ANALYTICAL DATA SHEET

ANALYTICAL DEPT. – HEALTH AND SAFETY DIVISION

NLO

Nº 8536

Industrial Hygiene or Medical Dept.	Analytical Chemistry Section:
1956	
I. H.# 822 Sample Nos. 3 Date Collected 5/17 by CES Route to CES	Date Received 5-21-56 by Lab.
Location BAKER-PERKINS CO. Type of Sample water Analyzed for F Alpha	Date Reported 5-23-56 by Lab.
Remarks SAGINAW, MICHIGAN U xxx Beta	Method of Analysis Fluorimeter
Samples of water discharged to river during steam clean- NO_3 Ra	by Lab.
ing of equipment. Oil pH	Counting Data:
Be Th	BKGD GEO

Sample No.	Hour	Sample Description	R	T	Q		Vol.		ppm U
		Please analyze for gm/U/gal.							
BP-1		P - KO-Kneader					130 ml.		.078
BP-2		K - KO-Kneader					130 ml.		.331
BP-3		Omega Feeder					130 ml.		54.66

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NLO - H&S - 736 (2-2-56)

(9)

ANALYTICAL DATA SHEET

ANALYTICAL DEPT. – HEALTH AND SAFETY DIVISION

Nº 8547

Industrial Hygiene or Medical Dept.

1956

I. H.# 821 Sample Nos. 6 Date Collected 5/18 by CES Route to CES

Location BAKER-PERKINS CO. Type of Sample air dust Analyzed for F Alpha xx

Remarks SAGINAW, MICHIGAN U Beta

Decontamination NO_3 Ra

Oil pH

Be Th

Analytical Chemistry Section:

Date Received 5-22-56 by Lab

Date Reported 5-22-56 by MW

Method of Analysis Alpha scintillation counter 2 by CJM

Counting Data:

BKGD .19 c/min GEO 44%

Sample No.	Hour	Sample Description	R	T	Q	Count	Time	C?min	d/m/M³
6938		BZ Using pneumatic powered circular brush to clean screw. Dust-foe respirator and goggles worn.	.02	3	.06	32	1.14	27.88	1509
6939	0944	GA During power brush cleaning.	.02	15	.3	32	0.21	152.19	1647
6940		GA Same as 6939 This was probably the dustiest of the decontamination jobs. Doors and windows were opened and personnelwore respirators.	.02	25	.5	32	0.15	213.14	1384
6941		P Sample of exhaust air from Spencer portable vacuum.	.02	1	.02	18	15	1.01	164
6942	1235	GA Steaming area during steam cleaning of "K" barrel.	.02	22	.44	32	0.91	34.97	258
6943	1417	GA During steaming of Omega feeder.	.02	20	.4	32	2.45	12.87	104

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ANALYTICAL DEPT. – HEALTH AND SAFETY DIVISION

Nº 8545

Industrial Hygiene or Medical Dept.

1956

I. H.# 820 Sample Nos. 6 Date Collected 5/17 by CES Route to CES

Location BAKER-PERKINS CO. Type of Sample air dust Analyzed for F Alphaxx

Remarks SAGINAW, MICHIGAN U Beta

(Decontamination) "K" Ko-Kneader No_3 Ra

Oil pH

Be Th

Analytical Chemistry Section:

Date Received 5-22-56 by Lab

Date Reported 5-22-56 by MW

Method of Analysis Alpha scintillation counter 2 by CJM

Counting Data:

BKGD .19 c/min GEO 44%

Sample No.	Hour	Sample Description	R	T	Q	Count	Time	C/min	$d/m/M^3$
6932	0903	GA Ko-Kneader area during start of decon-	.02	15	.3	32	0.88	36.17	391
		tamination; vacuuming, chiseling							
		caked UO_3 from screw and barrel.							
		Feed hopper removed during this sample.							
6933		BZ Using hammer and chisel to chip caked	.02	3	.06	32	1.25	25.41	1375
		UO_3 from screw. Dust-foe respirator							
		and goggles worn.							
6934		BZ Using hammer and chisel to chip caked	.02	2	.04	32	2.16	14.62	1187
		UO_3 from barrel.							
6935		GA Same as 6932	.02	15	.3	32	1.41	22.51	244
6936		BZ Vacuuming UO_3 from screw and barrel.	.02	2.5	.05	32	4.38	7.12	462
6937		BZ:Emptying feed hopper into poly-	.02	4	.08	32	1.49	21.29	864
		ethylene bag inside drum. Bag taped							
		sealed to discharge hopper.							

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(7)

ANALYTICAL DATA SHEET

ANALYTICAL DEPT. – HEALTH AND SAFETY DIVISION

Nº 8544

Industrial Hygiene or Medical Dept.

1956

I. H.# 819 Sample Nos. 7 Date Collected 5/16 by CES Route to CES

Location BAKER-PERKINS CO. Type of Sample air dust Analyzed for F Alphaxx

Remarks SAGINAW, MICHIGAN U Beta

Type "K" Ko-Kneader No_3 Ra

Oil pH

Be Th

Analytical Chemistry Section:

Date Received 5-22-56 by Lab

Date Reported 5-22-56 by MW

Method of Analysis Automatic alpha proportional counter 1 by CJM

Counting Data:

BKGD .13 c/min GEO 46%

Sample No.	Hour	Sample Description	R	T	Q	Count	Time	C/min	$d/m/M^3$
6925		GA During steam cleaning of Ko-Kneader barrel. Dust-foe respirator worn.	.02	10	.3	20	6.78	2.82	44
6926	1115	P Sample of exhaust from Spencer vacuum which was exhausted into room.	.02	2	.04	13	19.69	0.53	41
6927	1119	P Over feed hopper, only opening in system.	.02	1	.02	8	16.79	0.35	54
6928	1207	GA During running of moist material.	.02	15	.3	20	9.80	1.91	20
6929		GA Same as 6928	.02	15	.3	20	10.79	1.72	18
6930		GA Same as 6928	.02	20	.4	20	20.88	0.83	6
6931		GA Same as 6928	.02	20	.4	20	2.39	8.24	64
		Some dumping done during sample #6931.							

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(6)

ANALYTICAL DATA SHEET

ANALYTICAL DEPT. – HEALTH AND SAFETY DIVISION

Nº 8542

Industrial Hygiene or Medical Dept.

1956

I. H.# 818 Sample Nos. 6 Date Collected 5/15 by CES Route to CES

Location BAKER-PERKINS CO. Type of Sample air dust Analyzed for F Alphaxx

Remarks SAGINAW, MICHIGAN U Beta

No_3 Ra

Oil pH

Be Th

Analytical Chemistry Section:

Date Received 5-22-56 by Lab

Date Reported 5-22-56 by MW

Method of Analysis Automatic alpha proportional counter 1 by CJM

Counting Data:

BKGD .13 c/min GEO 46%

Sample No.	Hour	Sample Description	R	T	Q	Count	Time	C/min	d/m/M³
6919		BZ Removing barrel from machine and placing on paper on floor for cleaning.	.02	2	.04	17	14.44	1.05	82
6920		BZ Chipping and vacuuming loose material from wings and teeth. No respirator worn.	.02	2.5	.05	20	11.59	1.60	99
6921	1331	GA During decontamination of barrel and screw.	.02	20	.4	20	12.08	1.53	12
6922		GA Same as 6921	.02	20	.4	20	8.16	2.32	18
6923		BZ Cleaning barrel with pneumatic powered circular brush. Dust-foe respirator and goggles worn.	.02	3	.06	20	2.73	8.20	373
6924		BZ Cleaning screw with pneumatic brush. Dust-foe respirator and goggles worn.	.02	5	.1	20	1.11	17.89	556

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(5)

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ANALYTICAL DEPT. – HEALTH AND SAFETY DIVISION

Nº 8541

Industrial Hygiene or Medical Dept.

1956

I. H.# 817 Sample Nos. 4 Date Collected 5/15 by CES Route to CES

Location BAKER-PERKINS CO. Type of Sample air dust Anelyzed for F Alphaxx

Remarks SAGINAW, MICHIGAN U Beta

NO_3 Ra

Oil pH

Be Th

Analytical Chemistry Section:

Date Received 5-22-56 by Lab

Date Reported 5-22-56 by MW

Method of Analysis Alpha scintillation counter 2 by CJM

Counting Data:

BKGD .19 c/min GEO 44%

Sample No.	Hour	Sample Description	R	T	Q	Count	Time	C/min	$d/m/M^3$
6915	1119	GA West side of Ko-Kneader discharge as slightly watered material is run through barrel to push out hydrate which had adhered to sides of barrel.	.02	15	.3	32	8.35	3.64	39
6916	1119	GA SE corner of Ko-Kneader; simultaneous with 6915.	.02	15	.3	13	15	0.68	7
		At this point it was decided that the mixing could not be done on the Type "P" Ko-Kneader; that the Type "K" would be better. Decontamination of the "P" Ko-Kneader started at 1:04 p.m.							
6917		GA Ko-Kneader area during initial decontamination phase; chipping dried oxide cake from the wings and teeth and using flat vacuum tool attachment to vacuum loose material from barrel.	.02	12	.24	32	7.27	4.21	57
6918		GA Same as 6917	.02	12	.24	32	8.45	3.60	49

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ANALYTICAL DEPT. – HEALTH AND SAFETY DIVISION

No 8540

1956 Industrial Hygiene or Medical Dept.

I. H.# 816 Sample Nos. 4 Date Collected 5/15 by CES Route to CES

Location BAKER-PERKINS CO. Type of Sample air dust Analyzed for F Alphaxx

Remarks SAGINAW, MICHIGAN U Beta

NO_3 Ra

Oil pH

Be Th

Analytical Chemistry Section:

Date Received 5-22-56 by Lab

Date Reported 5-22-56 by MW

Method of Analysis Alpha scintillation counter 2 by CJM

Counting Data:

BKGD .19 c/min GEO 44%

Sample No.	Hour	Sample Description	R	T	Q	Count	Time	C/min	d/m/M³
6911	0919	GA Ko-Kneader area during hand scooping of material into feed hopper. Machine operating during this period.	.02	10	.2	32	1.81	17.49	284
6912		BZ Hand scooping material into feed hopper from drum. Dust-foe respirator worn.	.02	5	.1	32	0.22	145.26	4716
6913		BZ Continuation of 6912, except when drum was almost empty polyethylene liner was pulled out and remainder dumped from liner into feed hopper.	.02	2.5	.05	640	2.97	215.30	13,981
6914		Control Sample				3	15	0.01	

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ANALYTICAL DEPT. – HEALTH AND SAFETY DIVISION

Nº 8539

Industrial Hygiene or Medical Dept.

1956

I. H.# 815 Sample Nos. 4 Date Collected 5/15 by CES Route to CES

Location BAKER-PERKINS CO. Type of Sample air dust Analyzed for F Alphaxx

Remarks SAGINAW, MICHIGAN U Beta

NO_3 Ra

Oil pH

Be Th

Analytical Chemistry Section:

Date Received 5-22-56 by Lab

Date Reported 5-22-56 by MW

Method of Analysis Alpha scintillation counter 2 by CJM

Counting Data:

BKGD .19 c/min GEO 44%

Sample No.	Hour	Sample Description	R	T	Q	Count	Time	C/min	$d/m/M^3$
6907	0839	GA East side of Ko-Kneader during first trial run.	.02	15	.3	32	5/85	54.51	590
6908	0839	GA West side of Ko-Kneader during same period as above. Water line plugged up after a few minutes of operating time and water supply cut off. Dry material dropped into product drum at discharge end causing considerable dust.	.02	15	.3	32	10.47	2.87	31
6909	0903	GA Same location as 6907; during 2nd test run.	.02	10	.2	32	4.82	6.45	106
6910	0903	GA Same as 6908; during 2nd test run. Some dusting as wet material falls into drum on top of dry material. Vacuum hose from Spencer inserted into drum to reduce amount of escaping dust. Water line plugged again toward end of sampling period (simultaneous with test period) and more dry material dropped from barrel resulting in more dust.	.02	10	.2	32	8.88	3.41	55

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ANALYTICAL DEPT. – HEALTH AND SAFETY DIVISION

Nº 8538

Industrial Hygiene or Medical Dept.

1956

I. H.# 814 Sample Nos. 1 Date Collected 5/14 by CES Route to CES

Location BAKER-PERKINS CO. Type of Sample air dust Analyzed for F Alpha xx

Remarks SAGINAW, MICHIGAN U Beta

NO_3 Ra

Oil pH

Be Th

Analytical Chemistry Section:

Date Received 5-21-56 by Lab

Date Reported 5-22-56 by MW

Method of Analysis Alpha scintillation counter 2 by CJM

Counting Data:

BKGD .19 c/min GEO 44%

Sample No.	Hour	Sample Description	R	T	Q	Count	Time	C/min	d/m/M³
6906	1532	GA Ko-Kneader area during calibration of Omega feeder. Material fed through feeder and dropped into cardboard container from sample chute. Only visible dusting was when box was removed and emptied.	.02	12	.24	32	1.56	20/32	275

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ANALYTICAL DATA SHEET

ANALYTICAL DEPT. – HEALTH AND SAFETY DIVISION

Nº 8537

Industrial Hygiene or Medical Dept.

1956

I. H.# 813 Sample Nos. 6 Date Collected 5/14 by CES Route to CES

Location BAKER-PERKINS CO. Type of Sample air dust Analyzed for F Alpha

Remarks SAGINAW, MICHIGAN U Beta

Mixing tests conducted in Bldg. 15 (Laboratory Bldg.) NO_3 Ra

Oil pH

Be Th

Analytical Chemistry Section:

Date Received 5-21-56 by Lab

Date Reported 5-22-56 by MW

Method of Analysis Alpha scintillation

apunter 2 by CJM

Counting Data:

BKGD .27 c/min GEO 40%

Sample No.	Hour	Sample Description	R	T	Q	Count	Time	C/min	$d/m/M^3$
6900	1237	GA Background sample collected in Ko-	.02	10	.2	7	15.30	0.19	3
		Kneader area prior to opening or							
		processing of any material.							
6901	1328	GA Same as 6900	.02	10	.2	14	15	0.66	12
6902	1500	BZ Scooping orange oxide into Omega feed	.02	3.5	.07	32	0.29	110.07	5616
		hopper. Dust-foe respirator worn.							
6903		BZ Same as 6902	.02	3.5	.07	32	0.97	32.72	1669
6904		BZ Same as 6902	.02	3.5	.07	680	2.32	275.59	14,061
6905		GA Ko-Kneader area during filling of	.02	10	.2	32	0.21	151.97	2714
		feed hopper.							
		The operator was very careful in scooping material from the							
		drum to the hopper. However, no matter how careful, the							
		scooping produces a very fine, barely visible dust which							
		disperses in the air around the machine.							

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