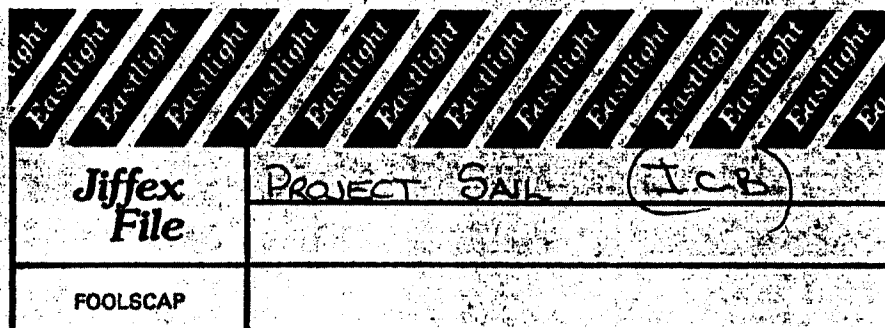


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SAIL (MNBII APEx)



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LABORATORY SERVICES

Analytical Report



B.A.T (U.K. and Export) Limited
RESEARCH & DEVELOPMENT CENTRE
SOUTHAMPTON ENGLAND

No. AR. 87-08-083

Subject SPECIAL ANALYSIS - PENTANE RESIDUES
PROJECT SAIL

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To MR I.C. BROWN

Circulation

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Date 21ST AUGUST 1987

Signed M. C. Tripp
for Manager

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PENTANE RESIDUES IN TOBACCO

SAMPLE	NIR Water	RESIDUAL	PENTANE
		wwb	dwb
Blend 19 (10% Apex) -1	13.8%	24ppm	28ppm
-2	13.2%	55 "	63 "
Blend 20 (20% Apex) -1	12.0%	132ppm	152ppm
-2	11.7%	368 "	409 "
Blend 21 (40% Apex) -1	12.3%	298ppm	347ppm
-2	10.9%	361 "	410 "

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HEXANE FLOTATION TESTING - SAIL SAMPLES.

	B334	B319	B329	B332	B324	
Wt of tobacco	4.97	5.04	5.165	5.303	5.14	
Wt of flasks	1.70	0.015	0.98	2.42	0.34	} samples left for 5 minutes
Wt of sinks	3.34		4.29	3.66	5.20	
% flasks	34.2	3.0	19.0	45.6	6.6	- as % of input
% flasks	38.7		18.6	39.8	6.1	- as % of flasks + sinks
Wt of lot	2.711	2.80	2.618	2.600	2.926	
Wt of flasks	0.96	0.006	0.95 0.51	1.29	0.28	
Wt of sinks	1.90		2.10	1.41	2.90	
% flasks(1)	34.7	2.1	19.5	45.8	9.6	
% flasks(2)	33.6		19.5	45.8	8.8	

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SAIL - 703.01.210 - AGS

WEIGHT SAVINGS FOR B320-B334 v B319 (CONTROL)

BASED ON A GRAND MEAN FIRMINESS OF 4865

CODES		WT OF 100 CIGS		% WT. SAVING	END STABILITY		PRESSURE DROP	
CONT.	TEST	CONT.	TEST		CONT.	TEST	CONT.	TEST
B319	G13(1) 10 ⁷ B320	104.06	100.85	+ 3.08	0.796	0.867	122	119,
"	G13(2) 10 ⁷ B321	104.06	96.28	+ 7.48	0.796	0.722	122	124
"	XT 10 ⁷ B322	104.06	101.11	+ 2.83	0.796	1.000	122	117
"	G13(2) 10 ² B323	104.06	97.20	+ 6.59	0.796	0.545	122	126
"	APEX 10 ² B324	104.06	96.86	+ 6.92	0.796	0.512	122	121
"	G13(2) 20 ⁷ B325	104.06	90.87	+ 12.68	0.796	0.534	122	122
"	XT 20 ⁷ B326	104.06	94.68	+ 9.01	0.796	1.179	122	120
"	G13(2) 20 ⁸ B327	104.06	90.64	+ 12.90	0.796	0.928	122	123
"	G13(2) 20 ⁹ B328	104.06	91.36	+ 12.20	0.796	0.565	122	124
"	APEX 20 ⁸ B329	104.06	90.94	+ 12.61	0.796	0.892	122	124
"	XT 40 ⁸ B330	104.06	86.99	+ 16.40	0.796	0.640	122	127
"	G13(2) 40 ⁷ B331	104.06	82.52	+ 20.70	0.796	0.335	122	125
"	G13(1) 40 ⁷ B332	104.06	75.90	+ 27.06	0.796	0.513	122	130
"	G13(2) 40 ⁸ B333	104.06	86.14	+ 17.22	0.796	0.645	122	123
"	APEX 40 ⁸ B334	104.06	81.98	+ 21.22	0.796	0.038	122	125

This table shows the calculated values of weight, ends fall-out and pressure drop predicted at a constant mean firmness of 4865 counts / 100 cigs / 8 levers. Cigarette weights have been compared with a control code (B319) to show estimated % weight savings.

All calculations used the regression equation $Y = A + BX$

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SAIL 703.01.210 - AGS

SUMMARY OF RESULTS

FPIT

CODE	WT. OF 100 CIGS (GMS)	FIRMNESS (TOTAL GUNTS)	Z MC	EQUATION $Y = A + BX$	R ²
B319 L	98.71	5432	12.05	Y = 16259 - 107.49X	0.9169
M	103.36	4935	12.21		
H	108.63	4371	12.22		
B320 L	95.95	5395	12.04	Y = 12225 - 72.98X	0.6610
M	98.47	5103	12.19		
H	102.61	4645	12.24		
B321 L	95.04	4985	12.20	Y = 13386 - 88.50X	0.8820
M	100.55	4477	12.34		
H	104.10	4194	12.16		
B322 L	95.53	5463	12.06	Y = 16524 - 115.31X	0.9113
M	100.20	5061	12.14		
H	104.57	4419	11.97		
B323 L	96.06	4958	12.07	Y = 11175 - 64.72X	0.4956
M	100.31	4642	12.30		
H	106.40	4324	12.20		
B324 L	92.00	5450	12.32	Y = 17241 - 127.77X	0.9636
M	95.75	5038	12.21		
H	98.52	4636	12.20		
B325 L	88.86	5099	12.37	Y = 12977 - 89.27X	0.8772
M	94.24	4479	12.44		
H	99.01	4185	12.30		
B326 L	90.30	5342	11.84	Y = 14579 - 102.81X	0.9096
M	95.20	4782	12.30		
H	99.87	4534	11.95		
B327 L	90.49	4827	12.08	Y = 10831 - 65.82X	0.6781
M	95.75	4631	12.15		
H	100.73	4146	11.87		

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FPIT CONT.....

C.C.D.C	WT OF 100 CIGS (gms)	FIRMNESS (TOTAL COUNTS)	% ML	EQUATION $Y = A + BX$	R ²
B328 L	90.66	4950	12.21	$Y = 12070 - 78.36X$	0.8400
M	94.26	4616	12.27		
H	100.44	4143	12.23		
B329 L	82.49	5980	11.94	$Y = 16437 - 127.80X$	0.7787
M	86.50	5365	11.98		
H	90.30	4979	12.19		
B330 L	82.40	5404	11.97	$Y = 14178 - 101.06X$	0.7814
M	86.33	4819	11.90		
H	90.24	4560	11.83		
B331 L	82.23	4904	12.24	$Y = 12001 - 86.47X$	0.7897
M	85.92	4569	12.25		
H	90.26	4185	12.41		
B332 L	83.19	4652	11.98	$Y = 7406 - 35.48X$	0.3795
M	86.96	4438	12.29		
H	90.65	4402	12.27		
B333 L	82.27	5344	11.95	$Y = 15501 - 121.15X$	0.8370
M	86.06	4879	11.88		
H	89.92	4395	11.77		
B334 L	74.04	6356	12.16	$Y = 21070 - 197.66X$	0.7731
M	76.80	6063	12.10		
H	80.04	5138	12.09		

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