.59	210	141,033	229,839,406	82.91	C
347	0-130055-01	1.81	77,700	140,483	229,979,889	82.96	C
348	0-004128-00	28.55	4,890	139,631	230,119,520	83.01	C
349	7-604701-00	99.71	1,400	139,600	230,259,120	83.06	C
350	9-004001-00	569.94	243	138,496	230,397,616	83.11	C
351	2-040201-00	17.78	7,787	138,430	230,536,046	83.16	C
352	0-039034-00	28.19	4,900	138,145	230,674,191	83.21	C
353	5-608000-00	6.23	22,000	137,063	230,811,254	83.26	C
354	0-001007-01	69.42	1,970	136,766	230,948,020	83.31	C
355	5-039232-00	28.28	4,800	135,741	231,083,761	83.35	C
356	9-005501-00	285.76	475	135,737	231,219,498	83.40	C
357	9-013101-00	6.84	19,800	135,369	231,354,867	83.45	C
358	0-064290-00	9.66	14,000	135,260	231,490,127	83.50	C
359	9-009401-00	172.15	784	134,962	231,625,089	83.55	C
360	1-032003-00	39.49	3,400	134,254	231,759,343	83.60	C
361	9-002501-00	189.91	700	132,936	231,892,279	83.65	C
362	3-030273-00	39.00	3,400	132,593	232,024,872	83.69	C
363	9-056000-00	6.02	22,000	132,411	232,157,283	83.74	C
364	9-508801-01	72.40	1,828	132,343	232,289,626	83.79	C
365	9-508901-01	72.40	1,827	132,271	232,421,897	83.84	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
366	0-009551-00	62.74	2,100	131,764	232,553,661	83.88	C
367	5-090054-00	142.41	925	131,728	232,685,389	83.93	C
368	0-051090-00	71.45	1,840	131,475	232,816,864	83.98	C
369	5-105017-01	328.28	400	131,313	232,948,177	84.03	C
370	5-039256-00	54.40	2,400	130,565	233,078,742	84.07	C
371	4-124803-00	56.71	2,300	130,436	233,209,178	84.12	C
372	0-044772-00	76.42	1,700	129,912	233,339,090	84.17	C
373	9-011401-00	182.84	710	129,818	233,468,908	84.22	C
374	9-002401-00	405.28	320	129,691	233,598,599	84.26	C
375	0-044749-01	22.72	5,700	129,522	233,728,121	84.31	C
376	5-095011-01	53.96	2,400	129,510	233,857,631	84.36	C
377	4-606103-00	75.62	1,700	128,547	233,986,178	84.40	C
378	0-051110-00	85.41	1,500	128,113	234,114,291	84.45	C
379	0-099001-00	31.97	4,000	127,868	234,242,159	84.49	C
380	8-641001-00	50.68	2,500	126,693	234,368,852	84.54	C
381	5-038966-00	55.06	2,300	126,635	234,495,487	84.59	C
382	0-044775-00	74.41	1,700	126,495	234,621,982	84.63	C
383	3-030290-01	28.43	4,445	126,372	234,748,354	84.68	C
384	3-097081-00	1.80	70,000	126,020	234,874,374	84.72	C
385	8-500105-00	3.86	32,500	125,470	234,999,844	84.77	C
386	3-003453-00	31.37	3,995	125,328	235,125,172	84.81	C
387	9-603501-00	208.79	600	125,274	235,250,446	84.86	C
388	0-051129-00	124.11	1,000	124,106	235,374,552	84.90	C
389	9-007001-00	267.36	464	124,056	235,498,608	84.95	C
390	9-007401-00	246.98	500	123,490	235,622,098	84.99	C
391	6-160009-01	21.64	5,700	123,339	235,745,437	85.04	C
392	9-003701-00	183.23	673	123,314	235,868,751	85.08	C
393	9-005501-00	285.56	430	122,789	235,991,540	85.13	C
394	3-011035-00	3.06	40,100	122,767	236,114,307	85.17	C
395	3-011017-00	2.41	50,500	121,796	236,236,103	85.21	C
396	9-604001-00	303.70	400	121,480	236,357,583	85.26	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
397	1-002051-00	7.61	15,950	121,393	236,478,976	85.30	C
398	4-801000-00	10.55	11,500	121,316	236,600,292	85.34	C
399	0-002601-00	18.20	6,624	120,577	236,720,869	85.39	C
400	0-990316-00	26.20	4,600	120,540	236,841,409	85.43	C
401	0-510601-00	241.02	500	120,508	236,961,917	85.48	C
402	8-909000-00	7.52	16,000	120,325	237,082,242	85.52	C
403	0-004901-00	12.27	9,800	120,219	237,202,461	85.56	C
404	0-039088-00	29.83	4,000	119,304	237,321,765	85.60	C
405	5-453068-01	12.08	9,800	118,388	237,440,153	85.65	C
406	9-002701-00	391.26	300	117,378	237,557,531	85.69	C
407	8-504005-00	4.07	28,800	117,236	237,674,767	85.73	C
408	5-090062-00	143.00	814	116,398	237,791,165	85.77	C
409	0-001511-00	58.01	2,000	116,020	237,907,185	85.82	C
410	7-608501-00	15.42	7,500	115,631	238,022,816	85.86	C
411	0-000046-01	7.44	15,500	115,331	238,138,147	85.90	C
412	6-004721-00	17.44	6,600	115,071	238,253,218	85.94	C
413	9-002401-00	404.98	284	115,014	238,368,232	85.98	C
414	8-500505-00	3.86	29,700	114,662	238,482,894	86.02	C
415	0-064273-00	3.01	38,000	114,400	238,597,294	86.06	C
416	9-009301-00	163.30	700	114,309	238,711,603	86.11	C
417	0-035581-00	246.61	462	113,935	238,825,538	86.15	C
418	5-090032-00	108.28	1,052	113,907	238,939,445	86.19	C
419	7-604601-00	102.67	1,100	112,936	239,052,381	86.23	C
420	9-011201-00	186.74	600	112,042	239,164,423	86.27	C
421	0-002032-01	11.13	10,000	111,283	239,275,706	86.31	C
422	9-004501-00	9.40	11,800	110,939	239,386,645	86.35	C
423	9-004301-00	554.34	200	110,868	239,497,513	86.39	C
424	0-001562-00	54.91	2,000	109,817	239,607,330	86.43	C
425	7-606601-00	181.40	600	108,840	239,716,170	86.47	C
426	0-990317-00	27.11	4,000	108,420	239,824,590	86.51	C
427	0-010009-00	3.06	35,300	107,855	239,932,445	86.55	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
428	0-000278-00	229.46	467	107,159	240,039,604	86.59	C
429	0-051089-00	61.30	1,742	106,789	240,146,393	86.62	C
430	0-151050-00	2.37	45,000	106,739	240,253,132	86.66	C
431	9-030008-03	0.37	290,200	106,721	240,359,853	86.70	C
432	9-030008-00	0.25	433,700	106,331	240,466,184	86.74	C
433	1-651010-00	4.23	25,000	105,770	240,571,954	86.78	C
434	8-501402-00	3.40	31,100	105,760	240,677,714	86.82	C
435	9-010501-00	176.12	600	105,672	240,783,386	86.85	C
436	9-508301-00	84.31	1,253	105,635	240,889,021	86.89	C
437	9-002901-00	229.05	460	105,365	240,994,386	86.93	C
438	5-038913-00	2.01	52,400	105,343	241,099,729	86.97	C
439	5-822683-00	26.95	3,900	105,093	241,204,822	87.01	C
440	7-604701-00	99.81	1,050	104,805	241,309,627	87.04	C
441	9-006401-00	208.57	500	104,285	241,413,912	87.08	C
442	0-044751-01	24.45	4,200	102,669	241,516,581	87.12	C
443	9-991201-00	41.02	2,500	102,542	241,619,123	87.15	C
444	4-605101-00	45.01	2,269	102,125	241,721,248	87.19	C
445	0-009115-00	59.88	1,700	101,799	241,823,047	87.23	C
446	4-031507-00	168.94	600	101,366	241,924,413	87.27	C
447	1-451050-00	3.87	26,000	100,597	242,025,010	87.30	C
448	0-005609-00	40.99	2,450	100,432	242,125,442	87.34	C
449	0-001135-00	42.24	2,375	100,312	242,225,754	87.37	C
450	2-008009-00	1.13	88,000	99,104	242,324,858	87.41	C
451	9-005401-00	164.77	600	98,862	242,423,720	87.45	C
452	0-044776-00	140.84	700	98,590	242,522,310	87.48	C
453	7-604004-00	61.55	1,600	98,484	242,620,794	87.52	C
454	6-029017-00	7.57	13,000	98,473	242,719,267	87.55	C
455	0-064252-00	2.81	35,000	98,370	242,817,637	87.59	C
456	5-090028-00	83.53	1,172	97,895	242,915,532	87.62	C
457	9-007301-00	514.10	190	97,679	243,013,211	87.66	C
458	9-008022-00	8.86	11,000	97,452	243,110,663	87.69	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
459	0-028151-01	1.87	52,000	97,260	243,207,923	87.73	C
460	5-452003-01	4.33	22,400	97,019	243,304,942	87.76	C
461	9-002501-00	189.92	510	96,859	243,401,801	87.80	C
462	0-004113-00	1.61	60,000	96,536	243,498,337	87.83	C
463	1-030006-03	0.46	209,900	96,504	243,594,841	87.87	C
464	3-003089-00	35.73	2,700	96,468	243,691,309	87.90	C
465	6-001400-00	49.46	1,940	95,953	243,787,262	87.94	C
466	6-010205-00	22.28	4,300	95,818	243,883,080	87.97	C
467	0-203001-00	35.44	2,700	95,679	243,978,759	88.01	C
468	5-038093-00	7.64	12,500	95,464	244,074,223	88.04	C
469	0-990315-00	3.32	28,700	95,304	244,169,527	88.07	C
470	7-070004-00	28.84	3,300	95,159	244,264,686	88.11	C
471	0-005512-00	55.91	1,700	95,044	244,359,730	88.14	C
472	0-516901-00	55.51	1,710	94,917	244,454,647	88.18	C
473	0-004001-00	19.31	4,902	94,644	244,549,291	88.21	C
474	5-518000-00	31.48	3,000	94,436	244,643,727	88.25	C
475	7-606501-00	157.27	600	94,363	244,738,090	88.28	C
476	9-006701-00	236.58	398	94,159	244,832,249	88.31	C
477	9-003501-00	188.25	500	94,125	244,926,374	88.35	C
478	9-011101-00	187.31	500	93,655	245,020,029	88.38	C
479	7-604201-00	19.87	4,700	93,380	245,113,409	88.42	C
480	5-090053-00	129.77	718	93,178	245,206,587	88.45	C
481	9-009501-00	132.74	700	92,916	245,299,503	88.48	C
482	7-610403-00	58.02	1,600	92,836	245,392,339	88.52	C
483	9-007801-00	154.40	600	92,639	245,484,978	88.55	C
484	3-011057-00	3.85	24,000	92,281	245,577,259	88.58	C
485	5-500006-00	5.73	16,000	91,620	245,668,879	88.62	C
486	5-095012-00	53.87	1,700	91,580	245,760,459	88.65	C
487	0-990310-01	2.17	42,200	91,565	245,852,024	88.68	C
488	9-010601-00	152.03	600	91,218	245,943,242	88.71	C
489	1-002093-00	6.32	14,400	91,028	246,034,270	88.75	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อ หน่วย	ปริมาณการใช้ ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
490	0-001050-00	22.19	4,100	90,977	246,125,247	88.78	C
491	1-022034-01	41.35	2,200	90,975	246,216,222	88.81	C
492	0-100170-00	43.28	2,100	90,891	246,307,113	88.85	C
493	9-012201-00	18.90	4,800	90,733	246,397,846	88.88	C
494	0-044754-01	21.76	4,170	90,723	246,488,569	88.91	C
495	0-001292-00	3.34	27,000	90,111	246,578,680	88.94	C
496	0-000124-02	0.75	119,500	89,645	246,668,325	88.98	C
497	0-039118-00	4.96	17,900	88,870	246,757,195	89.01	C
498	5-030046-00	2.11	42,000	88,447	246,845,642	89.04	C
499	0-115008-00	363.08	243	88,229	246,933,871	89.07	C
500	7-990020-00	11.66	7,500	87,482	247,021,353	89.10	C
501	9-003800-01	34.98	2,500	87,444	247,108,797	89.14	C
502	0-020065-00	15.76	5,500	86,660	247,195,457	89.17	C
503	5-001046-00	15.69	5,500	86,269	247,281,726	89.20	C
504	5-038505-00	8.85	9,750	86,266	247,367,992	89.23	C
505	1-020900-00	47.73	1,800	85,910	247,453,902	89.26	C
506	5-039263-00	6.92	12,400	85,772	247,539,674	89.29	C
507	9-004001-00	570.66	150	85,599	247,625,273	89.32	C
508	3-003342-00	20.51	4,166	85,454	247,710,727	89.35	C
509	0-000300-00	116.53	732	85,298	247,796,025	89.38	C
510	9-000101-00	42.47	2,000	84,940	247,880,965	89.41	C
511	0-044859-00	18.90	4,470	84,497	247,965,462	89.44	C
512	3-030297-00	84.43	1,000	84,428	248,049,890	89.47	C
513	0-027026-00	17.10	4,920	84,108	248,133,998	89.50	C
514	6-010525-00	5.40	15,500	83,757	248,217,755	89.54	C
515	7-604501-00	55.62	1,500	83,435	248,301,190	89.57	C
516	9-007101-00	175.62	474	83,245	248,384,435	89.60	C
517	0-650009-00	2.05	40,600	83,243	248,467,678	89.63	C
518	7-608202-00	14.72	5,632	82,923	248,550,601	89.66	C
519	9-008301-00	39.42	2,100	82,779	248,633,380	89.69	C
520	0-051137-00	82.74	1,000	82,744	248,716,124	89.71	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
521	9-003201-00	82.74	1,000	82,744	248,798,868	89.74	C
522	0-018018-00	6.03	13,700	82,630	248,881,498	89.77	C
523	9-007301-00	513.59	160	82,175	248,963,673	89.80	C
524	0-650011-00	1.85	44,000	81,310	249,044,983	89.83	C
525	6-160017-01	33.72	2,400	80,933	249,125,916	89.86	C
526	5-105020-01	404.22	200	80,843	249,206,759	89.89	C
527	0-003901-00	16.49	4,902	80,841	249,287,600	89.92	C
528	0-860106-00	6.47	12,500	80,838	249,368,438	89.95	C
529	7-604701-00	99.72	810	80,777	249,449,215	89.98	C
530	3-069086-00	23.73	3,400	80,683	249,529,898	90.01	C
531	1-007037-00	120.36	670	80,639	249,610,537	90.04	C
532	5-095013-00	47.43	1,700	80,627	249,691,164	90.07	C
533	6-001300-00	40.86	1,970	80,495	249,771,659	90.10	C
534	0-004601-00	16.49	4,871	80,330	249,851,989	90.12	C
535	0-099519-00	113.40	704	79,831	249,931,820	90.15	C
536	5-007063-00	26.75	2,967	79,366	250,011,186	90.18	C
537	0-018954-00	5.43	14,600	79,245	250,090,431	90.21	C
538	0-011038-01	101.47	780	79,145	250,169,576	90.24	C
539	0-990411-00	30.12	2,614	78,728	250,248,304	90.27	C
540	0-990318-00	18.10	4,346	78,683	250,326,987	90.30	C
541	5-010181-00	7.85	10,000	78,489	250,405,476	90.32	C
542	9-006301-00	97.79	800	78,231	250,483,707	90.35	C
543	6-004932-00	15.64	5,000	78,221	250,561,928	90.38	C
544	9-002901-00	229.36	340	77,983	250,639,911	90.41	C
545	0-018612-00	38.95	2,000	77,898	250,717,809	90.44	C
546	1-451100-00	3.54	22,000	77,834	250,795,643	90.47	C
547	9-007901-00	161.91	480	77,716	250,873,359	90.49	C
548	9-010701-00	194.27	400	77,708	250,951,067	90.52	C
549	9-010701-00	194.02	400	77,608	251,028,675	90.55	C
550	6-160025-01	18.39	4,200	77,240	251,105,915	90.58	C
551	6-010283-00	20.31	3,800	77,191	251,183,106	90.60	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
552	7-604501-00	55.70	1,380	76,862	251,259,968	90.63	C
553	3-030296-00	76.82	1,000	76,822	251,336,790	90.66	C
554	6-045046-00	1.20	63,780	76,793	251,413,583	90.69	C
555	5-197903-00	0.61	124,700	76,436	251,490,019	90.72	C
556	0-039033-00	19.11	4,000	76,424	251,566,443	90.74	C
557	9-002601-00	108.51	700	75,956	251,642,399	90.77	C
558	9-003201-00	94.39	800	75,508	251,717,907	90.80	C
559	5-038824-00	7.94	9,500	75,401	251,793,308	90.82	C
560	9-005901-00	14.77	5,100	75,337	251,868,645	90.85	C
561	0-051132-00	75.22	1,000	75,222	251,943,867	90.88	C
562	0-051134-00	75.22	1,000	75,222	252,019,089	90.91	C
563	0-005891-00	30.09	2,500	75,222	252,094,311	90.93	C
564	9-203004-00	7.52	10,000	75,207	252,169,518	90.96	C
565	9-001200-01	48.18	1,550	74,674	252,244,192	90.99	C
566	5-016058-00	10.07	7,400	74,509	252,318,701	91.01	C
567	1-002051-01	7.64	9,750	74,496	252,393,197	91.04	C
568	7-610603-00	29.71	2,500	74,278	252,467,475	91.07	C
569	7-610303-00	53.03	1,400	74,248	252,541,723	91.09	C
570	0-500801-00	69.59	1,064	74,044	252,615,767	91.12	C
571	0-010005-00	92.12	800	73,692	252,689,459	91.15	C
572	0-018580-00	14.88	4,900	72,926	252,762,385	91.17	C
573	0-990321-00	16.20	4,500	72,920	252,835,305	91.20	C
574	5-105010-01	361.75	200	72,350	252,907,655	91.23	C
575	0-014947-00	23.86	3,000	71,570	252,979,225	91.25	C
576	3-030294-00	71.12	1,000	71,122	253,050,347	91.28	C
577	9-030010-03	0.38	187,000	71,068	253,121,415	91.30	C
578	0-525671-01	12.24	5,800	70,992	253,192,407	91.33	C
579	0-051092-00	64.32	1,100	70,748	253,263,155	91.36	C
580	5-038880-00	5.89	12,000	70,720	253,333,875	91.38	C
581	9-004901-00	6.58	10,700	70,406	253,404,281	91.41	C
582	9-010501-00	175.97	400	70,388	253,474,669	91.43	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อ หน่วย	ปริมาณการใช้ ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
583	9-991053-00	4.38	16,000	70,095	253,544,764	91.46	C
584	0-501301-01	59.08	1,180	69,712	253,614,476	91.48	C
585	8-502203-00	2.26	30,800	69,628	253,684,104	91.51	C
586	0-005892-00	27.83	2,500	69,583	253,753,687	91.53	C
587	8-508604-00	2.21	31,400	69,414	253,823,101	91.56	C
588	7-990105-00	8.67	8,000	69,331	253,892,432	91.58	C
589	9-004301-00	553.90	125	69,238	253,961,670	91.61	C
590	0-053010-00	30.09	2,300	69,206	254,030,876	91.63	C
591	3-003452-00	39.32	1,750	68,816	254,099,692	91.66	C
592	2-010194-00	6.55	10,500	68,776	254,168,468	91.68	C
593	0-044742-01	8.69	7,900	68,624	254,237,092	91.71	C
594	9-004001-00	570.03	120	68,403	254,305,495	91.73	C
595	9-030028-00	0.69	98,500	67,926	254,373,421	91.76	C
596	8-502103-00	2.31	29,300	67,703	254,441,124	91.78	C
597	0-018021-00	18.79	3,600	67,655	254,508,779	91.80	C
598	9-006901-00	672.69	100	67,269	254,576,048	91.83	C
599	0-044779-00	95.74	700	67,017	254,643,065	91.85	C
600	0-990412-00	25.65	2,610	66,940	254,710,005	91.88	C
601	9-603501-00	208.65	320	66,769	254,776,774	91.90	C
602	5-090028-00	83.66	796	66,595	254,843,369	91.93	C
603	5-090055-00	55.08	1,200	66,094	254,909,463	91.95	C
604	9-003201-00	94.39	700	66,072	254,975,535	91.97	C
605	9-005401-00	164.62	400	65,848	255,041,383	92.00	C
606	0-104018-00	26.33	2,500	65,824	255,107,207	92.02	C
607	9-028003-01	25.61	2,560	65,560	255,172,767	92.04	C
608	1-505301-00	123.09	530	65,240	255,238,007	92.07	C
609	0-009902-00	81.36	800	65,089	255,303,096	92.09	C
610	9-005301-00	196.13	330	64,723	255,367,819	92.11	C
611	0-974208-00	1.61	40,200	64,686	255,432,505	92.14	C
612	0-001161-00	43.85	1,475	64,674	255,497,179	92.16	C
613	0-920521-00	2.48	26,000	64,469	255,561,648	92.18	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
614	9-010401-00	107.20	600	64,320	255,625,968	92.21	C
615	0-051130-00	63.94	1,000	63,944	255,689,912	92.23	C
616	7-610403-00	58.12	1,100	63,931	255,753,843	92.25	C
617	5-090058-00	206.29	309	63,743	255,817,586	92.28	C
618	5-038885-00	11.55	5,500	63,523	255,881,109	92.30	C
619	0-010001-00	30.17	2,100	63,354	255,944,463	92.32	C
620	0-044773-00	37.01	1,700	62,916	256,007,379	92.34	C
621	5-095017-00	14.97	4,200	62,873	256,070,252	92.37	C
622	0-051087-00	36.11	1,741	62,863	256,133,115	92.39	C
623	0-508701-00	124.86	500	62,429	256,195,544	92.41	C
624	0-990306-01	1.59	39,000	62,038	256,257,582	92.44	C
625	0-014946-00	6.20	10,000	62,034	256,319,616	92.46	C
626	0-010047-00	6.87	9,000	61,871	256,381,487	92.48	C
627	0-508003-00	77.20	800	61,756	256,443,243	92.50	C
628	2-301001-00	18.26	3,374	61,612	256,504,855	92.52	C
629	9-003201-00	94.54	650	61,454	256,566,309	92.55	C
630	0-020105-01	7.20	8,496	61,212	256,627,521	92.57	C
631	0-151010-00	2.32	26,300	61,109	256,688,630	92.59	C
632	8-504401-01	0.99	61,600	61,004	256,749,634	92.61	C
633	4-031704-00	86.89	700	60,825	256,810,459	92.63	C
634	0-044763-00	100.97	600	60,582	256,871,041	92.66	C
635	0-006248-00	86.49	700	60,542	256,931,583	92.68	C
636	4-908000-00	10.08	6,000	60,500	256,992,083	92.70	C
637	7-608202-00	14.75	4,100	60,472	257,052,555	92.72	C
638	9-004401-00	204.16	295	60,226	257,112,781	92.74	C
639	9-003801-00	60.18	1,000	60,182	257,172,963	92.77	C
640	0-044741-01	23.10	2,600	60,068	257,233,031	92.79	C
641	4-605701-00	32.41	1,848	59,895	257,292,926	92.81	C
642	0-018602-00	1.65	36,000	59,578	257,352,504	92.83	C
643	5-007057-00	3.02	19,700	59,416	257,411,920	92.85	C
644	0-028148-00	8.48	7,000	59,380	257,471,300	92.87	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
645	0-044771-00	34.92	1,700	59,357	257,530,657	92.89	C
646	0-051099-00	53.41	1,100	58,754	257,589,411	92.92	C
647	4-605101-00	45.09	1,300	58,620	257,648,031	92.94	C
648	9-002601-00	108.52	540	58,599	257,706,630	92.96	C
649	9-012601-00	22.98	2,547	58,525	257,765,155	92.98	C
650	7-610303-00	53.13	1,100	58,442	257,823,597	93.00	C
651	9-604001-00	303.51	192	58,273	257,881,870	93.02	C
652	0-032127-01	1.93	30,000	58,044	257,939,914	93.04	C
653	0-099203-01	18.10	3,200	57,927	257,997,841	93.06	C
654	0-044770-00	82.65	700	57,856	258,055,697	93.08	C
655	0-051094-00	45.87	1,260	57,798	258,113,495	93.10	C
656	0-010165-00	4.43	13,000	57,612	258,171,107	93.13	C
657	5-035150-00	17.13	3,345	57,308	258,228,415	93.15	C
658	0-518001-01	14.08	4,048	56,986	258,285,401	93.17	C
659	1-503501-00	107.41	530	56,927	258,342,328	93.19	C
660	5-001189-00	3.32	17,100	56,737	258,399,065	93.21	C
661	7-220001-00	2.41	23,500	56,687	258,455,752	93.23	C
662	5-020232-00	22.57	2,500	56,426	258,512,178	93.25	C
663	0-005162-00	23.33	2,400	55,996	258,568,174	93.27	C
664	0-051091-00	50.78	1,100	55,858	258,624,032	93.29	C
665	0-514001-01	20.48	2,720	55,696	258,679,728	93.31	C
666	3-079589-00	22.23	2,500	55,566	258,735,294	93.33	C
667	9-002501-00	190.29	292	55,565	258,790,859	93.35	C
668	7-608601-00	22.19	2,500	55,482	258,846,341	93.37	C
669	9-030012-03	0.42	132,800	55,358	258,901,699	93.39	C
670	9-013001-00	70.36	786	55,301	258,957,000	93.41	C
671	9-097001-00	122.43	450	55,095	259,012,095	93.43	C
672	0-004126-00	11.26	4,890	55,082	259,067,177	93.45	C
673	0-044777-00	78.57	700	54,998	259,122,175	93.47	C
674	9-007201-00	109.82	500	54,910	259,177,085	93.49	C
675	3-039013-00	9.14	6,000	54,860	259,231,945	93.51	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
676	0-020111-01	10.78	4,971	53,588	259,285,533	93.53	C
677	5-035610-00	4.45	12,000	53,427	259,338,960	93.55	C
678	9-006601-00	19.71	2,700	53,222	259,392,182	93.57	C
679	5-001064-00	17.70	3,000	53,104	259,445,286	93.59	C
680	5-007058-00	7.04	7,500	52,782	259,498,068	93.60	C
681	1-030006-05	0.36	148,000	52,688	259,550,756	93.62	C
682	0-051136-00	52.66	1,000	52,663	259,603,419	93.64	C
683	0-109423-00	26.31	2,000	52,628	259,656,047	93.66	C
684	0-064286-00	2.76	19,000	52,460	259,708,507	93.68	C
685	0-990413-00	10.40	5,008	52,103	259,760,610	93.70	C
686	9-503400-01	52.01	1,000	52,012	259,812,622	93.72	C
687	8-610700-00	54.87	946	51,908	259,864,530	93.74	C
688	5-038872-00	1.53	34,000	51,880	259,916,410	93.76	C
689	0-044774-00	74.02	700	51,817	259,968,227	93.77	C
690	7-502200-00	12.60	4,110	51,806	260,020,033	93.79	C
691	5-037654-00	6.44	8,000	51,500	260,071,533	93.81	C
692	9-003801-00	171.45	300	51,434	260,122,967	93.83	C
693	5-020068-00	27.76	1,850	51,353	260,174,320	93.85	C
694	9-003301-00	64.16	800	51,324	260,225,644	93.87	C
695	9-501901-01	1.71	30,000	51,320	260,276,964	93.89	C
696	9-024004-00	73.29	700	51,302	260,328,266	93.90	C
697	9-005503-01	51.28	1,000	51,282	260,379,548	93.92	C
698	8-502701-01	0.78	65,500	51,110	260,430,658	93.94	C
699	2-306001-00	19.36	2,629	50,907	260,481,565	93.96	C
700	5-090063-00	94.04	540	50,783	260,532,348	93.98	C
701	9-089003-00	39.02	1,300	50,730	260,583,078	94.00	C
702	0-920472-01	1.41	36,000	50,716	260,633,794	94.01	C
703	9-611501-00	48.48	1,044	50,612	260,684,406	94.03	C
704	0-009438-00	29.55	1,700	50,236	260,734,642	94.05	C
705	0-051098-00	45.52	1,100	50,069	260,784,711	94.07	C
706	3-079622-00	8.34	6,000	50,010	260,834,721	94.09	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
707	5-038874-00	3.10	16,100	49,930	260,884,651	94.10	C
708	9-006601-00	82.76	600	49,654	260,934,305	94.12	C
709	9-008201-00	70.93	700	49,649	260,983,954	94.14	C
710	0-064268-00	1.83	27,000	49,430	261,033,384	94.16	C
711	0-032129-01	1.97	25,000	49,338	261,082,722	94.18	C
712	4-127801-00	25.95	1,900	49,300	261,132,022	94.19	C
713	4-031507-00	169.32	290	49,104	261,181,126	94.21	C
714	0-051093-00	44.39	1,100	48,826	261,229,952	94.23	C
715	0-990409-00	18.85	2,590	48,816	261,278,768	94.25	C
716	0-990414-00	8.69	5,600	48,684	261,327,452	94.26	C
717	0-044752-01	10.34	4,700	48,620	261,376,072	94.28	C
718	0-009041-00	4.22	11,500	48,538	261,424,610	94.30	C
719	0-051101-00	44.01	1,100	48,409	261,473,019	94.32	C
720	0-502201-00	45.46	1,060	48,189	261,521,208	94.33	C
721	0-064272-00	6.02	8,000	48,180	261,569,388	94.35	C
722	7-604004-00	61.69	780	48,121	261,617,509	94.37	C
723	9-009101-00	34.28	1,400	47,991	261,665,500	94.39	C
724	8-506301-01	1.56	30,690	47,896	261,713,396	94.40	C
725	6-010018-00	11.97	4,000	47,881	261,761,277	94.42	C
726	0-974027-00	1.37	35,000	47,849	261,809,126	94.44	C
727	6-851103-00	4.83	9,900	47,837	261,856,963	94.45	C
728	9-007101-00	175.66	270	47,427	261,904,390	94.47	C
729	9-010801-00	67.71	700	47,398	261,951,788	94.49	C
730	0-018891-00	23.81	1,981	47,168	261,998,956	94.51	C
731	5-035179-00	37.49	1,256	47,089	262,046,045	94.52	C
732	7-634001-00	18.81	2,500	47,019	262,093,064	94.54	C
733	6-045044-00	1.57	30,000	46,988	262,140,052	94.56	C
734	5-508006-00	4.69	10,000	46,945	262,186,997	94.57	C
735	9-990955-00	11.72	4,000	46,891	262,233,888	94.59	C
736	5-011236-00	15.62	3,000	46,848	262,280,736	94.61	C
737	1-022063-00	44.25	1,050	46,467	262,327,203	94.62	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อ หน่วย	ปริมาณการใช้ ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
738	0-005001-00	9.45	4,900	46,322	262,373,525	94.64	C
739	7-604601-00	102.60	450	46,172	262,419,697	94.66	C
740	0-051096-00	41.75	1,100	45,930	262,465,627	94.67	C
741	4-038901-00	115.03	399	45,897	262,511,524	94.69	C
742	4-113601-00	12.07	3,800	45,859	262,557,383	94.71	C
743	5-004406-00	15.27	3,000	45,798	262,603,181	94.72	C
744	7-771102-00	9.25	4,950	45,793	262,648,974	94.74	C
745	4-112403-00	76.01	600	45,608	262,694,582	94.76	C
746	9-611401-00	50.59	900	45,533	262,740,115	94.77	C
747	9-005201-00	113.78	400	45,512	262,785,627	94.79	C
748	7-502300-00	10.80	4,200	45,380	262,831,007	94.81	C
749	0-005894-00	18.81	2,400	45,139	262,876,146	94.82	C
750	9-006701-00	236.64	190	44,961	262,921,107	94.84	C
751	5-004937-00	0.98	46,000	44,921	262,966,028	94.86	C
752	3-711102-00	0.65	69,100	44,906	263,010,934	94.87	C
753	5-020234-00	14.76	3,031	44,745	263,055,679	94.89	C
754	9-004201-00	154.17	290	44,708	263,100,387	94.90	C
755	0-051097-00	40.63	1,100	44,691	263,145,078	94.92	C
756	9-991052-00	11.75	3,800	44,637	263,189,715	94.94	C
757	9-005601-00	110.63	400	44,252	263,233,967	94.95	C
758	0-650008-00	5.27	8,400	44,230	263,278,197	94.97	C
759	9-010301-00	73.69	600	44,214	263,322,411	94.98	C
760	1-221106-00	0.88	50,000	44,200	263,366,611	95.00	C
761	9-005601-00	110.38	400	44,152	263,410,763	95.02	C
762	9-009701-00	62.36	700	43,652	263,454,415	95.03	C
763	1-040050-00	2.36	18,500	43,606	263,498,021	95.05	C
764	9-003101-00	101.04	430	43,446	263,541,467	95.06	C
765	0-005895-00	18.06	2,400	43,335	263,584,802	95.08	C
766	9-003901-00	5.08	8,500	43,152	263,627,954	95.09	C
767	9-004101-00	215.16	200	43,032	263,670,986	95.11	C
768	9-012401-00	86.03	500	43,015	263,714,001	95.12	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อ หน่วย	ปริมาณการใช้ ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
769	9-004101-00	214.66	200	42,932	263,756,933	95.14	C
770	9-005201-00	113.53	378	42,915	263,799,848	95.16	C
771	9-007001-00	267.44	160	42,791	263,842,639	95.17	C
772	0-000501-00	7.10	6,000	42,615	263,885,254	95.19	C
773	9-010601-00	151.90	279	42,381	263,927,635	95.20	C
774	1-092048-01	35.31	1,200	42,370	263,970,005	95.22	C
775	0-005890-00	16.93	2,500	42,316	264,012,321	95.23	C
776	5-005045-00	17.61	2,400	42,254	264,054,575	95.25	C
777	0-006095-00	60.19	700	42,133	264,096,708	95.26	C
778	1-022064-00	44.26	950	42,043	264,138,751	95.28	C
779	7-610802-00	15.52	2,700	41,897	264,180,648	95.29	C
780	0-027005-00	12.47	3,350	41,775	264,222,423	95.31	C
781	9-030008-00	0.59	70,500	41,585	264,264,008	95.32	C
782	0-005701-00	7.84	5,300	41,576	264,305,584	95.34	C
783	0-006190-00	60.19	690	41,532	264,347,116	95.35	C
784	0-751150-00	3.54	11,700	41,425	264,388,541	95.37	C
785	6-004206-00	8.27	5,000	41,334	264,429,875	95.38	C
786	5-039244-00	1.54	26,800	41,214	264,471,089	95.40	C
787	0-005101-00	8.28	4,972	41,188	264,512,277	95.41	C
788	4-111201-00	45.51	900	40,961	264,553,238	95.43	C
789	9-004401-00	203.85	200	40,770	264,594,008	95.44	C
790	9-009601-00	9.25	4,400	40,707	264,634,715	95.46	C
791	0-920020-00	2.26	18,000	40,621	264,675,336	95.47	C
792	3-003442-00	20.30	2,000	40,600	264,715,936	95.49	C
793	4-112302-00	67.56	600	40,538	264,756,474	95.50	C
794	9-003101-00	101.04	400	40,416	264,796,890	95.52	C
795	0-009694-00	12.61	3,200	40,354	264,837,244	95.53	C
796	7-610201-00	12.60	3,200	40,308	264,877,552	95.54	C
797	8-011115-00	10.04	4,000	40,170	264,917,722	95.56	C
798	7-604101-00	10.46	3,800	39,747	264,957,469	95.57	C
799	0-000048-01	6.73	5,900	39,729	264,997,198	95.59	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
800	1-507201-00	74.84	530	39,663	265,036,861	95.60	C
801	9-007401-00	247.06	160	39,530	265,076,391	95.62	C
802	1-022027-00	39.50	1,000	39,501	265,115,892	95.63	C
803	8-610900-00	39.33	1,000	39,330	265,155,222	95.64	C
804	5-004934-00	1.51	26,000	39,303	265,194,525	95.66	C
805	9-009901-00	5.03	7,800	39,215	265,233,740	95.67	C
806	9-007501-00	97.56	400	39,025	265,272,765	95.69	C
807	0-009310-00	17.70	2,200	38,948	265,311,713	95.70	C
808	0-115127-00	431.06	90	38,795	265,350,508	95.72	C
809	0-018371-01	9.65	4,000	38,600	265,389,108	95.73	C
810	0-082001-01	14.75	2,600	38,340	265,427,448	95.74	C
811	0-974182-00	20.12	1,900	38,223	265,465,671	95.76	C
812	0-920547-00	3.80	10,000	37,984	265,503,655	95.77	C
813	9-645001-00	1.88	20,000	37,519	265,541,174	95.78	C
814	5-039245-00	0.64	58,000	37,340	265,578,514	95.80	C
815	5-004935-00	0.98	38,000	37,112	265,615,626	95.81	C
816	0-014921-00	6.74	5,500	37,044	265,652,670	95.82	C
817	0-010039-00	2.47	15,000	37,018	265,689,688	95.84	C
818	9-030045-00	1.23	30,000	36,928	265,726,616	95.85	C
819	7-608303-00	22.79	1,600	36,468	265,763,084	95.86	C
820	0-044764-00	60.76	600	36,453	265,799,537	95.88	C
821	0-051088-00	33.11	1,100	36,417	265,835,954	95.89	C
822	9-012801-00	59.99	606	36,356	265,872,310	95.90	C
823	6-450001-01	6.36	5,700	36,272	265,908,582	95.92	C
824	5-039260-00	3.70	9,800	36,263	265,944,845	95.93	C
825	0-043114-00	18.11	2,000	36,212	265,981,057	95.94	C
826	1-092030-01	6.03	6,000	36,200	266,017,257	95.96	C
827	9-005701-00	90.41	400	36,164	266,053,421	95.97	C
828	1-092047-01	25.87	1,396	36,112	266,089,533	95.98	C
829	9-002601-00	108.84	330	35,918	266,125,451	95.99	C
830	0-010194-00	1.69	21,200	35,918	266,161,369	96.01	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
831	3-010053-00	17.95	2,000	35,907	266,197,276	96.02	C
832	1-451080-00	3.57	10,000	35,726	266,233,002	96.03	C
833	5-004099-00	3.57	10,000	35,720	266,268,722	96.05	C
834	0-109143-00	48.16	740	35,635	266,304,357	96.06	C
835	7-504825-00	0.45	80,000	35,609	266,339,966	96.07	C
836	5-038856-00	17.79	2,000	35,576	266,375,542	96.08	C
837	0-009043-00	6.58	5,400	35,542	266,411,084	96.10	C
838	0-005623-00	5.92	6,000	35,538	266,446,622	96.11	C
839	9-003601-00	35.47	1,000	35,470	266,482,092	96.12	C
840	3-300002-01	7.88	4,500	35,469	266,517,561	96.14	C
841	0-650011-00	2.81	12,600	35,461	266,553,022	96.15	C
842	0-010000-00	16.10	2,200	35,409	266,588,431	96.16	C
843	0-000901-00	35,020.00	1	35,020	266,623,451	96.17	C
844	0-051022-01	4.34	8,000	34,753	266,658,204	96.19	C
845	9-010201-00	57.82	600	34,692	266,692,896	96.20	C
846	0-124086-01	17.34	2,000	34,670	266,727,566	96.21	C
847	0-000222-01	7.20	4,800	34,567	266,762,133	96.22	C
848	8-551102-00	17.92	1,929	34,562	266,796,695	96.24	C
849	0-517901-01	9.26	3,724	34,485	266,831,180	96.25	C
850	0-870350-00	12.04	2,860	34,426	266,865,606	96.26	C
851	9-003801-00	171.98	200	34,396	266,900,002	96.27	C
852	0-018372-01	3.78	9,081	34,358	266,934,360	96.29	C
853	4-605701-00	32.51	1,050	34,140	266,968,500	96.30	C
854	9-506401-00	5.44	6,253	34,036	267,002,536	96.31	C
855	1-503701-00	63.98	530	33,908	267,036,444	96.32	C
856	2-010206-00	22.13	1,530	33,857	267,070,301	96.34	C
857	9-501200-01	48.33	700	33,828	267,104,129	96.35	C
858	0-000090-01	112.07	300	33,620	267,137,749	96.36	C
859	0-974178-00	16.78	2,000	33,568	267,171,317	96.37	C
860	8-501702-00	1.20	27,900	33,500	267,204,817	96.38	C
861	0-064288-00	8.37	4,000	33,460	267,238,277	96.40	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
862	0-009755-00	5.57	6,000	33,407	267,271,684	96.41	C
863	9-011001-00	47.41	700	33,184	267,304,868	96.42	C
864	9-611401-00	50.76	650	32,991	267,337,859	96.43	C
865	1-505901-00	61.97	530	32,843	267,370,702	96.44	C
866	0-010016-00	4.97	6,600	32,780	267,403,482	96.46	C
867	0-035575-00	81.79	400	32,716	267,436,198	96.47	C
868	3-003150-00	46.65	700	32,657	267,468,855	96.48	C
869	0-002701-00	8.45	3,857	32,573	267,501,428	96.49	C
870	0-009045-00	8.46	3,800	32,165	267,533,593	96.50	C
871	9-030006-00	0.20	161,000	32,085	267,565,678	96.51	C
872	0-920559-00	7.88	4,060	32,003	267,597,681	96.53	C
873	4-605101-00	45.03	710	31,970	267,629,651	96.54	C
874	2-300019-00	2.46	12,900	31,681	267,661,332	96.55	C
875	4-021400-00	1.62	19,400	31,448	267,692,780	96.56	C
876	1-092049-01	8.05	3,897	31,364	267,724,144	96.57	C
877	5-011236-00	15.62	2,000	31,239	267,755,383	96.58	C
878	1-503601-00	58.75	530	31,138	267,786,521	96.59	C
879	9-011501-00	10.72	2,900	31,093	267,817,614	96.61	C
880	9-003301-00	64.17	480	30,802	267,848,416	96.62	C
881	9-004201-00	153.85	200	30,770	267,879,186	96.63	C
882	6-008006-00	5.12	6,000	30,738	267,909,924	96.64	C
883	0-770006-00	2.81	10,900	30,680	267,940,604	96.65	C
884	0-044768-00	6.13	5,000	30,658	267,971,262	96.66	C
885	0-035571-00	76.64	400	30,656	268,001,918	96.67	C
886	0-018127-00	3.14	9,660	30,299	268,032,217	96.68	C
887	5-030008-00	0.40	74,800	30,273	268,062,490	96.69	C
888	0-221681-00	1.21	25,000	30,163	268,092,653	96.70	C
889	0-064281-00	5.01	6,000	30,080	268,122,733	96.72	C
890	9-004801-00	12.03	2,500	30,075	268,152,808	96.73	C
891	9-002901-00	229.16	131	30,020	268,182,828	96.74	C
892	5-038627-00	37.45	800	29,959	268,212,787	96.75	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
893	3-007301-01	9.46	3,145	29,738	268,242,525	96.76	C
894	5-039241-00	1.13	26,400	29,706	268,272,231	96.77	C
895	9-012601-00	22.99	1,290	29,651	268,301,882	96.78	C
896	6-420111-00	59.26	500	29,629	268,331,511	96.79	C
897	1-022042-00	42.25	700	29,577	268,361,088	96.80	C
898	9-007701-00	59.12	500	29,560	268,390,648	96.81	C
899	6-002200-00	5.20	5,656	29,431	268,420,079	96.82	C
900	5-035489-00	1.73	17,000	29,396	268,449,475	96.83	C
901	5-408005-00	3.02	9,743	29,395	268,478,870	96.84	C
902	0-051095-00	29.35	1,000	29,349	268,508,219	96.85	C
903	1-503201-01	19.51	1,500	29,270	268,537,489	96.86	C
904	9-012901-00	40.22	726	29,198	268,566,687	96.88	C
905	9-004101-00	5.83	5,000	29,151	268,595,838	96.89	C
906	0-990305-00	4.85	6,000	29,083	268,624,921	96.90	C
907	2-300014-01	0.32	92,000	29,054	268,653,975	96.91	C
908	5-414000-00	11.15	2,600	28,978	268,682,953	96.92	C
909	9-006901-00	96.32	300	28,895	268,711,848	96.93	C
910	9-606003-00	7.22	4,000	28,893	268,740,741	96.94	C
911	9-010101-00	48.10	600	28,860	268,769,601	96.95	C
912	9-508001-01	18.69	1,540	28,787	268,798,388	96.96	C
913	0-518472-01	11.46	2,500	28,641	268,827,029	96.97	C
914	0-000049-00	6.96	4,100	28,538	268,855,567	96.98	C
915	9-006101-00	16.75	1,700	28,477	268,884,044	96.99	C
916	0-064227-00	7.11	4,000	28,420	268,912,464	97.00	C
917	0-004412-00	236.42	120	28,370	268,940,834	97.01	C
918	0-051131-00	28.22	1,000	28,220	268,969,054	97.02	C
919	0-051128-00	28.22	1,000	28,220	268,997,274	97.03	C
920	0-920272-00	9.40	3,000	28,196	269,025,470	97.04	C
921	0-871310-00	4.91	5,730	28,125	269,053,595	97.05	C
922	1-030008-03	0.36	78,400	27,940	269,081,535	97.06	C
923	0-051135-00	27.85	1,000	27,845	269,109,380	97.07	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อ หน่วย	ปริมาณการใช้ ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
924	0-220001-00	19.72	1,400	27,606	269,136,986	97.08	C
925	6-160023-01	5.87	4,700	27,590	269,164,576	97.09	C
926	0-018983-00	14.51	1,900	27,563	269,192,139	97.10	C
927	0-064296-00	13.67	2,000	27,340	269,219,479	97.11	C
928	0-064283-00	5.44	5,000	27,220	269,246,699	97.12	C
929	9-007001-00	268.52	100	26,852	269,273,551	97.13	C
930	9-004101-00	214.72	125	26,840	269,300,391	97.14	C
931	9-006201-00	14.89	1,800	26,802	269,327,193	97.15	C
932	0-051133-00	26.72	1,000	26,716	269,353,909	97.16	C
933	9-003101-00	26.72	1,000	26,716	269,380,625	97.17	C
934	9-005001-00	115.06	231	26,580	269,407,205	97.18	C
935	7-610201-00	12.65	2,100	26,559	269,433,764	97.19	C
936	7-551222-00	6.64	4,000	26,554	269,460,318	97.20	C
937	7-610303-00	53.06	500	26,530	269,486,848	97.21	C
938	7-610403-00	58.06	450	26,125	269,512,973	97.22	C
939	0-035579-00	62.03	421	26,115	269,539,088	97.23	C
940	8-705001-00	4.35	6,000	26,090	269,565,178	97.24	C
941	0-027098-00	16.30	1,600	26,076	269,591,254	97.24	C
942	9-012701-00	52.10	500	26,050	269,617,304	97.25	C
943	0-064295-00	13.02	2,000	26,040	269,643,344	97.26	C
944	9-990954-00	0.64	40,000	25,791	269,669,135	97.27	C
945	9-645101-00	51.37	500	25,684	269,694,819	97.28	C
946	9-009001-00	5.03	5,100	25,647	269,720,466	97.29	C
947	5-004790-00	1.60	16,000	25,588	269,746,054	97.30	C
948	0-010054-00	2.62	9,776	25,570	269,771,624	97.31	C
949	0-104006-00	28.21	900	25,387	269,797,011	97.32	C
950	0-920417-00	0.47	54,000	25,368	269,822,379	97.33	C
951	0-517401-00	8.12	3,120	25,323	269,847,702	97.34	C
952	2-306000-00	9.02	2,800	25,255	269,872,957	97.35	C
953	1-030010-00	0.37	67,500	25,252	269,898,209	97.36	C
954	5-004504-00	12.60	2,000	25,198	269,923,407	97.36	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
955	7-608303-00	22.89	1,100	25,178	269,948,585	97.37	C
956	0-920273-00	8.36	3,000	25,076	269,973,661	97.38	C
957	7-604501-00	55.66	450	25,045	269,998,706	97.39	C
958	7-608202-00	14.73	1,700	25,044	270,023,750	97.40	C
959	5-039262-00	2.58	9,700	24,985	270,048,735	97.41	C
960	0-051124-00	24.93	1,000	24,929	270,073,664	97.42	C
961	0-051125-00	24.93	1,000	24,929	270,098,593	97.43	C
962	0-051126-00	24.93	1,000	24,929	270,123,522	97.44	C
963	0-650006-00	2.90	8,600	24,916	270,148,438	97.45	C
964	9-007401-00	248.14	100	24,814	270,173,252	97.45	C
965	0-027099-00	22.54	1,100	24,792	270,198,044	97.46	C
966	0-051122-00	24.65	1,000	24,649	270,222,693	97.47	C
967	7-604004-00	61.59	400	24,636	270,247,329	97.48	C
968	0-018372-01	3.78	6,500	24,598	270,271,927	97.49	C
969	5-038871-00	2.19	11,200	24,578	270,296,505	97.50	C
970	7-300007-00	1.23	20,000	24,520	270,321,025	97.51	C
971	0-008301-00	7.09	3,455	24,510	270,345,535	97.52	C
972	9-508301-00	84.36	290	24,464	270,369,999	97.53	C
973	5-035715-00	8.73	2,800	24,453	270,394,452	97.53	C
974	9-040008-00	0.56	44,000	24,422	270,418,874	97.54	C
975	1-040008-00	0.54	45,200	24,247	270,443,121	97.55	C
976	4-021300-00	2.23	10,800	24,104	270,467,225	97.56	C
977	8-011179-01	3.01	8,000	24,076	270,491,301	97.57	C
978	9-508401-00	24.02	1,000	24,020	270,515,321	97.58	C
979	0-519701-01	1.69	14,144	23,898	270,539,219	97.59	C
980	9-030032-00	1.59	15,000	23,858	270,563,077	97.60	C
981	9-006701-00	237.73	100	23,773	270,586,850	97.60	C
982	0-004101-00	4.79	4,958	23,769	270,610,619	97.61	C
983	0-051118-00	15.80	1,500	23,693	270,634,312	97.62	C
984	0-051119-00	15.80	1,500	23,693	270,658,005	97.63	C
985	7-706004-00	1.97	12,000	23,693	270,681,698	97.64	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
986	0-051105-00	15.79	1,500	23,690	270,705,388	97.65	C
987	7-604301-00	4.70	5,000	23,520	270,728,908	97.66	C
988	0-027024-00	10.66	2,200	23,461	270,752,369	97.66	C
989	5-039016-00	9.38	2,500	23,445	270,775,814	97.67	C
990	9-030035-03	1.37	17,100	23,388	270,799,202	97.68	C
991	0-650012-00	2.05	11,400	23,388	270,822,590	97.69	C
992	9-030000-00	0.62	37,400	23,282	270,845,872	97.70	C
993	7-609001-00	9.30	2,500	23,238	270,869,110	97.71	C
994	6-010037-00	11.06	2,100	23,231	270,892,341	97.71	C
995	5-038670-00	3.87	6,000	23,210	270,915,551	97.72	C
996	9-003801-00	171.53	135	23,156	270,938,707	97.73	C
997	9-010201-00	57.67	400	23,068	270,961,775	97.74	C
998	0-006247-00	38.24	600	22,941	270,984,716	97.75	C
999	1-504301-01	9.04	2,530	22,876	271,007,592	97.76	C
1,000	5-030018-00	8.30	2,750	22,815	271,030,407	97.76	C
1,001	0-009583-00	38.01	600	22,806	271,053,213	97.77	C
1,002	0-010014-00	2.92	7,800	22,748	271,075,961	97.78	C
1,003	2-300018-01	4.63	4,900	22,676	271,098,637	97.79	C
1,004	1-504001-00	42.66	530	22,612	271,121,249	97.80	C
1,005	0-051103-00	14.11	1,600	22,580	271,143,829	97.80	C
1,006	0-051111-00	14.11	1,600	22,580	271,166,409	97.81	C
1,007	0-051116-00	15.04	1,500	22,562	271,188,971	97.82	C
1,008	0-051104-00	15.04	1,500	22,561	271,211,532	97.83	C
1,009	0-051117-00	15.04	1,500	22,561	271,234,093	97.84	C
1,010	1-221151-00	0.88	25,500	22,548	271,256,641	97.85	C
1,011	0-009309-00	5.36	4,200	22,521	271,279,162	97.85	C
1,012	5-004938-00	0.65	34,000	22,147	271,301,309	97.86	C
1,013	9-503800-01	36.75	600	22,049	271,323,358	97.87	C
1,014	6-059080-00	3.34	6,600	22,042	271,345,400	97.88	C
1,015	1-221472-00	0.88	24,900	22,018	271,367,418	97.89	C
1,016	0-018371-01	9.65	2,276	21,972	271,389,390	97.89	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,017	0-005199-00	11.55	1,900	21,944	271,411,334	97.90	C
1,018	0-105142-00	162.90	134	21,829	271,433,163	97.91	C
1,019	0-519601-01	1.01	21,584	21,711	271,454,874	97.92	C
1,020	0-029011-01	5.40	4,000	21,590	271,476,464	97.92	C
1,021	9-010401-00	107.10	200	21,420	271,497,884	97.93	C
1,022	4-112403-00	76.41	280	21,394	271,519,278	97.94	C
1,023	4-160502-00	30.28	700	21,195	271,540,473	97.95	C
1,024	0-051112-00	14.11	1,500	21,170	271,561,643	97.96	C
1,025	0-051113-00	14.11	1,500	21,170	271,582,813	97.96	C
1,026	0-051115-00	14.11	1,500	21,170	271,603,983	97.97	C
1,027	5-004082-00	14.05	1,500	21,081	271,625,064	97.98	C
1,028	0-650003-00	1.88	11,200	21,055	271,646,119	97.99	C
1,029	0-035572-00	52.56	400	21,023	271,667,142	97.99	C
1,030	0-035573-00	52.56	400	21,023	271,688,165	98.00	C
1,031	4-111902-00	29.96	700	20,975	271,709,140	98.01	C
1,032	7-090001-00	4.10	5,100	20,928	271,730,068	98.02	C
1,033	0-501001-01	17.73	1,180	20,927	271,750,995	98.02	C
1,034	0-501101-01	17.73	1,180	20,927	271,771,922	98.03	C
1,035	0-010014-00	20.87	1,000	20,867	271,792,789	98.04	C
1,036	0-005700-00	9.86	2,100	20,707	271,813,496	98.05	C
1,037	6-000700-00	11.43	1,800	20,576	271,834,072	98.05	C
1,038	7-680301-01	14.38	1,425	20,497	271,854,569	98.06	C
1,039	0-009311-00	28.98	700	20,283	271,874,852	98.07	C
1,040	0-018031-01	2.25	9,000	20,279	271,895,131	98.08	C
1,041	9-611401-00	50.62	400	20,248	271,915,379	98.08	C
1,042	0-000050-00	6.97	2,900	20,204	271,935,583	98.09	C
1,043	0-029027-00	2.01	10,000	20,120	271,955,703	98.10	C
1,044	9-005501-00	285.80	70	20,006	271,975,709	98.10	C
1,045	0-501201-00	39.92	500	19,961	271,995,670	98.11	C
1,046	6-059079-00	3.02	6,600	19,919	272,015,589	98.12	C
1,047	6-160010-01	15.32	1,300	19,910	272,035,499	98.13	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,048	0-053006-00	1.65	12,000	19,801	272,055,300	98.13	C
1,049	0-051114-00	14.11	1,400	19,760	272,075,060	98.14	C
1,050	5-038459-00	3.29	6,000	19,737	272,094,797	98.15	C
1,051	0-044769-00	8.05	2,440	19,651	272,114,448	98.15	C
1,052	0-321913-00	1.01	19,510	19,627	272,134,075	98.16	C
1,053	0-009056-00	15.06	1,300	19,572	272,153,647	98.17	C
1,054	1-631331-00	1.78	11,000	19,541	272,173,188	98.18	C
1,055	9-611501-00	48.76	400	19,504	272,192,692	98.18	C
1,056	6-160021-01	3.67	5,300	19,470	272,212,162	98.19	C
1,057	6-012706-00	16.18	1,200	19,420	272,231,582	98.20	C
1,058	9-611501-00	48.51	400	19,404	272,250,986	98.20	C
1,059	9-003301-00	64.53	300	19,359	272,270,345	98.21	C
1,060	6-004290-00	4.83	4,000	19,323	272,289,668	98.22	C
1,061	0-501301-01	15.91	1,200	19,088	272,308,756	98.23	C
1,062	4-621331-00	0.99	19,300	19,062	272,327,818	98.23	C
1,063	4-611685-00	0.68	27,800	19,015	272,346,833	98.24	C
1,064	5-039264-00	6.78	2,800	18,985	272,365,818	98.25	C
1,065	5-015902-00	6.52	2,900	18,911	272,384,729	98.25	C
1,066	5-004788-01	3.78	5,000	18,910	272,403,639	98.26	C
1,067	9-008501-00	26.97	700	18,879	272,422,518	98.27	C
1,068	8-068032-00	12.48	1,500	18,717	272,441,235	98.27	C
1,069	2-300000-00	9.28	2,000	18,553	272,459,788	98.28	C
1,070	6-025033-00	6.51	2,850	18,545	272,478,333	98.29	C
1,071	5-004075-00	2.30	8,000	18,388	272,496,721	98.29	C
1,072	5-453067-01	12.25	1,500	18,375	272,515,096	98.30	C
1,073	9-007401-00	45.85	400	18,339	272,533,435	98.31	C
1,074	5-453055-00	3.74	4,900	18,336	272,551,771	98.31	C
1,075	0-000275-00	170.94	107	18,291	272,570,062	98.32	C
1,076	5-004941-00	1.83	10,000	18,290	272,588,352	98.33	C
1,077	0-018608-00	6.08	3,000	18,227	272,606,579	98.33	C
1,078	0-018372-00	6.74	2,700	18,208	272,624,787	98.34	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,079	6-002000-00	4.55	4,000	18,180	272,642,967	98.35	C
1,080	0-035570-00	45.45	400	18,180	272,661,147	98.35	C
1,081	8-551332-00	4.52	4,000	18,065	272,679,212	98.36	C
1,082	7-650001-01	3.82	4,720	18,046	272,697,258	98.37	C
1,083	9-005701-00	90.21	200	18,042	272,715,300	98.37	C
1,084	4-113501-00	9.46	1,900	17,974	272,733,274	98.38	C
1,085	9-990957-00	17.79	1,000	17,785	272,751,059	98.38	C
1,086	0-051108-00	11.76	1,500	17,633	272,768,692	98.39	C
1,087	0-051102-00	11.76	1,500	17,633	272,786,325	98.40	C
1,088	0-051109-00	11.76	1,500	17,633	272,803,958	98.40	C
1,089	9-007201-00	109.91	160	17,585	272,821,543	98.41	C
1,090	0-871316-00	6.21	2,820	17,515	272,839,058	98.42	C
1,091	4-111601-00	24.96	700	17,472	272,856,530	98.42	C
1,092	0-051123-00	24.94	700	17,456	272,873,986	98.43	C
1,093	9-509001-01	10.66	1,635	17,435	272,891,421	98.44	C
1,094	4-621103-00	0.95	18,400	17,413	272,908,834	98.44	C
1,095	9-990958-00	17.39	1,000	17,391	272,926,225	98.45	C
1,096	5-038639-00	3.08	5,600	17,268	272,943,493	98.45	C
1,097	0-051121-00	24.66	700	17,260	272,960,753	98.46	C
1,098	5-005023-00	17.24	1,000	17,242	272,977,995	98.47	C
1,099	7-502400-00	4.20	4,100	17,240	272,995,235	98.47	C
1,100	0-044782-00	24.62	700	17,235	273,012,470	98.48	C
1,101	5-038506-00	3.45	5,000	17,231	273,029,701	98.49	C
1,102	6-016002-00	3.57	4,800	17,159	273,046,860	98.49	C
1,103	3-001192-00	6.31	2,700	17,035	273,063,895	98.50	C
1,104	3-079597-00	1.62	10,500	17,012	273,080,907	98.50	C
1,105	5-036686-00	4.25	4,000	16,999	273,097,906	98.51	C
1,106	0-044781-00	24.22	700	16,956	273,114,862	98.52	C
1,107	8-011078-00	4.24	4,000	16,940	273,131,802	98.52	C
1,108	0-010167-00	8.45	2,000	16,909	273,148,711	98.53	C
1,109	5-038877-00	2.10	8,000	16,798	273,165,509	98.53	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,110	1-030023-03	0.65	25,800	16,748	273,182,257	98.54	C
1,111	6-000800-00	8.33	2,010	16,743	273,199,000	98.55	C
1,112	5-039242-00	0.70	24,000	16,734	273,215,734	98.55	C
1,113	0-871375-00	5.84	2,850	16,637	273,232,371	98.56	C
1,114	7-300004-00	1.05	15,900	16,636	273,249,007	98.56	C
1,115	0-044762-00	23.75	700	16,627	273,265,634	98.57	C
1,116	0-044761-00	23.75	700	16,627	273,282,261	98.58	C
1,117	0-770010-00	3.39	4,900	16,591	273,298,852	98.58	C
1,118	7-404102-00	0.31	54,000	16,587	273,315,439	98.59	C
1,119	0-044780-00	23.43	700	16,402	273,331,841	98.59	C
1,120	5-004932-00	1.09	15,000	16,370	273,348,211	98.60	C
1,121	6-045067-00	1.17	14,000	16,317	273,364,528	98.61	C
1,122	9-003701-00	9.06	1,800	16,306	273,380,834	98.61	C
1,123	3-008001-00	0.36	45,000	16,290	273,397,124	98.62	C
1,124	9-644901-00	1.63	10,000	16,270	273,413,394	98.62	C
1,125	9-008001-00	16.21	1,000	16,206	273,429,600	98.63	C
1,126	9-012601-00	23.14	700	16,199	273,445,799	98.64	C
1,127	3-003152-00	12.42	1,300	16,148	273,461,947	98.64	C
1,128	4-611182-00	0.72	22,300	16,145	273,478,092	98.65	C
1,129	1-030010-03	0.37	43,000	16,121	273,494,213	98.65	C
1,130	4-030010-00	1.61	10,000	16,106	273,510,319	98.66	C
1,131	4-070002-00	3.02	5,310	16,030	273,526,349	98.66	C
1,132	0-035574-00	45.56	350	15,945	273,542,294	98.67	C
1,133	8-011092-01	3.26	4,875	15,898	273,558,192	98.68	C
1,134	6-160022-01	3.87	4,100	15,880	273,574,072	98.68	C
1,135	6-160019-01	6.33	2,500	15,820	273,589,892	98.69	C
1,136	5-454538-00	4.52	3,500	15,809	273,605,701	98.69	C
1,137	6-851225-00	4.83	3,250	15,706	273,621,407	98.70	C
1,138	9-001400-01	31.41	500	15,703	273,637,110	98.70	C
1,139	9-008601-00	45.58	344	15,679	273,652,789	98.71	C
1,140	0-009175-00	4.90	3,200	15,669	273,668,458	98.72	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,141	0-990320-00	7.81	2,000	15,620	273,684,078	98.72	C
1,142	6-029020-00	8.19	1,900	15,561	273,699,639	98.73	C
1,143	4-130045-00	1.11	14,000	15,532	273,715,171	98.73	C
1,144	5-004031-00	11.41	1,360	15,522	273,730,693	98.74	C
1,145	3-000458-00	1.63	9,500	15,492	273,746,185	98.74	C
1,146	5-004925-00	0.67	23,000	15,430	273,761,615	98.75	C
1,147	0-051270-00	2.26	6,800	15,334	273,776,949	98.75	C
1,148	0-010172-00	1.69	9,000	15,252	273,792,201	98.76	C
1,149	9-991055-00	7.26	2,100	15,249	273,807,450	98.77	C
1,150	1-030008-05	0.40	37,500	15,126	273,822,576	98.77	C
1,151	1-000001-00	5,033.67	3	15,101	273,837,677	98.78	C
1,152	6-611601-00	10.07	1,500	15,099	273,852,776	98.78	C
1,153	0-009055-00	8.86	1,700	15,058	273,867,834	98.79	C
1,154	3-308500-00	107.14	140	15,000	273,882,834	98.79	C
1,155	6-016006-00	3.62	4,100	14,856	273,897,690	98.80	C
1,156	2-011600-00	3.71	4,000	14,820	273,912,510	98.80	C
1,157	6-004288-00	3.70	4,000	14,813	273,927,323	98.81	C
1,158	9-505901-00	7.63	1,939	14,795	273,942,118	98.81	C
1,159	9-004401-00	12.29	1,200	14,744	273,956,862	98.82	C
1,160	6-029020-00	8.19	1,800	14,743	273,971,605	98.82	C
1,161	0-000124-01	3.20	4,600	14,740	273,986,345	98.83	C
1,162	9-012401-00	86.69	170	14,738	274,001,083	98.84	C
1,163	9-010301-00	73.59	200	14,718	274,015,801	98.84	C
1,164	9-660238-00	7.34	2,000	14,680	274,030,481	98.85	C
1,165	0-990312-00	2.44	6,000	14,668	274,045,149	98.85	C
1,166	9-006901-00	97.05	150	14,558	274,059,707	98.86	C
1,167	0-990401-00	0.72	20,000	14,300	274,074,007	98.86	C
1,168	9-008601-00	47.47	300	14,240	274,088,247	98.87	C
1,169	7-130032-00	2.22	6,400	14,207	274,102,454	98.87	C
1,170	0-018558-00	0.71	20,000	14,125	274,116,579	98.88	C
1,171	0-870307-00	4.03	3,470	13,973	274,130,552	98.88	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,172	9-007301-00	34.79	400	13,917	274,144,469	98.89	C
1,173	5-603001-00	3.48	4,000	13,913	274,158,382	98.89	C
1,174	5-001044-00	13.87	1,000	13,872	274,172,254	98.90	C
1,175	0-024001-01	9.26	1,496	13,854	274,186,108	98.90	C
1,176	6-160024-01	2.94	4,700	13,798	274,199,906	98.91	C
1,177	9-012401-00	86.11	160	13,778	274,213,684	98.91	C
1,178	4-111201-00	45.89	300	13,767	274,227,451	98.92	C
1,179	1-007266-01	0.85	16,250	13,765	274,241,216	98.92	C
1,180	6-010441-00	8.09	1,700	13,761	274,254,977	98.93	C
1,181	5-038908-00	6.84	2,000	13,687	274,268,664	98.93	C
1,182	1-040035-00	1.37	10,000	13,657	274,282,321	98.94	C
1,183	9-668901-00	12.27	1,107	13,581	274,295,902	98.94	C
1,184	3-011057-00	3.85	3,500	13,475	274,309,377	98.95	C
1,185	0-001212-00	4.48	3,000	13,430	274,322,807	98.95	C
1,186	0-001213-00	4.48	3,000	13,430	274,336,237	98.96	C
1,187	6-160026-01	3.27	4,100	13,424	274,349,661	98.96	C
1,188	9-010001-00	22.33	600	13,396	274,363,057	98.97	C
1,189	4-113801-00	18.93	700	13,254	274,376,311	98.97	C
1,190	5-038891-00	6.62	2,000	13,232	274,389,543	98.98	C
1,191	3-711682-00	0.71	18,600	13,223	274,402,766	98.98	C
1,192	0-520901-01	3.72	3,549	13,187	274,415,953	98.99	C
1,193	0-035202-00	5.48	2,400	13,157	274,429,110	98.99	C
1,194	0-018370-00	5.24	2,500	13,088	274,442,198	98.99	C
1,195	1-092046-01	1.30	10,000	13,023	274,455,221	99.00	C
1,196	0-974198-00	21.70	600	13,017	274,468,238	99.00	C
1,197	6-751223-00	4.79	2,700	12,935	274,481,173	99.01	C
1,198	0-300069-01	0.81	16,000	12,927	274,494,100	99.01	C
1,199	0-051086-00	14.31	900	12,880	274,506,980	99.02	C
1,200	7-001001-01	7.13	1,800	12,832	274,519,812	99.02	C
1,201	0-010020-00	4.93	2,600	12,825	274,532,637	99.03	C
1,202	9-013301-00	8.54	1,500	12,806	274,545,443	99.03	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,203	1-002084-00	6.38	2,000	12,750	274,558,193	99.04	C
1,204	1-651015-00	4.24	3,000	12,710	274,570,903	99.04	C
1,205	0-130045-00	2.22	5,700	12,655	274,583,558	99.05	C
1,206	0-018025-00	0.55	23,000	12,651	274,596,209	99.05	C
1,207	0-000088-04	257.41	49	12,613	274,608,822	99.05	C
1,208	6-100125-00	6.30	2,000	12,607	274,621,429	99.06	C
1,209	1-301000-00	10.65	1,180	12,562	274,633,991	99.06	C
1,210	0-008017-00	8.96	1,400	12,543	274,646,534	99.07	C
1,211	9-006901-00	96.41	130	12,533	274,659,067	99.07	C
1,212	0-018947-00	4.47	2,800	12,510	274,671,577	99.08	C
1,213	0-009053-00	9.59	1,300	12,469	274,684,046	99.08	C
1,214	6-004936-00	12.45	1,000	12,452	274,696,498	99.09	C
1,215	6-029018-00	10.33	1,200	12,395	274,708,893	99.09	C
1,216	0-027122-00	17.70	700	12,389	274,721,282	99.10	C
1,217	0-035569-00	30.84	400	12,337	274,733,619	99.10	C
1,218	5-506005-00	2.45	5,000	12,257	274,745,876	99.10	C
1,219	6-002900-00	2.14	5,700	12,218	274,758,094	99.11	C
1,220	3-911105-00	0.45	27,000	12,170	274,770,264	99.11	C
1,221	5-004793-01	1.22	10,000	12,170	274,782,434	99.12	C
1,222	1-050010-00	0.92	13,200	12,114	274,794,548	99.12	C
1,223	9-002201-00	60.50	200	12,100	274,806,648	99.13	C
1,224	6-002100-00	4.16	2,900	12,055	274,818,703	99.13	C
1,225	0-009586-00	12.05	1,000	12,050	274,830,753	99.13	C
1,226	0-018610-00	3.01	4,000	12,047	274,842,800	99.14	C
1,227	0-000088-03	333.56	36	12,008	274,854,808	99.14	C
1,228	6-000600-00	4.66	2,560	11,924	274,866,732	99.15	C
1,229	8-551472-00	4.75	2,500	11,864	274,878,596	99.15	C
1,230	0-005893-00	4.89	2,400	11,745	274,890,341	99.16	C
1,231	0-044760-00	23.33	500	11,665	274,902,006	99.16	C
1,232	0-300235-00	1.19	9,790	11,627	274,913,633	99.16	C
1,233	4-038901-00	116.18	100	11,618	274,925,251	99.17	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,234	9-005001-00	116.18	100	11,618	274,936,869	99.17	C
1,235	0-920475-00	14.50	800	11,602	274,948,471	99.18	C
1,236	7-070004-00	28.88	400	11,552	274,960,023	99.18	C
1,237	5-004928-00	0.64	18,000	11,492	274,971,515	99.19	C
1,238	3-079591-00	2.30	5,000	11,486	274,983,001	99.19	C
1,239	4-021200-00	28.62	400	11,448	274,994,449	99.19	C
1,240	5-044701-00	11.44	1,000	11,442	275,005,891	99.20	C
1,241	4-310003-01	1.17	9,797	11,427	275,017,318	99.20	C
1,242	1-504101-01	7.45	1,530	11,399	275,028,717	99.21	C
1,243	1-504201-01	7.45	1,530	11,399	275,040,116	99.21	C
1,244	5-038026-00	2.27	5,000	11,367	275,051,483	99.21	C
1,245	7-610201-00	12.61	900	11,351	275,062,834	99.22	C
1,246	1-030006-00	0.15	74,000	11,283	275,074,117	99.22	C
1,247	9-013001-00	70.46	160	11,273	275,085,390	99.23	C
1,248	9-030037-00	0.93	12,060	11,217	275,096,607	99.23	C
1,249	9-028002-01	7.45	1,497	11,157	275,107,764	99.23	C
1,250	6-010553-00	4.44	2,500	11,100	275,118,864	99.24	C
1,251	9-007201-00	110.98	100	11,098	275,129,962	99.24	C
1,252	0-010026-00	4.25	2,600	11,061	275,141,023	99.25	C
1,253	0-920539-00	0.44	25,000	11,050	275,152,073	99.25	C
1,254	3-910003-00	1.97	5,600	11,030	275,163,103	99.25	C
1,255	9-030025-00	0.77	14,300	10,989	275,174,092	99.26	C
1,256	7-221476-00	0.78	14,000	10,959	275,185,051	99.26	C
1,257	9-012801-00	60.63	180	10,913	275,195,964	99.27	C
1,258	0-009729-00	6.81	1,600	10,894	275,206,858	99.27	C
1,259	0-201000-00	4.54	2,400	10,885	275,217,743	99.27	C
1,260	0-064226-00	5.43	2,000	10,860	275,228,603	99.28	C
1,261	9-006801-00	53.65	200	10,730	275,239,333	99.28	C
1,262	0-100150-01	70.51	150	10,576	275,249,909	99.29	C
1,263	5-030046-00	2.11	5,000	10,547	275,260,456	99.29	C
1,264	6-010568-00	10.50	1,000	10,501	275,270,957	99.29	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,265	5-004871-00	1.23	8,500	10,461	275,281,418	99.30	C
1,266	0-035568-00	26.11	400	10,442	275,291,860	99.30	C
1,267	9-030012-00	0.20	51,000	10,428	275,302,288	99.30	C
1,268	3-908000-00	2.13	4,868	10,386	275,312,674	99.31	C
1,269	0-870308-00	4.03	2,550	10,271	275,322,945	99.31	C
1,270	0-920497-00	2.56	4,000	10,248	275,333,193	99.32	C
1,271	0-014013-00	0.42	24,200	10,179	275,343,372	99.32	C
1,272	5-039240-00	0.51	20,000	10,163	275,353,535	99.32	C
1,273	6-010247-00	10.14	1,000	10,135	275,363,670	99.33	C
1,274	0-035580-00	25.32	400	10,127	275,373,797	99.33	C
1,275	6-004196-00	5.04	2,000	10,075	275,383,872	99.33	C
1,276	9-645201-00	33.55	300	10,064	275,393,936	99.34	C
1,277	7-503000-00	4.61	2,180	10,048	275,403,984	99.34	C
1,278	0-014945-00	2.87	3,500	10,034	275,414,018	99.35	C
1,279	0-005201-00	2.52	3,970	10,024	275,424,042	99.35	C
1,280	5-038459-00	3.29	3,032	9,984	275,434,026	99.35	C
1,281	5-038902-00	4.96	2,000	9,915	275,443,941	99.36	C
1,282	0-000226-02	29.06	341	9,909	275,453,850	99.36	C
1,283	4-113401-00	19.77	500	9,885	275,463,735	99.36	C
1,284	5-038027-00	3.29	3,000	9,875	275,473,610	99.37	C
1,285	7-221226-00	1.01	9,800	9,869	275,483,479	99.37	C
1,286	0-004466-00	0.66	15,000	9,846	275,493,325	99.37	C
1,287	9-311330-00	0.83	11,900	9,828	275,503,153	99.38	C
1,288	5-038125-00	2.46	4,000	9,826	275,512,979	99.38	C
1,289	0-051107-00	4.90	2,000	9,791	275,522,770	99.38	C
1,290	5-602301-00	11.47	850	9,753	275,532,523	99.39	C
1,291	0-009687-00	8.06	1,200	9,672	275,542,195	99.39	C
1,292	0-064289-00	9.65	1,000	9,650	275,551,845	99.39	C
1,293	9-003401-00	9.59	1,000	9,590	275,561,435	99.40	C
1,294	0-044784-00	5.64	1,700	9,588	275,571,023	99.40	C
1,295	5-030010-00	0.50	19,000	9,567	275,580,590	99.41	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,296	0-010058-00	5.27	1,800	9,493	275,590,083	99.41	C
1,297	0-008013-00	6.72	1,400	9,412	275,599,495	99.41	C
1,298	0-001208-00	4.71	2,000	9,411	275,608,906	99.42	C
1,299	5-038875-00	6.25	1,500	9,380	275,618,286	99.42	C
1,300	5-004926-00	0.54	17,500	9,370	275,627,656	99.42	C
1,301	0-026001-00	9.27	1,000	9,267	275,636,923	99.43	C
1,302	8-506000-00	3.29	2,800	9,223	275,646,146	99.43	C
1,303	6-113003-00	3.07	3,000	9,220	275,655,366	99.43	C
1,304	0-014943-00	1.53	6,000	9,194	275,664,560	99.44	C
1,305	5-708006-00	2.28	4,000	9,135	275,673,695	99.44	C
1,306	7-608303-00	22.83	400	9,132	275,682,827	99.44	C
1,307	9-010101-00	48.01	190	9,121	275,691,948	99.45	C
1,308	9-012301-00	13.91	650	9,042	275,700,990	99.45	C
1,309	9-007001-00	45.10	200	9,020	275,710,010	99.45	C
1,310	9-012801-00	60.09	150	9,014	275,719,024	99.46	C
1,311	9-012701-00	52.76	170	8,970	275,727,994	99.46	C
1,312	0-010018-00	3.58	2,500	8,947	275,736,941	99.46	C
1,313	9-011701-00	8.12	1,100	8,927	275,745,868	99.46	C
1,314	5-038884-00	2.55	3,500	8,918	275,754,786	99.47	C
1,315	9-012701-00	52.18	170	8,870	275,763,656	99.47	C
1,316	0-100170-01	44.30	200	8,859	275,772,515	99.47	C
1,317	2-007000-00	17.64	500	8,819	275,781,334	99.48	C
1,318	5-803000-00	7.46	1,180	8,799	275,790,133	99.48	C
1,319	5-045002-00	12.49	700	8,745	275,798,878	99.48	C
1,320	9-004401-00	12.44	700	8,709	275,807,587	99.49	C
1,321	9-009201-00	14.51	600	8,706	275,816,293	99.49	C
1,322	9-505701-00	8.82	982	8,662	275,824,955	99.49	C
1,323	0-871510-00	13.30	650	8,648	275,833,603	99.50	C
1,324	9-508000-00	3.06	2,800	8,573	275,842,176	99.50	C
1,325	5-038455-00	2.13	4,000	8,521	275,850,697	99.50	C
1,326	1-010500-00	4.26	2,000	8,520	275,859,217	99.51	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,327	0-009686-00	3.86	2,200	8,485	275,867,702	99.51	C
1,328	1-990051-00	4.98	1,700	8,458	275,876,160	99.51	C
1,329	7-130058-00	3.24	2,600	8,425	275,884,585	99.51	C
1,330	0-111685-00	0.70	12,000	8,421	275,893,006	99.52	C
1,331	0-035578-00	20.97	400	8,389	275,901,395	99.52	C
1,332	0-010049-00	2.78	3,000	8,339	275,909,734	99.52	C
1,333	0-151020-00	2.38	3,500	8,320	275,918,054	99.53	C
1,334	0-311156-00	0.69	12,000	8,304	275,926,358	99.53	C
1,335	8-011148-00	4.13	2,000	8,252	275,934,610	99.53	C
1,336	5-030006-00	0.36	23,100	8,230	275,942,840	99.54	C
1,337	2-010202-00	8.21	1,000	8,209	275,951,049	99.54	C
1,338	0-501150-00	11.68	700	8,179	275,959,228	99.54	C
1,339	6-045049-00	1.63	5,000	8,155	275,967,383	99.54	C
1,340	9-006801-00	54.35	150	8,153	275,975,536	99.55	C
1,341	3-030301-01	95.83	84	8,050	275,983,586	99.55	C
1,342	0-111226-00	0.57	14,000	8,020	275,991,606	99.55	C
1,343	0-621270-00	3.08	2,600	8,011	275,999,617	99.56	C
1,344	5-300019-01	3.20	2,500	8,011	276,007,628	99.56	C
1,345	7-608202-00	26.64	300	7,992	276,015,620	99.56	C
1,346	7-300062-00	3.99	2,000	7,980	276,023,600	99.57	C
1,347	8-504000-00	2.83	2,800	7,936	276,031,536	99.57	C
1,348	0-005625-00	3.95	2,000	7,901	276,039,437	99.57	C
1,349	0-974195-00	15.80	500	7,898	276,047,335	99.57	C
1,350	7-221156-00	0.78	10,000	7,837	276,055,172	99.58	C
1,351	9-009801-00	19.49	400	7,795	276,062,967	99.58	C
1,352	9-030018-00	0.31	25,100	7,786	276,070,753	99.58	C
1,353	5-038828-00	2.58	3,000	7,725	276,078,478	99.58	C
1,354	5-038066-00	1.92	4,000	7,662	276,086,140	99.59	C
1,355	0-043113-00	15.14	500	7,569	276,093,709	99.59	C
1,356	0-009202-00	10.74	700	7,520	276,101,229	99.59	C
1,357	0-990302-00	7.51	1,000	7,507	276,108,736	99.60	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,358	9-508001-01	18.73	400	7,492	276,116,228	99.60	C
1,359	0-010596-00	0.74	10,000	7,435	276,123,663	99.60	C
1,360	0-130046-00	2.75	2,700	7,425	276,131,088	99.60	C
1,361	0-870313-00	5.65	1,310	7,395	276,138,483	99.61	C
1,362	9-060012-00	1.49	4,900	7,314	276,145,797	99.61	C
1,363	9-004301-00	7.31	1,000	7,310	276,153,107	99.61	C
1,364	0-130018-00	2.15	3,400	7,306	276,160,413	99.61	C
1,365	5-037655-00	0.91	8,000	7,284	276,167,697	99.62	C
1,366	5-004929-00	0.49	14,750	7,259	276,174,956	99.62	C
1,367	9-005801-00	6.01	1,200	7,208	276,182,164	99.62	C
1,368	0-018025-01	0.55	13,000	7,170	276,189,334	99.62	C
1,369	9-004201-00	7.16	1,000	7,164	276,196,498	99.63	C
1,370	0-099651-00	1.79	4,000	7,160	276,203,658	99.63	C
1,371	0-027050-00	28.63	250	7,158	276,210,816	99.63	C
1,372	9-013001-00	71.53	100	7,153	276,217,969	99.64	C
1,373	9-004401-00	204.31	35	7,151	276,225,120	99.64	C
1,374	6-010036-00	11.91	600	7,148	276,232,268	99.64	C
1,375	0-064285-00	7.09	1,000	7,090	276,239,358	99.64	C
1,376	1-050008-00	0.89	8,000	7,082	276,246,440	99.65	C
1,377	5-038829-00	2.35	3,000	7,035	276,253,475	99.65	C
1,378	3-911000-00	4.60	1,530	7,033	276,260,508	99.65	C
1,379	1-030000-00	0.22	32,000	7,033	276,267,541	99.65	C
1,380	5-602301-00	11.65	600	6,990	276,274,531	99.66	C
1,381	9-006801-00	53.71	130	6,982	276,281,513	99.66	C
1,382	4-621333-00	0.95	7,300	6,955	276,288,468	99.66	C
1,383	4-611683-00	0.71	9,700	6,906	276,295,374	99.66	C
1,384	0-051139-00	11.50	600	6,900	276,302,274	99.67	C
1,385	0-051138-00	11.50	600	6,900	276,309,174	99.67	C
1,386	9-008401-00	20.06	344	6,900	276,316,074	99.67	C
1,387	5-602301-00	11.48	600	6,890	276,322,964	99.67	C
1,388	0-041014-00	4.30	1,600	6,884	276,329,848	99.68	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,389	4-112302-00	68.73	100	6,873	276,336,721	99.68	C
1,390	9-007001-00	45.80	150	6,870	276,343,591	99.68	C
1,391	0-004879-00	0.69	10,000	6,853	276,350,444	99.68	C
1,392	6-751471-00	4.52	1,500	6,787	276,357,231	99.69	C
1,393	0-018216-00	4.43	1,530	6,785	276,364,016	99.69	C
1,394	5-045023-00	0.27	25,000	6,745	276,370,761	99.69	C
1,395	5-002259-00	44.94	150	6,741	276,377,502	99.69	C
1,396	9-645101-00	33.66	200	6,731	276,384,233	99.70	C
1,397	9-030014-03	0.48	14,000	6,674	276,390,907	99.70	C
1,398	7-990104-00	1.66	4,000	6,632	276,397,539	99.70	C
1,399	0-004486-00	0.66	10,000	6,625	276,404,164	99.70	C
1,400	0-053001-00	1.65	4,000	6,614	276,410,778	99.70	C
1,401	0-600480-01	5.65	1,170	6,607	276,417,385	99.71	C
1,402	7-090008-00	9.43	700	6,600	276,423,985	99.71	C
1,403	4-021401-00	1.18	5,499	6,509	276,430,494	99.71	C
1,404	9-012901-00	40.31	160	6,450	276,436,944	99.71	C
1,405	0-009685-00	4.60	1,400	6,439	276,443,383	99.72	C
1,406	0-990053-00	0.19	34,000	6,333	276,449,716	99.72	C
1,407	9-008401-00	21.09	300	6,327	276,456,043	99.72	C
1,408	0-130019-00	2.34	2,700	6,307	276,462,350	99.72	C
1,409	6-045044-00	1.57	4,000	6,282	276,468,632	99.73	C
1,410	0-512001-01	1.53	4,070	6,247	276,474,879	99.73	C
1,411	9-030004-00	0.31	19,646	6,160	276,481,039	99.73	C
1,412	5-715002-00	2.46	2,500	6,147	276,487,186	99.73	C
1,413	5-004089-00	2.03	3,000	6,082	276,493,268	99.73	C
1,414	0-001586-00	2.42	2,500	6,048	276,499,316	99.74	C
1,415	9-508401-00	24.08	250	6,020	276,505,336	99.74	C
1,416	0-005702-00	5.45	1,100	5,996	276,511,332	99.74	C
1,417	7-608901-00	2.02	2,900	5,849	276,517,181	99.74	C
1,418	9-010901-00	8.30	700	5,809	276,522,990	99.75	C
1,419	5-037653-00	1.44	4,000	5,764	276,528,754	99.75	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
			ต่อปี	ต่อปี	สะสม	% มูลค่าสะสม	
1,420	1-503801-01	5.52	1,030	5,685	276,534,439	99.75	C
1,421	5-004336-00	0.54	10,500	5,620	276,540,059	99.75	C
1,422	0-018592-00	2.80	2,000	5,609	276,545,668	99.75	C
1,423	5-038993-00	2.32	2,400	5,561	276,551,229	99.76	C
1,424	9-004401-00	12.32	450	5,542	276,556,771	99.76	C
1,425	7-300022-00	0.79	7,000	5,539	276,562,310	99.76	C
1,426	4-021201-00	0.95	5,796	5,526	276,567,836	99.76	C
1,427	0-010013-00	2.19	2,500	5,469	276,573,305	99.76	C
1,428	9-991056-00	10.93	500	5,463	276,578,768	99.77	C
1,429	0-014895-00	7.78	700	5,447	276,584,215	99.77	C
1,430	9-007001-00	45.17	120	5,420	276,589,635	99.77	C
1,431	3-097082-00	1.81	3,000	5,420	276,595,055	99.77	C
1,432	9-050008-03	1.08	5,000	5,392	276,600,447	99.77	C
1,433	5-035708-00	2.64	2,000	5,283	276,605,730	99.78	C
1,434	4-021201-00	0.95	5,520	5,264	276,610,994	99.78	C
1,435	0-018374-00	13.05	400	5,220	276,616,214	99.78	C
1,436	3-011015-00	2.61	2,000	5,215	276,621,429	99.78	C
1,437	0-974228-00	0.81	6,462	5,207	276,626,636	99.78	C
1,438	4-611124-00	0.71	7,200	5,131	276,631,767	99.78	C
1,439	0-140100-00	256.00	20	5,120	276,636,887	99.79	C
1,440	6-100184-01	1.89	2,700	5,091	276,641,978	99.79	C
1,441	0-000258-00	92.13	55	5,067	276,647,045	99.79	C
1,442	4-130035-01	1.05	4,800	5,061	276,652,106	99.79	C
1,443	0-990319-00	5.02	1,000	5,020	276,657,126	99.79	C
1,444	9-311101-00	0.83	6,000	4,965	276,662,091	99.80	C
1,445	6-004290-00	4.85	1,000	4,846	276,666,937	99.80	C
1,446	0-520901-01	3.73	1,300	4,843	276,671,780	99.80	C
1,447	0-004489-00	1.93	2,500	4,835	276,676,615	99.80	C
1,448	9-009801-00	18.52	261	4,833	276,681,448	99.80	C
1,449	5-036206-00	2.41	2,000	4,817	276,686,265	99.80	C
1,450	1-421105-00	0.96	5,000	4,814	276,691,079	99.81	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,451	9-010101-00	48.10	100	4,810	276,695,889	99.81	C
1,452	5-030060-00	4.76	1,000	4,756	276,700,645	99.81	C
1,453	7-610501-00	1.68	2,800	4,696	276,705,341	99.81	C
1,454	9-004201-00	154.43	30	4,633	276,709,974	99.81	C
1,455	9-007201-00	11.39	400	4,556	276,714,530	99.81	C
1,456	6-010444-00	7.59	600	4,553	276,719,083	99.82	C
1,457	1-421334-00	1.14	4,000	4,540	276,723,623	99.82	C
1,458	0-021220-00	1.89	2,400	4,527	276,728,150	99.82	C
1,459	0-035203-00	6.38	700	4,467	276,732,617	99.82	C
1,460	3-921102-00	0.73	6,000	4,388	276,737,005	99.82	C
1,461	3-921103-00	0.73	6,000	4,388	276,741,393	99.82	C
1,462	0-000088-05	311.43	14	4,360	276,745,753	99.83	C
1,463	4-708002-00	8.70	500	4,350	276,750,103	99.83	C
1,464	9-006701-00	1.44	3,000	4,325	276,754,428	99.83	C
1,465	1-030000-00	0.08	54,000	4,322	276,758,750	99.83	C
1,466	9-668901-00	12.31	350	4,308	276,763,058	99.83	C
1,467	0-871312-00	5.45	790	4,304	276,767,362	99.83	C
1,468	5-503008-00	1.86	2,300	4,282	276,771,644	99.83	C
1,469	9-505901-00	7.66	558	4,272	276,775,916	99.84	C
1,470	0-111684-00	0.71	6,000	4,254	276,780,170	99.84	C
1,471	5-004933-00	2.11	2,000	4,224	276,784,394	99.84	C
1,472	4-621222-00	1.03	4,100	4,209	276,788,603	99.84	C
1,473	0-018173-00	2.75	1,530	4,202	276,792,805	99.84	C
1,474	9-012901-00	41.39	100	4,139	276,796,944	99.84	C
1,475	9-030000-00	0.12	34,000	4,083	276,801,027	99.85	C
1,476	7-300061-00	2.04	2,000	4,078	276,805,105	99.85	C
1,477	5-038982-00	1.01	4,000	4,041	276,809,146	99.85	C
1,478	5-035471-00	2.02	2,000	4,040	276,813,186	99.85	C
1,479	6-160018-01	4.36	900	3,926	276,817,112	99.85	C
1,480	0-018447-00	3.12	1,248	3,899	276,821,011	99.85	C
1,481	0-300218-00	1.11	3,500	3,898	276,824,909	99.85	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อ หน่วย	ปริมาณการใช้ ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,482	5-038879-00	0.96	4,000	3,832	276,828,741	99.86	C
1,483	9-013401-00	3.82	1,000	3,816	276,832,557	99.86	C
1,484	2-400050-00	1.09	3,500	3,816	276,836,373	99.86	C
1,485	9-668901-00	12.65	300	3,795	276,840,168	99.86	C
1,486	6-004196-00	5.05	750	3,791	276,843,959	99.86	C
1,487	0-001015-00	1.89	2,000	3,776	276,847,735	99.86	C
1,488	9-026006-00	0.47	8,000	3,746	276,851,481	99.86	C
1,489	5-038980-00	1.87	2,000	3,731	276,855,212	99.87	C
1,490	6-004288-00	3.72	1,000	3,718	276,858,930	99.87	C
1,491	5-004164-00	0.74	5,000	3,686	276,862,616	99.87	C
1,492	5-606000-00	5.26	700	3,679	276,866,295	99.87	C
1,493	6-160020-01	1.67	2,200	3,666	276,869,961	99.87	C
1,494	4-031803-00	9.77	370	3,616	276,873,577	99.87	C
1,495	9-990534-00	7.19	500	3,596	276,877,173	99.87	C
1,496	0-000088-06	79.44	45	3,575	276,880,748	99.87	C
1,497	0-053011-00	0.36	10,000	3,563	276,884,311	99.88	C
1,498	0-005501-00	0.79	4,470	3,551	276,887,862	99.88	C
1,499	8-011176-00	3.54	1,000	3,539	276,891,401	99.88	C
1,500	4-021401-00	1.19	2,950	3,501	276,894,902	99.88	C
1,501	5-035489-00	1.74	2,000	3,476	276,898,378	99.88	C
1,502	1-030006-00	0.22	15,600	3,461	276,901,839	99.88	C
1,503	0-008201-00	6.88	502	3,455	276,905,294	99.88	C
1,504	0-514501-01	2.88	1,200	3,452	276,908,746	99.88	C
1,505	0-021390-00	2.02	1,700	3,437	276,912,183	99.89	C
1,506	4-021100-00	1.63	2,100	3,422	276,915,605	99.89	C
1,507	0-000272-00	52.31	65	3,400	276,919,005	99.89	C
1,508	5-004370-00	13.41	250	3,352	276,922,357	99.89	C
1,509	9-506401-00	5.47	601	3,289	276,925,646	99.89	C
1,510	0-039089-00	8.17	400	3,268	276,928,914	99.89	C
1,511	6-045073-00	1.58	2,000	3,151	276,932,065	99.89	C
1,512	9-030010-00	0.25	12,589	3,144	276,935,209	99.89	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,513	0-051011-00	1.04	3,000	3,121	276,938,330	99.90	C
1,514	9-030000-00	0.22	14,000	3,108	276,941,438	99.90	C
1,515	7-221562-00	0.77	4,000	3,098	276,944,536	99.90	C
1,516	9-990952-00	1.02	3,000	3,072	276,947,608	99.90	C
1,517	0-014019-00	1.39	2,200	3,067	276,950,675	99.90	C
1,518	0-920320-00	4.33	700	3,033	276,953,708	99.90	C
1,519	4-130065-00	1.35	2,200	2,979	276,956,687	99.90	C
1,520	5-036207-00	1.48	2,000	2,960	276,959,647	99.90	C
1,521	1-030006-10	0.63	4,700	2,958	276,962,605	99.90	C
1,522	0-018705-00	7.24	400	2,897	276,965,502	99.90	C
1,523	0-001303-00	4.82	600	2,890	276,968,392	99.91	C
1,524	0-870312-00	4.45	640	2,851	276,971,243	99.91	C
1,525	0-018218-00	2.38	1,180	2,806	276,974,049	99.91	C
1,526	1-050012-00	0.96	2,900	2,783	276,976,832	99.91	C
1,527	0-711156-00	0.70	4,000	2,781	276,979,613	99.91	C
1,528	0-000273-00	9.27	300	2,780	276,982,393	99.91	C
1,529	1-503801-01	5.54	500	2,770	276,985,163	99.91	C
1,530	5-038898-00	1.38	2,000	2,755	276,987,918	99.91	C
1,531	5-039269-00	1.58	1,745	2,752	276,990,670	99.91	C
1,532	7-130065-00	5.49	500	2,744	276,993,414	99.91	C
1,533	0-010015-00	3.42	800	2,738	276,996,152	99.92	C
1,534	1-030006-04	0.19	14,500	2,712	276,998,864	99.92	C
1,535	0-035582-00	6.76	400	2,704	277,001,568	99.92	C
1,536	0-650022-00	1.80	1,500	2,704	277,004,272	99.92	C
1,537	7-300005-00	0.89	3,000	2,676	277,006,948	99.92	C
1,538	5-035428-00	2.66	1,000	2,658	277,009,606	99.92	C
1,539	9-503160-01	26.37	100	2,637	277,012,243	99.92	C
1,540	1-026006-03	0.41	6,300	2,609	277,014,852	99.92	C
1,541	4-310002-00	0.97	2,680	2,607	277,017,459	99.92	C
1,542	5-035671-00	2.60	1,000	2,595	277,020,054	99.92	C
1,543	1-411335-00	0.63	4,000	2,532	277,022,586	99.93	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,544	0-511701-01	1.92	1,300	2,490	277,025,076	99.93	C
1,545	9-505801-00	2.52	985	2,483	277,027,559	99.93	C
1,546	4-031803-00	9.80	250	2,450	277,030,009	99.93	C
1,547	0-018049-00	3.15	775	2,444	277,032,453	99.93	C
1,548	0-018955-00	2.44	1,000	2,435	277,034,888	99.93	C
1,549	1-411224-00	0.60	4,000	2,394	277,037,282	99.93	C
1,550	2-720002-00	3.41	700	2,384	277,039,666	99.93	C
1,551	0-000236-00	78.80	30	2,364	277,042,030	99.93	C
1,552	0-018020-00	2.34	1,000	2,336	277,044,366	99.93	C
1,553	5-035709-00	2.34	1,000	2,335	277,046,701	99.93	C
1,554	5-039265-00	0.73	3,200	2,334	277,049,035	99.93	C
1,555	0-018617-00	2.31	1,000	2,306	277,051,341	99.94	C
1,556	3-931331-00	1.62	1,400	2,272	277,053,613	99.94	C
1,557	0-018869-00	1.89	1,200	2,265	277,055,878	99.94	C
1,558	9-030000-00	0.16	14,000	2,251	277,058,129	99.94	C
1,559	9-008801-00	11.21	200	2,241	277,060,370	99.94	C
1,560	9-505701-00	8.88	250	2,220	277,062,590	99.94	C
1,561	3-911185-00	0.55	4,000	2,190	277,064,780	99.94	C
1,562	0-000226-03	50.47	43	2,170	277,066,950	99.94	C
1,563	1-030025-03	0.65	3,300	2,139	277,069,089	99.94	C
1,564	9-012301-00	14.01	150	2,102	277,071,191	99.94	C
1,565	8-637501-00	4.16	500	2,078	277,073,269	99.94	C
1,566	9-040006-00	0.67	3,093	2,067	277,075,336	99.94	C
1,567	9-026000-00	0.29	7,000	2,044	277,077,380	99.95	C
1,568	5-038982-00	1.02	2,000	2,030	277,079,410	99.95	C
1,569	9-007101-00	4.98	400	1,993	277,081,403	99.95	C
1,570	5-050085-00	0.98	2,000	1,958	277,083,361	99.95	C
1,571	9-006401-00	210.56	9	1,895	277,085,256	99.95	C
1,572	5-038956-00	1.88	1,000	1,876	277,087,132	99.95	C
1,573	5-038972-00	1.88	1,000	1,876	277,089,008	99.95	C
1,574	5-038980-00	1.88	1,000	1,876	277,090,884	99.95	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อ หน่วย	ปริมาณการใช้ ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,575	7-404394-00	0.31	6,000	1,861	277,092,745	99.95	C
1,576	7-404156-00	0.31	6,000	1,861	277,094,606	99.95	C
1,577	1-094001-01	0.93	2,000	1,860	277,096,466	99.95	C
1,578	6-029019-00	9.30	200	1,859	277,098,325	99.95	C
1,579	1-030016-03	0.50	3,700	1,856	277,100,181	99.95	C
1,580	1-050000-00	0.37	5,000	1,831	277,102,012	99.95	C
1,581	7-404153-00	0.31	6,000	1,831	277,103,843	99.95	C
1,582	0-018018-00	1.80	1,000	1,803	277,105,646	99.96	C
1,583	5-039254-00	0.78	2,300	1,796	277,107,442	99.96	C
1,584	3-030295-01	89.45	20	1,789	277,109,231	99.96	C
1,585	0-018031-01	2.28	779	1,774	277,111,005	99.96	C
1,586	5-026010-00	0.29	6,000	1,755	277,112,760	99.96	C
1,587	5-007032-00	4.38	400	1,750	277,114,510	99.96	C
1,588	7-300031-00	0.97	1,800	1,746	277,116,256	99.96	C
1,589	0-018025-01	0.56	3,080	1,714	277,117,970	99.96	C
1,590	0-028151-01	1.89	900	1,703	277,119,673	99.96	C
1,591	0-300216-00	1.12	1,500	1,681	277,121,354	99.96	C
1,592	0-000281-01	7.59	220	1,670	277,123,024	99.96	C
1,593	0-000238-00	55.33	30	1,660	277,124,684	99.96	C
1,594	0-004539-00	0.66	2,500	1,658	277,126,342	99.96	C
1,595	9-506501-00	1.04	1,584	1,652	277,127,994	99.96	C
1,596	0-151005-00	2.35	680	1,599	277,129,593	99.96	C
1,597	1-503601-01	1.06	1,500	1,595	277,131,188	99.96	C
1,598	7-221105-00	0.79	2,000	1,588	277,132,776	99.97	C
1,599	7-221275-00	0.79	2,000	1,571	277,134,347	99.97	C
1,600	7-221106-00	0.79	2,000	1,571	277,135,918	99.97	C
1,601	9-506501-00	1.04	1,500	1,565	277,137,483	99.97	C
1,602	0-300002-00	0.77	2,000	1,539	277,139,022	99.97	C
1,603	1-060000-00	0.51	3,000	1,536	277,140,558	99.97	C
1,604	9-050010-00	1.16	1,300	1,510	277,142,068	99.97	C
1,605	9-012301-00	15.08	100	1,508	277,143,576	99.97	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,606	5-037656-00	0.75	2,000	1,506	277,145,082	99.97	C
1,607	3-931155-00	1.50	1,000	1,496	277,146,578	99.97	C
1,608	4-130003-00	1.49	1,000	1,490	277,148,068	99.97	C
1,609	0-514601-01	1.24	1,200	1,484	277,149,552	99.97	C
1,610	5-035307-00	0.74	2,000	1,479	277,151,031	99.97	C
1,611	6-751102-00	4.89	300	1,468	277,152,499	99.97	C
1,612	7-300012-00	1.47	1,000	1,465	277,153,964	99.97	C
1,613	5-037657-00	0.72	2,000	1,440	277,155,404	99.97	C
1,614	0-517501-01	1.22	1,180	1,436	277,156,840	99.97	C
1,615	0-130047-00	2.04	700	1,427	277,158,267	99.97	C
1,616	0-111106-00	0.71	2,000	1,419	277,159,686	99.97	C
1,617	6-260205-01	2.81	500	1,405	277,161,091	99.98	C
1,618	0-018600-00	0.91	1,500	1,370	277,162,461	99.98	C
1,619	3-911102-00	0.46	3,000	1,370	277,163,831	99.98	C
1,620	3-911182-00	0.46	3,000	1,370	277,165,201	99.98	C
1,621	3-911225-00	0.46	3,000	1,370	277,166,571	99.98	C
1,622	0-411824-00	0.68	2,000	1,368	277,167,939	99.98	C
1,623	9-002201-01	6.70	200	1,340	277,169,279	99.98	C
1,624	0-014018-00	1.33	1,000	1,325	277,170,604	99.98	C
1,625	4-111502-00	1.88	700	1,315	277,171,919	99.98	C
1,626	0-000257-01	131.20	10	1,312	277,173,231	99.98	C
1,627	0-321275-00	1.00	1,300	1,303	277,174,534	99.98	C
1,628	9-030006-00	0.92	1,401	1,295	277,175,829	99.98	C
1,629	2-030000-00	0.09	13,800	1,280	277,177,109	99.98	C
1,630	9-026000-00	0.18	7,200	1,277	277,178,386	99.98	C
1,631	0-000281-00	2.45	520	1,274	277,179,660	99.98	C
1,632	5-026006-00	0.31	4,000	1,221	277,180,881	99.98	C
1,633	0-511701-01	1.93	630	1,217	277,182,098	99.98	C
1,634	1-411106-00	0.84	1,400	1,178	277,183,276	99.98	C
1,635	1-060000-00	0.24	5,000	1,177	277,184,453	99.98	C
1,636	9-030012-00	0.28	4,240	1,169	277,185,622	99.98	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,637	9-026000-00	0.22	5,200	1,167	277,186,789	99.98	C
1,638	9-008801-00	10.59	110	1,165	277,187,954	99.99	C
1,639	8-037002-00	11.42	100	1,142	277,189,096	99.99	C
1,640	0-000280-01	20.36	56	1,140	277,190,236	99.99	C
1,641	1-050000-00	0.19	6,000	1,116	277,191,352	99.99	C
1,642	5-004932-00	1.11	1,000	1,110	277,192,462	99.99	C
1,643	1-026000-00	0.28	3,900	1,084	277,193,546	99.99	C
1,644	5-026012-00	0.39	2,700	1,062	277,194,608	99.99	C
1,645	0-300010-00	2.09	500	1,046	277,195,654	99.99	C
1,646	5-004912-00	0.67	1,500	1,010	277,196,664	99.99	C
1,647	1-030000-00	0.08	12,000	1,006	277,197,670	99.99	C
1,648	9-090049-10	111.22	9	1,001	277,198,671	99.99	C
1,649	9-007501-00	99.50	10	995	277,199,666	99.99	C
1,650	2-050000-00	0.20	5,000	979	277,200,645	99.99	C
1,651	0-051140-00	4.80	200	960	277,201,605	99.99	C
1,652	1-060010-00	1.34	700	941	277,202,546	99.99	C
1,653	8-011174-01	4.61	200	922	277,203,468	99.99	C
1,654	0-018600-00	0.92	1,000	920	277,204,388	99.99	C
1,655	0-517401-00	8.29	110	912	277,205,300	99.99	C
1,656	0-053013-00	0.44	2,000	884	277,206,184	99.99	C
1,657	7-300001-00	0.87	1,000	872	277,207,056	99.99	C
1,658	2-030000-00	0.18	4,800	867	277,207,923	99.99	C
1,659	2-060000-00	0.29	3,000	860	277,208,783	99.99	C
1,660	5-038977-00	1.07	800	856	277,209,639	99.99	C
1,661	9-360220-00	1.69	500	845	277,210,484	99.99	C
1,662	9-220480-00	2.05	400	820	277,211,304	99.99	C
1,663	3-911335-00	0.60	1,300	777	277,212,081	99.99	C
1,664	1-030016-00	0.45	1,700	770	277,212,851	99.99	C
1,665	5-004164-00	0.75	1,000	753	277,213,604	99.99	C
1,666	0-064267-00	3.72	200	744	277,214,348	99.99	C
1,667	1-026008-03	0.47	1,400	659	277,215,007	99.99	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง			กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม	
1,668	7-300023-00	1.08	600	650	277,215,657	100.00	C
1,669	4-166902-00	0.90	700	629	277,216,286	100.00	C
1,670	9-505801-00	2.58	240	620	277,216,906	100.00	C
1,671	1-503201-01	20.17	30	605	277,217,511	100.00	C
1,672	4-137001-00	0.74	800	588	277,218,099	100.00	C
1,673	0-000069-05	14.50	40	580	277,218,679	100.00	C
1,674	9-180220-00	1.45	400	580	277,219,259	100.00	C
1,675	5-083601-00	0.82	700	573	277,219,832	100.00	C
1,676	0-064286-00	2.86	200	572	277,220,404	100.00	C
1,677	3-911153-00	0.56	1,000	563	277,220,967	100.00	C
1,678	3-911683-00	0.56	1,000	562	277,221,529	100.00	C
1,679	3-911103-00	0.47	1,000	470	277,221,999	100.00	C
1,680	3-911155-00	0.47	1,000	470	277,222,469	100.00	C
1,681	3-911563-00	0.47	1,000	470	277,222,939	100.00	C
1,682	0-000257-02	90.40	5	452	277,223,391	100.00	C
1,683	2-026000-00	0.14	3,200	432	277,223,823	100.00	C
1,684	5-004935-00	1.03	400	410	277,224,233	100.00	C
1,685	0-115008-01	72.00	5	360	277,224,593	100.00	C
1,686	0-501301-01	16.90	20	338	277,224,931	100.00	C
1,687	2-400030-00	0.48	700	335	277,225,266	100.00	C
1,688	0-000088-00	108.67	3	326	277,225,592	100.00	C
1,689	0-000069-02	32.00	10	320	277,225,912	100.00	C
1,690	0-512001-01	1.64	180	295	277,226,207	100.00	C
1,691	0-018025-00	0.59	500	295	277,226,502	100.00	C
1,692	9-030005-00	0.18	1,510	278	277,226,780	100.00	C
1,693	4-111601-00	26.90	10	269	277,227,049	100.00	C
1,694	5-038972-00	2.03	120	243	277,227,292	100.00	C
1,695	0-000280-00	12.00	20	240	277,227,532	100.00	C
1,696	5-004937-00	1.08	200	215	277,227,747	100.00	C
1,697	4-021400-00	1.82	100	182	277,227,929	100.00	C
1,698	8-502701-01	0.88	200	176	277,228,105	100.00	C

ลำดับ	รหัสวัตถุดิบ	ราคาต่อหน่วย	ปริมาณการใช้ต่อปี	มูลค่าของคงคลัง				กลุ่ม
				ต่อปี	สะสม	% มูลค่าสะสม		
1,699	5-038956-00	2.10	80	168	277,228,273	100.00		C
1,700	0-099101-00	5.53	30	166	277,228,439	100.00		C
1,701	5-004938-00	0.75	200	150	277,228,589	100.00		C
1,702	5-090055-00	65.00	2	130	277,228,719	100.00		C
1,703	9-050000-00	0.17	700	121	277,228,840	100.00		C
1,704	2-040000-00	0.19	500	97	277,228,937	100.00		C
1,705	0-105142-01	30.67	3	92	277,229,029	100.00		C
1,706	0-514501-01	3.85	20	77	277,229,106	100.00		C
1,707	1-040000-00	0.14	400	54	277,229,160	100.00		C
1,708	1-503601-01	1.73	30	52	277,229,212	100.00		C
1,709	0-514601-01	2.20	20	44	277,229,256	100.00		C
1,710	0-517501-01	2.20	20	44	277,229,300	100.00		C
1,711	8-105018-01	0.10	200	20	277,229,320	100.00		C
1,712	0-990410-00	0.01	2,393	20	277,229,340	100.00		C
			19,369,176.00	277,229,340				

ภาคผนวก ข

ผลการตัดสินใจเลือกเทคโนโลยี

การตัดสินใจในการเลือกเทคโนโลยี มาจากแบบสอบถามการตัดสินใจจาก 4 บุคคล ได้แก่
ผู้วิจัย ผู้จัดการฝ่ายคลังสินค้า ผู้จัดการฝ่ายผลิตและผู้จัดการแผนกผลิต โดยมีรายละเอียดการให้คะแนน
ของแต่ละบุคคลดังนี้

ผลการตัดสินใจที่ 1 : ผู้วิจัย

คะแนนของแต่ละหลักเกณฑ์	หลักเกณฑ์	คะแนนของแต่ละทางเลือก	
		บาร์โค้ด	อาร์เอฟไอดี
3	ราคาเครื่องอ่าน	5 / 15	4 / 12
4	ราคาแผ่นป้าย	4 / 16	2 / 8
2	รูปแบบของแผ่นป้ายเพื่อให้ประยุกต์ใช้งานได้หลากหลาย	2 / 4	5 / 10
5	ความเร็วในการอ่านข้อมูลบนแผ่นป้าย	2 / 10	5 / 25
3	ความสามารถในการอ่านข้อมูลบนแผ่นป้ายผ่านวัตถุอื่นๆ	1 / 3	4 / 12
3	ระยะห่างในการติดต่อสื่อสารระหว่างเครื่องอ่านและแผ่นป้าย	2 / 6	4 / 12
2	ความคงทนต่อสภาพแวดล้อมของแผ่นป้าย	2 / 4	5 / 10
5	ความสามารถในการเปลี่ยนแปลงแก้ไขข้อมูลของแผ่นป้าย	0 / 0	5 / 25
4	การนำแผ่นป้ายกลับมาใช้ใหม่	0 / 0	5 / 20
	รวม	58	134

ผลการตัดสินใจที่ 2 : ผู้จัดการฝ่ายคลังสินค้า

คะแนนของแต่ละหลักเกณฑ์	หลักเกณฑ์	คะแนนของแต่ละทางเลือก	
		บาร์โค้ด	อาร์เอฟไอดี
5	ราคาเครื่องอ่าน	4 / 20	3 / 15
5	ราคาแผ่นป้าย	4 / 20	3 / 15
4	รูปแบบของแผ่นป้ายเพื่อให้ประยุกต์ใช้งานได้หลากหลาย	3 / 12	4 / 16
4	ความเร็วในการอ่านข้อมูลบนแผ่นป้าย	3 / 12	4 / 16
3	ความสามารถในการอ่านข้อมูลบนแผ่นป้ายผ่านวัตถุอื่นๆ	2 / 6	4 / 12
4	ระยะห่างในการติดต่อสื่อสารระหว่างเครื่องอ่านและแผ่นป้าย	3 / 12	4 / 16
4	ความคงทนต่อสภาพแวดล้อมของแผ่นป้าย	3 / 12	4 / 16
5	ความสามารถในการเปลี่ยนแปลงแก้ไขข้อมูลของแผ่นป้าย	2 / 10	4 / 20
5	การนำแผ่นป้ายกลับมาใช้ใหม่	2 / 10	4 / 20
	รวม	114	146

ผลการตัดสินใจที่ 3 : ผู้จัดการฝ่ายผลิต

คะแนนของแต่ละหลักเกณฑ์	หลักเกณฑ์	คะแนนของแต่ละทางเลือก	
		บาร์โค้ด	อาร์เอฟไอดี
3	ราคาเครื่องอ่าน	4 / 12	4 / 12
2	ราคาแผ่นป้าย	3 / 6	3 / 6
4	รูปแบบของแผ่นป้ายเพื่อให้ประยุกต์ใช้งานได้หลากหลาย	3 / 12	4 / 16
4	ความเร็วในการอ่านข้อมูลบนแผ่นป้าย	4 / 16	4 / 16
3	ความสามารถในการอ่านข้อมูลบนแผ่นป้ายผ่านวัตถุอื่นๆ	3 / 9	4 / 12
3	ระยะห่างในการติดต่อสื่อสารระหว่างเครื่องอ่านและแผ่นป้าย	4 / 12	4 / 12
3	ความคงทนต่อสภาพแวดล้อมของแผ่นป้าย	3 / 9	4 / 12
3	ความสามารถในการเปลี่ยนแปลงแก้ไขข้อมูลของแผ่นป้าย	2 / 6	4 / 12
2	การนำแผ่นป้ายกลับมาใช้ใหม่	2 / 4	4 / 8
	รวม	86	106

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ผลการตัดสินใจที่ 4 : ผู้จัดการแผนกผลิต

คะแนนของแต่ละหลักเกณฑ์	หลักเกณฑ์	คะแนนของแต่ละทางเลือก	
		บาร์โค้ด	อาร์เอฟไอดี
4	ราคาเครื่องอ่าน	5 20	3 12
5	ราคาแผ่นป้าย	5 25	3 15
3	รูปแบบของแผ่นป้ายเพื่อให้ประยุกต์ใช้งานได้หลากหลาย	3 9	4 12
5	ความเร็วในการอ่านข้อมูลบนแผ่นป้าย	3 15	5 25
5	ความสามารถในการอ่านข้อมูลบนแผ่นป้ายผ่านวัตถุอื่นๆ	3 15	5 25
4	ระยะห่างในการติดต่อสื่อสารระหว่างเครื่องอ่านและแผ่นป้าย	3 12	5 20
5	ความคงทนต่อสภาพแวดล้อมของแผ่นป้าย	3 15	4 20
4	ความสามารถในการเปลี่ยนแปลงแก้ไขข้อมูลของแผ่นป้าย	1 4	4 16
3	การนำแผ่นป้ายกลับมาใช้ใหม่	1 3	4 12
รวม		118	157

ภาคผนวก ค

อุปกรณ์ที่ใช้ในการทดลองและแผนผังการเชื่อมต่ออุปกรณ์

อุปกรณ์ที่ใช้ในชุดทดลอง

1. เครื่องอ่าน –เขียนอาร์เอฟไอดี รุ่น V720S–HMD11-AP ของผู้ผลิต OMRON

2. แผ่นป้ายอาร์เอฟไอดี 13.56 MHz

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แผนผังการเชื่อมต่ออุปกรณ์

RFID Reader/Writer

RFID Tag

Computer
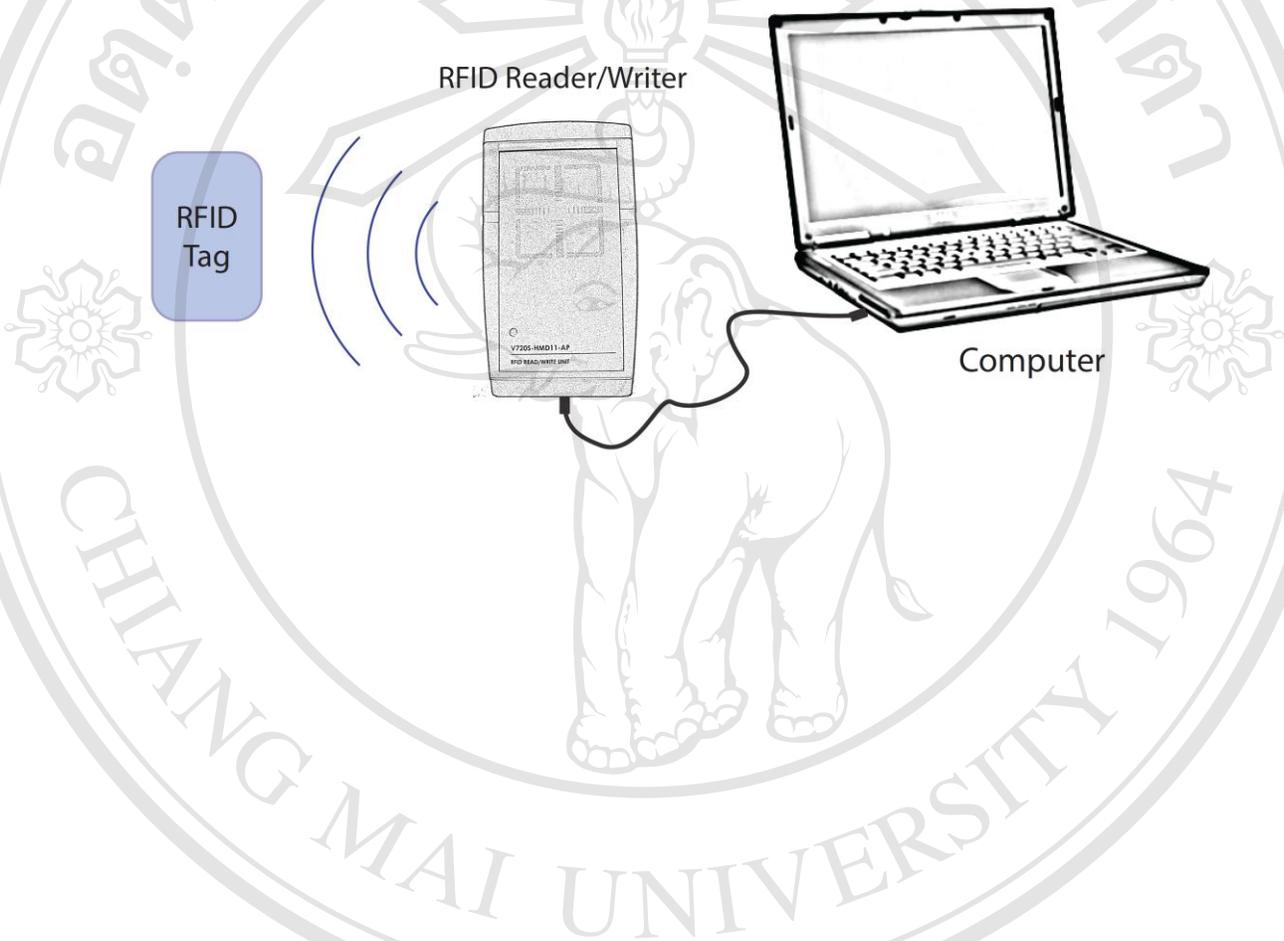
ภาคผนวก ง

โปรแกรม Visual C# สำหรับควบคุมอุปกรณ์ RFID

1. โปรแกรมคำสั่งในส่วนของการแสดงผลโปรแกรมเริ่มต้น

1.1 Main Form Designer

```csharp
namespace RFID_track
{
    partial class mainForm
    {
        /// <summary>
        /// Required designer variable.
        /// </summary>
        private System.ComponentModel.IContainer components = null;

        /// <summary>
        /// Clean up any resources being used.
        /// </summary>
        /// <param name="disposing">true if managed resources should be disposed;
        otherwise, false.</param>
        protected override void Dispose(bool disposing)
        {
            if (disposing && (components != null))
            {
                components.Dispose();
            }
            base.Dispose(disposing);
        }

        #region Windows Form Designer generated code

        /// <summary>
        /// Required method for Designer support - do not modify
        /// the contents of this method with the code editor.
        /// </summary>
        private void InitializeComponent()
        {
            this.createBtn = new System.Windows.Forms.Button();
            this.receiveBtn = new System.Windows.Forms.Button();
            this.editBtn = new System.Windows.Forms.Button();
            this.viewBtn = new System.Windows.Forms.Button();
            this.viewAllBtn = new System.Windows.Forms.Button();
            this.label1 = new System.Windows.Forms.Label();
            this.comPort = new System.Windows.Forms.ComboBox();
            this.SuspendLayout();
```

```csharp
//
// createBtn
//
this.createBtn.Font = new System.Drawing.Font("Microsoft Sans Serif",
15.75F, System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point,
((byte)(222)));
this.createBtn.Location = new System.Drawing.Point(75, 114);
this.createBtn.Margin = new System.Windows.Forms.Padding(4);
this.createBtn.Name = "createBtn";
this.createBtn.Size = new System.Drawing.Size(221, 103);
this.createBtn.TabIndex = 0;
this.createBtn.Text = "Create Data";
this.createBtn.UseVisualStyleBackColor = true;
this.createBtn.Click += new System.EventHandler(this.createBtn_Click);
//
// receiveBtn
//
this.receiveBtn.Font = new System.Drawing.Font("Microsoft Sans Serif",
15.75F, System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point,
((byte)(222)));
this.receiveBtn.Location = new System.Drawing.Point(409, 114);
this.receiveBtn.Margin = new System.Windows.Forms.Padding(4);
this.receiveBtn.Name = "receiveBtn";
this.receiveBtn.Size = new System.Drawing.Size(221, 103);
this.receiveBtn.TabIndex = 0;
this.receiveBtn.Text = "Receive";
this.receiveBtn.UseVisualStyleBackColor = true;
this.receiveBtn.Click += new System.EventHandler(this.receiveBtn_Click);
//
// editBtn
//
this.editBtn.Font = new System.Drawing.Font("Microsoft Sans Serif", 15.75F,
System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
this.editBtn.Location = new System.Drawing.Point(75, 291);
this.editBtn.Margin = new System.Windows.Forms.Padding(4);
this.editBtn.Name = "editBtn";
this.editBtn.Size = new System.Drawing.Size(221, 103);
this.editBtn.TabIndex = 0;
this.editBtn.Text = "Edit Data";
this.editBtn.UseVisualStyleBackColor = true;
this.editBtn.Click += new System.EventHandler(this.editBtn_Click);
//
// viewBtn
//
this.viewBtn.Font = new System.Drawing.Font("Microsoft Sans Serif", 15.75F,
System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
this.viewBtn.Location = new System.Drawing.Point(409, 291);
this.viewBtn.Margin = new System.Windows.Forms.Padding(4);
this.viewBtn.Name = "viewBtn";
this.viewBtn.Size = new System.Drawing.Size(221, 73);
this.viewBtn.TabIndex = 0;
this.viewBtn.Text = "View Data by TAG";
this.viewBtn.UseVisualStyleBackColor = true;
this.viewBtn.Click += new System.EventHandler(this.viewBtn_Click);
```

```
            //
            // viewAllBtn
            //
            this.viewAllBtn.Font = new System.Drawing.Font("Microsoft Sans Serif",
    15.75F, System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point,
    ((byte)(222)));
            this.viewAllBtn.Location = new System.Drawing.Point(409, 372);
            this.viewAllBtn.Margin = new System.Windows.Forms.Padding(4);
            this.viewAllBtn.Name = "viewAllBtn";
            this.viewAllBtn.Size = new System.Drawing.Size(221, 73);
            this.viewAllBtn.TabIndex = 0;
            this.viewAllBtn.Text = "View All Data";
            this.viewAllBtn.UseVisualStyleBackColor = true;
            this.viewAllBtn.Click += new System.EventHandler(this.viewAllBtn_Click);
            //
            // label1
            //
            this.label1.AutoSize = true;
            this.label1.Font = new System.Drawing.Font("Microsoft Sans Serif", 12F,
    System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label1.Location = new System.Drawing.Point(75, 46);
            this.label1.Name = "label1";
            this.label1.Size = new System.Drawing.Size(175, 25);
            this.label1.TabIndex = 1;
            this.label1.Text = "Select COM Port";
            //
            // comPort
            //
            this.comPort.FormattingEnabled = true;
            this.comPort.Items.AddRange(new object[] {
    "COM1",
    "COM2",
    "COM3",
    "COM4",
    "COM5",
    "COM6",
    "COM7",
    "COM8",
    "COM9",
    "COM10"});
            this.comPort.Location = new System.Drawing.Point(256, 46);
            this.comPort.Name = "comPort";
            this.comPort.Size = new System.Drawing.Size(121, 24);
            this.comPort.TabIndex = 2;
            //
            // mainForm
            //
            this.AutoScaleDimensions = new System.Drawing.SizeF(8F, 16F);
            this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
            this.ClientSize = new System.Drawing.Size(714, 473);
            this.Controls.Add(this.comPort);
            this.Controls.Add(this.label1);
            this.Controls.Add(this.viewAllBtn);
            this.Controls.Add(this.viewBtn);
```

```csharp
                this.Controls.Add(this.editBtn);
                this.Controls.Add(this.receiveBtn);
                this.Controls.Add(this.createBtn);
                this.Margin = new System.Windows.Forms.Padding(4);
                this.Name = "mainForm";
                this.Text = "Main";
                this.ResumeLayout(false);
                this.PerformLayout();

            }

        #endregion

            private System.Windows.Forms.Button createBtn;
            private System.Windows.Forms.Button receiveBtn;
            private System.Windows.Forms.Button editBtn;
            private System.Windows.Forms.Button viewBtn;
            private System.Windows.Forms.Button viewAllBtn;
            private System.Windows.Forms.Label label1;
            private System.Windows.Forms.ComboBox comPort;
        }
    }
```

1.2 Main Form

```csharp
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;

namespace RFID_track
{
    public partial class mainForm : Form
    {
        public mainForm()
        {
            InitializeComponent();
        }

        private void createBtn_Click(object sender, EventArgs e)
        {
            createForm cf = new createForm(comPort.Text);
            cf.ShowDialog();

        }

        private void receiveBtn_Click(object sender, EventArgs e)
        {
            receiveFrom rf = new receiveFrom(comPort.Text);
```

```
            rf.ShowDialog();
        }

        private void editBtn_Click(object sender, EventArgs e)
        {
            editForm ef = new editForm(comPort.Text);
            ef.ShowDialog();
        }

        private void viewBtn_Click(object sender, EventArgs e)
        {
            viewByTagFrom v1 = new viewByTagFrom(comPort.Text);
            v1.ShowDialog();
        }

        private void viewAllBtn_Click(object sender, EventArgs e)
        {
            viewAllForm v2 = new viewAllForm();
            v2.ShowDialog();
        }


    }
}
```

2. โปรแกรมคำสั่งในส่วนของการสร้างข้อมูล

2.1 Create Form Designer

```
namespace RFID_track
{
    partial class createForm
    {
        /// <summary>
        /// Required designer variable.
        /// </summary>
        private System.ComponentModel.IContainer components = null;

        /// <summary>
        /// Clean up any resources being used.
        /// </summary>
        /// <param name="disposing">true if managed resources should be disposed;
otherwise, false.</param>
        protected override void Dispose(bool disposing)
        {
            if (disposing && (components != null))
            {
                components.Dispose();
            }
            base.Dispose(disposing);
        }

        #region Windows Form Designer generated code
```

```csharp
/// <summary>
/// Required method for Designer support - do not modify
/// the contents of this method with the code editor.
/// </summary>
private void InitializeComponent()
{
    this.components = new System.ComponentModel.Container();
    this.panel1 = new System.Windows.Forms.Panel();
    this.btnSave = new System.Windows.Forms.Button();
    this.dataGridView1 = new System.Windows.Forms.DataGridView();
    this.textBox3 = new System.Windows.Forms.TextBox();
    this.txtTyy = new System.Windows.Forms.TextBox();
    this.txtFyy = new System.Windows.Forms.TextBox();
    this.txtTmm = new System.Windows.Forms.TextBox();
    this.txtFmm = new System.Windows.Forms.TextBox();
    this.txtTdd = new System.Windows.Forms.TextBox();
    this.txtFdd = new System.Windows.Forms.TextBox();
    this.textBox11 = new System.Windows.Forms.TextBox();
    this.txtQty = new System.Windows.Forms.TextBox();
    this.txtModelName = new System.Windows.Forms.TextBox();
    this.txtModelCode = new System.Windows.Forms.TextBox();
    this.label8 = new System.Windows.Forms.Label();
    this.label5 = new System.Windows.Forms.Label();
    this.label4 = new System.Windows.Forms.Label();
    this.label3 = new System.Windows.Forms.Label();
    this.label7 = new System.Windows.Forms.Label();
    this.label6 = new System.Windows.Forms.Label();
    this.label2 = new System.Windows.Forms.Label();
    this.label1 = new System.Windows.Forms.Label();
    this.dataSet1 = new System.Data.DataSet();
    this.bombTb = new System.Data.DataTable();
    this.dataColumn1 = new System.Data.DataColumn();
    this.lblStatus = new System.Windows.Forms.Label();
    this.Comport = new System.IO.Ports.SerialPort(this.components);
    this.timer2 = new System.Windows.Forms.Timer(this.components);
    this.timer3 = new System.Windows.Forms.Timer(this.components);
    this.panel1.SuspendLayout();

    ((System.ComponentModel.ISupportInitialize)(this.dataGridView1)).BeginInit();
    ((System.ComponentModel.ISupportInitialize)(this.dataSet1)).BeginInit();
    ((System.ComponentModel.ISupportInitialize)(this.bombTb)).BeginInit();
    this.SuspendLayout();
    //
    // panel1
    //
    this.panel1.Controls.Add(this.btnSave);
    this.panel1.Controls.Add(this.dataGridView1);
    this.panel1.Controls.Add(this.textBox3);
    this.panel1.Controls.Add(this.txtTyy);
    this.panel1.Controls.Add(this.txtFyy);
    this.panel1.Controls.Add(this.txtTmm);
    this.panel1.Controls.Add(this.txtFmm);
    this.panel1.Controls.Add(this.txtTdd);
```

```
            this.panel1.Controls.Add(this.txtFdd);
            this.panel1.Controls.Add(this.textBox11);
            this.panel1.Controls.Add(this.txtQty);
            this.panel1.Controls.Add(this.txtModelName);
            this.panel1.Controls.Add(this.txtModelCode);
            this.panel1.Controls.Add(this.label8);
            this.panel1.Controls.Add(this.label5);
            this.panel1.Controls.Add(this.label4);
            this.panel1.Controls.Add(this.label3);
            this.panel1.Controls.Add(this.label7);
            this.panel1.Controls.Add(this.label6);
            this.panel1.Controls.Add(this.label2);
            this.panel1.Controls.Add(this.label1);
            this.panel1.Location = new System.Drawing.Point(13, 41);
            this.panel1.Name = "panel1";
            this.panel1.Size = new System.Drawing.Size(760, 539);
            this.panel1.TabIndex = 0;
            //
            // btnSave
            //
            this.btnSave.Location = new System.Drawing.Point(468, 188);
            this.btnSave.Margin = new System.Windows.Forms.Padding(2);
            this.btnSave.Name = "btnSave";
            this.btnSave.Size = new System.Drawing.Size(67, 19);
            this.btnSave.TabIndex = 12;
            this.btnSave.Text = "Save";
            this.btnSave.UseVisualStyleBackColor = true;
            this.btnSave.Click += new System.EventHandler(this.btnSave_Click);
            //
            // dataGridView1
            //
            this.dataGridView1.AllowUserToAddRows = false;
            this.dataGridView1.AllowUserToDeleteRows = false;
            this.dataGridView1.AutoSizeColumnsMode =
System.Windows.Forms.DataGridViewAutoSizeColumnsMode.AllCells;
            this.dataGridView1.ColumnHeadersHeightSizeMode =
System.Windows.Forms.DataGridViewColumnHeadersHeightSizeMode.AutoSize;
            this.dataGridView1.EditMode =
System.Windows.Forms.DataGridViewEditMode.EditOnEnter;
            this.dataGridView1.Location = new System.Drawing.Point(4, 213);
            this.dataGridView1.Name = "dataGridView1";
            this.dataGridView1.RowHeadersVisible = false;
            this.dataGridView1.RowHeadersWidth = 40;
            this.dataGridView1.RowTemplate.Height = 24;
            this.dataGridView1.SelectionMode =
System.Windows.Forms.DataGridViewSelectionMode.CellSelect;
            this.dataGridView1.Size = new System.Drawing.Size(739, 323);
            this.dataGridView1.TabIndex = 9;
            this.dataGridView1.CellBeginEdit += new
System.Windows.Forms.DataGridViewCellCancelEventHandler(this.dataGridView1_CellBeginEdi
t);
            this.dataGridView1.CellEndEdit += new
System.Windows.Forms.DataGridViewCellEventHandler(this.dataGridView1_CellEndEdit);
            //
```

```csharp
// textBox3
//
this.textBox3.Enabled = false;
this.textBox3.Location = new System.Drawing.Point(114, 87);
this.textBox3.Name = "textBox3";
this.textBox3.Size = new System.Drawing.Size(129, 20);
this.textBox3.TabIndex = 10;
//
// txtTyy
//
this.txtTyy.Location = new System.Drawing.Point(436, 122);
this.txtTyy.MaxLength = 2;
this.txtTyy.Name = "txtTyy";
this.txtTyy.Size = new System.Drawing.Size(36, 20);
this.txtTyy.TabIndex = 8;
//
// txtFyy
//
this.txtFyy.Location = new System.Drawing.Point(286, 122);
this.txtFyy.MaxLength = 2;
this.txtFyy.Name = "txtFyy";
this.txtFyy.Size = new System.Drawing.Size(36, 20);
this.txtFyy.TabIndex = 5;
this.txtFyy.TextChanged += new System.EventHandler(this.txtBox_TextChanged);
//
// txtTmm
//
this.txtTmm.Location = new System.Drawing.Point(394, 122);
this.txtTmm.MaxLength = 2;
this.txtTmm.Name = "txtTmm";
this.txtTmm.Size = new System.Drawing.Size(36, 20);
this.txtTmm.TabIndex = 7;
this.txtTmm.TextChanged += new System.EventHandler(this.txtBox_TextChanged);
//
// txtFmm
//
this.txtFmm.Location = new System.Drawing.Point(244, 122);
this.txtFmm.MaxLength = 2;
this.txtFmm.Name = "txtFmm";
this.txtFmm.Size = new System.Drawing.Size(36, 20);
this.txtFmm.TabIndex = 4;
this.txtFmm.TextChanged += new System.EventHandler(this.txtBox_TextChanged);
//
// txtTdd
//
this.txtTdd.Location = new System.Drawing.Point(352, 122);
this.txtTdd.MaxLength = 2;
this.txtTdd.Name = "txtTdd";
this.txtTdd.Size = new System.Drawing.Size(36, 20);
this.txtTdd.TabIndex = 6;
this.txtTdd.TextChanged += new System.EventHandler(this.txtBox_TextChanged);
//
// txtFdd
//
```

```csharp
            this.txtFdd.Location = new System.Drawing.Point(202, 122);
            this.txtFdd.MaxLength = 2;
            this.txtFdd.Name = "txtFdd";
            this.txtFdd.Size = new System.Drawing.Size(36, 20);
            this.txtFdd.TabIndex = 3;
            this.txtFdd.TextChanged += new System.EventHandler(this.txtBox_TextChanged);
            //
            // textBox11
            //
            this.textBox11.Enabled = false;
            this.textBox11.Location = new System.Drawing.Point(69, 160);
            this.textBox11.Name = "textBox11";
            this.textBox11.Size = new System.Drawing.Size(73, 20);
            this.textBox11.TabIndex = 11;
            //
            // txtQty
            //
            this.txtQty.Location = new System.Drawing.Point(351, 56);
            this.txtQty.Name = "txtQty";
            this.txtQty.Size = new System.Drawing.Size(73, 20);
            this.txtQty.TabIndex = 2;
            this.txtQty.Text = "0";
            this.txtQty.TextChanged += new System.EventHandler(this.txtQty_TextChanged);
            //
            // txtModelName
            //
            this.txtModelName.Enabled = false;
            this.txtModelName.Location = new System.Drawing.Point(114, 56);
            this.txtModelName.Name = "txtModelName";
            this.txtModelName.Size = new System.Drawing.Size(129, 20);
            this.txtModelName.TabIndex = 9;
            //
            // txtModelCode
            //
            this.txtModelCode.Location = new System.Drawing.Point(114, 21);
            this.txtModelCode.Name = "txtModelCode";
            this.txtModelCode.Size = new System.Drawing.Size(129, 20);
            this.txtModelCode.TabIndex = 1;
            this.txtModelCode.TextChanged += new
    System.EventHandler(this.txtModelCode_TextChanged);
            //
            // label8
            //
            this.label8.AutoSize = true;
            this.label8.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
    System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label8.Location = new System.Drawing.Point(4, 193);
            this.label8.Name = "label8";
            this.label8.Size = new System.Drawing.Size(105, 16);
            this.label8.TabIndex = 0;
            this.label8.Text = "Material content:";
            //
            // label5
            //
```

```
                this.label5.AutoSize = true;
                this.label5.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
                this.label5.Location = new System.Drawing.Point(4, 161);
                this.label5.Name = "label5";
                this.label5.Size = new System.Drawing.Size(59, 16);
                this.label5.TabIndex = 0;
                this.label5.Text = "Location";
                //
                // label4
                //
                this.label4.AutoSize = true;
                this.label4.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
                this.label4.Location = new System.Drawing.Point(4, 126);
                this.label4.Name = "label4";
                this.label4.Size = new System.Drawing.Size(201, 16);
                this.label4.TabIndex = 0;
                this.label4.Text = "For Prod.date (dd-mm-yy): From ";
                //
                // label3
                //
                this.label3.AutoSize = true;
                this.label3.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
                this.label3.Location = new System.Drawing.Point(4, 91);
                this.label3.Name = "label3";
                this.label3.Size = new System.Drawing.Size(104, 16);
                this.label3.TabIndex = 0;
                this.label3.Text = "Receive to area";
                //
                // label7
                //
                this.label7.AutoSize = true;
                this.label7.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
                this.label7.Location = new System.Drawing.Point(328, 126);
                this.label7.Name = "label7";
                this.label7.Size = new System.Drawing.Size(19, 16);
                this.label7.TabIndex = 0;
                this.label7.Text = "to";
                //
                // label6
                //
                this.label6.AutoSize = true;
                this.label6.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
                this.label6.Location = new System.Drawing.Point(284, 56);
                this.label6.Name = "label6";
                this.label6.Size = new System.Drawing.Size(61, 16);
                this.label6.TabIndex = 0;
                this.label6.Text = "Plan Q\'ty";
                //
                // label2
```

```
            //
            this.label2.AutoSize = true;
            this.label2.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label2.Location = new System.Drawing.Point(4, 56);
            this.label2.Name = "label2";
            this.label2.Size = new System.Drawing.Size(86, 16);
            this.label2.TabIndex = 0;
            this.label2.Text = "Model Name";
            //
            // label1
            //
            this.label1.AutoSize = true;
            this.label1.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label1.Location = new System.Drawing.Point(4, 21);
            this.label1.Name = "label1";
            this.label1.Size = new System.Drawing.Size(82, 16);
            this.label1.TabIndex = 0;
            this.label1.Text = "Model Code";
            //
            // dataSet1
            //
            this.dataSet1.DataSetName = "ds1";
            this.dataSet1.Tables.AddRange(new System.Data.DataTable[] {
            this.bombTb});
            //
            // bombTb
            //
            this.bombTb.Columns.AddRange(new System.Data.DataColumn[] {
            this.dataColumn1});
            this.bombTb.TableName = "bombTb";
            //
            // dataColumn1
            //
            this.dataColumn1.Caption = "No";
            this.dataColumn1.ColumnName = "no";
            this.dataColumn1.DataType = typeof(short);
            //
            // lblStatus
            //
            this.lblStatus.AutoSize = true;
            this.lblStatus.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.lblStatus.Location = new System.Drawing.Point(17, 18);
            this.lblStatus.Name = "lblStatus";
            this.lblStatus.Size = new System.Drawing.Size(120, 16);
            this.lblStatus.TabIndex = 0;
            this.lblStatus.Text = "Waiting for RFID ....";
            //
            // Comport
            //
            this.Comport.Parity = System.IO.Ports.Parity.Even;
            this.Comport.ReadTimeout = 10;
```

```
//
// timer2
//
this.timer2.Interval = 1000;
this.timer2.Tick += new System.EventHandler(this.timer2_Tick);
//
// timer3
//
this.timer3.Interval = 1000;
this.timer3.Tick += new System.EventHandler(this.timer3_Tick);
//
// createForm
//
this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);
this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
this.ClientSize = new System.Drawing.Size(790, 598);
this.Controls.Add(this.panel1);
this.Controls.Add(this.lblStatus);
this.Name = "createForm";
this.Text = "createForm";
this.Load += new System.EventHandler(this.createForm_Load);
this.panel1.ResumeLayout(false);
this.panel1.PerformLayout();
((System.ComponentModel.ISupportInitialize)(this.dataGridView1)).EndInit();
((System.ComponentModel.ISupportInitialize)(this.dataSet1)).EndInit();
((System.ComponentModel.ISupportInitialize)(this.bombTb)).EndInit();
this.ResumeLayout(false);
this.PerformLayout();

}

#endregion

private System.Windows.Forms.Panel panel1;
private System.Windows.Forms.TextBox textBox3;
private System.Windows.Forms.TextBox txtModelName;
private System.Windows.Forms.TextBox txtModelCode;
private System.Windows.Forms.Label label5;
private System.Windows.Forms.Label label4;
private System.Windows.Forms.Label label3;
private System.Windows.Forms.Label label6;
private System.Windows.Forms.Label label2;
private System.Windows.Forms.Label label1;
private System.Windows.Forms.TextBox txtTyy;
private System.Windows.Forms.TextBox txtFyy;
private System.Windows.Forms.TextBox txtTmm;
private System.Windows.Forms.TextBox txtFmm;
private System.Windows.Forms.TextBox txtTdd;
private System.Windows.Forms.TextBox txtFdd;
private System.Windows.Forms.TextBox textBox11;
private System.Windows.Forms.TextBox txtQty;
private System.Windows.Forms.Label label8;
private System.Windows.Forms.Label label7;
private System.Windows.Forms.DataGridView dataGridView1;
```

```csharp
        private System.Data.DataSet dataSet1;
        private System.Data.DataTable bombTb;
        private System.Windows.Forms.Label lblStatus;
        private System.Data.DataColumn dataColumn1;
        private System.Windows.Forms.Button btnSave;
        private System.IO.Ports.SerialPort Comport;
        private System.Windows.Forms.Timer timer2;
        private System.Windows.Forms.Timer timer3;
    }
}
```

2.2 Create Form

```csharp
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;
using System.Data.OleDb;
using RFID_track.DB.RFID_DBDataSetTableAdapters;
using RFID_track.DB;

namespace RFID_track
{
    public partial class createForm : Form
    {
        private AutoCompleteStringCollection codeCollection;
        private RFID_DBDataSet.modelDataTable mt;
        private modelTableAdapter m;
        private wipTableAdapter wipDa;
        private wipdetailTableAdapter wipDaDetail;
        private int modelID;
        private Boolean chk;
        private string tag;
        private double oldUrgent;


        public createForm()
        {
            InitializeComponent();
        }

        public createForm(string prt)
        {
            InitializeComponent();
            Comport.PortName = prt;
            //MessageBox.Show(prt);
            tag = "";
            chk = false;
        }
```

```csharp
        private void createForm_Load(object sender, EventArgs e)
        {
            addAutoComplete();
            panel1.Enabled = false;

            subReadTAG();
            //tag = "5678";
            //panel1.Enabled = true;
        }

        private void addAutoComplete()
        {
             codeCollection = new AutoCompleteStringCollection();
            m = new modelTableAdapter();
            mt= new RFID_DBDataSet.modelDataTable();
            m.Fill(mt);
            for (int i = 0; i < mt.Rows.Count; i++)
            {
                codeCollection.Add(mt.Rows[i]["model_code"].ToString());
            }
            txtModelCode.AutoCompleteMode = AutoCompleteMode.Suggest;
            txtModelCode.AutoCompleteSource = AutoCompleteSource.CustomSource;
            txtModelCode.AutoCompleteCustomSource = codeCollection;
        }


        private void subReadTAG()
        {
            timer2.Start();
            timer2.Enabled = true;
        }

        private void txtModelCode_TextChanged(object sender, EventArgs e)
        {
            if (txtModelCode.Text.Length == 8)
            {
                m.Adapter.SelectCommand.CommandText = "select * from model where
    model_code=" + txtModelCode.Text;
                m.Fill(mt);
                txtModelName.Text = mt.Rows[0]["model_name"].ToString();
                modelID = Convert.ToInt16(mt.Rows[0]["model_id"]);

                txtQty_TextChanged(sender, e);

            }
        }

        private void txtQty_TextChanged(object sender, EventArgs e)
        {
            getBombDetail();
        }

        private void getBombDetail()
```

```csharp
        {
            double amt = 0;
            try
            {
                amt = Convert.ToInt16(txtQty.Text);
            }
            catch { }
            if (amt >= 0)
            {
                string sql = string.Format("select m1.item_code, m1.description, UM,
(m2.material_qty*" + amt + ") as Material_qty, m1.material_id as mid from material m1
inner join model_material m2 on m1.material_id = m2.material_idd  where m2.model_idd =
{0} order by m1.material_id", modelID);
                OleDbDataAdapter da = new OleDbDataAdapter(sql, m.Connection);
                dataSet1.Tables[0].Clear();

                da.Fill(dataSet1, "bombTb");
                for (int k = 0; k < dataSet1.Tables[0].Rows.Count; k++)
                {
                    dataSet1.Tables[0].Rows[k]["no"] = k + 1;
                }

                if (dataSet1.Tables[0].Columns.Count == 6)
                {
                    DataColumn dc = new DataColumn("Material_Urgent", amt.GetType());
                    dc.DefaultValue = 0;
                    dataSet1.Tables[0].Columns.Add(dc);

                }

                dataGridView1.DataSource = dataSet1;
                dataGridView1.DataMember = "bombTb";
                dataGridView1.Columns["mid"].Visible = false;
                dataGridView1.Columns[0].Width = 40;
                for (int j = 0; j < dataGridView1.Columns.Count; j++)
                {
                    dataGridView1.Columns[j].ReadOnly = true;
                }
                dataGridView1.Columns["Material_Urgent"].ReadOnly = false;
            }


        }

        private void btnSave_Click(object sender, EventArgs e)
        {
            wipDa = new wipTableAdapter();
            wipDaDetail = new wipdetailTableAdapter();
            wipDa.Insert(tag,
                modelID,
                Convert.ToInt16(txtQty.Text),
                Convert.ToDateTime(txtFdd.Text + "/" + txtFmm.Text + "/20" +
txtFyy.Text),
```

```csharp
                Convert.ToDateTime(txtTdd.Text + "/" + txtTmm.Text + "/20" +
txtTyy.Text),
                null,
                null);

            for (int i = 0; i < dataGridView1.Rows.Count; i++)
            {
                wipDaDetail.Insert(tag,
                    Convert.ToInt16(dataSet1.Tables[0].Rows[i]["mid"].ToString()),

Convert.ToDouble(dataGridView1.Rows[i].Cells["Material_qty"].Value.ToString()),

Convert.ToDouble(dataGridView1.Rows[i].Cells["Material_urgent"].Value.ToString()));
            }
            MessageBox.Show("Save data completed");

            this.Close();
        }

        private void dataGridView1_CellEndEdit(object sender, DataGridViewCellEventArgs
e)
        {
            if (e.ColumnIndex == 6 &&
Convert.ToDouble(dataGridView1.Rows[e.RowIndex].Cells[e.ColumnIndex].Value.ToString())+
0 >= 0)
            {
                double v;// =
Convert.ToDouble(dataGridView1.Rows[e.RowIndex].Cells["Material_qty"].Value.ToString())
;
                v =
Convert.ToDouble(dataGridView1.Rows[e.RowIndex].Cells["Material_qty"].Value.ToString())
;
                v += oldUrgent;
                v -=
Convert.ToDouble(dataGridView1.Rows[e.RowIndex].Cells[e.ColumnIndex].Value.ToString());
                dataGridView1.Rows[e.RowIndex].Cells["Material_qty"].Value =
v.ToString();
            }
        }


        private void readRFID()
        {
            timer3.Stop();
            timer3.Enabled = false;


            try
            {
                Comport.Open();
                Comport.Write("13\r");
                Comport.ReadTimeout = 500;
                while (true)
```

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```csharp
                {
                    Comport.ReadByte();
                }
            }
            catch (Exception)
            {
                //Comport.Close();
                //timer2.Enabled = false;
                //timer2.Stop();
                //timer3.Enabled = false;
                //timer3.Stop();
                //MessageBox.Show("1#Connect to the device first", "Error",
    MessageBoxButtons.OK, MessageBoxIcon.Information);
                //this.DestroyHandle();
                //this.Close();
            }

            string temp;
            int ch;
            try
            {
                Comport.Write("3521\r");
            }
            catch (Exception)
            {
                timer2.Enabled = false;
                timer2.Stop();
                timer3.Enabled = false;
                timer3.Stop();
                MessageBox.Show("2#Connect to the device first", "Error",
    MessageBoxButtons.OK, MessageBoxIcon.Information);
                this.DestroyHandle();
                this.Close();
            }
            temp = "";
            try
            {
                ch = 0;
                while (ch != 13)
                {
                    temp = temp + (char)ch;
                    ch = Comport.ReadByte();
                    Application.DoEvents();
                }
                Comport.Close();
                string securecode = temp.Substring(3, 16);
                tag = securecode;
                if (tag != "")
                {
                    timer2.Stop();
                    timer2.Enabled = false;
                    timer3.Stop();
                    timer3.Enabled = false;
                    checkTAG();
```

```csharp
                lblStatus.Text = "RFID tag number: " + tag;
                panel1.Enabled = true;
            }

            timer2.Stop();
            timer2.Enabled = false;
            timer3.Stop();
            timer3.Enabled = false;
        }
        catch (Exception)
        {
            timer2.Stop();
            timer2.Enabled = false;
            timer2.Start();
            timer2.Enabled = true;
        }

    }

    private void checkTAG()
    {
        DataSet ds = new DataSet();
        string sql = string.Format("select * from wip where tag='{0}'", tag);
        OleDbDataAdapter da = new OleDbDataAdapter(sql, m.Connection);
        da.Fill(ds);
        if (ds.Tables[0].Rows.Count > 0)
        {
            tag = "";
            lblStatus.Text = "Waiting for RFID ....";
            if (MessageBox.Show("TAG already in use!", "Warning",
MessageBoxButtons.OK, MessageBoxIcon.Warning) == DialogResult.OK)
            {
                subReadTAG();
            }
        }
    }

    private void timer2_Tick(object sender, EventArgs e)
    {
        readRFID();
    }

    private void timer3_Tick(object sender, EventArgs e)
    {
        timer2.Start();
        timer2.Enabled = true;
    }

    private void dataGridView1_CellBeginEdit(object sender,
    DataGridViewCellCancelEventArgs e)
    {
        if (e.ColumnIndex == 6)
        {
```

```
            oldUrgent =
Convert.ToDouble(dataGridView1.Rows[e.RowIndex].Cells[e.ColumnIndex].Value.ToString());
            }
        }

        private void txtBox_TextChanged(object sender, EventArgs e)
        {
            TextBox t = sender as TextBox;
            int iTab = t.TabIndex;
            if (t.Text.Length == 2)
            {
                this.SelectNextControl(t, true, true, true, true);
            }
        }


    }
}
```

3. โปรแกรมคำสั่งในส่วนของการรับวัตถุดิบเข้าพื้นที่

3.1 Receive From Designer

```
namespace RFID_track
{
    partial class receiveFrom
    {
        /// <summary>
        /// Required designer variable.
        /// </summary>
        private System.ComponentModel.IContainer components = null;

        /// <summary>
        /// Clean up any resources being used.
        /// </summary>
        /// <param name="disposing">true if managed resources should be disposed;
otherwise, false.</param>
        protected override void Dispose(bool disposing)
        {
            if (disposing && (components != null))
            {
                components.Dispose();
            }
            base.Dispose(disposing);
        }

        #region Windows Form Designer generated code

        /// <summary>
        /// Required method for Designer support - do not modify
        /// the contents of this method with the code editor.
        /// </summary>
        private void InitializeComponent()
        {
```

```csharp
this.components = new System.ComponentModel.Container();
this.btnSave = new System.Windows.Forms.Button();
this.panel1 = new System.Windows.Forms.Panel();
this.dataGridView1 = new System.Windows.Forms.DataGridView();
this.txtRecDate = new System.Windows.Forms.TextBox();
this.txtTyy = new System.Windows.Forms.TextBox();
this.txtFyy = new System.Windows.Forms.TextBox();
this.txtTmm = new System.Windows.Forms.TextBox();
this.txtFmm = new System.Windows.Forms.TextBox();
this.txtTdd = new System.Windows.Forms.TextBox();
this.txtFdd = new System.Windows.Forms.TextBox();
this.txtLocation = new System.Windows.Forms.TextBox();
this.txtQty = new System.Windows.Forms.TextBox();
this.txtModelName = new System.Windows.Forms.TextBox();
this.txtModelCode = new System.Windows.Forms.TextBox();
this.lblContent = new System.Windows.Forms.Label();
this.lblUrgent = new System.Windows.Forms.Label();
this.label5 = new System.Windows.Forms.Label();
this.label4 = new System.Windows.Forms.Label();
this.label3 = new System.Windows.Forms.Label();
this.label7 = new System.Windows.Forms.Label();
this.lblTotalTime = new System.Windows.Forms.Label();
this.label9 = new System.Windows.Forms.Label();
this.label6 = new System.Windows.Forms.Label();
this.label2 = new System.Windows.Forms.Label();
this.label1 = new System.Windows.Forms.Label();
this.lblStatus = new System.Windows.Forms.Label();
this.errorProvider1 = new
System.Windows.Forms.ErrorProvider(this.components);
this.Comport = new System.IO.Ports.SerialPort(this.components);
this.timer3 = new System.Windows.Forms.Timer(this.components);
this.timer2 = new System.Windows.Forms.Timer(this.components);
this.panel1.SuspendLayout();

((System.ComponentModel.ISupportInitialize)(this.dataGridView1)).BeginInit();

((System.ComponentModel.ISupportInitialize)(this.errorProvider1)).BeginInit();
this.SuspendLayout();
//
// btnSave
//
this.btnSave.Location = new System.Drawing.Point(468, 188);
this.btnSave.Margin = new System.Windows.Forms.Padding(2);
this.btnSave.Name = "btnSave";
this.btnSave.Size = new System.Drawing.Size(67, 19);
this.btnSave.TabIndex = 12;
this.btnSave.Text = "Save";
this.btnSave.UseVisualStyleBackColor = true;
this.btnSave.Click += new System.EventHandler(this.btnSave_Click);
//
// panel1
//
this.panel1.Controls.Add(this.btnSave);
this.panel1.Controls.Add(this.dataGridView1);
```

```csharp
this.panel1.Controls.Add(this.txtRecDate);
this.panel1.Controls.Add(this.txtTyy);
this.panel1.Controls.Add(this.txtFyy);
this.panel1.Controls.Add(this.txtTmm);
this.panel1.Controls.Add(this.txtFmm);
this.panel1.Controls.Add(this.txtTdd);
this.panel1.Controls.Add(this.txtFdd);
this.panel1.Controls.Add(this.txtLocation);
this.panel1.Controls.Add(this.txtQty);
this.panel1.Controls.Add(this.txtModelName);
this.panel1.Controls.Add(this.txtModelCode);
this.panel1.Controls.Add(this.lblContent);
this.panel1.Controls.Add(this.lblUrgent);
this.panel1.Controls.Add(this.label5);
this.panel1.Controls.Add(this.label4);
this.panel1.Controls.Add(this.label3);
this.panel1.Controls.Add(this.label7);
this.panel1.Controls.Add(this.lblTotalTime);
this.panel1.Controls.Add(this.label9);
this.panel1.Controls.Add(this.label6);
this.panel1.Controls.Add(this.label2);
this.panel1.Controls.Add(this.label1);
this.panel1.Location = new System.Drawing.Point(13, 41);
this.panel1.Name = "panel1";
this.panel1.Size = new System.Drawing.Size(765, 539);
this.panel1.TabIndex = 2;
//
// dataGridView1
//
this.dataGridView1.AllowUserToAddRows = false;
this.dataGridView1.AllowUserToDeleteRows = false;
this.dataGridView1.AllowUserToResizeRows = false;
this.dataGridView1.AutoSizeColumnsMode =
System.Windows.Forms.DataGridViewAutoSizeColumnsMode.AllCells;
this.dataGridView1.ColumnHeadersHeightSizeMode =
System.Windows.Forms.DataGridViewColumnHeadersHeightSizeMode.AutoSize;
this.dataGridView1.EditMode =
System.Windows.Forms.DataGridViewEditMode.EditOnEnter;
this.dataGridView1.Location = new System.Drawing.Point(4, 213);
this.dataGridView1.MultiSelect = false;
this.dataGridView1.Name = "dataGridView1";
this.dataGridView1.RowHeadersVisible = false;
this.dataGridView1.RowHeadersWidth = 40;
this.dataGridView1.RowTemplate.Height = 24;
this.dataGridView1.SelectionMode =
System.Windows.Forms.DataGridViewSelectionMode.CellSelect;
this.dataGridView1.Size = new System.Drawing.Size(758, 323);
this.dataGridView1.TabIndex = 2;
//
// txtRecDate
//
this.txtRecDate.Enabled = false;
this.txtRecDate.Location = new System.Drawing.Point(114, 87);
this.txtRecDate.Name = "txtRecDate";
```

```csharp
this.txtRecDate.Size = new System.Drawing.Size(129, 20);
this.txtRecDate.TabIndex = 0;
this.txtRecDate.TabStop = false;
//
// txtTyy
//
this.txtTyy.Enabled = false;
this.txtTyy.Location = new System.Drawing.Point(436, 122);
this.txtTyy.MaxLength = 2;
this.txtTyy.Name = "txtTyy";
this.txtTyy.Size = new System.Drawing.Size(36, 20);
this.txtTyy.TabIndex = 0;
this.txtTyy.TabStop = false;
//
// txtFyy
//
this.txtFyy.Enabled = false;
this.txtFyy.Location = new System.Drawing.Point(286, 122);
this.txtFyy.MaxLength = 2;
this.txtFyy.Name = "txtFyy";
this.txtFyy.Size = new System.Drawing.Size(36, 20);
this.txtFyy.TabIndex = 0;
this.txtFyy.TabStop = false;
//
// txtTmm
//
this.txtTmm.Enabled = false;
this.txtTmm.Location = new System.Drawing.Point(394, 122);
this.txtTmm.MaxLength = 2;
this.txtTmm.Name = "txtTmm";
this.txtTmm.Size = new System.Drawing.Size(36, 20);
this.txtTmm.TabIndex = 0;
this.txtTmm.TabStop = false;
//
// txtFmm
//
this.txtFmm.Enabled = false;
this.txtFmm.Location = new System.Drawing.Point(244, 122);
this.txtFmm.MaxLength = 2;
this.txtFmm.Name = "txtFmm";
this.txtFmm.Size = new System.Drawing.Size(36, 20);
this.txtFmm.TabIndex = 0;
this.txtFmm.TabStop = false;
//
// txtTdd
//
this.txtTdd.Enabled = false;
this.txtTdd.Location = new System.Drawing.Point(352, 122);
this.txtTdd.MaxLength = 2;
this.txtTdd.Name = "txtTdd";
this.txtTdd.Size = new System.Drawing.Size(36, 20);
this.txtTdd.TabIndex = 0;
this.txtTdd.TabStop = false;
//
```

```
// txtFdd
//
this.txtFdd.Enabled = false;
this.txtFdd.Location = new System.Drawing.Point(202, 122);
this.txtFdd.MaxLength = 2;
this.txtFdd.Name = "txtFdd";
this.txtFdd.Size = new System.Drawing.Size(36, 20);
this.txtFdd.TabIndex = 0;
this.txtFdd.TabStop = false;
//
// txtLocation
//
this.txtLocation.Location = new System.Drawing.Point(69, 160);
this.txtLocation.Name = "txtLocation";
this.txtLocation.Size = new System.Drawing.Size(73, 20);
this.txtLocation.TabIndex = 1;
//
// txtQty
//
this.txtQty.Enabled = false;
this.txtQty.Location = new System.Drawing.Point(351, 56);
this.txtQty.Name = "txtQty";
this.txtQty.Size = new System.Drawing.Size(73, 20);
this.txtQty.TabIndex = 0;
this.txtQty.TabStop = false;
this.txtQty.Text = "0";
//
// txtModelName
//
this.txtModelName.Enabled = false;
this.txtModelName.Location = new System.Drawing.Point(114, 56);
this.txtModelName.Name = "txtModelName";
this.txtModelName.Size = new System.Drawing.Size(129, 20);
this.txtModelName.TabIndex = 0;
this.txtModelName.TabStop = false;
//
// txtModelCode
//
this.txtModelCode.Enabled = false;
this.txtModelCode.Location = new System.Drawing.Point(114, 21);
this.txtModelCode.Name = "txtModelCode";
this.txtModelCode.Size = new System.Drawing.Size(129, 20);
this.txtModelCode.TabIndex = 0;
this.txtModelCode.TabStop = false;
//
// lblContent
//
this.lblContent.AutoSize = true;
this.lblContent.Font = new System.Drawing.Font("Microsoft Sans Serif",
9.75F, System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point,
((byte)(222)));
this.lblContent.Location = new System.Drawing.Point(4, 193);
this.lblContent.Name = "lblContent";
this.lblContent.Size = new System.Drawing.Size(105, 16);
```

```
            this.lblContent.TabIndex = 0;
            this.lblContent.Text = "Material content:";
            //
            // lblUrgent
            //
            this.lblUrgent.AutoSize = true;
            this.lblUrgent.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.lblUrgent.Location = new System.Drawing.Point(162, 193);
            this.lblUrgent.Name = "lblUrgent";
            this.lblUrgent.Size = new System.Drawing.Size(71, 16);
            this.lblUrgent.TabIndex = 0;
            this.lblUrgent.Text = "part urgent";
            this.lblUrgent.Visible = false;
            //
            // label5
            //
            this.label5.AutoSize = true;
            this.label5.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label5.Location = new System.Drawing.Point(4, 161);
            this.label5.Name = "label5";
            this.label5.Size = new System.Drawing.Size(59, 16);
            this.label5.TabIndex = 0;
            this.label5.Text = "Location";
            //
            // label4
            //
            this.label4.AutoSize = true;
            this.label4.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label4.Location = new System.Drawing.Point(4, 126);
            this.label4.Name = "label4";
            this.label4.Size = new System.Drawing.Size(201, 16);
            this.label4.TabIndex = 0;
            this.label4.Text = "For Prod.date (mm-dd-yy): From ";
            //
            // label3
            //
            this.label3.AutoSize = true;
            this.label3.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label3.Location = new System.Drawing.Point(4, 91);
            this.label3.Name = "label3";
            this.label3.Size = new System.Drawing.Size(104, 16);
            this.label3.TabIndex = 0;
            this.label3.Text = "Receive to area";
            //
            // label7
            //
            this.label7.AutoSize = true;
            this.label7.Enabled = false;
            this.label7.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
```

```csharp
            this.label7.Location = new System.Drawing.Point(328, 126);
            this.label7.Name = "label7";
            this.label7.Size = new System.Drawing.Size(19, 16);
            this.label7.TabIndex = 0;
            this.label7.Text = "to";
            //
            // lblTotalTime
            //
            this.lblTotalTime.AutoSize = true;
            this.lblTotalTime.Font = new System.Drawing.Font("Microsoft Sans Serif",
9.75F, System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point,
((byte)(222)));
            this.lblTotalTime.Location = new System.Drawing.Point(356, 91);
            this.lblTotalTime.Name = "lblTotalTime";
            this.lblTotalTime.Size = new System.Drawing.Size(0, 16);
            this.lblTotalTime.TabIndex = 0;
            //
            // label9
            //
            this.label9.AutoSize = true;
            this.label9.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label9.Location = new System.Drawing.Point(284, 91);
            this.label9.Name = "label9";
            this.label9.Size = new System.Drawing.Size(70, 16);
            this.label9.TabIndex = 0;
            this.label9.Text = "Total time:";
            //
            // label6
            //
            this.label6.AutoSize = true;
            this.label6.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label6.Location = new System.Drawing.Point(284, 56);
            this.label6.Name = "label6";
            this.label6.Size = new System.Drawing.Size(61, 16);
            this.label6.TabIndex = 0;
            this.label6.Text = "Plan Q\'ty";
            //
            // label2
            //
            this.label2.AutoSize = true;
            this.label2.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label2.Location = new System.Drawing.Point(4, 56);
            this.label2.Name = "label2";
            this.label2.Size = new System.Drawing.Size(86, 16);
            this.label2.TabIndex = 0;
            this.label2.Text = "Model Name";
            //
            // label1
            //
            this.label1.AutoSize = true;
```

```csharp
            this.label1.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label1.Location = new System.Drawing.Point(4, 21);
            this.label1.Name = "label1";
            this.label1.Size = new System.Drawing.Size(82, 16);
            this.label1.TabIndex = 0;
            this.label1.Text = "Model Code";
            //
            // lblStatus
            //
            this.lblStatus.AutoSize = true;
            this.lblStatus.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.lblStatus.Location = new System.Drawing.Point(17, 18);
            this.lblStatus.Name = "lblStatus";
            this.lblStatus.Size = new System.Drawing.Size(120, 16);
            this.lblStatus.TabIndex = 1;
            this.lblStatus.Text = "Waiting for RFID ....";
            //
            // errorProvider1
            //
            this.errorProvider1.BlinkStyle =
System.Windows.Forms.ErrorBlinkStyle.AlwaysBlink;
            this.errorProvider1.ContainerControl = this;
            //
            // Comport
            //
            this.Comport.Parity = System.IO.Ports.Parity.Even;
            this.Comport.ReadTimeout = 10;
            //
            // timer3
            //
            this.timer3.Interval = 1000;
            this.timer3.Tick += new System.EventHandler(this.timer3_Tick);
            //
            // timer2
            //
            this.timer2.Interval = 1000;
            this.timer2.Tick += new System.EventHandler(this.timer2_Tick);
            //
            // receiveFrom
            //
            this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);
            this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
            this.ClientSize = new System.Drawing.Size(790, 598);
            this.Controls.Add(this.panel1);
            this.Controls.Add(this.lblStatus);
            this.Margin = new System.Windows.Forms.Padding(2);
            this.Name = "receiveFrom";
            this.Text = "receiveFrom";
            this.FormClosing += new
System.Windows.Forms.FormClosingEventHandler(this.receiveFrom_FormClosing);
            this.Load += new System.EventHandler(this.receiveFrom_Load);
            this.panel1.ResumeLayout(false);
```

```
            this.panel1.PerformLayout();
            ((System.ComponentModel.ISupportInitialize)(this.dataGridView1)).EndInit();
            ((System.ComponentModel.ISupportInitialize)(this.errorProvider1)).EndInit();
            this.ResumeLayout(false);
            this.PerformLayout();

        }

        #endregion

        private System.Windows.Forms.Button btnSave;
        private System.Windows.Forms.Panel panel1;
        private System.Windows.Forms.DataGridView dataGridView1;
        private System.Windows.Forms.TextBox txtRecDate;
        private System.Windows.Forms.TextBox txtTyy;
        private System.Windows.Forms.TextBox txtFyy;
        private System.Windows.Forms.TextBox txtTmm;
        private System.Windows.Forms.TextBox txtFmm;
        private System.Windows.Forms.TextBox txtTdd;
        private System.Windows.Forms.TextBox txtFdd;
        private System.Windows.Forms.TextBox txtLocation;
        private System.Windows.Forms.TextBox txtQty;
        private System.Windows.Forms.TextBox txtModelName;
        private System.Windows.Forms.TextBox txtModelCode;
        private System.Windows.Forms.Label lblContent;
        private System.Windows.Forms.Label label5;
        private System.Windows.Forms.Label label4;
        private System.Windows.Forms.Label label3;
        private System.Windows.Forms.Label label7;
        private System.Windows.Forms.Label label6;
        private System.Windows.Forms.Label label2;
        private System.Windows.Forms.Label label1;
        private System.Windows.Forms.Label lblStatus;
        private System.Windows.Forms.Label label9;
        private System.Windows.Forms.Label lblTotalTime;
        private System.Windows.Forms.ErrorProvider errorProvider1;
        private System.Windows.Forms.Label lblUrgent;
        private System.IO.Ports.SerialPort Comport;
        private System.Windows.Forms.Timer timer3;
        private System.Windows.Forms.Timer timer2;
    }
}
```

3.2 Receive From

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;
using System.Threading;
```

```csharp
using System.Data.OleDb;
using RFID_track.DB.RFID_DBDataSetTableAdapters;
using RFID_track.DB;

namespace RFID_track
{
    public partial class receiveFrom : Form
    {
        private string tag;
        private DateTime recTime;
        private Thread t1;
        private TimeSpan gtp;
        private wipTableAdapter wipDa;
        private RFID_DBDataSet.wipDataTable wipTb;
        private modelTableAdapter daModel;
        private RFID_DBDataSet.modelDataTable tbModel;
        private DataSet dsDetail;
        private DataRow[] dr1, dr2;
        private bool chk;

        public receiveFrom()
        {
            InitializeComponent();
        }

        public receiveFrom(string prt)
        {
            InitializeComponent();
            Comport.PortName = prt;
            tag = "";

        }

        private void receiveFrom_Load(object sender, EventArgs e)
        {
            chk = true;
            panel1.Enabled = false;
            //tag = "1234";
            //fillData();
            subReadTAG();
        }

        private void subReadTAG()
        {
            timer2.Start();
            timer2.Enabled = true;
        }

        private void readRFID()
        {
            timer3.Stop();
            timer3.Enabled = false;
```

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```csharp
try
{
    Comport.Open();
    Comport.Write("13\r");
    Comport.ReadTimeout = 500;
    while (true)
    {
        Comport.ReadByte();
    }
}
catch (Exception)
{
    //Comport.Close();
    //timer2.Enabled = false;
    //timer2.Stop();
    //timer3.Enabled = false;
    //timer3.Stop();
    //MessageBox.Show("1#Connect to the device first", "Error",
    MessageBoxButtons.OK, MessageBoxIcon.Information);
    //this.DestroyHandle();
    //this.Close();
}

string temp;
int ch;
try
{
    Comport.Write("3521\r");
}
catch (Exception)
{
    timer2.Enabled = false;
    timer2.Stop();
    timer3.Enabled = false;
    timer3.Stop();
    MessageBox.Show("2#Connect to the device first", "Error",
    MessageBoxButtons.OK, MessageBoxIcon.Information);
    this.DestroyHandle();
    this.Close();
}
temp = "";
try
{
    ch = 0;
    while (ch != 13)
    {
        temp = temp + (char)ch;
        ch = Comport.ReadByte();
        Application.DoEvents();
    }
    Comport.Close();
    string securecode = temp.Substring(3, 16);
    tag = securecode;
```

```csharp
                if (tag != "")
                {
                    lblStatus.Text = "RFID Tag number: " + tag;
                    panel1.Enabled = true;
                    recTime = DateTime.Now;
                    txtRecDate.Text = recTime.ToString();
                    txtLocation.Select();
                    timer2.Stop();
                    timer2.Enabled = false;
                    timer3.Stop();
                    timer3.Enabled = false;
                    fillData();
                    t1 = new Thread(new ThreadStart(updateTotalTime));
                    t1.Start();
                }

                timer2.Stop();
                timer2.Enabled = false;
                timer3.Stop();
                timer3.Enabled = false;
            }
            catch (Exception)
            {
                timer2.Stop();
                timer2.Enabled = false;
                timer2.Start();
                timer2.Enabled = true;
            }

        }

        private void timer2_Tick(object sender, EventArgs e)
        {
            readRFID();
        }

        private void timer3_Tick(object sender, EventArgs e)
        {
            timer2.Start();
            timer2.Enabled = true;
        }

        private void fillData()
        {
            int a = 1;
            wipDa = new wipTableAdapter();
            wipTb = new RFID_DBDataSet.wipDataTable();
            wipTb = wipDa.GetData();
            dr2 = wipTb.Select("tag='" + tag.ToString() + "'");
            if (dr2.Length == 0)
            {
                tag = "";
                lblStatus.Text = "Waiting for RFID ....";
```

```csharp
                if (MessageBox.Show("TAG not found!!", "Warning", MessageBoxButtons.OK,
MessageBoxIcon.Warning) == DialogResult.OK)
                {
                    subReadTAG();
                }
            }

            daModel = new modelTableAdapter();
            tbModel = new RFID_DBDataSet.modelDataTable();
            tbModel = daModel.GetData();
            dr1 = tbModel.Select("model_id=" + dr2[0].ItemArray[1].ToString());

            DateTime dt1 = new DateTime();
            txtModelCode.Text = dr1[0].ItemArray[1].ToString();//
tbModel.Rows[0]["model_code"].ToString();
            txtModelName.Text = dr1[0].ItemArray[2].ToString();//
tbModel.Rows[0]["model_name"].ToString();
            txtQty.Text = dr2[0].ItemArray[2].ToString();
//wipTb.Rows[0]["qty"].ToString();
            dt1=Convert.ToDateTime(dr2[0].ItemArray[3].ToString());
            txtFdd.Text = dt1.Day.ToString();
            txtFmm.Text = dt1.Month.ToString();
            txtFyy.Text = dt1.Year.ToString().Substring(2, 2);
            dt1 = Convert.ToDateTime(dr2[0].ItemArray[4].ToString());
            txtTdd.Text = dt1.Day.ToString();
            txtTmm.Text = dt1.Month.ToString();
            txtTyy.Text = dt1.Year.ToString().Substring(2, 2);

            string sql = string.Format("select item_code, description, UM, qty_use as
Material_qty, qty_urgent as Material_Urgent, m1.material_id as mid from wipdetail m1
inner join material m2 on m1.material_id = m2.material_id  where wip_tag = '{0}' order
by m1.material_id", tag);
            OleDbDataAdapter da = new OleDbDataAdapter(sql, wipDa.Connection);
            dsDetail = new DataSet();

            dsDetail.Tables.Add("detail");
            dsDetail.Tables[0].Columns.Add("no", a.GetType());

            da.Fill(dsDetail, "detail");
            for (int k = 0; k < dsDetail.Tables[0].Rows.Count; k++)
            {
                dsDetail.Tables[0].Rows[k]["no"] = k + 1;
            }

            dataGridView1.DataSource = dsDetail;
            dataGridView1.DataMember = "detail";
            dataGridView1.Columns["mid"].Visible = false;
            dataGridView1.Columns[0].Width = 40;
            for (int j = 0; j < dataGridView1.Columns.Count; j++)
            {
                dataGridView1.Columns[j].ReadOnly = true;
            }
```

```csharp
            checkUrgent();
        }

        private void checkUrgent()
        {
            for (int i = 0; i < dsDetail.Tables[0].Rows.Count; i++)
            {
                if ((double)dsDetail.Tables[0].Rows[i]["Material_urgent"] > 0)
                {
                    lblUrgent.Visible = true;
                    errorProvider1.SetError(lblUrgent, "**part urgent**");
                }
            }
        }

        private void updateTotalTime()
        {
            while (chk)
            {
                gtp = new TimeSpan(DateTime.Now.Ticks - recTime.Ticks);
                this.Invoke((MethodInvoker)delegate
                {
                    lblTotalTime.Text = gtp.Days.ToString() + "-" +
gtp.Hours.ToString() + ":" + gtp.Minutes.ToString() + ":" + gtp.Seconds.ToString() + "
(Day-h:m:s)";


                });
                Thread.Sleep(1000);
            }
        }


        private void receiveFrom_FormClosing(object sender, FormClosingEventArgs e)
        {
            timer2.Enabled = false;
            timer2.Stop();
            timer3.Enabled = false;
            timer3.Stop();
            Comport.Close();

            chk = false;
            try
            {

                t1.Abort();

            }
            catch
            {

            }
        }
```

```csharp
        private void btnSave_Click(object sender, EventArgs e)
        {
            dr2[0]["receive_date"] = recTime;
            dr2[0]["location"] = txtLocation.Text;
            wipDa.Update(dr2[0]);
            MessageBox.Show("Save data completed");

            this.Close();
        }



    }
}
```

4. โปรแกรมคำสั่งในส่วนของการแก้ไขข้อมูลวัตถุดิบ

4.1 Edit Form Designer

```csharp
namespace RFID_track
{
    partial class editForm
    {
        /// <summary>
        /// Required designer variable.
        /// </summary>
        private System.ComponentModel.IContainer components = null;

        /// <summary>
        /// Clean up any resources being used.
        /// </summary>
        /// <param name="disposing">true if managed resources should be disposed;
otherwise, false.</param>
        protected override void Dispose(bool disposing)
        {
            if (disposing && (components != null))
            {
                components.Dispose();
            }
            base.Dispose(disposing);
        }

        #region Windows Form Designer generated code

        /// <summary>
        /// Required method for Designer support - do not modify
        /// the contents of this method with the code editor.
        /// </summary>
        private void InitializeComponent()
        {
```

```
                this.components = new System.ComponentModel.Container();
                this.btnSave = new System.Windows.Forms.Button();
                this.lblStatus = new System.Windows.Forms.Label();
                this.dataGridView1 = new System.Windows.Forms.DataGridView();
                this.txtRecDate = new System.Windows.Forms.TextBox();
                this.txtTyy = new System.Windows.Forms.TextBox();
                this.txtFyy = new System.Windows.Forms.TextBox();
                this.txtTmm = new System.Windows.Forms.TextBox();
                this.txtFmm = new System.Windows.Forms.TextBox();
                this.txtTdd = new System.Windows.Forms.TextBox();
                this.txtFdd = new System.Windows.Forms.TextBox();
                this.errorProvider1 = new
        System.Windows.Forms.ErrorProvider(this.components);
                this.txtLocation = new System.Windows.Forms.TextBox();
                this.txtQty = new System.Windows.Forms.TextBox();
                this.txtModelName = new System.Windows.Forms.TextBox();
                this.txtModelCode = new System.Windows.Forms.TextBox();
                this.lblContent = new System.Windows.Forms.Label();
                this.panel1 = new System.Windows.Forms.Panel();
                this.lblUrgent = new System.Windows.Forms.Label();
                this.label5 = new System.Windows.Forms.Label();
                this.label4 = new System.Windows.Forms.Label();
                this.label3 = new System.Windows.Forms.Label();
                this.label7 = new System.Windows.Forms.Label();
                this.lblTotalTime = new System.Windows.Forms.Label();
                this.label9 = new System.Windows.Forms.Label();
                this.label6 = new System.Windows.Forms.Label();
                this.label2 = new System.Windows.Forms.Label();
                this.label1 = new System.Windows.Forms.Label();
                this.Comport = new System.IO.Ports.SerialPort(this.components);
                this.timer3 = new System.Windows.Forms.Timer(this.components);
                this.timer2 = new System.Windows.Forms.Timer(this.components);

        ((System.ComponentModel.ISupportInitialize)(this.dataGridView1)).BeginInit();

        ((System.ComponentModel.ISupportInitialize)(this.errorProvider1)).BeginInit();
                this.panel1.SuspendLayout();
                this.SuspendLayout();
                //
                // btnSave
                //
                this.btnSave.Location = new System.Drawing.Point(468, 188);
                this.btnSave.Margin = new System.Windows.Forms.Padding(2);
                this.btnSave.Name = "btnSave";
                this.btnSave.Size = new System.Drawing.Size(67, 19);
                this.btnSave.TabIndex = 12;
                this.btnSave.Text = "Save";
                this.btnSave.UseVisualStyleBackColor = true;
                this.btnSave.Click += new System.EventHandler(this.btnSave_Click);
                //
                // lblStatus
                //
                this.lblStatus.AutoSize = true;
```

```csharp
            this.lblStatus.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.lblStatus.Location = new System.Drawing.Point(17, 18);
            this.lblStatus.Name = "lblStatus";
            this.lblStatus.Size = new System.Drawing.Size(120, 16);
            this.lblStatus.TabIndex = 3;
            this.lblStatus.Text = "Waiting for RFID ....";
            //
            // dataGridView1
            //
            this.dataGridView1.AllowUserToAddRows = false;
            this.dataGridView1.AllowUserToDeleteRows = false;
            this.dataGridView1.AllowUserToResizeRows = false;
            this.dataGridView1.AutoSizeColumnsMode =
System.Windows.Forms.DataGridViewAutoSizeColumnsMode.AllCells;
            this.dataGridView1.ColumnHeadersHeightSizeMode =
System.Windows.Forms.DataGridViewColumnHeadersHeightSizeMode.AutoSize;
            this.dataGridView1.EditMode =
System.Windows.Forms.DataGridViewEditMode.EditOnEnter;
            this.dataGridView1.Location = new System.Drawing.Point(4, 213);
            this.dataGridView1.MultiSelect = false;
            this.dataGridView1.Name = "dataGridView1";
            this.dataGridView1.RowHeadersVisible = false;
            this.dataGridView1.RowHeadersWidth = 40;
            this.dataGridView1.RowTemplate.Height = 24;
            this.dataGridView1.SelectionMode =
System.Windows.Forms.DataGridViewSelectionMode.CellSelect;
            this.dataGridView1.Size = new System.Drawing.Size(758, 323);
            this.dataGridView1.TabIndex = 2;
            this.dataGridView1.CellBeginEdit += new
System.Windows.Forms.DataGridViewCellCancelEventHandler(this.dataGridView1_CellBeginEdi
t);
            this.dataGridView1.CellEndEdit += new
System.Windows.Forms.DataGridViewCellEventHandler(this.dataGridView1_CellEndEdit);
            //
            // txtRecDate
            //
            this.txtRecDate.Enabled = false;
            this.txtRecDate.Location = new System.Drawing.Point(114, 87);
            this.txtRecDate.Name = "txtRecDate";
            this.txtRecDate.Size = new System.Drawing.Size(129, 20);
            this.txtRecDate.TabIndex = 0;
            this.txtRecDate.TabStop = false;
            //
            // txtTyy
            //
            this.txtTyy.Enabled = false;
            this.txtTyy.Location = new System.Drawing.Point(436, 122);
            this.txtTyy.MaxLength = 2;
            this.txtTyy.Name = "txtTyy";
            this.txtTyy.Size = new System.Drawing.Size(36, 20);
            this.txtTyy.TabIndex = 0;
            this.txtTyy.TabStop = false;
            //
```

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```csharp
// txtFyy
//
this.txtFyy.Enabled = false;
this.txtFyy.Location = new System.Drawing.Point(286, 122);
this.txtFyy.MaxLength = 2;
this.txtFyy.Name = "txtFyy";
this.txtFyy.Size = new System.Drawing.Size(36, 20);
this.txtFyy.TabIndex = 0;
this.txtFyy.TabStop = false;
//
// txtTmm
//
this.txtTmm.Enabled = false;
this.txtTmm.Location = new System.Drawing.Point(394, 122);
this.txtTmm.MaxLength = 2;
this.txtTmm.Name = "txtTmm";
this.txtTmm.Size = new System.Drawing.Size(36, 20);
this.txtTmm.TabIndex = 0;
this.txtTmm.TabStop = false;
//
// txtFmm
//
this.txtFmm.Enabled = false;
this.txtFmm.Location = new System.Drawing.Point(244, 122);
this.txtFmm.MaxLength = 2;
this.txtFmm.Name = "txtFmm";
this.txtFmm.Size = new System.Drawing.Size(36, 20);
this.txtFmm.TabIndex = 0;
this.txtFmm.TabStop = false;
//
// txtTdd
//
this.txtTdd.Enabled = false;
this.txtTdd.Location = new System.Drawing.Point(352, 122);
this.txtTdd.MaxLength = 2;
this.txtTdd.Name = "txtTdd";
this.txtTdd.Size = new System.Drawing.Size(36, 20);
this.txtTdd.TabIndex = 0;
this.txtTdd.TabStop = false;
//
// txtFdd
//
this.txtFdd.Enabled = false;
this.txtFdd.Location = new System.Drawing.Point(202, 122);
this.txtFdd.MaxLength = 2;
this.txtFdd.Name = "txtFdd";
this.txtFdd.Size = new System.Drawing.Size(36, 20);
this.txtFdd.TabIndex = 0;
this.txtFdd.TabStop = false;
//
// errorProvider1
//
this.errorProvider1.BlinkStyle =
System.Windows.Forms.ErrorBlinkStyle.AlwaysBlink;
```

```
this.errorProvider1.ContainerControl = this;
//
// txtLocation
//
this.txtLocation.Enabled = false;
this.txtLocation.Location = new System.Drawing.Point(69, 160);
this.txtLocation.Name = "txtLocation";
this.txtLocation.Size = new System.Drawing.Size(73, 20);
this.txtLocation.TabIndex = 1;
//
// txtQty
//
this.txtQty.Enabled = false;
this.txtQty.Location = new System.Drawing.Point(351, 56);
this.txtQty.Name = "txtQty";
this.txtQty.Size = new System.Drawing.Size(73, 20);
this.txtQty.TabIndex = 0;
this.txtQty.TabStop = false;
this.txtQty.Text = "1";
this.txtQty.TextChanged += new System.EventHandler(this.txtQty_TextChanged);
//
// txtModelName
//
this.txtModelName.Enabled = false;
this.txtModelName.Location = new System.Drawing.Point(114, 56);
this.txtModelName.Name = "txtModelName";
this.txtModelName.Size = new System.Drawing.Size(129, 20);
this.txtModelName.TabIndex = 0;
this.txtModelName.TabStop = false;
//
// txtModelCode
//
this.txtModelCode.Enabled = false;
this.txtModelCode.Location = new System.Drawing.Point(114, 21);
this.txtModelCode.Name = "txtModelCode";
this.txtModelCode.Size = new System.Drawing.Size(129, 20);
this.txtModelCode.TabIndex = 0;
this.txtModelCode.TabStop = false;
//
// lblContent
//
this.lblContent.AutoSize = true;
this.lblContent.Font = new System.Drawing.Font("Microsoft Sans Serif",
9.75F, System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point,
((byte)(222)));
this.lblContent.Location = new System.Drawing.Point(4, 193);
this.lblContent.Name = "lblContent";
this.lblContent.Size = new System.Drawing.Size(105, 16);
this.lblContent.TabIndex = 0;
this.lblContent.Text = "Material content:";
//
// panel1
//
this.panel1.Controls.Add(this.btnSave);
```

```
            this.panel1.Controls.Add(this.dataGridView1);
            this.panel1.Controls.Add(this.txtRecDate);
            this.panel1.Controls.Add(this.txtTyy);
            this.panel1.Controls.Add(this.txtFyy);
            this.panel1.Controls.Add(this.txtTmm);
            this.panel1.Controls.Add(this.txtFmm);
            this.panel1.Controls.Add(this.txtTdd);
            this.panel1.Controls.Add(this.txtFdd);
            this.panel1.Controls.Add(this.txtLocation);
            this.panel1.Controls.Add(this.txtQty);
            this.panel1.Controls.Add(this.txtModelName);
            this.panel1.Controls.Add(this.txtModelCode);
            this.panel1.Controls.Add(this.lblContent);
            this.panel1.Controls.Add(this.lblUrgent);
            this.panel1.Controls.Add(this.label5);
            this.panel1.Controls.Add(this.label4);
            this.panel1.Controls.Add(this.label3);
            this.panel1.Controls.Add(this.label7);
            this.panel1.Controls.Add(this.lblTotalTime);
            this.panel1.Controls.Add(this.label9);
            this.panel1.Controls.Add(this.label6);
            this.panel1.Controls.Add(this.label2);
            this.panel1.Controls.Add(this.label1);
            this.panel1.Location = new System.Drawing.Point(13, 41);
            this.panel1.Name = "panel1";
            this.panel1.Size = new System.Drawing.Size(765, 539);
            this.panel1.TabIndex = 4;
            //
            // lblUrgent
            //
            this.lblUrgent.AutoSize = true;
            this.lblUrgent.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
    System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.lblUrgent.Location = new System.Drawing.Point(162, 193);
            this.lblUrgent.Name = "lblUrgent";
            this.lblUrgent.Size = new System.Drawing.Size(91, 16);
            this.lblUrgent.TabIndex = 0;
            this.lblUrgent.Text = "**part urgent**";
            this.lblUrgent.Visible = false;
            //
            // label5
            //
            this.label5.AutoSize = true;
            this.label5.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
    System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label5.Location = new System.Drawing.Point(4, 161);
            this.label5.Name = "label5";
            this.label5.Size = new System.Drawing.Size(59, 16);
            this.label5.TabIndex = 0;
            this.label5.Text = "Location";
            //
            // label4
            //
            this.label4.AutoSize = true;
```

```csharp
            this.label4.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label4.Location = new System.Drawing.Point(4, 126);
            this.label4.Name = "label4";
            this.label4.Size = new System.Drawing.Size(201, 16);
            this.label4.TabIndex = 0;
            this.label4.Text = "For Prod.date (mm-dd-yy): From ";
            //
            // label3
            //
            this.label3.AutoSize = true;
            this.label3.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label3.Location = new System.Drawing.Point(4, 91);
            this.label3.Name = "label3";
            this.label3.Size = new System.Drawing.Size(104, 16);
            this.label3.TabIndex = 0;
            this.label3.Text = "Receive to area";
            //
            // label7
            //
            this.label7.AutoSize = true;
            this.label7.Enabled = false;
            this.label7.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label7.Location = new System.Drawing.Point(328, 126);
            this.label7.Name = "label7";
            this.label7.Size = new System.Drawing.Size(19, 16);
            this.label7.TabIndex = 0;
            this.label7.Text = "to";
            //
            // lblTotalTime
            //
            this.lblTotalTime.AutoSize = true;
            this.lblTotalTime.Font = new System.Drawing.Font("Microsoft Sans Serif",
9.75F, System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point,
((byte)(222)));
            this.lblTotalTime.Location = new System.Drawing.Point(356, 91);
            this.lblTotalTime.Name = "lblTotalTime";
            this.lblTotalTime.Size = new System.Drawing.Size(0, 16);
            this.lblTotalTime.TabIndex = 0;
            //
            // label19
            //
            this.label19.AutoSize = true;
            this.label19.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label19.Location = new System.Drawing.Point(284, 91);
            this.label19.Name = "label19";
            this.label19.Size = new System.Drawing.Size(70, 16);
            this.label19.TabIndex = 0;
            this.label19.Text = "Total time:";
            //
            // label6
```

```csharp
            //
            this.label6.AutoSize = true;
            this.label6.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label6.Location = new System.Drawing.Point(284, 56);
            this.label6.Name = "label6";
            this.label6.Size = new System.Drawing.Size(61, 16);
            this.label6.TabIndex = 0;
            this.label6.Text = "Plan Q\'ty";
            //
            // label2
            //
            this.label2.AutoSize = true;
            this.label2.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label2.Location = new System.Drawing.Point(4, 56);
            this.label2.Name = "label2";
            this.label2.Size = new System.Drawing.Size(86, 16);
            this.label2.TabIndex = 0;
            this.label2.Text = "Model Name";
            //
            // label1
            //
            this.label1.AutoSize = true;
            this.label1.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label1.Location = new System.Drawing.Point(4, 21);
            this.label1.Name = "label1";
            this.label1.Size = new System.Drawing.Size(82, 16);
            this.label1.TabIndex = 0;
            this.label1.Text = "Model Code";
            //
            // Comport
            //
            this.Comport.Parity = System.IO.Ports.Parity.Even;
            this.Comport.ReadTimeout = 10;
            //
            // timer3
            //
            this.timer3.Interval = 1000;
            this.timer3.Tick += new System.EventHandler(this.timer3_Tick);
            //
            // timer2
            //
            this.timer2.Interval = 1000;
            this.timer2.Tick += new System.EventHandler(this.timer2_Tick);
            //
            // editForm
            //
            this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);
            this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
            this.ClientSize = new System.Drawing.Size(790, 598);
            this.Controls.Add(this.lblStatus);
            this.Controls.Add(this.panel1);
```

```
            this.Margin = new System.Windows.Forms.Padding(2);
            this.Name = "editForm";
            this.Text = "editForm";
            this.FormClosing += new
System.Windows.Forms.FormClosingEventHandler(this.editForm_FormClosing);
            this.Load += new System.EventHandler(this.editForm_Load);
            ((System.ComponentModel.ISupportInitialize)(this.dataGridView1)).EndInit();
            ((System.ComponentModel.ISupportInitialize)(this.errorProvider1)).EndInit();
            this.panel1.ResumeLayout(false);
            this.panel1.PerformLayout();
            this.ResumeLayout(false);
            this.PerformLayout();

        }

        #endregion

        private System.Windows.Forms.Button btnSave;
        private System.Windows.Forms.Label lblStatus;
        private System.Windows.Forms.DataGridView dataGridView1;
        private System.Windows.Forms.TextBox txtRecDate;
        private System.Windows.Forms.TextBox txtTyy;
        private System.Windows.Forms.TextBox txtFyy;
        private System.Windows.Forms.TextBox txtTmm;
        private System.Windows.Forms.TextBox txtFmm;
        private System.Windows.Forms.TextBox txtTdd;
        private System.Windows.Forms.TextBox txtFdd;
        private System.Windows.Forms.ErrorProvider errorProvider1;
        private System.Windows.Forms.Panel panel1;
        private System.Windows.Forms.TextBox txtLocation;
        private System.Windows.Forms.TextBox txtQty;
        private System.Windows.Forms.TextBox txtModelName;
        private System.Windows.Forms.TextBox txtModelCode;
        private System.Windows.Forms.Label lblContent;
        private System.Windows.Forms.Label lblUrgent;
        private System.Windows.Forms.Label label5;
        private System.Windows.Forms.Label label4;
        private System.Windows.Forms.Label label3;
        private System.Windows.Forms.Label label7;
        private System.Windows.Forms.Label lblTotalTime;
        private System.Windows.Forms.Label label9;
        private System.Windows.Forms.Label label6;
        private System.Windows.Forms.Label label2;
        private System.Windows.Forms.Label label1;
        private System.IO.Ports.SerialPort Comport;
        private System.Windows.Forms.Timer timer3;
        private System.Windows.Forms.Timer timer2;
    }
}
```

4.2 Edit Form

```
using System;
using System.Collections.Generic;
```

```csharp
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;
using System.Threading;
using System.Data.OleDb;
using RFID_track.DB.RFID_DBDataSetTableAdapters;
using RFID_track.DB;

namespace RFID_track
{
    public partial class editForm : Form
    {

        private int oldAmt;
        private string tag;
        private DateTime recTime;
        private Thread t1;
        private TimeSpan gtp, dtp;
        private wipTableAdapter wipDa;
        private RFID_DBDataSet.wipDataTable wipTb;
        private wipdetailTableAdapter wipDetailDa;
        private RFID_DBDataSet.wipdetailDataTable wipDetailTb;
        private modelTableAdapter daModel;
        private RFID_DBDataSet.modelDataTable tbModel;
        private DataSet dsDetail;
        private DataTable orgDt;
        private DataRow[] dr1, dr2;
        private double oldUrgent;
        private bool chk;

        public editForm()
        {
            InitializeComponent();
        }

        public editForm(string prt)
        {
            InitializeComponent();
            Comport.PortName = prt;
            tag = "";
            chk = true;
        }

        private void editForm_Load(object sender, EventArgs e)
        {
            panel1.Enabled = false;
            subReadTAG();
        }

        private void subReadTAG()
        {
```

```csharp
            timer2.Start();
            timer2.Enabled = true;
        }


        private void readRFID()
        {
            timer3.Stop();
            timer3.Enabled = false;


            try
            {
                Comport.Open();
                Comport.Write("13\r");
                Comport.ReadTimeout = 500;
                while (true)
                {
                    Comport.ReadByte();
                }
            }
            catch (Exception)
            {
                //Comport.Close();
                //timer2.Enabled = false;
                //timer2.Stop();
                //timer3.Enabled = false;
                //timer3.Stop();
                //MessageBox.Show("1#Connect to the device first", "Error",
MessageBoxButtons.OK, MessageBoxIcon.Information);
                //this.DestroyHandle();
                //this.Close();
            }

            string temp;
            int ch;
            try
            {
                Comport.Write("3521\r");
            }
            catch (Exception)
            {
                timer2.Enabled = false;
                timer2.Stop();
                timer3.Enabled = false;
                timer3.Stop();
                MessageBox.Show("2#Connect to the device first", "Error",
        MessageBoxButtons.OK, MessageBoxIcon.Information);
                this.DestroyHandle();
                this.Close();
            }
            temp = "";
            try
            {
```

```csharp
                ch = 0;
                while (ch != 13)
                {
                    temp = temp + (char)ch;
                    ch = Comport.ReadByte();
                    Application.DoEvents();
                }
                Comport.Close();
                string securecode = temp.Substring(3, 16);
                tag = securecode;

                if (tag != "")
                {
                    lblStatus.Text = "RFID Tag number: " + tag;
                    panel1.Enabled = true;
                    timer2.Stop();
                    timer2.Enabled = false;
                    timer3.Stop();
                    timer3.Enabled = false;
                    fillData();
                    t1 = new Thread(new ThreadStart(updateTotalTime));
                    t1.Start();
                }

                timer2.Stop();
                timer2.Enabled = false;
                timer3.Stop();
                timer3.Enabled = false;
            }
            catch (Exception)
            {
                timer2.Stop();
                timer2.Enabled = false;
                timer2.Start();
                timer2.Enabled = true;
            }

        }

        private void timer2_Tick(object sender, EventArgs e)
        {
            readRFID();
        }

        private void timer3_Tick(object sender, EventArgs e)
        {
            timer2.Start();
            timer2.Enabled = true;
        }

        private void fillData()
        {
            int a = 1;
```

```csharp
            wipDa = new wipTableAdapter();
            wipTb = new RFID_DBDataSet.wipDataTable();
            wipDetailDa = new wipdetailTableAdapter();
            wipDetailTb = new RFID_DBDataSet.wipdetailDataTable();
            wipTb = wipDa.GetData();
            wipDetailTb = wipDetailDa.GetData();
            dr2 = wipTb.Select("tag = '" + tag.ToString() + "'");

            if (dr2.Length == 0)
            {
                tag = "";
                lblStatus.Text = "Waiting for RFID ....";

                if (MessageBox.Show("TAG not found!!", "Warning", MessageBoxButtons.OK,
    MessageBoxIcon.Warning) == DialogResult.OK)
                {
                    subReadTAG();
                }
            }


            txtQty.Text = dr2[0].ItemArray[2].ToString();
    //wipTb.Rows[0]["qty"].ToString();
            oldAmt = (int)dr2[0].ItemArray[2];

            daModel = new modelTableAdapter();
            tbModel = new RFID_DBDataSet.modelDataTable();
            tbModel = daModel.GetData();
            dr1 = tbModel.Select("model_id=" + dr2[0].ItemArray[1].ToString());

            DateTime dt1 = new DateTime();
            txtModelCode.Text = dr1[0].ItemArray[1].ToString();//
    tbModel.Rows[0]["model_code"].ToString();
            txtModelName.Text = dr1[0].ItemArray[2].ToString();//
    tbModel.Rows[0]["model_name"].ToString();


            recTime = Convert.ToDateTime(dr2[0].ItemArray[6].ToString());

            dt1 = Convert.ToDateTime(dr2[0].ItemArray[3].ToString());
            txtFdd.Text = dt1.Day.ToString();
            txtFmm.Text = dt1.Month.ToString();
            txtFyy.Text = dt1.Year.ToString().Substring(2, 2);
            dt1 = Convert.ToDateTime(dr2[0].ItemArray[4].ToString());
            txtTdd.Text = dt1.Day.ToString();
            txtTmm.Text = dt1.Month.ToString();
            txtTyy.Text = dt1.Year.ToString().Substring(2, 2);

            txtLocation.Text = dr2[0].ItemArray[5].ToString();
            txtRecDate.Text = dr2[0].ItemArray[6].ToString();

            string sql = string.Format("select item_code, description, UM, qty_use as
    Material_qty, qty_urgent as Material_Urgent, m1.material_id as mid from wipdetail m1
```

```
inner join material m2 on m1.material_id = m2.material_id  where wip_tag = '{0}' order
by m1.material_id", tag);
            OleDbDataAdapter da = new OleDbDataAdapter(sql, wipDa.Connection);
            dsDetail = new DataSet();
            //dsDetail.Tables[0].Clear();

            dsDetail.Tables.Add("detail");
            dsDetail.Tables[0].Columns.Add("no", a.GetType());


            da.Fill(dsDetail, "detail");
            orgDt = dsDetail.Tables[0].Copy();



            for (int k = 0; k < dsDetail.Tables[0].Rows.Count; k++)
            {
                dsDetail.Tables[0].Rows[k]["no"] = k + 1;
            }

            dataGridView1.DataSource = dsDetail;
            dataGridView1.DataMember = "detail";
            dataGridView1.Columns["mid"].Visible = false;
            dataGridView1.Columns[0].Width = 40;

            for (int j = 0; j < dataGridView1.Columns.Count; j++)
            {
                dataGridView1.Columns[j].ReadOnly = true;
            }
            dataGridView1.Columns["Material_Urgent"].ReadOnly = false;

        if (!checkUrgent())
        {
            txtQty.Enabled = true;
            txtQty.Select();
            //dataGridView1.Enabled = false;
            dataGridView1.Columns["Material_Urgent"].ReadOnly = true;

        }
        dtp = new TimeSpan(DateTime.Now.Ticks - dt1.Ticks);
        if (dtp.TotalSeconds > 0)
        {
            errorProvider1.SetError(lblTotalTime, "DELAY");
        }
    }

    private bool checkUrgent()
    {
        bool ur = false;
        double tmp = 0;
        for (int i = 0; i < dataGridView1.Rows.Count; i++)
        {

//MessageBox.Show(dataGridView1.Rows[i].Cells["Material_Urgent"].ToString());
```

```csharp
                tmp =
Convert.ToDouble(dataGridView1.Rows[i].Cells["Material_Urgent"].Value.ToString());
                if (tmp > 0)
                {
                    ur = true;
                }
            }
            if (ur)
            {
                lblUrgent.Visible = true;
                errorProvider1.SetError(lblUrgent, "**part urgent**");
            }
            else
            {
                lblUrgent.Visible = false;
                errorProvider1.SetError(lblUrgent, "");
            }
            return ur;
        }

        private void updateTotalTime()
        {
            while (chk)
            {
                gtp = new TimeSpan(DateTime.Now.Ticks - recTime.Ticks);
                this.Invoke((MethodInvoker)delegate
                {
                    lblTotalTime.Text = gtp.Days.ToString() + "-" +
gtp.Hours.ToString() + ":" + gtp.Minutes.ToString() + ":" + gtp.Seconds.ToString() + "
(Day-h:m:s)";
                });

                Thread.Sleep(1000);
            }

        }

        private void editForm_FormClosing(object sender, FormClosingEventArgs e)
        {
            timer2.Enabled = false;
            timer2.Stop();
            timer3.Enabled = false;
            timer3.Stop();
            Comport.Close();

            chk = false;
            try
            {

                t1.Abort();

            }
            catch
            {
```

```csharp
            }
        }

        private void btnSave_Click(object sender, EventArgs e)
        {
            if (Convert.ToInt16(txtQty.Text) != 0) // If qty > 0  --> update
            {
                dr2[0][2] = Convert.ToInt16(txtQty.Text);
                wipDa.Update(dr2[0]);

                for (int i = 0; i < orgDt.Rows.Count; i++)
                {
                    wipDetailDa.Update((double)dataGridView1.Rows[i].Cells["Material_qty"].Value,
                        (double)dataGridView1.Rows[i].Cells["Material_Urgent"].Value,
                        tag,
                        (int)orgDt.Rows[i]["mid"],
                        (double)orgDt.Rows[i]["Material_qty"],
                        (double)orgDt.Rows[i]["Material_Urgent"]);
                }
            }
            else
            {
                wipDa.Delete(dr2[0][0].ToString(),                //if qty = 0 ---> delete
        from db
                    (int)dr2[0][1],
                    (int)dr2[0][2],
                    (DateTime)dr2[0][3],
                    (DateTime)dr2[0][4],
                    (string)dr2[0][5],
                    (DateTime)dr2[0][6]);
                for (int i = 0; i < orgDt.Rows.Count; i++)
                {
                    wipDetailDa.Delete(tag,
                        (int)orgDt.Rows[i]["mid"],
                        (double)orgDt.Rows[i]["Material_qty"],
                        (double)orgDt.Rows[i]["Material_Urgent"]);
                }
            }
            MessageBox.Show("Save data completed");

            this.Close();
        }

        private void dataGridView1_CellEndEdit(object sender, DataGridViewCellEventArgs
    e)
        {
            if (e.ColumnIndex == 5)
            {
                double newUrgent =
        Convert.ToDouble(dataGridView1.Rows[e.RowIndex].Cells[e.ColumnIndex].Value.ToString());
```

```
                double oldQty =
Convert.ToDouble(dataGridView1.Rows[e.RowIndex].Cells[e.ColumnIndex-
1].Value.ToString());
                oldQty = oldQty + (oldUrgent - newUrgent);
                dataGridView1.Rows[e.RowIndex].Cells[e.ColumnIndex - 1].Value = oldQty;
                checkUrgent();
            }
        }

        private void txtQty_TextChanged(object sender, EventArgs e)
        {
            int amt = 0;
            double aa;
            try
            {
                amt = Convert.ToInt16(txtQty.Text);
            }
            catch { }
            if (amt >= 0 && oldAmt >0)
            {
                for (int i = 0; i < orgDt.Rows.Count; i++)
                {
                    aa = (double)orgDt.Rows[i]["Material_qty"];
                    dsDetail.Tables[0].Rows[i]["Material_qty"] = (double)(aa * amt) /
oldAmt;
                }
            }
        }

        private void dataGridView1_CellBeginEdit(object sender,
DataGridViewCellCancelEventArgs e)
        {
            if (e.ColumnIndex == 5)
            {
                oldUrgent =
Convert.ToDouble(dataGridView1.Rows[e.RowIndex].Cells[e.ColumnIndex].Value.ToString());
                //MessageBox.Show(oldUrgent.ToString());
            }
        }

    }
}
```

5. โปรแกรมคำสั่งในส่วนของการดูข้อมูลวัตถุดิบแบบสแกนอ่านจากแผ่นป้าย

5.1 View By Tag From Designer

```
namespace RFID_track
{
    partial class viewByTagFrom
    {
        /// <summary>
        /// Required designer variable.
        /// </summary>
```

```csharp
        private System.ComponentModel.IContainer components = null;

        /// <summary>
        /// Clean up any resources being used.
        /// </summary>
        /// <param name="disposing">true if managed resources should be disposed;
otherwise, false.</param>
        protected override void Dispose(bool disposing)
        {
            if (disposing && (components != null))
            {
                components.Dispose();
            }
            base.Dispose(disposing);
        }

        #region Windows Form Designer generated code

        /// <summary>
        /// Required method for Designer support - do not modify
        /// the contents of this method with the code editor.
        /// </summary>
        private void InitializeComponent()
        {
            this.components = new System.ComponentModel.Container();
            this.dataGridView1 = new System.Windows.Forms.DataGridView();
            this.txtRecDate = new System.Windows.Forms.TextBox();
            this.txtTyy = new System.Windows.Forms.TextBox();
            this.txtFyy = new System.Windows.Forms.TextBox();
            this.txtTmm = new System.Windows.Forms.TextBox();
            this.txtFmm = new System.Windows.Forms.TextBox();
            this.txtTdd = new System.Windows.Forms.TextBox();
            this.panel1 = new System.Windows.Forms.Panel();
            this.txtFdd = new System.Windows.Forms.TextBox();
            this.txtLocation = new System.Windows.Forms.TextBox();
            this.txtQty = new System.Windows.Forms.TextBox();
            this.txtModelName = new System.Windows.Forms.TextBox();
            this.txtModelCode = new System.Windows.Forms.TextBox();
            this.lblContent = new System.Windows.Forms.Label();
            this.lblUrgent = new System.Windows.Forms.Label();
            this.label5 = new System.Windows.Forms.Label();
            this.label4 = new System.Windows.Forms.Label();
            this.label3 = new System.Windows.Forms.Label();
            this.label7 = new System.Windows.Forms.Label();
            this.lblTotalTime = new System.Windows.Forms.Label();
            this.label9 = new System.Windows.Forms.Label();
            this.label6 = new System.Windows.Forms.Label();
            this.label2 = new System.Windows.Forms.Label();
            this.label1 = new System.Windows.Forms.Label();
            this.errorProvider1 = new
System.Windows.Forms.ErrorProvider(this.components);
            this.lblStatus = new System.Windows.Forms.Label();
            this.Comport = new System.IO.Ports.SerialPort(this.components);
            this.timer3 = new System.Windows.Forms.Timer(this.components);
```

```
            this.timer2 = new System.Windows.Forms.Timer(this.components);

((System.ComponentModel.ISupportInitialize)(this.dataGridView1)).BeginInit();
            this.panel1.SuspendLayout();

((System.ComponentModel.ISupportInitialize)(this.errorProvider1)).BeginInit();
            this.SuspendLayout();
            //
            // dataGridView1
            //
            this.dataGridView1.AllowUserToAddRows = false;
            this.dataGridView1.AllowUserToDeleteRows = false;
            this.dataGridView1.AllowUserToResizeRows = false;
            this.dataGridView1.AutoSizeColumnsMode =
System.Windows.Forms.DataGridViewAutoSizeColumnsMode.AllCells;
            this.dataGridView1.ColumnHeadersHeightSizeMode =
System.Windows.Forms.DataGridViewColumnHeadersHeightSizeMode.AutoSize;
            this.dataGridView1.EditMode =
System.Windows.Forms.DataGridViewEditMode.EditOnEnter;
            this.dataGridView1.Location = new System.Drawing.Point(4, 213);
            this.dataGridView1.MultiSelect = false;
            this.dataGridView1.Name = "dataGridView1";
            this.dataGridView1.RowHeadersVisible = false;
            this.dataGridView1.RowHeadersWidth = 40;
            this.dataGridView1.RowTemplate.Height = 24;
            this.dataGridView1.SelectionMode =
System.Windows.Forms.DataGridViewSelectionMode.CellSelect;
            this.dataGridView1.Size = new System.Drawing.Size(758, 323);
            this.dataGridView1.TabIndex = 2;
            //
            // txtRecDate
            //
            this.txtRecDate.Enabled = false;
            this.txtRecDate.Location = new System.Drawing.Point(114, 87);
            this.txtRecDate.Name = "txtRecDate";
            this.txtRecDate.ReadOnly = true;
            this.txtRecDate.Size = new System.Drawing.Size(129, 20);
            this.txtRecDate.TabIndex = 0;
            this.txtRecDate.TabStop = false;
            //
            // txtTyy
            //
            this.txtTyy.Enabled = false;
            this.txtTyy.Location = new System.Drawing.Point(436, 122);
            this.txtTyy.MaxLength = 2;
            this.txtTyy.Name = "txtTyy";
            this.txtTyy.ReadOnly = true;
            this.txtTyy.Size = new System.Drawing.Size(36, 20);
            this.txtTyy.TabIndex = 0;
            this.txtTyy.TabStop = false;
            //
            // txtFyy
            //
            this.txtFyy.Enabled = false;
```

```
this.txtFyy.Location = new System.Drawing.Point(286, 122);
this.txtFyy.MaxLength = 2;
this.txtFyy.Name = "txtFyy";
this.txtFyy.ReadOnly = true;
this.txtFyy.Size = new System.Drawing.Size(36, 20);
this.txtFyy.TabIndex = 0;
this.txtFyy.TabStop = false;
//
// txtTmm
//
this.txtTmm.Enabled = false;
this.txtTmm.Location = new System.Drawing.Point(394, 122);
this.txtTmm.MaxLength = 2;
this.txtTmm.Name = "txtTmm";
this.txtTmm.ReadOnly = true;
this.txtTmm.Size = new System.Drawing.Size(36, 20);
this.txtTmm.TabIndex = 0;
this.txtTmm.TabStop = false;
//
// txtFmm
//
this.txtFmm.Enabled = false;
this.txtFmm.Location = new System.Drawing.Point(244, 122);
this.txtFmm.MaxLength = 2;
this.txtFmm.Name = "txtFmm";
this.txtFmm.ReadOnly = true;
this.txtFmm.Size = new System.Drawing.Size(36, 20);
this.txtFmm.TabIndex = 0;
this.txtFmm.TabStop = false;
//
// txtTdd
//
this.txtTdd.Enabled = false;
this.txtTdd.Location = new System.Drawing.Point(352, 122);
this.txtTdd.MaxLength = 2;
this.txtTdd.Name = "txtTdd";
this.txtTdd.ReadOnly = true;
this.txtTdd.Size = new System.Drawing.Size(36, 20);
this.txtTdd.TabIndex = 0;
this.txtTdd.TabStop = false;
//
// panel1
//
this.panel1.Controls.Add(this.dataGridView1);
this.panel1.Controls.Add(this.txtRecDate);
this.panel1.Controls.Add(this.txtTyy);
this.panel1.Controls.Add(this.txtFyy);
this.panel1.Controls.Add(this.txtTmm);
this.panel1.Controls.Add(this.txtFmm);
this.panel1.Controls.Add(this.txtTdd);
this.panel1.Controls.Add(this.txtFdd);
this.panel1.Controls.Add(this.txtLocation);
this.panel1.Controls.Add(this.txtQty);
this.panel1.Controls.Add(this.txtModelName);
```

```csharp
this.panel1.Controls.Add(this.txtModelCode);
this.panel1.Controls.Add(this.lblContent);
this.panel1.Controls.Add(this.lblUrgent);
this.panel1.Controls.Add(this.label5);
this.panel1.Controls.Add(this.label4);
this.panel1.Controls.Add(this.label3);
this.panel1.Controls.Add(this.label7);
this.panel1.Controls.Add(this.lblTotalTime);
this.panel1.Controls.Add(this.label9);
this.panel1.Controls.Add(this.label6);
this.panel1.Controls.Add(this.label2);
this.panel1.Controls.Add(this.label1);
this.panel1.Location = new System.Drawing.Point(13, 41);
this.panel1.Name = "panel1";
this.panel1.Size = new System.Drawing.Size(765, 539);
this.panel1.TabIndex = 6;
//
// txtFdd
//
this.txtFdd.Enabled = false;
this.txtFdd.Location = new System.Drawing.Point(202, 122);
this.txtFdd.MaxLength = 2;
this.txtFdd.Name = "txtFdd";
this.txtFdd.ReadOnly = true;
this.txtFdd.Size = new System.Drawing.Size(36, 20);
this.txtFdd.TabIndex = 0;
this.txtFdd.TabStop = false;
//
// txtLocation
//
this.txtLocation.Enabled = false;
this.txtLocation.Location = new System.Drawing.Point(69, 160);
this.txtLocation.Name = "txtLocation";
this.txtLocation.ReadOnly = true;
this.txtLocation.Size = new System.Drawing.Size(73, 20);
this.txtLocation.TabIndex = 1;
//
// txtQty
//
this.txtQty.Enabled = false;
this.txtQty.Location = new System.Drawing.Point(351, 56);
this.txtQty.Name = "txtQty";
this.txtQty.ReadOnly = true;
this.txtQty.Size = new System.Drawing.Size(73, 20);
this.txtQty.TabIndex = 0;
this.txtQty.TabStop = false;
this.txtQty.Text = "1";
//
// txtModelName
//
this.txtModelName.Enabled = false;
this.txtModelName.Location = new System.Drawing.Point(114, 56);
this.txtModelName.Name = "txtModelName";
this.txtModelName.ReadOnly = true;
```

```csharp
            this.txtModelName.Size = new System.Drawing.Size(129, 20);
            this.txtModelName.TabIndex = 0;
            this.txtModelName.TabStop = false;
            //
            // txtModelCode
            //
            this.txtModelCode.Enabled = false;
            this.txtModelCode.Location = new System.Drawing.Point(114, 21);
            this.txtModelCode.Name = "txtModelCode";
            this.txtModelCode.ReadOnly = true;
            this.txtModelCode.Size = new System.Drawing.Size(129, 20);
            this.txtModelCode.TabIndex = 0;
            this.txtModelCode.TabStop = false;
            //
            // lblContent
            //
            this.lblContent.AutoSize = true;
            this.lblContent.Font = new System.Drawing.Font("Microsoft Sans Serif",
    9.75F, System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point,
        ((byte)(222)));
            this.lblContent.Location = new System.Drawing.Point(4, 193);
            this.lblContent.Name = "lblContent";
            this.lblContent.Size = new System.Drawing.Size(105, 16);
            this.lblContent.TabIndex = 0;
            this.lblContent.Text = "Material content:";
            //
            // lblUrgent
            //
            this.lblUrgent.AutoSize = true;
            this.lblUrgent.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
    System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.lblUrgent.Location = new System.Drawing.Point(162, 193);
            this.lblUrgent.Name = "lblUrgent";
            this.lblUrgent.Size = new System.Drawing.Size(91, 16);
            this.lblUrgent.TabIndex = 0;
            this.lblUrgent.Text = "**part urgent**";
            this.lblUrgent.Visible = false;
            //
            // label5
            //
            this.label5.AutoSize = true;
            this.label5.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
    System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label5.Location = new System.Drawing.Point(4, 161);
            this.label5.Name = "label5";
            this.label5.Size = new System.Drawing.Size(59, 16);
            this.label5.TabIndex = 0;
            this.label5.Text = "Location";
            //
            // label4
            //
            this.label4.AutoSize = true;
            this.label4.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
    System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
```

```csharp
            this.label4.Location = new System.Drawing.Point(4, 126);
            this.label4.Name = "label4";
            this.label4.Size = new System.Drawing.Size(201, 16);
            this.label4.TabIndex = 0;
            this.label4.Text = "For Prod.date (mm-dd-yy): From ";
            //
            // label3
            //
            this.label3.AutoSize = true;
            this.label3.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
    System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label3.Location = new System.Drawing.Point(4, 91);
            this.label3.Name = "label3";
            this.label3.Size = new System.Drawing.Size(104, 16);
            this.label3.TabIndex = 0;
            this.label3.Text = "Receive to area";
            //
            // label7
            //
            this.label7.AutoSize = true;
            this.label7.Enabled = false;
            this.label7.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
    System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label7.Location = new System.Drawing.Point(328, 126);
            this.label7.Name = "label7";
            this.label7.Size = new System.Drawing.Size(19, 16);
            this.label7.TabIndex = 0;
            this.label7.Text = "to";
            //
            // lblTotalTime
            //
            this.lblTotalTime.AutoSize = true;
            this.lblTotalTime.Font = new System.Drawing.Font("Microsoft Sans Serif",
    9.75F, System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point,
    ((byte)(222)));
            this.lblTotalTime.Location = new System.Drawing.Point(356, 91);
            this.lblTotalTime.Name = "lblTotalTime";
            this.lblTotalTime.Size = new System.Drawing.Size(0, 16);
            this.lblTotalTime.TabIndex = 0;
            //
            // label9
            //
            this.label9.AutoSize = true;
            this.label9.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
    System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label9.Location = new System.Drawing.Point(284, 91);
            this.label9.Name = "label9";
            this.label9.Size = new System.Drawing.Size(70, 16);
            this.label9.TabIndex = 0;
            this.label9.Text = "Total time:";
            //
            // label6
            //
            this.label6.AutoSize = true;
```

```csharp
            this.label6.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label6.Location = new System.Drawing.Point(284, 56);
            this.label6.Name = "label6";
            this.label6.Size = new System.Drawing.Size(61, 16);
            this.label6.TabIndex = 0;
            this.label6.Text = "Plan Q\'ty";
            //
            // label2
            //
            this.label2.AutoSize = true;
            this.label2.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label2.Location = new System.Drawing.Point(4, 56);
            this.label2.Name = "label2";
            this.label2.Size = new System.Drawing.Size(86, 16);
            this.label2.TabIndex = 0;
            this.label2.Text = "Model Name";
            //
            // label1
            //
            this.label1.AutoSize = true;
            this.label1.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label1.Location = new System.Drawing.Point(4, 21);
            this.label1.Name = "label1";
            this.label1.Size = new System.Drawing.Size(82, 16);
            this.label1.TabIndex = 0;
            this.label1.Text = "Model Code";
            //
            // errorProvider1
            //
            this.errorProvider1.BlinkStyle =
System.Windows.Forms.ErrorBlinkStyle.AlwaysBlink;
            this.errorProvider1.ContainerControl = this;
            //
            // lblStatus
            //
            this.lblStatus.AutoSize = true;
            this.lblStatus.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.lblStatus.Location = new System.Drawing.Point(17, 18);
            this.lblStatus.Name = "lblStatus";
            this.lblStatus.Size = new System.Drawing.Size(120, 16);
            this.lblStatus.TabIndex = 5;
            this.lblStatus.Text = "Waiting for RFID ....";
            //
            // Comport
            //
            this.Comport.Parity = System.IO.Ports.Parity.Even;
            this.Comport.ReadTimeout = 10;
            //
            // timer3
            //
```

```csharp
            this.timer3.Interval = 1000;
            this.timer3.Tick += new System.EventHandler(this.timer3_Tick);
            //
            // timer2
            //
            this.timer2.Interval = 1000;
            this.timer2.Tick += new System.EventHandler(this.timer2_Tick);
            //
            // viewByTagFrom
            //
            this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);
            this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
            this.ClientSize = new System.Drawing.Size(790, 587);
            this.Controls.Add(this.panel1);
            this.Controls.Add(this.lblStatus);
            this.Margin = new System.Windows.Forms.Padding(2);
            this.Name = "viewByTagFrom";
            this.Text = "viewByTagFrom";
            this.FormClosing += new
    System.Windows.Forms.FormClosingEventHandler(this.viewByTagFrom_FormClosing);
            this.Load += new System.EventHandler(this.viewByTagFrom_Load);
            ((System.ComponentModel.ISupportInitialize)(this.dataGridView1)).EndInit();
            this.panel1.ResumeLayout(false);
            this.panel1.PerformLayout();
            ((System.ComponentModel.ISupportInitialize)(this.errorProvider1)).EndInit();
            this.ResumeLayout(false);
            this.PerformLayout();

        }

        #endregion

        private System.Windows.Forms.DataGridView dataGridView1;
        private System.Windows.Forms.TextBox txtRecDate;
        private System.Windows.Forms.TextBox txtTyy;
        private System.Windows.Forms.TextBox txtFyy;
        private System.Windows.Forms.TextBox txtTmm;
        private System.Windows.Forms.TextBox txtFmm;
        private System.Windows.Forms.TextBox txtTdd;
        private System.Windows.Forms.Panel panel1;
        private System.Windows.Forms.TextBox txtFdd;
        private System.Windows.Forms.TextBox txtLocation;
        private System.Windows.Forms.TextBox txtQty;
        private System.Windows.Forms.TextBox txtModelName;
        private System.Windows.Forms.TextBox txtModelCode;
        private System.Windows.Forms.Label lblContent;
        private System.Windows.Forms.Label lblUrgent;
        private System.Windows.Forms.Label label5;
        private System.Windows.Forms.Label label4;
        private System.Windows.Forms.Label label3;
        private System.Windows.Forms.Label label7;
        private System.Windows.Forms.Label lblTotalTime;
        private System.Windows.Forms.Label label9;
        private System.Windows.Forms.Label label6;
```

```csharp
        private System.Windows.Forms.Label label2;
        private System.Windows.Forms.Label label1;
        private System.Windows.Forms.ErrorProvider errorProvider1;
        private System.Windows.Forms.Label lblStatus;
        private System.IO.Ports.SerialPort Comport;
        private System.Windows.Forms.Timer timer3;
        private System.Windows.Forms.Timer timer2;
    }
}
```

5.2 View By Tag From

```csharp
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;
using System.Threading;
using System.Data.OleDb;
using RFID_track.DB.RFID_DBDataSetTableAdapters;
using RFID_track.DB;

namespace RFID_track
{
    public partial class viewByTagFrom : Form
    {
        private int oldAmt;
        private DateTime recTime;
        private Thread t1;
        private TimeSpan gtp, dtp;
        private wipTableAdapter wipDa;
        private RFID_DBDataSet.wipDataTable wipTb;
        private wipdetailTableAdapter wipDetailDa;
        private RFID_DBDataSet.wipdetailDataTable wipDetailTb;
        private modelTableAdapter daModel;
        private RFID_DBDataSet.modelDataTable tbModel;
        private DataSet dsDetail;
        private DataTable orgDt;
        private DataRow[] dr1, dr2;
        private string tag;
        private bool chk;

        public viewByTagFrom()
        {
            InitializeComponent();
        }

        public viewByTagFrom(string prt)
        {
            InitializeComponent();
            Comport.PortName = prt;
```

```csharp
            tag = "";
            chk = true;
        }

        private void viewByTagFrom_Load(object sender, EventArgs e)
        {
            panel1.Enabled = false;
            subReadTAG();
        }

        private void subReadTAG()
        {
            timer2.Start();
            timer2.Enabled = true;
        }


        private void readRFID()
        {
            timer3.Stop();
            timer3.Enabled = false;


            try
            {
                Comport.Open();
                Comport.Write("13\r");
                Comport.ReadTimeout = 500;
                while (true)
                {
                    Comport.ReadByte();
                }
            }
            catch (Exception)
            {
                //Comport.Close();
                //timer2.Enabled = false;
                //timer2.Stop();
                //timer3.Enabled = false;
                //timer3.Stop();
                //MessageBox.Show("1#Connect to the device first", "Error",
        MessageBoxButtons.OK, MessageBoxIcon.Information);
                //this.DestroyHandle();
                //this.Close();
            }

            string temp;
            int ch;
            try
            {
                Comport.Write("3521\r");
            }
            catch (Exception)
            {
```

```
                timer2.Enabled = false;
                timer2.Stop();
                timer3.Enabled = false;
                timer3.Stop();
                MessageBox.Show("2#Connect to the device first", "Error",
    MessageBoxButtons.OK, MessageBoxIcon.Information);
                this.DestroyHandle();
                this.Close();
            }
            temp = "";
            try
            {
                ch = 0;
                while (ch != 13)
                {
                    temp = temp + (char)ch;
                    ch = Comport.ReadByte();
                    Application.DoEvents();
                }
                Comport.Close();
                string securecode = temp.Substring(3, 16);
                tag = securecode;

                if (tag != "")
                {
                    lblStatus.Text = "RFID Tag number: " + tag;
                    panel1.Enabled = true;
                    timer2.Stop();
                    timer2.Enabled = false;
                    timer3.Stop();
                    timer3.Enabled = false;
                    fillData();
                    t1 = new Thread(new ThreadStart(updateTotalTime));
                    t1.Start();
                }

                timer2.Stop();
                timer2.Enabled = false;
                timer3.Stop();
                timer3.Enabled = false;
            }
            catch (Exception)
            {
                timer2.Stop();
                timer2.Enabled = false;
                timer2.Start();
                timer2.Enabled = true;
            }

        }

        private void timer2_Tick(object sender, EventArgs e)
        {
            readRFID();
```

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```csharp
        }
        private void timer3_Tick(object sender, EventArgs e)
        {
            timer2.Start();
            timer2.Enabled = true;
        }

        private void fillData()
        {
            int a = 1;

            wipDa = new wipTableAdapter();
            wipTb = new RFID_DBDataSet.wipDataTable();
            wipDetailDa = new wipdetailTableAdapter();
            wipDetailTb = new RFID_DBDataSet.wipdetailDataTable();
            wipTb = wipDa.GetData();
            wipDetailTb = wipDetailDa.GetData();
            dr2 = wipTb.Select("tag='" + tag.ToString()+"'");

            if (dr2.Length == 0)
            {
                tag = "";
                lblStatus.Text = "Waiting for RFID ....";

                if (MessageBox.Show("TAG not found!!", "Warning", MessageBoxButtons.OK,
MessageBoxIcon.Warning) == DialogResult.OK)
                {
                    subReadTAG();
                }
            }

            txtQty.Text = dr2[0].ItemArray[2].ToString();
//wipTb.Rows[0]["qty"].ToString();
            oldAmt = (int)dr2[0].ItemArray[2];
            txtRecDate.Text = dr2[0].ItemArray[6].ToString(); //recTime.ToString();

            daModel = new modelTableAdapter();
            tbModel = new RFID_DBDataSet.modelDataTable();
            tbModel = daModel.GetData();
            dr1 = tbModel.Select("model_id=" + dr2[0].ItemArray[1].ToString());

            DateTime dt1 = new DateTime();
            txtModelCode.Text = dr1[0].ItemArray[1].ToString();//
tbModel.Rows[0]["model_code"].ToString();
            txtModelName.Text = dr1[0].ItemArray[2].ToString();//
tbModel.Rows[0]["model_name"].ToString();

            recTime = Convert.ToDateTime(dr2[0].ItemArray[6].ToString());

            dt1 = Convert.ToDateTime(dr2[0].ItemArray[3].ToString());
```

```
        txtFdd.Text = dt1.Day.ToString();
        txtFmm.Text = dt1.Month.ToString();
        txtFyy.Text = dt1.Year.ToString().Substring(2, 2);
        dt1 = Convert.ToDateTime(dr2[0].ItemArray[4].ToString());
        txtTdd.Text = dt1.Day.ToString();
        txtTmm.Text = dt1.Month.ToString();
        txtTyy.Text = dt1.Year.ToString().Substring(2, 2);

        txtLocation.Text = dr2[0].ItemArray[5].ToString();
        txtRecDate.Text = dr2[0].ItemArray[6].ToString();

        string sql = string.Format("select item_code, description, UM, qty_use as
Material_qty, qty_urgent as Material_Urgent, m1.material_id as mid from wipdetail m1
inner join material m2 on m1.material_id = m2.material_id  where wip_tag = '{0}' order
by m1.material_id", tag);
        OleDbDataAdapter da = new OleDbDataAdapter(sql, wipDa.Connection);
        dsDetail = new DataSet();
        //dsDetail.Tables[0].Clear();

        dsDetail.Tables.Add("detail");
        dsDetail.Tables[0].Columns.Add("no", a.GetType());


        da.Fill(dsDetail, "detail");
        orgDt = dsDetail.Tables[0].Copy();



        for (int k = 0; k < dsDetail.Tables[0].Rows.Count; k++)
        {
            dsDetail.Tables[0].Rows[k]["no"] = k + 1;
        }

        dataGridView1.DataSource = dsDetail;
        dataGridView1.DataMember = "detail";
        dataGridView1.Columns["mid"].Visible = false;
        dataGridView1.Columns[0].Width = 40;
        //dataGridView1.Columns[ = 40;
        checkUrgent();
        //if (!checkUrgent())
        //{
        //    txtQty.Enabled = true;
        //    txtQty.Select();
        //    dataGridView1.Enabled = false;
        //}
        for (int j = 0; j < dataGridView1.Columns.Count; j++)
        {
            dataGridView1.Columns[j].ReadOnly = true;
        }
        dtp = new TimeSpan(DateTime.Now.Ticks - dt1.Ticks);
        if (dtp.TotalSeconds > 0)
        {
            errorProvider1.SetError(lblTotalTime, "DELAY");
        }
```

```csharp
        }
        private bool checkUrgent()
        {
            bool ur = false;
            double tmp = 0;
            for (int i = 0; i < dataGridView1.Rows.Count; i++)
            {
//MessageBox.Show(dataGridView1.Rows[i].Cells["Material_Urgent"].ToString());
                tmp =
Convert.ToDouble(dataGridView1.Rows[i].Cells["Material_Urgent"].Value.ToString());
                if (tmp > 0)
                {
                    ur = true;
                }
            }
            if (ur)
            {
                lblUrgent.Visible = true;
                errorProvider1.SetError(lblUrgent, "**part urgent**");
            }
            else
            {
                lblUrgent.Visible = false;
                errorProvider1.SetError(lblUrgent, "");
            }
            return ur;
        }

        private void updateTotalTime()
        {
            while (chk)
            {
                gtp = new TimeSpan(DateTime.Now.Ticks - recTime.Ticks);
                this.Invoke((MethodInvoker)delegate
                {
                    lblTotalTime.Text = gtp.Days.ToString() + "-" +
gtp.Hours.ToString() + ":" + gtp.Minutes.ToString() + ":" + gtp.Seconds.ToString() + "
(Day-h:m:s)";
                });

                Thread.Sleep(1000);
            }
        }

        private void viewByTagFrom_FormClosing(object sender, FormClosingEventArgs e)
        {
            timer2.Enabled = false;
            timer2.Stop();
            timer3.Enabled = false;
            timer3.Stop();
            Comport.Close();
```

```
            chk = false;
            try
            {

                t1.Abort();

            }
            catch
            {

            }
        }
    }
}
```

6. โปรแกรมคำสั่งในส่วนของการดูข้อมูลวัตถุดิบแบบรวมทั้งหมด

6.1 View All Form Designer

```
namespace RFID_track
{
    partial class viewAllForm
    {
        /// <summary>
        /// Required designer variable.
        /// </summary>
        private System.ComponentModel.IContainer components = null;

        /// <summary>
        /// Clean up any resources being used.
        /// </summary>
        /// <param name="disposing">true if managed resources should be disposed;
otherwise, false.</param>
        protected override void Dispose(bool disposing)
        {
            if (disposing && (components != null))
            {
                components.Dispose();
            }
            base.Dispose(disposing);
        }

        #region Windows Form Designer generated code

        /// <summary>
        /// Required method for Designer support - do not modify
        /// the contents of this method with the code editor.
        /// </summary>
        private void InitializeComponent()
        {
            this.components = new System.ComponentModel.Container();
            this.label1 = new System.Windows.Forms.Label();
            this.dataGridView1 = new System.Windows.Forms.DataGridView();
```

```csharp
            this.errorProvider1 = new
System.Windows.Forms.ErrorProvider(this.components);

((System.ComponentModel.ISupportInitialize)(this.dataGridView1)).BeginInit();

((System.ComponentModel.ISupportInitialize)(this.errorProvider1)).BeginInit();
            this.SuspendLayout();
            //
            // label1
            //
            this.label1.AutoSize = true;
            this.label1.Font = new System.Drawing.Font("Microsoft Sans Serif", 16.2F,
System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point, ((byte)(222)));
            this.label1.Location = new System.Drawing.Point(13, 13);
            this.label1.Name = "label1";
            this.label1.Size = new System.Drawing.Size(132, 32);
            this.label1.TabIndex = 0;
            this.label1.Text = "ALL WIP";
            //
            // dataGridView1
            //
            this.dataGridView1.AllowUserToAddRows = false;
            this.dataGridView1.AllowUserToDeleteRows = false;
            this.dataGridView1.AllowUserToResizeColumns = false;
            this.dataGridView1.AllowUserToResizeRows = false;
            this.dataGridView1.ColumnHeadersHeightSizeMode =
System.Windows.Forms.DataGridViewColumnHeadersHeightSizeMode.AutoSize;
            this.dataGridView1.Location = new System.Drawing.Point(19, 82);
            this.dataGridView1.Name = "dataGridView1";
            this.dataGridView1.RowHeadersVisible = false;
            this.dataGridView1.RowTemplate.Height = 24;
            this.dataGridView1.Size = new System.Drawing.Size(1022, 470);
            this.dataGridView1.TabIndex = 1;
            //
            // errorProvider1
            //
            this.errorProvider1.ContainerControl = this;
            //
            // viewAllForm
            //
            this.AutoScaleDimensions = new System.Drawing.SizeF(8F, 16F);
            this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
            this.ClientSize = new System.Drawing.Size(1053, 722);
            this.Controls.Add(this.dataGridView1);
            this.Controls.Add(this.label1);
            this.Name = "viewAllForm";
            this.Text = "All WIP";
            this.Load += new System.EventHandler(this.viewAllForm_Load);
            ((System.ComponentModel.ISupportInitialize)(this.dataGridView1)).EndInit();
            ((System.ComponentModel.ISupportInitialize)(this.errorProvider1)).EndInit();
            this.ResumeLayout(false);
            this.PerformLayout();

        }
```

```
        #endregion

        private System.Windows.Forms.Label label1;
        private System.Windows.Forms.DataGridView dataGridView1;
        private System.Windows.Forms.ErrorProvider errorProvider1;
    }
}
```

6.2 View All Form

```csharp
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;
using System.Threading;
using System.Data.OleDb;
using RFID_track.DB.RFID_DBDataSetTableAdapters;
using RFID_track.DB;


namespace RFID_track
{
    public partial class viewAllForm : Form
    {
        private DateTime recTime, dt1;
        private Thread t1;
        private TimeSpan gtp, dtp;
        private wipTableAdapter wipDa;
        private RFID_DBDataSet.wipDataTable wipTb;
        private modelTableAdapter daModel;
        private RFID_DBDataSet.modelDataTable tbModel;
        private DataSet dsDetail;
        DataRow[] dr1, dr2;

        public viewAllForm()
        {
            InitializeComponent();
        }

        private void viewAllForm_Load(object sender, EventArgs e)
        {
            loadData();
        }

        private void loadData()
        {
            string a = "1";
            wipDa = new wipTableAdapter();
```

```csharp
            string sql = string.Format("select Tag, Model_code, Model_Name, Location,
from_date&'-'&to_date as Prod_date, to_date  from wip m1 inner join model m2 on
m1.model_idd = m2.model_id ");
            OleDbDataAdapter da = new OleDbDataAdapter(sql, wipDa.Connection);
            dsDetail = new DataSet();

            dsDetail.Tables.Add("detail");


            da.Fill(dsDetail, "detail");
            dsDetail.Tables[0].Columns.Add("Delay", a.GetType());
            //for (int k = 0; k < dsDetail.Tables[0].Rows.Count; k++)
            //{
            //     dsDetail.Tables[0].Rows[k]["no"] = k + 1;
            //}

            dataGridView1.DataSource = dsDetail;
            dataGridView1.DataMember = "detail";
            dataGridView1.Columns["to_date"].Visible = false;
            dataGridView1.Columns[4].Width = 150;
            dataGridView1.Columns[2].Width = 150;
            dataGridView1.Columns["Delay"].DefaultCellStyle.ForeColor = Color.Red;
            checkUrgent();
        }

        private bool checkUrgent()
        {
            bool ur = false;
            //double tmp = 0;
            dtp = new TimeSpan();
            for (int i = 0; i < dataGridView1.Rows.Count; i++)
            {

//MessageBox.Show(dataGridView1.Rows[i].Cells["Material_Urgent"].ToString());
                //tmp =
Convert.ToDouble(dataGridView1.Rows[i].Cells["Material_Urgent"].Value.ToString());
                dt1 = Convert.ToDateTime(dsDetail.Tables["detail"].Rows[i]["to_date"]);
                dtp = new TimeSpan(DateTime.Now.Ticks - dt1.Ticks);

                if (dtp.TotalSeconds > 0)
                {
                    dataGridView1.Rows[i].Cells["Delay"].Value="DELAY";
                    //errorProvider1.SetError(dataGridView1.Rows[i].Cells["Prod_date"],
"DELAY");
                }
            }
            //if (ur)
            //{
            //     lblUrgent.Visible = true;
            //     errorProvider1.SetError(lblUrgent, "**part urgent**");
            //}
            //else
            //{
```

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```
//      lblUrgent.Visible = false;
//      errorProvider1.SetError(lblUrgent, "");
//}

        return ur;
    }
    }
}
```

ประวัติผู้เขียน

ชื่อ-สกุล   นางสาววรรษมน คำธิตา

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ประวัติการศึกษา   สำเร็จการศึกษามัธยมศึกษาตอนปลาย โรงเรียนมงฟอร์ตวิทยาลัยเชียงใหม่
                                        ปีการศึกษา 2545
                                        สำเร็จการศึกษาปริญญาวิทยาศาสตรบัณฑิต   สาขาวิชาเทคโนโลยีการบรรจุ
                                        มหาวิทยาลัยเชียงใหม่ ปีการศึกษา 2549

ประสบการณ์ทำงาน   บริษัท เจริญโภคภัณฑ์อาหาร จำกัด (มหาชน) (2550-2553)