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ChemRisk Repos. No. 1873

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Technical Information Officer
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Date

OAK RIDGE NATIONAL LABORATORY
OPERATED BY
CARBIDE AND CARBON CHEMICALS COMPANY
A DIVISION OF UNION CARBIDE AND CARBON CORPORATION
POST OFFICE BOX P
OAK RIDGE, TENNESSEE

NOTEBOOK NO. A-429

Assigned to: G. C. Cain

Department: H. P.

Location: 3001

Date: 4-22-53

This notebook is assigned to personnel performing research and development work and must be used for all original calculations, notes and abstracts from reports.

Assignee is responsible for the safe-guarding of this notebook in accordance with security regulations.

Do not use scrap paper.

Be sure to record all personal conferences.

This notebook must be returned to Central Files - Bldg. 4500 when completed or upon termination of assignee.

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Run # 52

5-23-53 4-12 C. Grimm + Hubbard

71 slugs were loaded into cell A beginning at 4:00 pm. Operators J. Walker and E. Dunlap received 2 r/hr flashes as each slug was dropped. They both probably received 1 day's tolerance.

The coating removal was started at 8:25 pm.

These slugs are twice the size of those previously used for Ra La - being 8" in length.

5-24-53 12-8 Durbrow / Warden

1st coating removal completed at 10:26 PM (5-23-53)

2nd Coating removal completed at 1:37 AM (5-24-53)

3rd coating removal completed at 7:20 AM.

Dissolving started 7:20 AM -

5-24-53 8-4 Opp - J. Barden

0900 Dissolving of Batch A going on.

0900 Bldg + stack survey: CAM's OK (except old, 1st level). Backgrounds safe. Rain precip. B.G. rising + is ~15 mr/hr at Cottrell's monitor. Group there are aware of all.

2 "P Dissolving of Batch A still going on.

$2^{60}p$ Bldg. + stack survey with CP & GMSM -- OK

$3^{20}p$ Diluted (H_2O addition) to Batch A which is now up to gravity.

$3^{42}pM$ Began air sparging (15 min) of A-1 tank
(Sample due off at $4^{27}p$ (1MA)

$3^{43}p$ Read a test sample (not to be taken off) in A-1 blist
1st level: 52½ r/hr @ 2".

5-24-53 4-12 C. Guinn + Hubbar

1MA sample taken from A-1 read 10 r/hr @ 3 ft. D. King took the sample at 4:30 pm.

Monitored D. Smith making proper dilutions from the 1MA sample in the S. hot lab. No over-exposure expected since work was done by remote control. No spills occurred.

8WMA sample taken from A-8 by E. Dunlap read 10 r/hr @ 8". - Taken at 10:50 pm.

Monitored D. Smith making dilutions from 8WMA sample in S. hot lab. No over exposure or spills.

Dissolving Batch B started at 5:30 P.M. 5-24-
(steam turned on at 5:17 P.M).

The 1 μA sample showed that ~18 slugs have been dissolved which contains between 12,000 and 13,000 curie

At present batch B is being dissolved. Batch A has been extracted.

12-8. 5-25-53 Teague

Dissolving of batch B continued until 3:27 AM.

4:40 AM. Sample 1 mB read 10 r/hr @ 8" 400 mr/hr @ 4" through the shield. The sample was delivered to the South hot Lab. Bob Blevins pulled the sample and also carried it to the hot Lab.

5:00 A.M. Cattrell washed down. Drained the filter boxes.

6:15 AM. Steam turned on to start dissolving Batch C

4:55 A.M. Transferred batch B from A1 to A11. and from 11 to A17 (started 5:40 AM. and completed 6:25 AM.

6:44-6:55 A.M. transferred from A-17 to A-9.

7:10 AM. Added $Pb(NO_3)_2$ & 7:12 AM. added H_2SO_4.

8 - 4 5-25-53 C. Grimm

The extraction of Batch B was started at 9:15 AM and completed at 9:50 AM.

Sample 8WMB started circulating at 10:30 AM.

8WMB sample was taken by D. King at 10:45 AM. Read 5 r/hr @ 1 ft.

Started neutralizing Batch B at 11:30 AM.

Batch C started air sparging at 3:25 PM.

neutralizing of batch B was completed at 12:40 P.

1MC sample taken from A-1 by E. Dunlap at 4:15 PM. Read 10 r/hr at 1 ft.

4-12 5-25-53 099

4'p With Grimm on 1MC above -- monitored DK Smith, 7647 diluting same behind barricade. Max of 700 MR/hr encountered briefly w/ body -- no overage expected.

5⁰⁵ p Smeared (paper-towel) around A-1 on floor after Dunlap dropped sample inside blister -- all shows no evidence of contam. when counted.

5²⁰ p Started steam on -- D Batch dissolving begun

5³⁰ p Survey of bldg, stack area, check CAM's in vicinity - all OK.

8⁰⁵ p Extraction of C Batch finished.

8³⁰ p Jetting some waste from A-6 to W-9 -- may cause local air activity -- although little or none indicated on area (immed) air monitors

10⁰⁵ p ~~[illegible]~~ Steamed A-8 line since it was stopped up

10¹⁰ p Then sampled SWMC. Read 5 r/hr @ 1". (2 samples) Floor slightly contam near sampler -- was cleaned.

10³⁵ p Monitored DK Smith in diluting same. Fields similar to 1MC above.

11³⁵ p "D" batch still dissolving -- won't be thru 'til ~ 5 am. There will be a heel dissolving. ABC batch "product" sitting on filter.

12-8 5-26-53 Patterson

0115-30 Batch D still dissolving. 3530, 3026-C & D CAMs all slowly rising. All on 2-K except the one in hallway outside rm. 11 - 3026-C.

0300 Guard Holgtrs. called Durkosh to report bells
3026-D 14-C ringing in the stack area. Found 3026-D 4 AM on the north side of the filter block house on the 20K scale, flashing the red light & ringing the bell. The tube is exposed, sans filter, as sort of a monitor. The background at the GM tube was ~5 mr/hr. The instrument is giving peculiar indications, taking sudden surges up and immediately back again at irregular intervals. Don't know whether or not it is actually activity surges in the exhaust duct overhead - it did do surge while I was there.

The blower of the CAM was running unnecessarily so I cut it off since the tube is out of the pig. Advised Saunders of this and the CAM indications. Saunders said the instrument had switched scales about 2:00. ~~If the chart speed of that instrument has been reduced like the others the instrument has been on the 20K for hours instead of one hour.~~

The background around the table where Saunders is working at the base of the stack is ~30 mr/hr.

Saunders requested a reading on the Cottrell Precipitator to see if it was Potter. However he did not know if or where any previous readings had been taken. He "quoted" a figure of 25 mr/hr, but knew not where.

0540-0550 CAMs still rising slowly. All except the one in hall outside room 11·3026-C still on 2K; that one is still on 10K. The CAM in 3026-C Gurney lab is near top of 2K. It has drawn an unusually wide line for some time now. When I tried to put it on 10-K or 20-K (it's an old manual control) the instrument went off scale & stayed there. It returned to scale when switched back to 2-K. Left note for Abee-Grimm.

0545 Started air sparging and dilution of A-1 @ 0545. Temp. maintained above 80°C. Dilution (112# H_2O) complete @ 0555. Sp. Gr. 1.50 @ 90°C.

0610 Sparging of A1 completed and cooling begun.

0600 Resurveyed around stack area. CAM on north side
14-C of cell ventilation filter house still on 20-K, still giving spurious surges which are not do not show on a strip pen at the same place.

Background at the table where Saunders is working at the base of the stack is now ~200 mr/hr. various points along that exhaust duct go higher, on up to 250 mr/hr.

For possible future comparison I took a reading from the Cottrell Precipitator. For a reference point I chose the hook on which the handle for the quick-acting gate valve is hanging. This hook is at the top of the fence, pretty well in line with the precipitator along about the middle of the manifold. I put the end of the chamber right at the hook. The reading was 550 mr/hr

0643 IAMD sample started circulating. 1200 mr/hr at Joe Dailey's
14-C hand when he put the cone on. First surge of circulating sample was up to 4 r/hr back at Dailey's body. it then dropped back to 2500 mr/hr at his body as circulation got underway. Maximum reading through the blister is 3 r/hr on either side of the blister back at the wall.

Before circulation had begun the maximum reading was at the front of the blister - 53 mr/hr @ ~0615.

0655 IAMD sample pulled. Joe Dailey pulled & capped it,
3026-D1-P Jim Ferguson carried it to the lab. Dailey's hands were
14-C in ~3300 mr/hr. The sample read ~37 r/hr @ ~3" over the open top and ~370 mr/hr. through the carrier.

Found no particularly hot spots on the floor around A-1 blister after sampling except for the cone clamp which read ~200 mr/hr., however the background is high there now, too high to detect any but very hot spots. Max. reading now around the blister itself is ~200 mr/hr on either side of A-1 blister at the wall.

0705-0715 A-1 jetted to A-11

14-C Heard CAM at filterhouse ringing again during IAMD sampling. It has been on 20K since 0200 & the bell shut off at 0300. No mark indicating when it went down scale and back up to start ringing again. Tube is very light sensitive. BG at CAM is no more now than at 0300 but CAM is off scale on 20K. It has gone consistently up scale as the sky got lighter.

Shutting light out with hands cuts reading by factor of ~4. Saunders not around to be notified.

0730 Working at filter on 1st level. Hot air line on S. side of
14-C barricade covered with an lead shot bag. >10 r/hr under bag below air line, 150 mr/hr out at corner of barricade. More lead shot added. 150 mr/hr at corner now down to ~30 mr/hr. Up to 600 mr/hr through shot at ~3". Tag already there.

14-C South hot lab. 1 MD dilutions being made. Men working in ~56 mr/hr. Dilutions read 2500-4000 mr/hr. @ 2". Men getting 180-200 mr/hr at body agitating dilution by hand shaking. Body radiation will be ~150 mr/hr. & 450 mr/hr at hands for hand pippetting of these dilutions for further dilution.

5-26-53. 8-4:30

8:15 Finished Crude filtration
8:17 to 8:28 Transferred to A-9
9:16-9:33 Back Washed the Crude filters.
10 40/4 - 11:38 Filtration A-9 to A-17 Through PF-2.
12:25 Maintained A-8 sampling - 8 WMD read 10 r/hr @ 6"
Terry's hands were in a field of 3.5 r/hr for ~30 sec.
12:32 → 1st metathesis -
Heel dissolving, batch D.
Continuation of metathesis, neutralizing and dissolving

4-12 Ogg

5⁰³ P Started circulating SWC sample in blister

5¹⁹ P Sampled SWC at A-8 -- read 2 r/hr @ 3" -- Osborne officiated. Usual care by Dk Smith in Lab.
Smith's film ring for last nite reported: 50 mr left hand; 70 mr rt hand.

5³⁰ P Survey of bldg. and adjacent areas. Reported 3032 CAM out of order — rest OK. B.G. in stack area high: at monitor, 100 mR/hr.

6²⁰ P Air pressure, slight, on A-9 -- mechanical agitator begun.

6⁰⁰ P Jetted waste from A-6 to W-9 for ~1½ hr. P.D.S. sample taken to leeward counted 58 c/m at 0+1hr.

6⁵⁰ - 11³⁰ Washes & filtering -- filtering & blow. backs & filtering, going very slowly.

~9⁰⁰ P Unfortunately noticed after it happened, 3rd level CAM went off at 11⁰³ on 2K and came back on in ~20 min at what appears a "decay" curve -- but inst. is erratic as discovered upon checking it at 11³⁰ and "decay" curve of this very short half life considered not real. CAM filter reads b.g. only.

5/27/53 Parker — 12-8

12.01 Continuing third metathesis — Filtering begun at about 1:10 PM.

1:30 Miniard called to repair CAM on third level — seems to be out of order.

4 AM Daily took sample reading 9 r/hr at 9" over the top of the sample — at tank A-8. Exposure to Daily ~ 5 mr.

5 15 AM Began filtering first water wash.

6 15 AM Started P-1 on 3rd level.

5-28-53 Sharp 8-4

Requestor	Place	Instrument	Surveyor	

Remarks;

9:00 Officially encountered in filtration through the process filter.

11:00 Filtration finished — Product in filter tank.

11:30 Sampled the filter tank product — Readings: 4 r/hr thru the side of the Carrier, 20 r/hr @ 4'.

11:45 WCW sample taken by WC Terry read 10 Rm @ 2", his hands were in a field of 1.8 r/hr for ~ 2 min -

12:00 Started taking ph samples - #1 read 400 mrh thru the side, #2 read ~ the same - These samples were taken by ~~[illegible]~~ DC King + WC Terry.

12:00 Walker took A9 - PFW sample which read 3.3 r/m @ 2". His hands were in a 200 mrh background for ~ 30 sec -

12:30 Column wash

1:00 Transfer of wash from A-8 to A-5

3:20 Terry took a sample which read 77 r/m @ 1", 4 r/m reading at his hand for ~ 30 sec - A-8 Resin Cubicle waste -

4-12 Quinn & [illegible]

5PM Sampled A-5 read 350 mr/hr
5:15 " Main waste 600 mr/hr
Samples taken by Bailey
8PM Sampled W-5 waste tank - Sample read 250 mr/hr at 6" - Sample taken by Ray Johnston - ~ half of Product has apparently disappeared -

9PM - trouble encountered with cooling water to product evaporator - No cooling water going to evaporator - Product will be evaporated down and then allowed to cool before adding nitric acid - Column has nothing on it, and trouble may result later if pressure is built up on the column -

Sheep - 5-28-53 12-8

18:00 Evaporation in progress
1:00/9 " " "
1:37/9 Evap to desired L.L.
2:30/9 addition of fuming HNO_3
2:40/9 Evaporation
5:55/9 addition of fuming HNO_3
6:05/9 Evaporation.
7:10/9 PE #2 sample. 650 mhr through the carrier. 100 r/m @ 6" over the open cone.
Two samples taken by newton + Blevins
7:20/9 MWFN sample read 75 r/m @ contact - This sample was taken by Blevins -

5-28-53 8-4:30 Teague

8:00AM. Continuation of boildown of the product in the Product Evaporator tank.

8:15AM. Removed plug from Resin Cubicle and put Carrier in Resin Cubicle and took the cone out and placed on charging head #1. The carrier was

then removed and the plug was placed back over Resin Cubicle opening.

9:00 A.M. An effort was made to transfer from the Product Evaporator tanks to the cone but the by-pass was open.

9:05 A.M. 6 liters of distilled water was added to the Product Evaporator tanks and started to boil down to 300 ml again.

10:35 A.M. A 9- Process Filter Rinse. 18 liters 1.0 M HNO_3 in A-9.
A-9- Process Filter Rinse Resample.

11:15 A.M. Read 100 r/hr. @ 2" with Fisk probe probe.

11:22 AM Boiled down 6 L H_2O and transferred to R Cubicle Cone - Followed with 2-100 ml shots H_2O to cone.

12:00 N Started drying test on cone at 350°C Reached 350°C at 12:00 N.

1:00 PM Put 10 L 3 M HNO_3 in A 9, Sparged and sampled.

1:15 PM Sampled as A9- PF #3 Read 76 r/hr @ 2"

1:10 PM Put 17 L 9.0 M HNO_3 in Product evap. tank as P.E. Rinse. Heated to 90°C for 15 min. Cooled and sampled.

1:25 PM Sampled P.E. rinse. Read 5 r/hr @ 2"

2:40PM Looked at product. Not dry enough to pull will check again at 5:30 PM.

5-28-53 4-12 - Gurin-Hubbard

4PM Evaporation still in Progress

530 PM Checked - Product - Still Not dry -

9PM Checked Product. Still not dry

945 PM - Process filter rinse #5 sampled read 10 r/hr at 8". Bailey Pulled Sample

10:35 PM. Product Checked - Still small amount of Liquid remaining -

11:15 Product Checked - Checks being Made to See if ~~Samp~~ Product is in the Cone -

5-29-53 12-8 Opr HUBBARD

12³⁰ - 2¹⁵ Monitored prep. for & removal of product. All precautions used such as coveralls, masking tape, overshoes, towels over heads, + masks — no uncovered body surfaces. ample blotter paper used with exchange of same when hot liquate set on it.
Ran PDS just West of Cell A - - moved CAM lower to pit. In all following no air activity indicated

on CAM. P.D.S. unmined. count was 87 c/m
Ferguson, Bailey, Newton, Tatum, Ogg, Blevins,
in fields varying to 10 r/hr -- but most generally in
field varying to 1 r/hr. Rad. very soft. No leakage
expected. D. Hubbard also in lesser fields.
1st smeared ring w/ paper towels + ascertained
it was hot. was decontam from ~ 2½ r/hr to 1 r/hr,
then covered w/ brass screw plate. Rest of carrier
paper-towel smeared to find "hot" spot. These
were cleaned -- then req. smears taken + counted.
Count to 100 c/m recorded. These were scrubbed
and let go due to urgency of same. Upon being
loaded noted that carrier read ~ 20 mr/hr
which certainly was no hazard to cab driver
several feet away.
Carrier read 10 r/hr @ 1' at ring when 1st
came out.

0200 (Product placed in carrier)

2:15-630 273 Smears taken and counted. Results on
desk. Newton to clean + re-label smear
areas with red crayon pencil.

8-31-53 1600 - 2400 Guinn & Hutland

Requestor	Place	Instrument	Surveyor	Time
Bailey	3026-D	2.P.P. - L.N.G.P.	Hutland	1745

Remarks;

Checked product sample pulled by Bailey at 1745 - Sample read 20 r/h. at 4". Bailey in 2 r/h. field for short time.

6-1-53 4-12 Davis

6:45 W.S. Tatum pulled sample # 8 w c w Read 4 r/hr @ contact with C.P.(P C)

10 33 PM Took a reading on Feed tank pH 1 sample 10 r/hr @ 6" over open top of sample.

11 10 PM Took a reading on Feed tank pH 2 sample. 10 r/hr @ ~4" over open top of sample.

11 20 PM Read sample taken from # 9 by Bailey. Bailey was in a 1½ r/hr field while taking sample. Sample read 10 r/hr @ ~8".

6-2-53 12-8 Oakland

0145 - Took reading on feed tank rinse sample on run # 52-A - sample read 4½ r/hr. at 2 inches. Sample pulled by King in low back-ground

0210 - Took readings on two samples of resin cubicle washes - samples read 20 r/hr. at 1 inch above tops of samples - samples pulled by Phillips in 3 r/hr. field.

0250 - Took reading on HCL elution sample - sample read 5 r/hr. at contact directly above sample - sample pulled by King in low back-ground.

Run # 53

7-2-53 12-8 Ogg

0015 Load # 2 dropped in slug chute: King, D.C., Wood, Lampton, Ogg in gen'l field of 25 mr/hr with flashes of 2.5 r/hr when slug dropped. Assisted in counting as they dropped.

1250-7:45 A Loaded 3rd load & upon lifting carrier discovered several evidently stuck in chute. Rest of entire night spent fishing with steel tape, pulling up slug or slugs, standing by at a distance holding tape; then standing on tall ladder pulling slug up thru carrier drawer by very long tongs. By 7:45 4th slug being pulled out. Men operating long tongs in field varying to approx 60 r/hr for several seconds.

They were: RE Lampton, 7676, H. Blauer, 6005; Don Phillips, 9756: HL Woods, D.C. King also in high fields of ~ 20 r/hr for several min. J.W. Whitman, electrician assisted in same field as King & Woods. Wayne Phillips & Ogg in ~10 r/hr for several seconds. Overage expected at least on 1st 6 listed above. It is possible they received several days dose. H.P. nominally suggested work times; but due to emergency & priority overages were risked. Attempted to control contam. by pers. checks - especially foot checks before leaving 3rd level. Blotter paper layed generously.

Dosemeter:	Lampton	170 mr
	King	200 + 60
	W. Phillips	25 mr
	Woods	—

7-2-53 4-12 Coleman & Hellow

Schaich, Ladd, and Ferguson spent entire shift trying to unplug chute by various methods - fishing with tape and weighted steel line - work was done in fields up to 150 mr/h. Casto also worked for a short time on this project. Coating removal was attempted by pouring caustic down chute - no air activity expected since there was a strong vacuum on the chute - several Precip. and PDS air samples taken, results were not complete at shift change. Found blotter paper reading up to

400 mr/hr. - Ladd removed same. Found Ladd's gloves reading 80 mr/hr. - tape used for fishing reads 2 r/hr. at 1/2 inch. 12

Saunders has two special air samplers on 2nd level west - one to run during entire shifts and the other in the event of high air activity - instructions to be passed on to 12-8 shift man. Changed filter at 2315 on the constant running one, it will not have to be changed again until Saunders changes it in the morning.

Over exposures expected on Ladd, Ferguson, Schaich and possibly Casto.

Extremely high field in bldg. 3026-C because of Iodine run - operators are working in 20 mr/hr. fields at dark. Supervisor notified of this fact, but seems to indicate it can't be helped - the work has to continue. Over exposure on Maples expected because of this, also Hodges.

Condition of run at shift change: acid has been add (2210) for coating removal, excess of caustic was added before acid was dropped into tank - acid went straight to tank, it did not go over the slugs jammed in the chute - the caustic did go over the slugs.

There is also a monitor with an E-A chart connected which Saunders would like to have time checked at least once a shift. Brought new supply of precipitron.

Schaich was in fields to 10 r/hr for ~10 seconds trying to extract slugs at the start of shift. Blotter paper taken up and new paper laid, attempts to extract slugs in chute was discontinued after about 45 minutes and caustic started.

Ogg 7-3-53 12-8

12-8 Monitored clean-up of gross contam. spots on blotter paper etc 3rd level. All night nearly caustic soln trickled down chute. Coating removal begun at 1445 & 510 pm on what's in there. Ran 3 PDS & found absence of signif. air activity. Checked monitor recorder at stack — OK. Lampton, Ogg, King in fields varying to ~ 400 mr/hr over chute & near contamination paper for few min.

7-2-53

One slug was fished out of the chute during the afternoon. Before it was removed the background over the top of the chute had increased from 25 to 200 mr/hr as contamination was spread with the various tools and rods being used. The ends of these instruments were reading 1 to 10 r/hr when removed. Gloves were reading as much as 1 r/hr.

The slug that was removed was pulled to the ~~top~~ bottom of the funnel by Dunlap, the carrier was set over the chute and the shelf screwed out by Ladd and Newton. Ramsey then lifted the slug into the carrier with long tongs — working from a ladder held by Witkowski. Ramsey was working in a field >75 r/hr, and the other

listed in a field >10 r/hr.

Blaney, Harry Nichols, Tatum, Osborne, and Owens worked over the top of the shute during the afternoon, but Blaney was the only one of these present when the slug was removed. The Rosemeter I was wearing indicated an exposure of 150 mr.

7-3-53 4-12 Green & Hughes
Coleman Hubbard

Changed filter on precipitator on third level and checked the shoes of the workers there. Suggested shoe covers be used as the floor was found to be contaminated.

Monitored samples in South Hot Lab. Sample read up to 10 r/hr. at working level. Suggested fast work.

Checked all CAM's at intervals throughout the building.

Checked two (2) loads of slugs as they were put into the process. Except when slugs were discharged, when the reading went as high as 1.5 r/hr., there was nothing above background during the operation.

Loading completed for run except one slug which will be loaded on 12-7 shift. No significant rise in air activity during shift. Three PPT samples run during shift

7-4-53 0000-0800 Martin.

[illegible] Last slug dropped at [illegible]. Slug chute cover replaced & Pb bricks placed over it. Dunlap, Paul Phillips & Lampton received flash of 1.5 r/hr.

0045 Checked Lampton's exposure & notified him that he has a PTR of 390 for the week to date.

0100 Caustic added at 0100 to start coating removal.

0140 CAM's in building showing a gradual, slow build-up. Check at weather station, however, indicates the presence of an inversion.

0330 1st wash started.

0400 Caustic added.

0415 HNO_3 added. Slight pressure build-up. No indication of air activity.

0430 NaOH added. No pressure indicated.

0445- Clean-up of third level floor started. Found spots 15-25 mr/hr with one (marked) up to

-0630 600 mr/hr. Stood by to monitor & point out spots. Probed with PCIP; no GMSM or smear readings taken — too wet.

Building CAMs checked periodically [illegible] shift. All seem O.K.

0640 Checked monitoring instrument at stack base. No indication of rise. [illegible] hours late. Re-set.

0650 Probed assorted tongs, wrenches & tools for clean up & storage.

0710 3rd coating removal started.

0730 Changed [illegible] Saunders' air sampler.

7-4-53 0800 - 1600 Guinn - Selander
0800 - 3rd. Coating removal in Progress -

11 AM - Jetted to W-16 Added Acid -

1:30 - 1st. ~~Co~~ dissolving started - will continue till about 4PM -

During the day the floors near the stairs on the E side were smeared & found Contaminated - floors scrubbed by Newton & Co. must be re-smeared -

7-4-53 4-12 Coleman - Hubbard
1600 Batches A, B and C dissolving started. Checked panel board 2nd level east and found to 10 mr/hr b.g behind board <5 mr/hr in front.
1630 Checked CAM'S, Saunders CAM and monitor and started PPT sample on top level
Floors too wet to smear yet.

2015 1st dissolver sample taken read 200 r/hr at ~1 inch over top. 2 r/hr through carrier, stood by as Davidson pipetted sample for dilution. He was in average 100 mr/hr for ~10 minutes

2038 - Batch B dissolving started.

2140 - Crud filtering of batch A. Took b.g. checks of panel boards and checked CAM 6. Started 2nd PPT sample on 3rd level

1930 - Took seventy smears of 1st, 2nd and 3rd levels and stairways. Counted them and gave results to Schaich. 29 out of 70 below 200 cnt/m B. Hot smears ranged from 209 to 3308 cnts/m B.

2200 - Clean up of hot spots started. Top level only was cleaned. Did not dry in time to resmear.

7-5-53 0000-0800 Martin

0000 Batch "B" dissolving continuing.

0100 Clean-up, second level, started. Third level soaking wet.

0130 Changed filter on Saunders' sampler.

0315 [illegible] 10 hr @ [illegible]

[illegible] read 600 [illegible]

[illegible] Osborne to hot [illegible]

[illegible]

0415 Sampled A-8. Sample [illegible] was in field of [illegible] per [illegible] r/hr at 1" over cone.

0430 Smeared (20) [illegible] pieces, [illegible] still damp.

0630 3rd level still [illegible] (One man [illegible]

0700 Checked monitors at [illegible]

7-5-53 0800 - 1600 Guinn - Selander

0800 Batch "C" dissolving in Progress

09:30 A-8 sampled. Read 20 r/hr at 2"
Batch "C" dissolving complete - Batch "D" started -
CAM's All Normal -
Changed Saunders filter -

10:00 1 mc (Batch "C" dissolving) sample read 175 r/hr at 3"

3:00 1/2 ml sample (waste) read 5 r/hr @ 6".

7-5-53 4-12 Sharp - Coleman

1600 Batch D dissolving still in progress

1700 B.G. checks made, CAMs inspected

1730 Saunders PDS changed, monitors checked

and PPT sample started on 3rd Level

1755 D batch samples (IDM) taken read 175 r/hr 2" over top. One discarded and one brought to Hampton

1810 Found drops of hot solution on bunch in cold lab. Smeared 40 mr/hr and Opendine cleaned it down.

1815 Backwash line at N.E. corner of main level cubicle at panel board read 10 r/hr at ~2 ft. Lead shot bags placed around it brought reading to 1 r/hr at bags and 15 mr/hr at panel board. Placed warning sign near and advised Hampton.

1820 "D" batch dissolving jetted and "E" batch dissolving started.

1830 Bailey drew resin titration sample from resin (product) cubicle on main floor. No reading on C.P.

1945 Checked carriers Bailey was decontam. They came from 100 mr/hr down to 15 mr/hr highest reading.

2230. Cleanup of 3rd level started.

7-6-53 0000-0800 Martin.

0000 Dissolving batch E in progress.

0045 Sampled A-8. Both samples read [illegible] 40 [illegible] over top of open cone.

0130 Did not change filter [illegible] PDC because we are out of fresh filter [illegible]

0300 Took 1-BH sample. Sample read [illegible] over top of open cone. [illegible]

0700 Checked monitron at stack base. [illegible] O.K.

7-6-53 4-12 Coleman, Hilzer, AEC

1600 Batch E still dissolving and column in resin cubicle being stripped of 1st run product.

1630 Made b.g. checks. A-11 jet line on 2nd level panel board reads to 80 mr/hr at contact. Launders monitron off scale on least sensitive scale. Reading at chamber is 250 mr/hr

1645 Started PFT sample 3rd level

1700 Jetting of Batch E attempted from A-1 to A-11. Rise of air activity to 10K about 1/4 on chart then dropped off as attempt to jet A-1 stopped. This was reason

given for air activity rise.

1915 Jetting successfully completed from A-1 to A-11 solution being held in A-11. 1st Metathesis recovery started

2130 Metathesis recovery completed.

2045 2nd PPT sample started.

7-7-53 0000-0800 Martin.

0130 Monitored while Dunlap withdrew resin column rejuvenation (waste) sample & during dilution of sample in hot lab. It read 1.7 r/hr at top of cone. Smith & Holland did lab work. No [illegible] expected.

0200 Changed filter on Saunders' PDS.

0520 Checked monitron at stack base. Recorder is out of ink, or clogged. Did not report to Inst. [illegible] re: work order. Level hovering [illegible] .48 & .50.

0530 Osborn withdrew 1-MF sample which read 50 r/hr at top of cone. He was in 50 r/hr field momentarily while making transfer.

Filtering of product complete — LST 0620

0700 Product sample taken by Dunlap & sent to hot lab. Read 8 7hr @ 6" over top of cone. Having trouble with instruments due to dampness of the air.

7/7/53 4-12 Coleman, Hilyer
Warburton, [illegible]

1600 Batch 6 dissolving

1645 PE sample drawn read 65 mr/hr at 2" above sample. Maples in 25 mr/hr for 2 min. Sample brought to hot lab.

1900 Started to take product but they decided to bring over more product and ~~do~~ evaporate it.

2010 Decided to take product - lid removed from cubicle and carrier in place

2030 Carrier out cleaned and smeared. Highest smear - 6400 cnts/m β on brass ring. Highest probe - 20 mr/hr on side of ring, but 500 mr/hr through hole in bottom of carrier [illegible] coolant water exits

2100 Highest exposure on dosimeters issued to operators and H.P. was 17 mr. Owings had 15 mr/hr on overall knee but did not go to skin. Rest of personnel checked OK.

2115 Readings on truck taken and recorded on special sheet. Highest reading was 1.3 mr/hr at rear gate of truck. 17000 curies shipped.

2245 1 MG dissolver sample taken reading 40 r/hr - 2" over top

2250 Jetting of batch G to A-11 started

Turned on cascade impactor for 1 hr. during product taking. Also ran RDS on 1st level and precipitron on 3rd level for 1 hr. during product taking. Found one spot on main level reading 40 mr/hr which appeared [illegible] in red. Rise of 3 divisions on 2K scale during product taking. Lampton will try to clean main level.

7-8-53 0000-0800 Martin.

0100 Batch G extracting.

0130 Changed filters on CAM's in lab & 1st level. One in lab crossed to 10K due to slow build-up. Unit on 1st level at 20K following product removal.

0200 Replacement of resin in column started, CAM, 1st level, jumped off 20K scale. Check indicated instrument trouble, however, not activity. Reported to Carney for repair.

0300 Spot on 1st level floor cleaned up & whole floor was hosed down.

0530 Took 3 smears of 1st level floor where spot was found. Will request early count by counting room.

0610 Changed filter on Saunders' P.D.S.

0615 A-8 (waste) sample taken, read 17r/hr @ 1" over top of open cone. To hot lab.

0630 Checked monitron at base of stack. CAM, 1st level, back in operation.

7-8-53 4-12 Ogg & Hubbard

4:30 batch F, G. + waste brought over to 200 feed Tank.

4:50 Feed tank sample: read 250 r/hr @ 3" (later deemed to be to an undetermined extent, contamination on 200 carrier.)

~5:30 In adding acid to feed tank thru #6 funnel, Owings with King neglected momentarily to turn off tank sparger; whereupon a burst of white fumes came back out. Lampton, 7676; was standing downwind and evidently inhaled more than anyone since there was ~1/10 mr/hr on nostrils before he washed, whereas nothing detectable on other men. (All will be given urine request forms.)

5:30 - 6:15 Monitored 2 ph adjust samples; all read 160 r/hr over top @ 2". (Still, some believed to be carrier contamination discovered about this time - inside.)

AEC Fellows assisted - also changed CAM filters on 1st level N + Lab. The 1st level N had gone off on 20K. With mask it was changed and immediately settled to lower scale + plotted evenly. The filter read 4 mr/hr.

6:00 p. G.N. Case, 8215; asked for check as he had allowed small amt of 1st dilution of F.T. sample (25 lambda to 100 ml) His forehead read ~ 2 mr/hr - was immediately and carefully washed to b.g. with soap + paper towel. [Hands Also same] No other contam found except coveralls on front which read 1½ mr/hr. He was advised to change.

Bob Rickard, also present, received slight contam on back of his clothing — he changed. Present at balcony analytic chem cubicle in fields varying to 200 mr/hr: Case, Rickard, Smith, Gann, Davidson & Wyatt.

With AEC Fellows probed chem lab pers — all OK except DK Smith who about this time became contaminated on rt hand to ~35 mr/hr. We probed area around balcony cubicle & "Hot" blotter paper removed — all OK. DK Smith scrubbed on hands several times, Hubbard monitoring, & finally reduced to 10 mr/hr. Hands still not very irritated but due to business at hand — left-off working on Smith and

7-10:30 Monitoring dilutions in lab & inspections of samples. By this, Case, Gann, & Smith DK in fields varying to 100 mr/hr generally & 5 r/hr occassionally.

Owings, TC King sampling A-9 Rinse, A-8 cubicle waste, A-9 HCl Eluate rinse in fields varying to approx 20 r/hr for few seconds.

10:30p Noted that at ~8:00p there had occurred in 3026-C
| high air activity. With Warburton, Hubbard, masked
12:00 and changed filters. Air activity no longer present, but by end of shift we still could not explain source of same. Checking neighborhood CAM's we found it to be very localized in 3026-C. Smears on floor revealed little contamination on floor although CAM filter had read ~10 mr/hr. Decay checks on CAM filters of 2nd level 3026C showed an

increase instead of decay as follows

T	Scalers	b.g. (scalers)
2234	120	33
2304	128	34

(1:45 OK Smith came in after scrubbing hands more — checked OK.

Urine requests for Case, Lampton, Owings.

7-9-53 0000-0800 Martin.

0015 Changed filter on Saunders' PDS.

0500 Changed filter on CAM, 3rd level, after finding that it had gone off scale at approximately ~~0600~~ 1800 7/8/53 (using new time factor on EA). Probed filter 2 [illegible] > 20 mr/hr GMSM. [illegible] it to this log for radioautographing. Suspect that reading is due to burst of activity caused by addition of acid as noted on previous shift. This, coupled with an inversion, could also have been [illegible] for activity in "C" Bldg [illegible].

[illegible] No [illegible] this shift. Run [illegible] filtration. It is hoped [illegible] will start before [illegible]

0700 [illegible] base of stack. (OVER)

Probed filter taken from Saunders' PDS after seeing condition of IAM. It reads 70 mr/hr PCCP @ ½" (contact with top of open box). Am leaving it with 109 since Saunders should be warned prior to working on it.

7-10-53 0000-0800 Martin.

0200 Changed filter on Saunders' PDS.

7-12-53 4-12 Ogg

8:00 pm Began product evap in tank

9:37 pm Product transfer to cone: Began evap.

In above, monitored cacooning of cones & loading of cone: Moss, painter, in fields of ~50 mr/hr max. Hands became slightly contam, but were cleaned ok. Schaich, Wayne Phillips & Ogg in fields varying to 200 mr/hr for few seconds in loading cone. Flow's checked OK.

Cone is full & glow is very beautiful — King & Schaich said largest they'd ever seen. CAM's indicate no rise in air activity.

7-13-53 Quinn

Product removed & Loaded on truck - No unusual events took place -

Paper towel smears on floors revealed no evidence of contamination -

Hodges, Terry, Schaick & Blevins were in a high field of 600 mr/hr when carrier was lowered & then removed from the loading pit - High reading of 80 mr/hr found on carrier found after it was loaded -

50 smears taken on 1st level and on steps to 3rd level -

11/4/53

Blower 3026-D 1 00 P

Remarks; started loading slugs @ ~ 1 PM — 2 00 loads of 16 each were unloaded at 3 00 PM
Bill Campbell, Joe Dailey, Jim Ferguson, & K. Ladd were engaged in this operation — when the slug left the carrier there was a flash of ~ 1 rh in the area where the work was being performed for a period of ~ .1 sec.

11-4-53 4-12 Peery Hubbard

Requestor	Place	Date	Time
Blevins	3026-D	CP	Peery Hubbard PM

Remarks;

R.C. Osborne 7861, E.C. Dunlap 3321, K. Ladd 8101, E.F. Jacobs 5301, R.J. Blevins 6204 — These men all exposed to flash readings up to 600 mr/hr during loading of slugs — ~~[illegible]~~ 9 carrier loads of 16 slugs each were loaded for dissolving. One load of 8 slugs for total of 184 slugs. No unusual incidents
Coating removal to start on 12-8 shift.

11-5-53 12-8 Guinn

Coating removal started at 12 30 AM -

Remainder of slugs still being loaded - Bailey # 2387, Johnston RD # 7021, Terry # 7804, and Woods # 5067 were the operators working in 3026-D etc tonight - Supervison was Lampton # 7676 -

11/5/53

Slug loading was finished @ 9 00 am - (274 slugs)
Slug cooling removal will be completed @ ~8 00 PM

11-5-53 4-12 Perry - Hubbard

Blevins 3026-D 4 00 PM

Remarks: Coating removal Completed.
Washing Completed.

Started dissolving slugs at 8 20 PM.

11-6-53 12-8 Guinn

1st. dissolving Completed at ~ 12 30 AM

A-1 sample pulled at 1 05 AM. Read 10 r/hr at 8" over top of sample. Read 800 mr/hr thru side of sample carrier -
Bailey # 2387, Terry # 7804 and Lampton # 7676 worked on run this date -

2nd. dissolving completed at ~ 6AM - Cooling water added at 620 AM - 1 Mb Sample started to circulating at 625 AM - pulled sample at ~ 7 AM - 3rd dissolving due to start -

11/6/53

Requestor			
Np	D	S	8:00

Remarks; started # 3 (c) batch dissolving -

12:25 PM started sparging and circulating pumper 8WMA.

12:40 "C" dissolving dilution.

1240 8WMA Sample taken: 20 r/hr @ 10", 20 r/hr @ 3" G. Phillips #2357 took same: in fields ~ 200 mR/h generally, with flashes of ~1 r/hr at hands, forearms.

1 5 p Davidson, A Chem #4003 diluted 8WMA sample in fields varying to 130 mr/hr at body, 1 r/hr at hands for very short time.

1 55 p Sample 1MC - pulled - read 20 r/hr at 1 ft. DC King ~~#~~ 1667 operated in fields of ~ 2 r/hr max.

22°-2³⁵ Davidson #4003, + DK Smith #7647 ea. did a 1st + 2nd dilution of 1 MC sample.

11-6-53

4⁰⁰/P "D" batch dissolving.

9¹⁵/P Resin Column Sample taken by R. C. Osborne 7861. just to be titrated to check resin content. Sample read 10-15 mr/hr @ contact.

R. J. Blevin 3026-D CP Peery-Worth 10 15 PM

Remarks; R. C. Osborne 7861 attempted to pull Sample from A-1 Sampler on "D" batch dissolving. Sampling Cone on first attempt was dropped into bottom of Sampler. Second Sample was successfully pulled. It read 9.5 R/hr @ 6". Osborne was in field up to 2.5 R/hr for < 1 min. When Osborne attempted to remove 1st Cone that dropped into bottom of Sampler he dropped it on the floor in front of A-1 Sampler. Floor read up to 9.5 R/hr at 3". Osborne was in 2.5 R/hr field ~ 30 seconds while disposing of dropped Cone in Hot lab. D. R. Hadges 7831 was in field ranging

up to ~200 Mr/hr while cleaning floor. The floor was decontaminated to 2 R/hr with Citric Acid, Versene, HCl. Floor where spill occurred was then covered with blotter paper and shielded with Pb. Smears were taken in surrounding area - Insufficient time to count. Informed relief of situation.

12-8 Shift Coleman

0030 Counted smears taken on floor at A-1 sampler. Three counted above mpl to 390 cnts/m P. Newton had spots recleaned and spill spot recleaned. Resmears on old high spots showed them ok. Smears of spill spot showed to 1200 cnts/m P. # 4,5,6,7 smears were above mpl. Whitechalk numbers. Hot spots covered with blotter paper. Newton given results.

0030 Jetted from A-6 to A-7

Jetting from A-9 through process filter to A-17 of batches B and C going on all shift. No sampling this shift.

0045 Slight rise in air activity probably

due to filling of off gas traps with condensate making off gas vacuum fluctuate. Off scale on CAM 2K scale of CAM 3rd level. Changed filter on it and it climbed slowly on 2K leveling off after 3 hrs. Cam on 1st level rose 2 divisions on 2K and stayed steady.

8-4 Shift Opp. Golden 11-7-53

8:00 A-1 Filtration of OB batches still going on

1:00 Started decanting

8+1 With Wayne + Paul Phillips working on contaminated area in front of A-1 blister, 1st level. By Fab, citric, versene, HNO3-dilute, washings; reduced contam. to ~100 mr/hr @ 1'. Spots still smear on paper towel. Paul Phillips still working on same.

Later after several rinsings, no contam detec. by wet paper towel.

10+1:30 Cottrell requested we check his air bubblers (3) around stack area. Did at hours indicated adjusted Δ minimeter setting for proper flow (l/m).

11:55 AM Started decanting

12:10 PM 2 samples (AWMB) Reading 20 r/hr @ 6". Paul Phillips - 2758 - Exposed in field of 500 mr/hr while handling samples -

155 P The mercury of liquid level manometer for Tank 9 - suddenly disappeared ?? (P.B#2 3rd level) Schaich called me for survey. I found ~ 200 to 600 mr/hr in front & back of P.B. resp. at A-13 pippette manometer. This later concluded to be old back-up. Checked all CAM's closely. No rise indicated.

Later Schaich saw mercury leak in back after inst. man refilled. Therefore trouble deduced to be non-functional.

11-7-53 4-12 Peery - Hubbard

4:00 PM

Requester	Place			Time
Blevins	3026-D	Scaler - & Counter -	Peery	PM

Remarks; Smeared V-fan belt to be returned to Stores. Smears Counted < 10c/m α and 20c/m β - Green tagged. Belt was to be used on agitator motor on 3rd level but was found to be wrong size.

Requester			Time

Remarks;

Filtration of "C" batch in progress.

4:30 PM Waste being jetted from A-5 to A-6

and is to be jetted to the Tank farm (Waste tank W-9) later this Shift. No rise in air activity indicated on CAMS

5:30 PM R. C. Osborne's (7861) shoes read 20 mr/hr with GMSM - His shoes became Contaminated during spill at (A-1) (logged 11-6-53 - 4-12) Shoe Covers were placed on his shoes immediatly after the spill to prevent spread of Contamination and since there was insufficient time to decontaminate them, he is to do so later this shift.

6:00 PM Checked Cottrells set-up in Stack area - Corrected Flow rate according to Minometer.

7:00 PM Still filtering batch "C".

9:00 PM Checked Cottrells Set-up - Still O.K.

11/8/53 12-8 Coleman

12 Mid. Batch C being process filtered.

0030 Discussed off gas duct samplers with
0011 Cottrell. He decided I should not check minometers this shift as disturbing the insulation may allow set-up to freeze

0300 Waste pitted from A-17 to A-8 to A-5. Transfer completed at 0330. No air activity risk of significant proportions during shift.

8-4 11-8-53 [illegible]

0800 Batch C being decanted

0945 Began circulating in A-1 blister in prep for sampling SWMC at 10:00 am.

10:00 DC King # ~~1880~~ 1667 pulled two SWMC samples from A-1 in field varying to 1 r/hr at hands. He "dumped" one sample in storage in lab in flashes of 10 r/hr at body. Sample read 20 r/hr over top @ 7" in carrier. Davidson #4503 diluted same in lab - reading same as SWMa - see log 11-6-53

11-8-53 4-12 Perry - Hubbard

4:00 pm Batch "C" still being process filtered.

11-9-53 12-8 [illegible]

Ditto for 4-12 above ↑

11-9-53 8-4 Coleman

0800 Batch C being process filtered.

0945 Two 8 WMC samples from A-8 blister taken reading to 20 r/hr at ~4."

0945 Process filtering discontinued.

1230 to 1530 Na_2CO_3 from M1 to A5 neutralized and jetted to A6. Micrometer on A-9 tank out of order during this time. It was repaired by putting in new battery for the Micromax.

1625 Process filtering of batch C to be resumed.

11-9-53 9-12 Peery - Golden

				Time
Tempton	3026-D	CP	Peery	4:00 pm

Remarks

9:00 pm Filtering "C" Batch
9:30 pm Decanted "C" Batch
5:00 pm R. C. Osborne 7861 pulled 8 WW1 Samples. 1st Sample to be discarded read 17.5 R/hr @ 3" Osborne was in field of ~200 mr/hr < 1 min. 2nd Sample read 17.5 R/hr @ 1" Osborne in ~200 mr/hr < 1 min.
Osborne was in 900 mr/hr field - flash exposure for ~.1 sec. while emptying 1st Sample in Hot lab.

Informed L.E. Langston 7676 that assault marks should be worn while working near W-9 tank at tank farm during jetting of waste. Supplied man at tank farm with mask. Requesting Urine Specimen from L.C. Osborne 7861 as he worked near W-9 on previous shift during jetting -

Atten: 12-8 - 11-10-53

J.E. Ferguson 3750 was working with Osborne at above mentioned time and should be requested to submit a Urine Specimen.

Atten: 8-4 - 11-10-53

W.S. Phillips 7204 should also be requested to submit Urine Specimen.

8 55/P E.C. Dunlap 3321 pulled 2 samples at A-8 Sampler - 8 WWR Samples read 9 and 11 R/hr resp. Dunlap in 350 M/hr for a total of ~ 1 min taking Samples and discarding one in hot Lab.

9 00/P Re-washing "C" batch through filter - Will be taking another Sample from A-8 on 12-8 Shift.

12-8 11-10-53 Ogg

0000-0300 Some decanting done - but this failed at 0300.

0300-7 00/A attempts at decanting, coolings & further attempts

0785 1st Metathesis beginning

4 35/A Jetted waste to W-9 tank. Ran Ogg-Hausker PDS ~30 ft away

This counted 524 c/m for immed count, but only 92 c/m after 4 hrs. (a 30 min equivalent sample taken).

11/10/53 8-4 Coleman

1:10 P.M. D.C. King #1667 took a IMD-Resample from A-1 Blister. Sample read 20 R/hr at 8".

0800 C batch being filtered and decanted

0830 8 NW 2 samples taken from A-8 blister D.C. King #1667 in up to 1000 mr/hr for a few seconds. 1st sample dropped inside blister and later washed down. 2nd sample read 20 r/hr at ~ 3 inches.

1120 Run shut down. Batches A, B, C sent to waste tank in A cell for holding. Lines filters and tanks being washed (preparatory to starting new run).

1530 Washing still in progress.

1600 Ready to start crud filtering D batch and start new dissolvings. Slight rise in air activity due to jetting cleaning solution from cell A tanks.

 11-10-53 4-12 Perry

4 PM Crud filtering "D" batch.

5 PM Washing preparatory to starting new run still in progress

6 PM Floor contaminated at S.W. corner of cells. Where solution was blown out of funnel to crud filters. This happened while E.C. Dunlap (3321) and R.E. Lampton 7676 were preparing to blow out line to filter through funnel with tygon tubing. Pressure from toward filter forced liquid out tube onto floor. Dunlap and Lampton had contamination on coveralls and hands. Shoes were also "hot" Put shoe covers on both parties - Clothes changed and hands decontaminated. Dunlaps shoes still "hot": to work on them more later in shift - Floor was contaminated to ~85 alpha was fairly well confined. Some of contam. tracked into side in wash room. Smear in front of basin counted ~1500 c/m β/γ. Smeared other extremities - steps - near East door and on out side door on dock, toward labs, on back in passage way through change room - None of these smears < 200 c/m β/γ. The entire 1st floor is being scrubbed down and the spill area given another cleaning -

No rise in air activity indicated on CAM's.

7:00 PM. High background on second level (60 mr/hr at floor level) just in front of panel board - Due to Pb covered off-gas line which runs East out of cell and just under 2nd level floor - Increase due to spraying and system clean out. Line reads up to 9 r/hr at 4" from cell wall. Line tagged inside bldg. and outside before it goes into duct to stack.

10:00 PM. Background on 2nd level at P.B. has dropped off to maximum of 60 mr/hr directly over off-gas line.

11:00 PM Still process filtering "D" batch - Will probably start dissolving "E" batch 12-8 Shift.

Shoe replacement slips issued to Dunlap.

[redacted]

Spill area marked in Chalk.

12-8 11-11-53 Ogg

1200 E batch dissolving going on

12¹⁵-2 Smeared 1st, 2nd 3rd level with attn. to S. end. Only 2 showed slightly > MPL. These were scrubbed. Took 7 paper towels on "spill" area. Nothing detectable in l.b.g. with SMSM.

6⁴⁶A J. Ferguson #3750 pulled 1ME. It read 20 r/hr at 8". He was in fields varying to 600 mr/hr for a few seconds.

Opending #7760 later began running same. He made 1st dilution in fields varying to 400 MR/hr. Asked him to check his hands at end of shift.

11-11-53 8-4 Coleman

0800 Process filtering D batch

~~0130~~ 1330 D batch process filtering completed and process filters backwashed.

1352 Jetting from A-1 to A11

1500 Crud filtering of E batch started

1330 attempt made to sample A-8 not successful. Steam blown back thru

A-8 sampling line. PDS taken of steam coming from A-8 blister, 30 min equivalent, conted .2 of mpl for B D. King # 1667 in b.g. of up to 1500 mr/hr for ~10 min. attempting to take sample and steam out line. Back up in B-4 line at the A-8 blister (A-8 steam and air sparger line) gives to 800 mr/hr b.g. in front of A-8 blister. B-4 line reads to 240 r/hr contact with line behind lead and 80 mr/hr through spot on 3rd level floor 90 mr/hr b.g. head height at 1st level panel board.

11-11-53 1600-2400 Martin-Hubbard.

1600 "E" extraction in progress.

1705 Steaming sampler A-8 did the trick! Sample from A-8 taken, read 10 r/hr @ ½" above top of cone. Hoyce Bailey #2387, took both samples. 1st was discarded in hot lab, second kept & taken to lab. Bailey's hands in 2 r/hr field for 10 seconds on both occasions. Body in .5 r/hr field for same length of time.

2000 1-MF sample withdrawn by Terry #7804, & taken to hot lab. Sample read 10 r/hr @ 2' from open top — 2.2 r/hr through side of carrier. Sample drawn & in lab in 60 seconds.

2030 Meadows 7845, Analytical Chemistry diluted 1-MF. In field of 60-100 mr/hr for ~ 10 min. Hands in 2.5 r/hr fields for same period. Some trouble with pipettor. Diluted sample reads 800 mr/hr @ side of flask.

12-8 Shift Ogg - 11-12-53

12⁰⁰ Off-gas failure of I^{131} cell caused a burst of air activity, evidently below tol. and mostly indicated on CAM 3rd level Dlly. This filter read ~ 3/4 mr/hr - others in bldg. read less. Just on 20K scale. Changed filters as necess.

P.O.M.

1⁰⁰A New run to A-11 tank from A-5

2⁰⁰A Old run brought to A-8 tank.

2³⁰A Began boiling down A-8

3⁰⁰A Ferguson #3750 sampled A-5 rinse. It read 6 r/h at 1". Ferguson in field of approx 200 mr/hr for few seconds.
WE Operating #7760 diluted same sample in lab in fields varying to 650 mr/hr. 2nd dil read ~10 mr/hr.

5⁴⁵A A-6 settled to 0-10. No appreciable air rise indicated

6⁰⁰A Began decanting A-11

6 48 A Sampled A-11 decant from A-6 -- read 20 r/hr at 8". Ferguson in field varying to 2 r/hr for few seconds.
Ovendine deluted same in lab. in fields varying to 2 r/hr. Overage expected.

9 30 A A-8 still being boiled down.

11-12-53 8-4 Coleman

0800 Batches A,B,C,D in A-11. H_2SO_4 added to A-11 and precipitate allowed to settle for 5 hours. Batch E in A-17; Batch F in A-1.

B-4 line at A-8 blister now reads 5 r/hr at ~ 2" down from 240 r/hr contact yesterday. Sign removed.

1345 2 8WME-1 samples pulled from A-8 blister. D. King # 1667 in up to 1200 mr/hr for ~ 30 sec. taking samples. Sampling was done after solution was jetted from A-17 to A-6. Samples read to 20 r/hr at ~6". Davidson # 4503 in up to 800 mr/hr for ~2 min. diluting and pipetting samples. His sink read to 8 r/hr - informed him. He also emptied about 12 100 ml dilutions in hot sink from west room

safe. In up to 1 r/hr body radiation for ~ 2 min.

1430. The balance of the runtis (batches A, B, C, D, E) now to be decanted from A-11 tank to A-6 after a 500 lb water addition and sparging and allowed to settle for 4 hrs. ~~[illegible]~~ Five (5) of these decantings to take place, which will end this process in aprox 24 hrs. from now. After 1st decanting takes place A-11 to A-6, water be added to A-11 and sparged for 10 minutes then decanted to A-6 and sampled from there. Samples to be called 6WW-1, 6WW-2, etc.

1510 2 6WW-1 samples pulled from A-6 blister. I Hodges # 7831 in up to 100 mr/hr for ~ 2 minutes. Davidson # 4503 in up to 100 mr/hr for ~ 3 min. reading level of sample and diluting it. Samples read to 10 r/hr at ~ 2."

11-12-53 1600-2400 Hubbard-Martin.

2000 Pulled two decant liquid samples from A-11 through A-6 samples. Samples read approx. 9 r/hr. at 1". Meadows 9845, Bailey 2387 Terry-7804 and Lampton-9676 in fields up to 300 mr/hr. for short time.

2245 Sample taken at A-5 sampling blister of versene-water wash from A-11 tank. Bailey took sample in field of 200 mr/hr for ~ 30 seconds. Reading over top of open cone ~ 4 r/hr @ 18". Taken to hot lab for analysis.

2347 Pulled two decant liquid samples from A-11 through A-6 sampler. Samples read appr. 5 r/hr. at 1". Bailey 2387 in 200 mr/hr. field for short time.

11-13-53 12-8 Coleman

0010 Decanting from A-11 to A-6 every 3/4 hrs now.

0235 2 GWW-3 samples pulled from A-6 blister reading to 10 r/hr at ~ 3".

0710 2 GWW-4 samples pulled from A-6 blister read 4 1/2 r/hr at ~ 1/2 inch. Tatum # 7768 was in 200 mr/hr for ~ 2 min. Operation #7770 made dilution in b.g. to 225 mr/hr for ~ 2 min. High b.g. in room due to 1 liter dilutions poured in drain, sink reading to 10 r/hr and hot gas reading 500 mr/hr. Hot gas removed, sink tagged and cleaned, dilutions tagged and will be emptied on 8-4 shift.

0725 K_2CO_3 added to A-11 heel for metathasis and heated for 10 min.

11-13-53 8-4 Peery

8 0/A Metathasis still in progress on 1st ~~five~~ batches. No Sampling done.

11-13-53 1600-2400 Hubbard-Martin.

1645 Sample 6WC-1 taken at A-6 sampling blister read 10 r/hr @ 2" over top of open cone. Bailey, #2387, took sample, in B.G. of 150 mr/hr for ~ 30". Bailey took sample to hot lab.

11-14-53 12-8 Ogg

all shift Run brought up from A-5 to A-11, 8 - Re-boiled down, cooled, digested - No sampling done.

11-14-53 8-4 Peery - Golden

8 0/A Run settling for 6 hrs.

2 0/P Decanting to A-6 Tank

2 30/P R.C. Osborne 7861 took 6 WC-2 sample at A-6 blister. Sample read 7.5 r/hr at 8". Osborne in field of ~ 180 mr/hr for <1 min. Sample taken to lab by Osborne.

Awaiting results from lab. analysis to determine next step.

11-14-53 4-12 Martin & Hubbard

Found that the waste in A-6 from A-11 contained 10,000 curies, it
1600 is now back in A-8 being boiled down. A-11 sent through crud filters to A-17 with HNO_3 back-wash and will be sampled as product in A-9.

2100 A-9P sample pulled by Bailey (2387) - Sample read 25 r/hr. at approx. 1". Bailey in fields up to 600 mr/hr. for several short periods, possible over-exposure. Suggested that he not sample any more tonight.

2130 1-MF-2 Sample pulled by Terry (7804) - sample read 45 r/hr at approx. 2". Terry in field up to 400 mr/hr. for short time

2345 A-8 still being boiled down, A-1 and A-9 being held until results from A-9P sample are passed on to Harris B.

12-8 Ogg 11-15-53

All Shift. Boiling down A-9 + A-8 in prep for new metathesis in hopes of recovery from waste.

11-15-53 Peery - Gueden 8-4

8 00/A Boiling down A-8
10 30/A Transferred Product to A-9
12 00/N Filtering - filtering has slowed up again
No Sampling done.

11-16-53 Martin & Hubbard 4-12

1600 Both filters (pumps) plugged - A-9 settling in preparation for decanting, A-9 now also contains the old A-8 boil down. A-8 now contains waste from filtering process before the filters plugged.

1800 Sample 8 NC from A-8 pulled by Bailey (2387). Sample read 19 r/h. at approx. 8". Bailey in 300 mr/h. field for short time.

1810 A-9 settling in preparation for further decanting.

11-16-53 Ogg 12-8
Settling, cooling, boiling down A-8 & 9 all night.
11-17-53 Ogg Filtration all nite

11-17-53, Shaw 8-4
Digesting A-9 till 4:30 PM.

11-18-53
12-6-8 A-9 feed to eluate — then to hold-up tank.
Very slow process
6 35 A Wayne Phillips #_____ sampled A-8 waste. Sample read ~2 r/hr over top at 1". First sample mistakenly put in hot can nearby (instead of dumping). Blevins very soon afterward carried said hot can to platform, covered. Using gloves as swab + protection, they scooped up cone + placed it in another can. He was in a 10 r/hr field for a few seconds (hands). orig Hot Can still read 10 r/hr at bottom. Tagged it to be thrown away. Contaminant was liquid.

7:15 Discovered cold sink SW side 2nd level reading 2 r/hr at drain. Empty beaker nearby on cabinet: 10 r/hr over top. No one on this shift knew anything about it. Tagged all. Paper towel smears around periphery & elbow showed no contamination. Covered beaker carefully with paper & masking tape.

Note: Someone has dumped some red hot soln. in cold sink. Who? When?, and why?, we wonder. Will Sharp please tell Abee.

11-18-53

8 30 am mw HCl EL Sample - 100 mr/hr @ 3"

3 30 p (2) Product samples - 20 r/hr @ 4" and 20 r/hr @ 5"
These samples were sent to Frank Williams -

11-18-53 4-12 Coleman Hubbard

1630 One main waste sample taken from resin column which read 1400 mr/hr at one inch. J. Ferguson # 3750 pulled sample. No significant b.g. reading while pulling sample.

1815 IMD sample taken from A-1 sampler read 20 mr/hr at 6 inches. J. Ferguson #3750 pulled sample.

2030 Getting from A-1 to A-11 completed. "F" batch getting.

2040 "G" Batch dissolving started.

2100 Ostendorf #7760 pipetted A-1 sample in fields to 150 mr/hr at body for ~ 2 min. Aliquote (100 ml) read 850 mr/hr contact.

2220 Extraction of "F" batch started

2400 "G" batch still dissolving; "F" batch starts through process filters.

Ogg — 12-8 11-19-53

12-3 G batch dissolving, F batch going good thru filter

3 04 A Sampled IMD. D.C. King #1667 in 500 mr/hr field for a few seconds. Sample read 20 mr/hr at 6" over top.

DK Smith #7647 analyzed samples in fields varying to 500 mr/hr at body, 1 r/hr hands

5^{45} A 8WMF sampled, although only slightly less than 1/2 of A-9 gone thru filter. (Plugged up, so they will now allow A-9 to settle.
DC King + DK Smith in ~ same fields as 3^{04} AM entry.
Sample read 20 r/hr @ 3" over top.

11-19-53

8^{00} am Decanting "G" batch

8^{50} am Batch "H" dissolving -

12^{30} p 8 WMF sampled - 10 r/hr @ 9".

4^{00} p "G" Batch settling in A-9
"H" batch has been diluted + is now cooling in A-1.

11-19-53 4-12 Coleman-Hubbard

1630 "H" batch cooling to sample temp.

1645 1 MH sample taken from A-1 reading 20 r/hr at ~ 6 inches

1900 Sample from A-6 taken reading 20 r/hr at ~ 4 inches

2145 Sample taken from A-8 reading 10 r/hr at ~ 6 inch.

Found blotter paper under A-9 sampler with spot of drop size reading to 4 r/hr. 2T was placed in hot can. Check of area showed no other spots.

2200 Getting "H" batch to A-9 and running extraction on it.

2215 Dissolving "I" batch

Oggg 12-8

12:00-3:30 As above.

3:00 H batch settling in A-9.

G Batch decanted to A-6

3:40 A 6WMG sample taken - DC King #1667 sampled in fields varying to 1 r/hr. Sample read 20 r/hr @ 2'. King dumped #1 in lab storage. DK Smith #7647 analyzed same in lab.

6:10 A 1M1 sample off. DC King #1667 pulled in 1 r/hr field. Sample read 20 r/hr at 8". DK Smith #7647 and Opendine #7760 ran ea. a dilution in fields varying to 500 mr/hr at body, 1 r/hr at hands.

6:55 A 8WMH sample pulled by DC King — read 20 r/hr at 5" over top.

7:00 I batch settled in both A-11 & A-9.

11-20-53

9 00 am jetting waste to W-9

				Time
Schaich	30-6-D	6	S	1 15 p

Remarks;

Two 6 WMH sample were taken by Jerry - 10 r/hr @ 8".

Requestor			Time

Remarks;

1 15 p Batch "I" settling in A-9 'till 3 30 p

12 35 p air activity (10K) during decanting from A-11 to A-6. Filter paper read ~ 3 mr/hr - 12 35 p - 12 45 p

3 40 p Batch "H" in A-6
" "I" in A-9 settling 'til 4 05 p
" "J" dissolving -

11-20-53 4-12 Glenn Hubbard.

1630 Jetting "I" batch to A-8.

1630 Batch "J" dissolving

1700 J. Ferguson pulled a 8 WMI sample reading 18 r/hr at 1 inch from A-8 sample in fields to 300 mr/hr. Oxendine # 7760 ran a dilution

in fields to 150 mr/hr.

1818 Jetting batch "H" from A-5 to A-6

1915 Batch "J" cooling in A-1 tank

1930 A1MJ sample taken by J. Ferguson #3750 reading 12 r/hr at ~1 inch.

1945 Jetting "H" batch metal waste from A-6 to W-9.

2245 Jetting "G", "H", "I" batches from A-11 to A-9 thence thru process filters to A-17

2300 2 6 WMJ samples taken from A-6 sampler reading 32 r/hr at ~1 inch. J. Darby # in up to 500 mr/hr field taking samples.

2330 above named batches going through process filters fairly rapidly.

New tube put in CAM on 3rd level but it is still erratic. Notified Minnard again and he will pass on to Carney if he doesn't have time this shift. Will relief check on this?

11-21-53 12-8 Peery

12 30 AM Waste jetted from A-17 to A-8

1 00 AM R.C. Osborne #7861 pulled 8WW sample from A-8 blister - from Run #54 A. Sample read 10 r/hr at 1" - Osborne in 500 Mr/hr field < 1 min.
Process filtering
Metathasis being run on product.

3 15 PM Sample 8WMC read 12 r/hr @ contact - Pulled by W. E. Terry - 7804

12 00 M

11-21-53 4-12 Coleman & Hubbard

1600 Batches going thru process filters from A-9 down to resin column

1620 sample taken reading 20 r/hr at 8 inches

1630 Kerxene feed being made up for resin column
2100 Product is lost in system.
2110 Maples (8237) pulled a "Cell A-sump" sample which read 600 mr/hr at 1" - Maples in 100 mr/hr field for short time.

2200 Bailey (2387) pulled a "AW-CW resample" which read 6 r/hr. at 1". Sample very cruddy.

2215 Bailey (2387) pulled a "feed tank rinse" sample which read 200 mr/hr at 1" over the top.

1845 3 samples drawn from cubicle - one FTP
to 1915 and two F.T. P8 samples none of which read over 4 r/hr at one inch. Bailey #2387 drew samples and Davidson #4503 ran tests on them in fields to 100 mr/hr for ~5 minutes for all samples.

2250 Bailey #2387 pulled a A-T resample resin column waste reading 15 r/hr at ~1 inch

2300 HCl being run through resin column to strip off impurities.

11-22-53 12-8 Peery

12:15 AM E.C. Dunlap #3321 took HCLE sample which read 200 mr/hr @ 1' - Dunlap was in field of 20 mr/hr ~ 4 min. R.C. Osborne #7861 assisted Dunlap and was in field ~ 9 min.

3:00 A Dilution of product to be boiled down

7:30 A Sample MWNQ NO3E - Metal Water - Taken by E.C. Dunlap #3321 & R.C. Osborne - Sample read 800 mr/hr @ 1" - Both men in ~ 20 mr/hr field 3 min.

8:45 AM Sample - PE-1 read 9 r/hr @ 6" Pulled by W.E. Terry - 7804.

11-22-53 4-12 Coleman-Hubbard

1615 Extraction in A-9 completed.

1645 Water washes through PF-1, PF-2 to A-9 going on.

2140 Second water wash through PF started.

2330 Water wash through PF still in progress.

12 09/A Still water working back through process filters
12 39/A R.C Osborne #7861 in 100 mr/hr background ~ 3 min. while gaining access to cottrell filter area - Osborne also in 600 mr/hr field <1 min. R.D Johnson #7021 in ~ same fields the same length of time.
1 08/A R. D. Johnston #7021 attempted to take A-8 metal extraction Waste Sample. Unsuccessful - Cone disposed of in hot Can. Johnston in 500 mr/hr field ~ 40 sec. R.C. Osborne took the Sample in 2nd attempt in 500 mr/hr field ~ 30 sec. Sample read 5 R/hr @ 1".

6 05/A Sample pulled by R.D. Johnston #7021 reading 5 R/hr at Contact - Johnston in this field <1 min. Information Came from Johnston - No surveyor monitored the job as he was monitoring removal of isotopes at 3001 shutdown.

7 29/A 2nd metathesis being run.

11-23-53

8 12/am Filtration & digestion

1 30/P 8WCW Sample read 8 R/m @ 1".
WE Terry #7804 took the sample - he was in a background of ~ 1 R/m for 10 sec -

3:25 p FTP Sample 54A Run, 20 r/m @ 4". Terry took the sample - Willie J Davidson did the dilution.

4:00 p The product is being transferred from the feed tank to the hold up tank then to the product evaporator -

11-23-53 4-12 Coleman

1630 acid pressure rinse going throug A-9 to ~~hold~~ feed tank.

1730 Caustic being run through column to hold tank

1800 1st Ph sample drawn from feed tank reading 2 r/hr at ~1 inch. Ph too high

1825 2nd Ph sample drawn reading 3 r/hr at ~1" Ph correct.

2000 Decision reached to write off this run. (Finis)

2145 Four product samples taken from P.E. for shipment to isotopes for shipment out as Pa isotopes. J.E. Ferguson #3750 in field of 200 mr/hr for ~12 minutes taking the samples which read to 12 r/hr through carrier at contact. Carriers later taken to 3038 and stored behind

barricade.

2215 A-9 rinse sample taken reading 200 r/hr at ~1 inch.

2230 Column backwashed and jetted to tank farm as well as product evaporator

2300 Cell tanks and lines in process of being rinsed and jetted to tank farm.

11-24-53 12-8 Peery

12 1/4 Washing out system.
No Sampling

Run started 1-15-54 -

1/16/54 Holden

9 30 AM Approximately 3 gal. of solution drawn off during jacket dissolving for test purposes - Carboy reads 5 r/hr at top. Schaich and Bailey spent ~ 30 min. in a background of 30-120 mr/hr stored in Decontamination room -

2 05 PM Hoyce Bailey, 2387, took two samples from A-1. 1-C sample - Reading directly on sampler 1 R/hr - Brief exposure to 40 mr/hr while placing and removing sample holder -

1-16-54 4-12 Coleman

1630 Last coating removal in progress

1845 Water washes started

2100 1st dissolving started.

2330 Batch "A" still dissolving

1-17-54 Peery

12 00 M completing dissolving of Batch "A"

1 00 AM E. C. Dunlap #3321 pulled 1 MA sample from A-1 blister which read 17 R/hr @ 2". Dunlap in ave. 300 mr/hr field ~ 30 sec.

2 00 AM Crud filtering in progress on "A" batch. Very slow due to clogged filter.

Also started dissolving "B" batch.

6 20 AM. R. C. Osborne #7861 took 1 MB sample from A-1 blister - Read 20 R/hr @ 4" -

Metathesis being run on "A" Batch.

1/[illegible]/54 8-4 Holden

10 10 AM 8 WMA sample @ 10 10 AM by Jim Ferguson - 3750. Samples read 10 r/hr @ 8" - 1 r/hr through carrier. Brief exposures in a field of 3 r/hr while sampling. Samples to lab by Ferguson.

Two dilution made by W. J. Meadows - 7845 1st dilution read 3 r/hr @ 3", 2nd read 40 mr/hr @ 3". 15 min. spent in background of 40 mr/hr with brief body exposures of 100 mr/hr and hand exposures of 3-10 r/hr while making dilutions.

1 05 PM 1MC Sample by Hoyce Bailey - 2387. Sample read 10 r/hr @ 1 ft. Exposure of 3 r/hr to Bailey's body while removing the sampler from sampler.

1-17-54 4-12 Coleman

1600 Batches A and B on process filters
Batch C in A-11 Batch D dissolving

1630 8 W MB sample taken by Maples # 8237 read 20 r/hr ~ 4" over top. Maples in up to 1500 mr/hr for ~ 20 sec.

1645. Monitored Oxendine # 7561 as he made 3 dilutions of above sample. He was in average of 150 mr/hr for ~ 10 min.

1730 Batch D cooling in A-1
Batch C going through crud filters A-11 to A-17

1815 1 MD sample pulled reading 20 r/hr ~ 6" over top. Ferguson # 3750 in up to 2 r/hr for ~ 15 sec.

1830 A-1 D batch jetted to A-11
Extraction being run on batch C

2140 8 WMC sample taken reading 18 r/hr at ~2". Maples #8237 in up to 1500 mr/hr for ~ 20 sec.

2200 D batch being crud filtered

2205 Jetting to W-9 completed

2215 Monitoring Oxendine #7861 as he pipettes aliquotes in fields of body radiation to 300 mr/hr. In average b.g. of 100 mr/hr for ~ 15 minutes

2345 Extraction of batch D in progress
1-18-59 12-8 Leery

1 00/Am. High background occurred at panel board on 2nd level at 1 00/Am - Solution from A-8 had backed up in steam line - Background in front of panel board was ~ 2 r/hr. An effort to force the solution back out of the line with steam caused steam laden with activity to spray out valve to panel board inst. The CAM on ground level started ringing. HP secured assault masks for Blevins, Osborne & self. Steam ~~line~~ was shut off and windows opened on 2nd level and doors opened on 1st level. The bldg. was then evacuated. During this time also called E.C. Dunlap to evacuate bldg. he was

on top level of the bldg. Blevins, Osborne and Peery were all contaminated to as much as 40 mm/hr. these three men went to 3037 change Rm and showered and changed clothing.

1-19-54

5 10/AM (2) Sample # 8 WMD taken by Dunlap - 10 Nhr @ 3" - Dunlap was in a Pg of ~ 300 mhr for ~ 10 sec.

1-18-54 Con't. 12-8

While in change Rm was informed that Ruth Holland re-entered lab. to get sample called Wy. Gissel to come down and get everybody out and keep them out until air activity could be checked in bldg. This surveyor wore assault mask and started working from C. Bldg. toward D bldg. changing CAM filters. This was ~ 20 min. after burst of activity. The CAM's all remained on 2K scale in C bldg. and all remained on 10 K with slight rise in D. bldg. During this time shoe covers were placed at all entrances to bldg. by operations personnel. Operations personnel then re-entered bldg. to continue operation. Lines behind panel board read to 40 R/hr and 2 R/hr at 2 ft. from panel board in front. Blevins informed. Blotter paper placed on floor in this area. Paper towel smears were taken on all levels

The 3rd level smeared to ~2 mr/hr on floor. 2nd level smeared to 600 mr/hr in front of panel board and to ~20 mr/hr over to S.W. corner of 2nd level. Ground level smeared to 5 mr/hr near steps and smeared ~1.5 mr/hr generally. E.L. Sharp was called to lend assistance. Upon his arrival Perry smeared 3037 Change Rm. and Hallway. Found hallway slightly Contam. to 60 c/min and the Change room Contam. to ~200 c/min. Blotter paper placed on floor and Condition of Chg. room tagged on door. This information passed on to Sharp who informed Parker on days. Upon Completion of this Perry did further self decon - Hammatrol - Hands Contam. to ~2 mr/hr decontaminated to b.g. R. Holland and J. Hampton were Contaminated to ~2 mr/hr on exposed body and in hair - Both showered and decontaminated hands to b.g. E.C. Dunlap was slightly Contam. to ~2 mr/hr Decontaminated hands to b.g. It was necessary for Perry to go to 3001 for shut-down and Sharp took over from this point. Urinalysis specimen requested from all Concerned.

1-18-54 Sharp, Teague, Walters, Hilyer, Martin.

0800 Building completely contaminated, Clean up of H.P. office started by H.P. personnel.

0830 Maintenance men moved in to start removal of pipes, etc. from panel Board #1. Work permit #1374 issued. All maintenance men were sent to 3550 for contamination check & issue of exposure coupons.

0930 Schaich, Ladd & Blaver worked behind P.B. #1 wiping off pipes with versene, HNO_3 & oxalic acid to reduce contamination on outside of pipes. Reduction from 40 r/hr to 14 r/hr, maximum, was attained. G.B.G. behind board was reduced to ~ 2 r/hr. At this point operation was stopped both because of overexposure to personnel & because of fact that reduction stopped. Time ~ 1150.

1300 Product transferred to cubicle.

1330 Product pH sample taken, after some difficulty with sampler. Sample read 35 r/hr over top of open cone. Taken to lab.

1400 Sample of WCW taken at A-8 sampler read 1 r/hr @ 1" over top of open cone. Delivered to lab.

1500 pH sample withdrawn read 20 r/hr @ 5", was taken to lab.

1515 Special processing requested on the following film meters:

O. D. Teague
Kendall Ladd
Harris Blaver
R. L. Schaich
P. O. Martin.

Films to be changed in building & old ones taken to personnel monitoring.

1520 pH sample withdrawn read 25 r/hr @ 6", was taken to lab.

1-18-53 4-12 Coleman - Golden

1915 A-8 resin column waste sample taken reading to 35 r/hr at 1 inch. Tatum # 7768 in up to 2½ r/hr for 20 seconds.

1930 9 molar HNO_3 started on resin column to strip off product

1945 HW HCLE sample taken by Tatum # 7768 reading 3 r/hr at 6 inches

2000 100 smears taken on 3rd level on floor, bannisters, tables, etc. all counted above mpl but 10. 110 to 22,000 cnts/m B. Results to Newton. 2nd level cleaned and smeared. Results were: 320 to 8000 cnts/m B where it had been cleaned. NE corner which had not been cleaned counted to 140,000 cnts/m B 1st level cleaned - to be smeared

2215 Batch "E" started dissolving

at 1720 waste was jetted to W-9. Gave Osborne a mask and evacuated Ulrich from 3515. Came at 3515, 3026-C and 3026-D all rose from 2 div. on 2K to 4 div. on 10K.

2350 Resin column stripping still in progress

2000 W. E. Oxendine, 7760, made two dilutions of the A-8 sample taken @ 1915 - First dilution read 3 r/hr, 2nd 50 mr/hr. The sample contained crud, so another was taken by J. E. Ferguson - 3750 - Brief exposure of 2 r/hr while sampling. Oxendine & W. J. Meadows - 7845 exposed to 20 mr/hr to 2 r/hr while preparing sample for analysis -

1-19-54 12-8 Curry-Golden

12:00 AM 1st. Metathasis being run on product in A-9.

"E" batch being dissolved.

2:50 AM D.R. Hodge #7831 pulled IME sample from A-1 blister - Sample read 20R/hr @ ~4". Hodge in up to 500 mr/hr background pulling sample.

4:00 AM E.C. Dunlap #3321 pulled MW NO_3 sample from cubicle on 1st 4 batches. Sample read 2.2 R/hr @ 3". Dunlap in 300 mr/hr background in cubicle area for ~1.5 min.

4:10 AM "F" batch being dissolved.

5:00 AM 1st 4 batches being evaporated down.

60 Smears taken on top level counted to 3000 c/m. Highest smears taken on table tops etc. Those taken on floor were seldom > 200 c/m - Results given to Blevins. Will be re-cleaned on days.

40 smears taken on 1st level - 2 counted > 200 c/m (to 320 c/m). 5 counted from 100 - 125 c/m all others O.K. Results to Blevins. 2nd level has been recleaned and should be ready to smear on days.

1-19-54 Sharp, Teague & walters

9.00 A.M sample 1 P. - 125 r/hr. Fish Pole Probe

12:45 8WME Sample 1.75 r/hr @ 3"

2:00 2nd P SAMPLE - 320 mr/HR AT SIDE OF CARRIER
~1 r/HR WITH TOP OPEN.

Requestor	Place	Instrument	Surveyor	Time

Remarks:

1/

1-19-54 4-12 Coleman

1600 attempting to get reading of product on cubicle fission chamber - no success. 2. Miniard had to take chamber to shop to repair. Lt. Loyd went with him to check on contam. Chamber reads to 10 mr/hr contact.

1800 Batch E on process filters. Batch F going through process filters and Batch G dissolving.

1850 Carrier loaded and product removed from cubicle. CAM on main level went off scale on 20K as paper was being removed from carrier. Filter changed and it stayed low and steady on 10K. Filter read over 20 mr/hr at 1." Newton #1386, Tatum # , Maples # and Daily # in up to 20 r/hr for a few seconds at a time and all of us in average of 200 mr/hr for ~20 min. cleaning carrier and taking it out of cubicle. a 1 r/hr spot was found on main floor and cleaned and the 1st level was scrubbed down but did not dry by shifts end. all personnel wore masks, towels shoe covers and were taped. a 45 min

PDS was run on 2nd level west and a 1 hr PPT on top level during product removal. All personnel checked to < 1 mr/hr after cleaning up. Other CAM's in D bldg. did not rise appreciably on 2K during product removal

2030 1 MD sample pulled read 10 r/hr at 1 foot.

2045 8 WMF sample pulled read 45 r/hr at 1 inch.

2350 Batch G dissolved but not crud filtered
Batch H started dissolving.

1-20-54 12-8 Berry

12 00/AM G batch crud filtering

2 15/AM H batch being dissolved.

25 Smears 2nd level - No. 9 blacked Counter others Ranged from 500 - 9000 c/m
25 Smears 1st level - 3 counted from 162 to 269 c/m β - Others O.K. except No. 20 which Counted 11,700 c/m β
Covered with blatter paper.
"G" batch being extracted -
"H" batch in dissolver.

1-20-54

Sparging A-1 at ~ 7 00 am shut off at ~ 8 10 am this probably caused the high air activity - off gas going thru water instead of Caustic -

8:00 a Jetting A-1 to A-11
Jetting G to A17 - CAM in Cold lab up to 2 on 20K.
8:50 am All operations discontinued -

12:10 p Filtration Started -
12:40 p Jetting Started.

134 Smears Taken on 2nd Level (Mr Sergeant, Hilgeon & Shop -
All OK except the ones behind PB#1.

air activity on outside dog houses caused
all the instruments, except #8 to go off scale -

#1 -	off scale	@ 7:15 am	-	3026-0
#2	"	" " 5:45 "	-	Pile
#3	"	" 7:15 "	-	Rolling mill
#4	"	" 7:45	-	Sett. Basin
#5	"	" 7:30	-	Guard Gate
#6	"	" 7:15		Rail mill
#7	"	" 6:45		Jones area
#8 —				
#9	"	" 8:30		N side of Hway
#10	"	" 4:00		Paint Shop

Inversion over @ ~ 9:40 am -
Outside air activity - Reached 2×10^{-9} μC/cc Bg
Mr. Rupp suspects Zenon & Krypton.

11:50 am Back up in A-4 scrubber line for a
short time - ~100 mile reading under the line -
down to 0 in a short time -

8 15/am 1 MH - 10 r/m @ 8".

1 30/p 8 WMG - 10 r/m @ 2". Taken by Bailey - Bailey was in a Bg J ~ 500 mrh for 15 sec -

All the railings, furniture are highly contaminated - Reading up to 2000 c/m on 2nd level -

3 21/p (Dissolving in A-1, Ext. A-9 (getting neutralizing
4 00/p Waste from A-8 to A-5. stopped @ 3 21/p)
stopped @ ~ 4 00/p)

5:01/p Started dissolving - Batch at 5:01 P)
7:18 PM D.C. King took 8 WMH - read 20 R/hr. @ 6"
2325 D.C. King took 8 MI sample - read 180 R/h at 1.5"

12 00/M Batch "I" crud filtering

1 15/A Batch J dissolving

1 00/A Batch I extraction

1-21-54

Requestor	Place	Instrument	Surveyor	Time
Op	D	Cp	Gunn	10 30/am

Remarks;

8 WMI 10 r/m @ ~~10~~ 6".

1-22-54 Day

Requestor	Place	Instrument	Surveyor	Time
Op.	D	Cp	S	8 30 - 9 50 am

Remarks; Three PH samples -
1- 150 mrhr thru carrier - 100 r/hr @ 4"
2- 75 " " " 50 r/hr @ 1"
3- 60 " " " 30 r/hr @ 1"

Requestor	Place	Instrument	Surveyor	Time
				10 40 am

Remarks; Steering cluster on 2nd level - No air activity noted

12-8

8 WCW from A-8 by Hotzes 5 r/hr 3" (Pearry) Cubicle sample pulled by Amiz & Schark - 10 r/hr thru carrier. 20 r/hr @ 3 ft over top of open carrier - Ed Wyatt making detection. 36 min W.T.

J Sampton in 15 mrhr bg. detecting 8 WCW Sample pulled by Hotzes from A-8

Days Continued 10 50 am A-9 rinse taken by Maples (1 r/hr for ~ 5 sec) read 2 r/hr @ 1" over top -

1-22-54 Hilland & Johnson 4-12

2130 Wind coming from S.E. died down to approx. 2 mph, activity from the stack settled down low and drift across land farm. 3026-D lab cam on 20K, 3rd level cam on 10K, 1st level cam on 10K. Outside cam in front of 3550 showed rise, but not off scale, outside cams north of 3026-D showed no rise. Cams in and around Bldg. 3515 on 10K and 20K scales, cam (outside) west of land farm went off scale. Filters changed when reduced - activity lasted only short time. Cam in control room of 3505 on 20K and the laboratory cam on 10K. Decay on filter was fairly rapid.

3320 Sample MW da SO_3 elution pulled - read 8 r/hr. at one inch directly over top - sample pulled by Tatum in 20 mph. field - no over exposure reported.

1-23-54 0000-0800 Martin.

0130 Product sample withdrawn by Bailey read 700 mr/hr thru side of carrier — 125 r/hr, hard shell fishpole, @ 3" over top of cone. Sample taken to 2nd level lab where Meadows & Davidson made analysis. Two other cones full of product also withdrawn & taken to shipping room barricade by Schaich & Terry.

0300 Main waste HNO_3 sample taken by Bailey read 17 r/hr @ 4" over top of cone — 350 mr/hr thru side of carrier. Sample to lab.

1-23-54 8-4 Holden

Requestor	Place	Instrument	Surveyor	Time
Maples	Cubicle	CP	Holden	2 02 PM

Remarks; P.E. rinse-1-sample by E. L. Maples - 8237 Sample read 525 mr/hr @ 3" through Carrier - 7 r/hr @ 1 ft. over Cone - Background 25-500 mr/hr while sampling - Sample to Lab.

Two dilutions were made - One by W. E. Oxendine - 7760, the other by Bob Pritchard - Background in which they were working varied from 60 to 120 mr/hr -

3 15 PM P.E. Rinse-1-1 by Maples - Sample read 1 r/hr thru Carrier, 7 r/hr @ 18" over Cone - Sample to Lab.

1-23-54 4-12 Johnson

Requestor	Place	Instrument	Surveyor	Time
Blauer	Cubicle	CP	Johnson	10 30 P

Remarks;

Dave King pulled sample PE2 #3 reading 550 mr/hr thru carrier

10 30 P King pulled sample MWFN #3 reading 1800 mr/hr thru carrier.

1-24-54 8-4 Coleman

Run shut down with the product (~36000 curies) in the product evaporator in a diluted stage awaiting return of carrier from L.A.

1/27/54

1 00 P Rinse sample - 40 r/hr over top - Taken by Schaich & Maples -

4-26-54

Five (5) Carrier loads of slugs hauled and placed in dissolver this shift. Total of 80 slugs.

One Hanford slug loaded into Iodine dissolver. On first attempt slug and basket became lodged in chute. Due to this, expect averages on Hampton Bailey and Jamison. They were in flash readings to 10 R/hr and in b.g. of ~300 mr/hr while dislodging slug & basket.

During loading of slugs for Ra La these three men plus Dunlap were in flash readings to ~3R/hr and

b.g. of ~190 kg/hr.

4-27-54 12-8 [illegible]

11 carrier loads of slugs loaded into dissolver tank. 161 slugs [illegible]. Finished by 0430.

1st coating removal started at 0530

In the future please take a reading through the side of the carrier as well as over the top

Checked probe rod after decontamination - It read less than 5 mr/hr.
Check of carrier over top with lid off showed 65 mr/hr and smear on side read 1/2 mr/hr (towel smear) Newton notified.

Probed area around loading chute and found 4 spots reading to 5 mr/hr. 2 of these smeared to 1/2 mr/hr. Newton decontam. area. Carrier scrubbed down.

4-27-54 8-4 Sharp & Worth

Thanks O.D.T.

Less than 10 mr/hr at ~4" Coleman 5-28

850AM. Coating removal solution was added + heated to 100°C. This temperature was maintained for 1½ hrs.
1052AM. Cooled + jetted to W16
Added 620 # H2O wash to A', agitated 5 minutes + jetted to W16.
11:17AM - Added 840# 20% HNO3 to A', heated to 100°C + held for 30 min.

Then Cooled to 60°C & took 1C Sample at 1:30 p.m. Sample read 900 mr/hr. at 3" over top & 20 mr/hr. at sides of Carrier. Sample taken by D.C. King who was in approximately a 200 mr background for a matter of Seconds.

1:35 p.m. - Jetted 20% HNO_3 to W16 & added 620# H_2O to A1, Sparged 5 minutes

200 p.m. - Jetted to W16.

3:00 p.m. Added 1150# of 50% NAOH to A1 and heated up to 100°C. This temperature was maintained until 4:00 p.m. -

4-27-54 4-12 Peery

4 30 p.m. Water washing still in progress.

7 4 p.m. Slug dissolving Started.

11 31 p.m. Completed dissolving Batch A. This batch now being Cooled. Will be sampled next shift. (12-8).

4-28-54 12-8 Coleman

0010 Batch A cooling

0020 Readings taken at Cottrell showed 200 mr/hr at inner fence

0040 A-1 dissolver sample pulled reading 40 r/hr ~ 6" above. E. Maples # was in 2 r/hr field ~ 10 seconds

J. Kampton #7776 pulled, at dilution in up to 5 r/hr for ~ 30 sec.
E. Orendint #7760 made final dilution in up to 200 mr/hr for ~ 15 min.

0200 Crud filtering A batch - dissolving B batch

0230 C-1 scrubber sample pulled on balcony of 3026-C, ^{131} (Hanford alg) run by Tatum #7768. Sample read 3 r/hr contact

0235 F-1 sample pulled in rm 10 3026-C by Tatum #7768 reading 25 r/hr contact. Tatum in 2 r/hr field for ~ 20 seconds.

0555 Extraction on "A" batch started with addition of last amount of H_2SO_4 to A-9 tank. (Digestion started)

0630 Back up of hot solution in A-9 sparger line. Line was blown back with air first and then 2 lbs of steam. I arrived here from 3505 bldg ~ 10 minutes after it happened without knowing it had happened. Newton was calling me. The line on 3rd level read 20 mr/hr contact and line on 2nd level read to 200 mr/hr at ~ 2 feet with lead covering. Put warning sign opposite it. The CAM's in bldg. went straight up and almost immediately down due probably to radiation. No signs of

3

long lived air activity due to this back-up
Ran 1/2 hr PPT on 3rd level. Cause of back-up
unknown. Changed filters on CAM in lab
and on 3rd level. CAM on 3rd level
had been going off scale at intervals during
past 3 hrs but has steadied down on 2K now
No significant readings on changed CAM filters.

0720 Pulled A-1 dissolver sample on "B" batch
J.E. Fergasen # in up to 3 r/hr for ~ 10 seconds.
Sample read 40 r/hr ~ 6."

0730 Extraction completed on "A" batch, "B" batch
in dissolver ready for crud filtering.

4-28-54

8 50/9 8WMA - 10 r/hr @ 4" taken by D. King
He was in a bg. of ~ 400 mph for 5 sec.

3:25 PM. Steam backed up in line A-17 to A-8.
All Cams + monitrons started ringing.
Reading of 8 r/hr @ 8" from trap on steam
line west side of cell A just south of
lead cell.
Operators + League donned respirators
and Checked over the building until
the trouble was located. First
we determined that the ringing bells
were not Caused by air activity

Then the radiation was determined to be coming from the steam line described above. The lead burners have been called to place lead around the pipe. Reading 3000 mr/hr through ½ inch of lead.

OM

4:05 P.M. Sample 8WMB pulled by Bailey. Reading 50 r/hr @ contact. Reading taken by R.S. Parker.

4-28-54 [signature]

4:10 PM Line covered with lead - work done by Garrison #9204, C. Wright #6856 and H. Wright #6198. Health Physics Work Permit #1379 made out. Areas were marked with tags and signs to show field of radiation in work areas. Tampton notified of results

Run going smoothly - no unusual incidents.

12-8 Shift 4-29-54 OM

12:20 AM J. Ferguson, #3750 pulled 8WMC. It read 8 r/hr @ 7" over top. He was in field of ~ 500 mr/hr for few seconds.

E. Oxendine #7760 pipetted said sample in up to 200 mr/hr for 15 min. Gen'l b.g.: 15 mr/hr. Ran Precip.

~2:20 AM Jetted A-6 to W-9-, H.L. Woods #5076, masked, operated.

6:00 Made bldg. survey - also checked CAM's in nearby bldgs - all OK.

4-29-54 Sharp + Worth

9:00/9 W. Phillips # 7204 pulled sample from A8. read 700 mr/hr at 2". Read 22 mr/hr through side of Carrier. Phillips in 70 mr/hr for Appx 30 Sec -

11:30AM E.C. Dunlap # 3321 pulled sample from P.F. tank read 70 mr/hr. reading through side of Carrier 20 mr/hr.

11:42A E.C. Dunlap pulled P.F. Sample - read 400 mr/hr. reading through side of carrier 60 mr/hr.

245.P W. Phillips # 7204 pulled A8 sample - read 31 R at 2" - reading through side of Carrier 400 mr/hr. Phillips was in bkg. of approx 200 mr/hr. for about 1 minute.

4:00 D Batch ready to start dissolving Batch A, B, + C are on the Column.

98 7/16/54 Ra La

2107 First slug of 1st carrier load dropped. New plumb bob arrangement hung at first, but line was soaped & worked O.K. Dunlap, Osborne & Davis in flash fields of >10 r/hr for 16 slugs. DUNLAP HAD HANDS IN FIELD >10 r/HR WHILE DISENGAGING PLUMB BOB LINE.

2200 LOAD #2 16 SLUGS FLASHES TO 1500 mr/HR
2245 LOAD #3 16 SLUGS FLASHES TO 1500 mr/HR
2325 " #4 " " " " " "

Reading at top of slug chute 1 r/hr.

7-17-54

$1\frac{05}{9}$ Last 7 slugs loaded (7)
$1\frac{15}{9}$ Coating removal started.
$1\frac{40}{9}$ checked Plum bob - 75 mr/hr -

8-4 Shift 7-17-54 Egg

9^{30} A C-1 coating removal sample off - read 100 mr/hr over top. E.L. Staples # 8237 sampled.

4-12 shift 7-17-54 Walters - Martin

2125 Sp.G. slowed up at ~ 1.60 - 1.68. Possibly will dilute this shift, but not sampling unless Sp.G. takes a spurt.

12-8 7/18/54 Sharp

$1\frac{30}{9}$ IMA - 8 r/hr @ 8" by Ferguson
$2\frac{35}{9}$ Started dissolving "B" batch.

6:50 a attempting to filter from A-9 to A-17, difficulties encountered.

7-18-54 8-4

0800 Check of Bldg. found all OK

11:45 G Phillips # 2357 sampled 8WMA. Sample read 8 r/hr @ 9" over top. Phillips in ~1 r/hr field for few seconds.

DK Smith # 7647 pipetted 8WMA in ~500 mr/hr field at body, 1 r/hr @ hands 1st dilution read 1 r/hr at contact.

12:10p E L Maples # 8237 sampled 1MB. Sample read 8 r/hr @ 16" over top. Maples in flashes of 2 r/hr field max.

12:2p In blowing back thru filter, A-11 valve closed instead of A-17. Caused some back-up in A-17 lines 2nd level - a line reading 8 r/hr @ 1" was shielded to 1 r/hr @ lead.

7-18-54 1600-2400 Walters - Martin.

2130 Sample 8WMB taken by Tatum. Both samples read 10 r/hr @ 6" over top of open cone — 1 r/hr @ 2" from side of carrier.

2155 Monitored as Hampton diluted above sample. He was in field of 350 mr/hr, body while sampling — hands in >10 r/hr for seconds. Reading at side of flask after dilution 1 r/hr.

17-8 7/19/54

1 30/a 1 MA - 8 r/hr @ 8". ~~Jim Kay~~ Dave Kiry in ~ 1 r/hr background for 3 sec.

5 09/a started jettiny metal waste to W-9

7 40/a D batch dissolving still in progress

7-19-54 8-4:30

Teague, Patton, Goldman.

8:30 A.M. Goldman checked waste container for maples. Readings: at top 70 mr/hr Shield: 10 r/hr. Bottom: 120 mr/hr.

10:34 A.M. 8 WMC sample read 6 r/hr @ ~ 6 inches. Sample pulled by Osborne. Reading 550 mr/hr @ Osborne's head.

4:00 P.M. 1 MD sample pulled by Terry. Read 10 r/hr @ about 10"

7-19-54 1600-2400 Martin Thatten

No sampling.

17-8 7/20/54

1 04/9 8WMD - 8.5 r/@ 3". Taken by Jim Ferguson

8 45/9 8 WCW - 2.4 r/hr @ 3" Taken by Dave Kerg

8 45/9 First fuel in fuel Tank.

8-4:30. Teague + Goldman.

8 00 Smeared acid bottles, + lumber removed from 3rd floor of bld.

9:10AM. P.h. Sample pulled by osborne read 800 mr/hr @ 3" through the shield.

9:30 AM. Ph Sample pulled by osborne read 900 mr/hr @ 3" through the shield.

1:45 P.M. HCL E Sample pulled by maples read 425 mr/hr @ 3". (top of shield removed.)

2:30 P.M. No more samples to be taken on 8-4 shift. (Product lost.)
Operations will start back at 8-9 and proceed from there and try to pick up the product.

(4-12) 7/20/54 [illegible]

8 15 PM PE-1 pulled by W.E. Terry - Sample read 10 r/hr @ 1 ft. First dilutions read 2½ r/hr @ 3 ft. Second dilutions below B.G. Oxendine & Hampton each made a dilution, spending at least 20 min. in a background of 40 mr/hr. Brief hand exposures to as much as 10 r/hr.

9 50 PM 8WCW taken by Dunlap - Two samples, each reading 1 r/hr @ 3 in. Brief body exposures at 200 mr/hr.

11 15 PM 3 molar $NaNO_3$ sample by Terry - Read 2 r/hr @ 3 in.

14-8 7/21/54

1 30 AM MWF read 4.5 r/hr @ 3". Sample taken by D. King -

3 30 AM Recovery FTP 2.3 r/hr thru side of Carrier - Taken by Jim Ferguson 9 r/hr @ 18" over top -

6 50 9 Ph finished - Versene rinse from A-9 on the Column -

8 - 4:30 7-21-54

9:40 AM. Sample ~~AM~~ 200 Cubicle west at A-8.
1 sample read 6 r/hr @ ~3"
2 " " 2 r/hr @ ~3".

10:50 AM Sample HCLE -(Waste) - 200 mr @ 3"

11:30 AM A preliminary reading at mouth of 1M Heel showed a reading of 7½ r/hr.

12:40 Sample 1M Heel Disolving pulled by Osborne read 9.6 r/hr @ ~4".

1:45 P.M. There will probably be no more samples to-day. Operations plan to start back at A-9 again.

(12-8) 7/22/54

12 45/4 FTP Sample Recovery #2 - 10 r/hr @ 12". 1.2 r/hr then the carrier.

4 30/R Three PH samples taken by D. King 10 r/hr @ 4", 1 r/hr then the site.

7 15/4 A-8. Resin Column waste 10 r/hr @ 4" Taken by Newton - 1 r/hr fries for a few seconds.

 8-4:30 7-22-54.

8:20 AM. MW HCLE Sample pulled by Osborne read 100 mr/hr through the Carrier @ ~5"
Read 500 mr/hr with top of the Carrier.
Osborne was in 100 mr/hr for ~ 2 min.

18-8 7/23/54

18 00 M Product Evap. rinse - 10 rdr @ 5"
Taken by D. King.

5 55/9 MWFN #2, 4 rdr @ 4", 250 mrdr then sides - Taken by Jim Ferguson

6 15/9 PE#2 - 10 rdr @ 6". Taken by D. King & Ferguson

7 20/9 Product in the product evap. tank and the Cone - approx 250 ml in each.
The run will be ready to place in the Carrier at ~ 11 00 am if everything goes OK - Good luck Mr. Ferguson

8:4:30 7-23-54.

11:00 AM. PE Rinse pulled by Osborne + Jacobs. Sample read 4 r/hr @ ~ 4".

11:25 AM. Second PE Rinse pulled by Osborne + Dunlop. Sample read 6 r/hr @ ~ 3".

3:08 P/m FT rinse sample pulled by Osborne + Dunlop. read 10 r/hr @ ~ 3".

3:15 P/m Started removal of product to RaTa carrier. Osborne and Jacobs in 2 r/hr fields for ~ 2 min. Dunlop and Blaifer in 1 r/hr field for ~ 5 min. Carrier read 25 mr/hr at top after removal from hole and 60 mr/hr. through the side. After stripping carrier read 18 mr/hr at top and 20 mr/hr. through the side.

9 smears were taken on carrier before it was placed on the truck. One smear on top read 1920 c/m β. All other smears read less than 50 c/m β. All α counts < 10 c/m.

106 Run #58 10/22/54

3 00/p Unloaded 16 Hanford 8" slugs. Tatum & Terry were in intermittent flashes varying up to 2.3 r/hr (16.) This run will consist of 87 slugs.

10/23/54 — Walters

3:25 A First coating removal sample taken by Dunlap. 200 mr/hr at 4"

10-23-54 Hubbard - Martin.

2050 Sample A-1 8 taken to lab by Ferguson. Flash exposure to 15 r/hr while withdrawing. Sample read 15 r/hr @ 1" F.P.P. P.C.

10-24-54

0210 SAMPLE 8 MW TAKEN TO LAB BY DUNLAP. FLASH EXPOSURE TO 15 r/HR WHILE DRAWING. SAMPLE READ 500 MR/HR THROUGH TOP OF CARRIER. READING TAKEN @ 2". FPP & PCCP.

10-24-54 Hubbard - Martin.

1920 Sample 1 MC taken by Ferguson & delivered to lab. Sample read 75 r/hr @ 1" over top of open carrier — 1.5 r/hr thru sides of same, closed, F.P.P., P.C. & P.C.C.P. No trouble or delay experienced in handling.

1400 Sample 8WMD @ 2:10 pm, By W. G. Tatum - Sample read 10r/hr @ 1ft. 2r/hr Brief exposure Each of two samples - No Overexposure Anticipated.

12-25-54 WALTERS

0015 SAMPLE 8WMC TAKEN TO LAB BY DUNLAP #3221. SAMPLE READ 7r/HR @ 2" OVER OPEN TOP. 300 mr/HR @ 2" OVER CLOSED CARRIER TOP. PCCP READINGS. NO TROUBLES.

0750 SAMPLE 1MD TAKEN BY DUNLAP. READ 12r/HR @ 2" OVER OPEN TOP. 750 mr/HR OVER CLOSED CARRIER FPP & CPPC.

10/25/54

1 00 P 8WMD 10rhr @ 4" Sample Taken by DC King.

11:00 9 Air activity reported in the 3001 area -

2 45 P metalhesis in progress - also heel dessolving.

8 30 pm 8WC - 4½ r/hr @ 3". Sample Taken by R.C. Osborne - 8761.

10 15 PM IME By J. E. Ferguson -
Read 10r/hr @ 6" — 1mr/hr through carrier -

10-26-54

0030 FIRST FTP SAMPLE - BATCH 55 PULLED FROM CUBICLE BY JOHNSON. READ 1200 MR/HR @ 1" THROUGH SIDE.

0210 FIRST FT pH SAMPLE TAKEN BY DUNLAP. READ 300 MR/HR @ 1" THROUGH SIDE OF CARRIER.

0240 2ND PH SAMPLE TAKEN BY DUNLAP. READ 200 MR/HR @ 1" THROUGH SIDE OF CARRIER

0540 A8 RESIN CUBICLE WASTE SAMPLE TAKEN BY DUNLAP. READ 19r/HR @ 2" OVER TOP, OPEN, 1700 MR/HR @ 1" THROUGH CARRIER SIDE.
FISHPOLE PROBE NOT WORKING PROPERLY ON THIS SAMPLE. BORROWED C. QUINN'S FOR FURTHER SAMPLING.

0630 MANHOLE SAMPLE TAKEN BY DUNLAP, READ 80 MR/HR @ 2" OVER OPEN TOP, 0 THROUGH CARRIER SIDE.

1625 1T. Nitric Rinse Sample by R.C. Osborne - 876l. Read 10r/hr 6" over top — 400 mr/hr thru Carrier.

2000 MW $NaNO_3$ Sample by J.E. Ferguson - 3750
Read 6r/hr @ 4" - 200 mr/hr thru Carrier.

2230 8WFN Sample (2) by Ferguson - 3750 -
Each read 10r/hr @ ~10". 2r/hr thru Carrier.

Tried to get a Product Evaporator
Sample 2230 To 2400 - No Dice.

10-27-54
Product ready to go at 4 oz/pry
Loading went along very smooth -

Run # 59
3-2-55
Hubbard 1600 - 2400 Coleman

2245 1MA sample pulled - sample read 60 r/hr.
at ~2" and 2.5 r/hr. through carrier. Results
to lab and operations

2300 Batch A jetted to A-11

2310 Batch B dissolving started.

Run # 59

3-1-55 First batch of slugs was dropped at
4-12 2242.
Golden-Walters. Third carrier was positioned but not dropped at end of shift.

3-2-55 Martin.

0015 Completed dropping batch 3 from carrier.
0200 6th batch of slugs dropped ~ 89 in all.
0300 Coating removal run started.
0800 Still on coating removal run. First water & acid washes completed.

3-2-55
4-12 (See entry on page 109)

3-3-55 Martin

0045 Batch "B" dissolving under way.
0315 King took 8-MWA samples (2). Both read 10 r/hr @ 3" over top of open container. King in flash exposures >10 r/hr for few seconds during transfer from sampler to carrier. Taken to lab

0655 Sample 1 MB taken by Ferguson. Sample read 9 r/hr @ 8" over top of open carrier; 1.4 r/hr thru sides. It was taken to lab.

0715 Oxendine pipetted & diluted one sample & Googe another. Both received ~ 100 mr/hr body exposure for 10 minutes. Samples after dilution

read 10 mr/hr contact with side of flask.

3-3-55

10 10/a High air activity was detected in 3026-D, 900 area, 3550, 4500 area, and Pile Bldg 10K scale in Bldg 3038 and Pile bldg. a rise of two divisions, 1K scale in 4500 area.
The activity was the result of changing the [illegible] [illegible] the Carolina scrubber or filtration.

3-3-55 4-12 Coleman-Hubbard
2-8 WMC samples pulled at 2110 by Taturn #. in up to 2 r/hr for few seconds
Samples read 10 r/hr 1" over top and 20 r/hr 1" over top. No unusual incidents this shift.
Batch "D" dissolving on.

3-4-55 Martin

0435 Ferguson took 1 MD sample & took to lab. Sample read 10 r/hr @ 6" over top of carrier — 1.4 r/hr @ sides.
Googe took 2 aliquots of sample in lab, & performed 1st dilution of each receiving 50 mr/hr for ~ 30 minutes while doing so.
Googe performed 1 second dilution & Hale one — each receiving 50-75 mr/hr, mostly at head & face while doing so.
0450 Dissolving of batch "E" commenced.

4-4-55

6 30/a slight rise in activity was noted at this time [illegible] cut back on the scrubber.

11 10/a Ed Dunlap pulled sample # 8WMD Read 10 r/hr @ 9". He was in a [illegible] for approx 5 sec.

3-4-55 4-12 Hubbard - Coleman

1ME sample pulled by Tatum # at 2000 reading 25 r/hr at 3". Extraction of batch E in progress. No unusual incidents.

3-5-55 12-8 Ogg

2:10 AM PE Phillips # 2758 pulled sample # 8 WME. Sampled read 10 r/hr @ 6" over top. He was in ~ 1000 mr/hr field.

Found top level CAM found to 'block out' at high radiation. Had Inst. man repair. OK now.

~2:30 On transferring waste from A-8 to A-5, i.e. about that time there was a short burst of air activity indicated on CAM on 1st level. Short half-life material and ~ 3/10 on 10K.

~ 3:00 W. L. Meadows # 7845 diluted sample 8WME above. It read approximately 1r/hr @ 1" thru carrier 2nd dilution read ~ 20 mr/hr.

8 [illegible] [illegible] Walters

8 15 AM [illegible] Sample by [illegible] Dailey - 7566. Sample read 10r/hr @ 3" - Flash exposures of 1r/hr to body - Dilution Made by Hampton.

12 [illegible] 8WC Sample by Dailey - Sample Read 5r/hr @ 3" - Flash Exposures up to 1r/hr on Hands - Less to body - Dilution by Hampton.

[illegible] FTP Sample by [illegible] - Sample read 100r/hr @ 1 ft. - [illegible] thru Carrier.
Dilutions by Wyatt & Hendren using remote control devices on Second Level.

[illegible] [illegible] By [illegible] - Sample [illegible] - [illegible] thru Carrier

[illegible] [illegible] - Read [illegible] - [illegible] thru Carrier.

4-12 [illegible]

at 1850 T. Owings # pulled 2 A-8 resin cubicle waste samples reading to 12 r/hr at ~1 inch. The fish pole probe was used. Product on column; column waste stripping (HCl) going on. Dilution made by J. Hampton. Owings in up to 2 r/hr for short period.

at 2025 a MW HCl E sample was drawn by T. Owings # Sample read 2 r/hr ~1 inch over top.
6 MO HNO_3 elution starting ~2100 for ~7 hrs.
(product removal from column to hold up tank

12-8 Ogg 3-6-55

Most of night spent at elution. Acid rinse at 0645 and Main waste sample at [illegible]. E.L. Maples # 8237 [illegible] sample — [illegible] to [illegible] Sample uncovered [illegible] at 1".
J.H. Davidson # [illegible] diluted [illegible] [illegible] fields [illegible] to approx. 300 mr/hr.

4-[illegible] [illegible] Puker [illegible]

[illegible] pulled and [illegible] [illegible] [illegible] [illegible] [illegible]

7-8 Ogg 3-7-55

Prod[illegible] [illegible] in [illegible] — they decided to pull sam[illegible] [illegible] shift. However, carrier not even [illegible] in pit because cone manipulator broke and must be repaired first.

Ev please call 3019 HP and tell them we left 2 E.P.s from there down here. — Were going to return them but you might need em first of day — especially the 00r Cute Pie — Ogg

8-4 Sharp 3-7-55

Spent the morning mandatory repair on the arm to the product hauler — 5 hrs w.t. Wicker did the work —

3 35/P P.E. Rinse, 1 hr @ 3".

4-12 3-7-55 Coleman - Hubbard

Most of shift here standing by. Product removal started at ~2300 No significant air activity on bldg. CAMs during shift and very little spread of contam. Carrier loaded on truck after smears taken on it at 2330. Next shift to count smears.

12-8 Ogg 3-8-55

Carrier loaded on truck, readings taken. Max of 45 mr/hr side near top thru canvass (carrier). Smears taken by last shift counted. Results:

Forms for carrier + truck filled out. Truck read max of 1½ mr/hr side, < 1 mr at rear + cab.

RALA RUN #60 STARTED 4/14/55

4-12 4-14-55 OCC-HUBBARD
DROPPED FIRST CARRIER OF 16 SLUGS

14-8 4-15-55 WALTERS
0020 STARTED DROPPING SECOND CARRIER OF SLUGS. CABLE ON SLUG KNOCKER FRAYING BADLY, SLOWING DOWN DROP.
0340 SLUG DROP COMPLETED - 84 SLUGS. COATING REMOVAL STARTED.

12-8 4-15-55 Coleman

0020 1MA sample drawn reading 20 r/hr at ~10". E. Dunlop # in up to 2 r/hr body radiation. Sample read 2 r/hr through carrier. Gave Exendine readings when he pippetted sample: 2 r/hr at hands; 200 mr/hr body for ~10 min.

0545 2 8WMA samples drawn reading 20 r/hr at ~4" and 20 r/hr at ~2" respectively (1st and 2nd) E. Dunlop # in up to 800 mr/hr body radiation.

0700 Extraction and filtration of A batch complete.
B batch dissolving.

4-16-55 0800-1600 Golden - Martin.

0800 1 MB sample taken by Ferguson read 7.5 r/hr @ 1', PCCP. Ferguson exposed to flash only. Sample read 800 mr/hr thru side of carrier; was taken to lab.

0830 Googe withdrew to aliquots & diluted above sample; was exposed to ~ 100 mr/hr at body for a total of 5 minutes, received > 5 r/hr to hands for same time. Dilution 50 mr/hr thru side of flask.

1030 Air activity caused rise of CAMs in area. Wind blowing from all over the compass. Dissolving stopped & tank allowed to cool.

Changed filters on units S 3001 & N 3550 which were off scale. All other CAM's checked appear to be holding steady at a higher range than they were.

Unit ground level 3026-D showed only .5 on 2K rise. Dissolving started again at 1100.

1145 Decay apparent on CAM 1st level. Activity may be Kr & not I.

4.16 [illegible] Ogg - Martin

1600 Still in [illegible] NE of 3026, + since wind is going in that direction must have been from here. Blevins increased Na OH and air contam. subsided. Thru = out shift no more air activity. Close check was made on CAMs in vicinity.

1825 1MC taken by TJ Owings # 9078 in fields to 10 r/hr. Sample read 10 r/hr at 1½'.
Meadows # 7845 diluted samples in lab in fields varying to 400 mR/hr

[illegible]45 8WMC is circulating - prep for sampling 1st of 12-8 shift.

0015 2 8WMC samples drawn reading to 15 r/hr at ~1". Tatum # in up to 1200 mR/hr for a few seconds.
Ozandine performed dilution in up to 150 mR/hr at body for ~5 min. First dilution read 2 r/hr contact with flask. "D" batch dissolving.

0540 1MD sample drawn reading 20 r/hr at ~10" by Tatum # who was in up to 2 r/hr body radiation for few seconds.

Eyendine # and Erdman # both drew aliquots in average 150 mr/hr body radiation for ~ 10 min. apiece.

0630 Batch "E" dissolving started.
8WMD sample at around 9^30 AM to 10^AM
4-17.

12^05 PM 8WMD Sample read 10r/hr @ 6" — 1r/hr thru Carrier. Taken by J.M. Ferguson — Brief body Exposures up to 1r/hr.

Ogy 4-12 4-17

4^00 P Heel batch dissolving going on.

8^20 P IME sample: 9r/hr at 7". Ed Maples in ~ 400 mr/hr field at body, 1000 @ hands for few seconds.
Meadows # 7845 diluted IME for analysis in Hot lab in fields varying to 500 mr/hr. No overage expected.
4-18

8^00 A Feeling Batch E extraction
A-94 A-17

10:15 8WC 3.5 r/hr @ ~1".
Bob Osborne was in a 60 mph background for ~ 5 sec.

7:10 PM 8WCW - Taken by D.C. King 1667. Read 3 r/hr @ 5" - 200 mr/hr thru Carrier.

9:00 PM FTP - >10 r/hr thru Carrier. Read 10 r/hr 3 ft. over open top. Slight rise in air activity. Sample taken by Maples and transferred to hot Lab. Removed from Lab. and fastened to crane by Bailey. Dilutions by Meadows and Davidson working in backgrounds of 40 mr/hr to 2 r/hr.

11:00 PM FTPh by Maples. Read 10 r/hr one ft. over open top. Ph by Meadows and Wyatt.

11:25 PM FTPh by Maples - 10 r/hr @ 1 ft. over open top - Ph by Wyatt and Davidson.

11:00 PM FTPh by Maples - 10 r/hr @ 1 ft. over open top - Ph by Meadows and Wyatt.

12:00 M Probable overexposures: Meadows and Davidson who are making Dilutions of last sample.

4/20/55

Ozendine worked in a field of 30 mr/hr for 20 minutes ~~the~~ diluting the 7 TpH sample taken at 1140.

0300 – A-8 resin cubicle waste pulled by Tatum. This read 20 mr/hr at five inches – 3 r/hr thru the carriers. R. Newton carried these samples to the lab. Ozendine diluted the sample in an 80 mr/hr field for ~ 3 minutes. Handled the sample which read 4 r/hr on his hands. Diluted this sample again & it read about 40 mr/hr.

Worked in field up to 400 mr/hr on 2nd dilution.

0345 – MW HCLE sample pulled by R. Newton. This sample read 1 r/hr over a pipe top.

Tagged top of stairs & placed sign there to prevent anyone from getting behind the barricade on 2nd level of 3026. A sample reading 10 r/hr thru the lead jig is stored there.

Monitor on panel board #1, 2nd level fluctuating & alarming. Appears to be bad instrument.

2 10 p NaNO3 elution sample - 10 r/hr @ 1"
Taken by Ferguson -

8 00 p 8 WFN SAMPLE DRAWN, READING 10 r/HR @ 6" OVER OPEN TOP. 2 r/HR THROUGH SMALL CARRIER. DUNLAP IN FIELD OF 450 MR/HR FOR ~ 1 MINUTE. DUNLAP IN 2 r/HR FIELD WHILE CARRYING CARRIER TO LAB. PH BY.

8 30 p MASKS CHECKED AND LAID OUT, ALSO CAPS, TOWELS, COVERALLS, SHOE COVERS, GLOVES AND MASKING TAPE. PAPER DOWN AND FOUNTAIN COVERED.

4/21/55

0045 Pulled PE rinse, reads 3 r/hr @ 1".

0230 Pulled 3 Ba^{140} isotopes for shipping. All read 3 r/hr @ 1".

0:30/9 Ra La shipment left 3026-D @ 10 30 am
140 mr/hr max reading -
#60 2880 C/m max β γ. 1½ max reading on side & [illegible]
The operation was carried out with a minimum of exposure and spread of contamination. No air borne contamination detected.
Blaine, Blevins, Daily, Ferguson, Davis, & Bob Osborne

+ Hubbard

Run began 1:00/A 7/18/55

#61 Pulled 1 C sample (cooling) @ 9:10/A 7/18/55.
Read 200 mr/hr @ 1". No evidence of external contamination.

Read 200 sample @ 9:30 - Reads 10 mr/hr @ 1".

9:15/A 7/19/55.

Sampled 8W MA - Reads 5½ R/hr.

#61 @ contact - allowed worker Eddie Nendon 15 min working time with sample inside Pb Pig at hands level.

11:45/A 7/19/55

Resample of 8A - Sample # 8 WMA read 5½ R/hr @ contact - placed in big Pb pig in hot lab. Minimum exposure to D.C. King.

7/19/55

4 pm A 1 MA sample was pulled by R.C. Osborne which read 8600 mr/hr @ 2".

7-20-55

4 53 pm - 8 WC Sample read 1200 mr/hr contact pulled by J. Ferguson in w. 20 mr/hr N.G. Diluted sample. Gauge working within lab. read ~25 mr/hr.

Sample 1 MHEE1 pulled at 7 35 pm from A blister by R.C. Osborne Read 8600 mr/hr

@3" - Oshane in 250 mr/hr few seconds.

215/A 7/20

pulled [illegible] sample [illegible] 700 mr/hr @ 1" [illegible]

[illegible] 9:05 AM - pulled F.T.P. Sample - read 20 R/hr @ 4 Inches.

" 10:35 AM. pulled FTPH Sample A - read 5.5 R/hr @ 3".

11:15 AM pulled FTPH Sample B. read 5.5 r/hr @ 3".

1:50 PM - A-8 R.C. Waste Sample - 3 R/hr @ 3"

2:50 PM. pulled HCLE Sample - Read 200 mr/hr @ 3".

Above Samples were all taken by D. C. King.

3:30 P.M. the run status - 6 M HNO_3 going through Collumn to Strip Product. This should continue until 8 or 9 P.M.

4-12 No samples taken this shift.

7-21-55 12-8 shift [illegible]

Samples Iso. $NaNO_3$ elution and MWFN taken - Iso. read 65 mr/hr @ 1" from C.P. Chamber and MWFN read 3000 mr/hr @ 1" from Chamber taken by J.E. Ferguson. Samples indicate run short of desired yield so probably start another run on heel left in dissolver tank.

7/21/55 + Hubbard
sampled P.E. Rinse @ 1:00 PM - Reads
1 R/hr @ 1".

4-12 7-21/55 Coleman
Product being evaporated. 400 ml at
4 PM

300 ml of product at 11 PM

7-22-55 Perry

Product evaporated to 200 ml at
6:00 AM - Probably be around noon
today before to dryness and loaded
in Carrier for shipping.

7-22-55 4-12 Coleman

Product shipped at [illegible]
unusual incidents, [illegible]
[illegible] on [illegible]
contamination.

Run # 62

7-28-55 8-4 Coleman-Golden

0830 Pulled 1C sample reading to 2.5 r/hr at contact. K. Ladd pulled sample Grendine ran analysis.

0300 Dissolving in progress.

8-28-55 4-12 Peery

1st dissolving still in progress will reach desired S.G. sometime on 12-8 and will be sampled.

8-29-55 12-8 WALTERS

0317 1MA SAMPLE (DISSOLVER BATCH A) PULLED BY OSBORNE READING 10 r/HR @ 6". HAMATON RAN ANALYSIS.

0715 8WMA SAMPLE (WASTE) PULLED BY D. KING READING 7.5 r/HR @ 4".

8-29- 4-12 Peery

Sample 1MB pulled at 6 cm. read 10 R/hr @ 10" 800 mr/hr thru Carrier. Gouge got to 4 R/hr dilutions. Ferguson (D) pulled sample and was in

~ 1R/HR field 1 sec.

11 1/4 pm 2 Samples (8WMC) pulled by Ferguson read 10R/hr @ 6". 1R/hr thru carrier Ferguson in ~ 1R/hr 2sec. Gouge in 90-100 mr/hr ~ 10 min making dilution which read 200 mr/hr contact.

Unsealing c well underway and will probably be completed around 1 AM.

8-30-55 12-8 SHIFT WALTERS

0135 1 MC SAMPLE PULLED BY OSBORNE READING 10R/HR @ 5" 800 MR/HR THRU CARRIER. OSBORNE IN 800 MR/HR FIELD ~ 2SEC. ANALYSIS BY HAMPTON

0630 2 8WMC SAMPLES PULLED BY OSBORNE READING 7R/HR @ 6" 700 MR/HR THRU CARRIER. ANALYSIS BY HAMPTON.

8-30-55 8-12 Perry

4 45 pm 1 MD. Read 8R/HR @ 8". Pulled by Ferguson read 3.5R/hr thru carrier. Ferguson in ~ 1R/hr 2sec.

9 35 pm 8 MWD Samples read 8R/hr @ 6" Pulled by Ferguson Read 2R/hr thru carrier.

8-31-55 12-8 WALTERS

0510 1 8WC SAMPLE PULLED BY WHITTAKER READING 1R/HR @ 2" OVER OPEN TOP, 180

MR/HR THRU CARRIER. DILUTION BY HAMPTON.

8-4 30/P 8/31/55

9 30/9 F.T.P. Sample - 3.2 R/m Thru the side of Carrier - Sample taken by Saturn

10 55/9 T.T. Ph #1, 280 mrhr thru the side of Carrier

11 15/9 TT Ph# 2, 240 mrhr thru the side of Carrier - Ph taken by Herbert

11 30/9 Back up in Stranier addition line to the Column. 20 R/hr before washing with water, reduced to 8 R/hr. No air activity.

2 15/P A8RCW read 10 R/hr @ 3" over open end of Cone - Sample taken by R. Johnson - 2 R/hr fixed for ~ 3 sec.

3 00/P MW HC/E, 38 mrhr thru side - Taken by Saturn

9-1-55 12-8 SHIFT WALTERS.

0125 BACK UP IN PURGE LINE TO PE TANK, READING TO 80 r/HR BEFOR WASHING. REDUCED TO 15 MR/HR THRU LEAD SHIELDING AFTER WASHING WITH

FUMING NITRIC. PROBABLE OVEREXPOSURES TO SCHAICH AND OSBORNE WHO WERE AT PANEL BOARD WHEN BACKUP OCCURRED. SPECIAL REQUEST FILM PULLS SUBMITTED. NO AIR ACTIVITY.

0242 MWFN-1 SAMPLE PULLED BY OSBORNE READING 450 MR/HR THRU CARRIER. READ 10 R/HR @ 4" OVER OPEN TOP. HAMPTON MADE FIRST DILUTIONS READING 3.5 R/HR THRU FLASK.

0310 ISO-NaNO3 ELUTION SAMPLE PULLED BY OSBORNE READING 3 R/HR @ 4" OVER ~~OPEN~~ OPEN TOP, 260 MR/HR THRU SIDES. HAMPTON MADE FIRST DILUTIONS READING 900 MR/HR.

9-1-55

9 20/9 MWFN - 800 mr/hr on the side - Johnson took the sample

2 45/p 5-P.E. Rinse samples taken, are read ~ 50 mr/hr thru the sides -

2-1-55 T + P Hubbard

4:30/P Standby for product pulling

7:30/P 20,000+ curies pulled by Ray Newton, Wayne Phillips, Ed Maples, Ed Dunlap. HP Pete Hubbard made source readings as it was pulled, + H.P Tom Hubbard made readings with Gmsm in mens Chng room. All men immediately involved wore complete protective clothing including assault masks. Collar found highly contaminated on grooves of carrier up to 2½ R/hr. Continuous scrubbing with H_2O, HNO_3 + versene removed most of contamination. Enough that after collar was placed around carrier, the readings did not exceed 100 mr/hr. The collar was scrubbed as well in decontamination room 3026 D. Observed Ed Dunlap removed mask during operation of tightening collar - Don't know why - cautioned him + suggested urinalysis sample request. 11 smears taken on ~~[illegible]~~ carrier after final cleanup. Smears ranged up to 6000 c/m Bγ — Asked for cleanup after calling Everette Sharp for maximum smear count — Reamened after cleanup + found all smears <300 c/m Bγ. Filled out ICC shipping form + product carrier plan — Ran 23 smears on 15+

level immediately around operation area - no time to count this shift.

Run # 63
10-2-55 12-8 Coleman

all slugs loaded this shift. First coating removal started at 0730.

10-2 4-12
1 C sampled pulled @ 4:00/P reading 2 R/hr at top

10-3 12-8 Coleman
A batch dissolving

1MA sample pulled by E. Dunlap at 0605 reading 75 r/hr at ~1" with hard shell probe. 4 r/hr through carrier

10-3-55

11:45/a 8W M A - taken by R. Johnson - 10 r/hr @ 4". Johnson's [illegible] 2 r/hr [illegible] ~ 5 sec.

6:30/P Pulled 8W M E (2) [illegible]
10 R/hr [illegible] @ [illegible]

4 PM D.C. King pulled 1 MC - Reading 10 r/hr @ 18" over top — 2 r/hr thru Carrier. Brief Body exposure in field of 2 r/hr -

10-4-55 12-8 Coleman

0215 E. Dunlap pulled 2 8WMC samples reading to 10 r/hr at ~1" with hard shell F.P. probe.

Survey of hot lab showed >10 r/hr in sink and 1st dilutions of MD samples in hood 10 r/hr at 3". Opendine cleaned sink to 1/2 of reading and put dilution flasks behind barricade. He was in up to 600 mr/hr body radiation making dilutions of 8WMC sample for ~ 3 min.

0540 E. Dunlap pulled 1 MD sample reading 25 r/hr at ~1 in with hard shell F.P. probe. about 1 r/hr body radiation for few seconds.

10-4-55 10-4-55

8 WMD 10 r/m @ 6". Jackson in a 2 r/hr field for ~ 10 sec - Hp with -

7:30/P 1M hole reading [illegible]
10 inches C +H.

9:00 PM 8WC taken by Dave King - Read 1 r/hr @ 6" over open top - 30 mr/hr thru Carrier - Brief body exposure in field of 150 mr/hr -

10-5-55 12-8 Coleman

0015 Running 2nd metathesis, process filter, etc. until 0530

0530 2-8WCW samples pulled by D. Hodges reading 1500 and 4000 mr/hr at ~1" with PCCP.

0630 FTP sample drawn from cubicle by D. Hodges reading 100 r/hr ~2" over top with hard shell F.P. 2 r/hr thru carrier. Gave Expending and Hendren readings around balcony barricade with open carrier in it. Up to 200 mr/hr.

10-5-55 [illegible]

9:00 a Two PH Samples - 10 r/hr @ 4" and reading 330 & 380 mr/hr respectively thru

the Sides - Taken by Johnson

1x 5/4 8RCW - 10 r/hr @ 6" Taken by Jim Ferguson - He was in a field of ~ 6 r/hr for ~ 5 sec.

0 0 MW HCl E - 1 r/hr 2" Taken by Johnson

10-6-55 12-8 Coleman

0015 Transferring from product evap. tank to cone in progress. another fuming. HNO_3 to be done.

0100 $NaNO_3$ sample taken from cubicle by E Dunlap read 10 r/hr ~ 3" over top with PCCP.

0540 P.E. sample attempted but not success. Last fuming HNO_3 precip. finished and boiling down of product begun.

0630 2-8 W FN samples pulled reading 15 and 20 r/hr ~ 1" with hard shell F.P. by D. Hodges.
E. E pendine in up to 500 mr/hr for ~ 2 minutes making 1st dilution

0700 Transfer of 300 ml product from evap. tank to cone for final drying operation.

RaLa Run #64 1-15-56 Walters

0115 Began unloading 100 RaLa slugs. Completed at 0615. Flash exposures to 10 r/hr by O. Williams, Brasier, Dailey and Walters. No incidents, no slug hang ups.

1-15-56 8-4 Pleman

2nd coating removal completed and bonding removal started at 1300.

1510 Sample (A-1) of bonding removal drawn by P. Phyllips #2758 in field up to 50 mr/hr. Sample read 1 r/hr at ~ 1 inch.

1-16-56 14-8 [12-8] Walters

0745 1MA sample drawn by E. Dunlap #3321 reading 10 r/hr @ 6" over top, 1.4 r/hr at contact with carrier side. J. Hampton made dilution reading 4.2 r/hr at contact with flask side working in field of 1 r/hr at wrist.

1-16-56 8-4 T. Hubbard

9:45/A monitored pulling of A8 Sample # 8WMA - Reading 10/R @ 6". Drawn by Ray Johnson who was exposed to 500 mr/hr for < one minute.

9:55/A monitored Pulling of A-1 Sample # 1MB - 2 samples pulled Workers H. Blevins + Bob Blevins exposed to 1 R/hr radiation for approx. 1 min. each - Each sample reading 10 R/hr @ 1 ft.

10:00/A Davis Repairing monitor in hot lab 3026.

1-16-56 4-12 Peery

6:17 pm 8WMB sample pulled by J.E. Ferguson read 20R/hr @ 3" - Ferguson in 800 mr/hr few seconds pulling sample P. Gouge and Smith in 800 mr/hr few seconds while making dilution

8:05 pm. 1MC sample pulled by D. King read 20 R/hr @ 6". King in ~ 1600 mr/hr few seconds while pulling sample. Gouge and Smith in ~ 1800 mr/hr while making dilution - (few seconds)

1-17-56 17-8 WALTERS

0415 MONITORED WHILE DUNLAP #3321 PULLED 8WMC SAMPLES WHICH READ 8r/HR @ 4", 800 mr/HR THRU CARRIER SIDE. DUNLAP IN FIELD OF 600 mr/HR FOR ~ 1 MIN. FIRST DILUTION MADE BY HAMPTON #7776. WORKED IN 600 mr/HR FIELD ~ 2 MIN.

0600 MONITORED WHILE NEWTON #1386 PULLED 1 MD SAMPLE. TROUBLE WITH SAMPLER. WORKED IN 450 mr/HR FIELD ~ 2 MIN. SAMPLE READ 10r/HR @ 3" OVER OPEN TOP, 900 mr/HR THRU CARRIER

0640 MONITORED WHILE DUNLAP #3371 PULLED 8WMC-B SAMPLES WHICH READ 10r/HR @ 4", 800 mr/HR THRU CARRIER. DUNLAP IN FIELD OF 600 mr/HR ~ 1 MIN.

1-17-56 4-12 Peery

10 00/pm 8WC - pulled by D. King read 12 R/hr @ 2" 1st dilution by Smith 1R/hr 2nd dilution 20 mr/hr. Smith and King in 500 mr/hr ~ 1 min taking and making 1st dilution on sample

1-18-56 18-8 WALTERS

0215 8WCW - PULLED BY E. DUNLAP 3321 READING 2r/HR @ 2" OVER OPEN TOP, 90 mr/HR THRU CARRIER. WORKED IN 150 mr/HR FIELD FOR FEW SECONDS.

0235 5WC - PULLED BY HODGES #7831 READING 1.6 r/HR @2" OVER OPEN TOP, 50 mr/HR THRU CARRIER. WORKED IN <50 mr/HR FIELD. HAMPTON #7776 MADE FIRST DILUTION IN SAME RADIATION FIELD.

0640 FTP - PULLED BY DUNLAP #3331 READING 35 r/HR OVER OPEN TOP, 2 r/HR THRU CARRIER, 150 mr/HR FIELD. FIRST DILUTION DRAWN BY LODGE AND HAMPTON IN HOT BARRICADE, 2ND LEVEL. <10 mr/HR FIELD AT WORK POINTS. FIRST DILUTION READ 2.3 r/HR THRU FLASK.

1-19-56 17-8 WALTERS.

0300 ISO $NaSO_3$ SAMPLE - PULLED BY HODGES #7831. 2 r/HR @2", 60 mr/HR THRU CARRIER. NO MEASURABLE FIELD.

0700 8WFN - PULLED BY HODGES #7831 READING 10 r/HR @4" OVER OPEN TOP, 800 mr/HR THRU SIDE. HODGES WORKED IN 2 r/HR FIELD ~ 30 SEC.

1-19-56 [illegible] [illegible]

2100 P.S. Rinse #[illegible] pulled by Dave King #1667. 800 mr/hr at three inches. (No ink in Pen)

RaLa Run #65

3-22-56 4-12 SHIFT WALTERS

2100 DROPPED FIRST 16 SLUGS. "HOT". 400 mr/hr THRU CARRIER SIDE. TOTAL 71 SLUGS.

2158 DROPPED 2ND 16 SLUGS. READINGS SAME.

2235 DROPPED 3RD 16 SLUGS.

2305 DROPPED 4TH 16 SLUGS

2335 DROPPED LAST 7 SLUGS. DROP COMPLETE.

(WHITTAKER, JACOBS, TERRY AND WALTERS WORKED IN FIELDS OF NO-200 mr/hr FOR 5 MINUTE STRETCHES AND IN FLASH FIELDS TO >10 r/hr. MAY HAVE EXCEEDED 1 DAYS MPE.

3-23-56 12-8 Coleman

0015 1st coating removal in progress.

0750 1 C sample pulled reads 2 r/hr at ~3" over top. E. Naples pulled it in body field of 30 mr/hr.

3-23-56 4-12 WALTERS

1940 1 MA SAMPLE PULLED BY KING, READING 10 r/hr @ 10" OVER OPEN TOP, 2.6 r/hr THRU SIDES. FIRST CUTS MADE BY J. OXENDINE WORKING IN 650 mr/hr BODY FIELD FOR ~ 10 MIN.

3-24-56

0150 8 MWA sample pulled by Ferguson - read 62000 mr/hr @ 2". Ferguson in 200-500 mr/hr few seconds. Gauge in 200 mr/hr b.g. making dilution. [illegible]

this field ~ 3 min.

0333 1MS sample pulled by Ferguson reading 4600 mr/hr @ 10". Gauge in field to 150 mr/hr while diluting sample. The dilution read 20 mr/hr @ 3".

0940 AWMB sample taken at A-8 by Maples. Reading at face of cubicle, door closed, 200 mr/hr during re-cycle.

Both samples read 10 r/hr @ 6" over top of open carrier — 1 r/hr at 1" from side of closed carrier.

Maples took to lab. Both samples taken quickly; no incidents; no overexposure anticipated.

1340 1MC sample taken at A-1 blister by George Phillips. Sample read 10 r/hr @ ~ 10" over top of open carrier 1.2 r/hr at 1" when closed. Phillips exposed to short flash while removing & carrying to lab. Sample diluted by Meadows - in field of 400 mr/hr for < 5 minutes.

2030 8WMC SAMPLE PULLED BY J. WALKER READING 6 r/HR @ 6". WALKER IN 600 mr/HR FIELD FOR FEW SECONDS. OXENDINE IN 300 mr/HR FIELD ~ 3 MINUTES MAKING DILUTIONS.

3-25-56

0515 Sample SWC pulled by Hodgen reading 1.5 R/hr @ 4". Dilution by Gauge read 75 mr/hr 3".

0530 1MD pulled by Hodgen read 9 R/hr @ 10". Hodgen in 1.5 R/hr field ~ 5 sec. 1st dilution by Gauge read 3.5 R/hr @ 3".

0830 On stand-by waiting for transfer to cubicle.

0940 Transfer started.

1015 8WCW sample taken at A-8 by Bailey. Sample read 9 r/hr @ 15". Was taken to lab.

1035 Transfer to feed tank completed. 1st level monitron triggered momentarily but returned to normal.

1045 1st product sample pulled. Read 3.5 r/hr at side of 200 carrier. Was taken to lab & read with FPP. Reading ~ 150 r/hr.

1215 Product to column. No incidents

1300 1st pH sample taken & to lab. Reading at side of carrier – 250 mr/hr. Reading at top of barricade, carrier open – 150 mr/hr. Lab checked pH – 9.45

1315 2nd pH sample read 150 mr/hr @ side of carrier was taken to lab by Bailey. Case checked pH → 6.1.- in field of 50 mr/hr for <1 minute.

1620 A 8RC WASTE SAMPLE PULLED BY D. KING. READ 10r/HR @ 4" OVER TOP, 1r/HR THRU SIDE. LAB ANALYSIS BY J. OXENDINE WHO WORKED IN 400 mr/HR FIELD ~ 2 MIN.

1730 MWHCLE SAMPLE PULLED BY D. KING, READING 450 mr/HR 3" OVER OPEN TOP. ANALYSIS BY J. OXENDINE WHO WORKED IN INSIGNIFICANT FIELD DURING DILUTION.

3-26-56

0420 Column wash sample read 3.5 R/hr @ 3".

3/26/56

10 00 a air activity – 10K scale –

12 00 N MWFN – 10r/m @ 3". Taken by DC King

12 30 p A-9 Rinse 10r/m @ 2" " " Terry

2 30 p PE Rinse - 10r/m @ 1".

2 30 p - 3 00 p 15 Ba sample to Frank Williams – Schaich & Jacobs took the sample - 300 mr/hr Bg for ~15 min. Dave King

delivered the samples to shipping area 3R/W thru the side of carrier.

1700-2100 Product drying

2105 Product pulled by Newton, Hodges, G Phillips, Walters and Hubbard - no unusual incidents. Plastic coating read a max. of 350 mr/hr. After clean up carrier smeared a max. of 404 c/m B, and read a max. 60 mr/hr. Carrier loaded - papers filled out by Hubbard

RALA RUN #66 5-8-56

0044 DROPPED 1ST 16 SLUGS. 100 MR/HR THRU SIDE OF CARRIER

0105 DROPPED 2ND 16 SLUGS.

0145 DROPPED 3RD 16 SLUGS.

0250 DROPPED 4TH 16 SLUGS.

0350 DROPPED 5TH 16 SLUGS

0443 DROPPED LAST 7 SLUGS, TOTAL 87. DAVIS, WILLIAMS, W. PHILLIPS AND WALTERS IN 60 MR/HR FIELD ABOUT 1 HR. TOTAL. NO OVEREXPOSURES EXPECTED.

COATING REMOVAL IN PROCESS.

5-9-56

0008 1MA SAMPLE DRAWN BY JOHNSON READING 10 r/HR @ 3", 720 mr/HR THRU CARRIER. FOLLOWED THRU FIRST CUT WITH OXENDINE, READING 20 r/HR.

0638 8 WMA SAMPLE PULLED BY JOHNSON, READING 10 r/hr @ 1', 8 r/hr THRU CARRIER SIDE. FOLLOWED OXENDINE THRU 1ST CUT READING 2100 mr/hr THRU SIDE OF FLASK.

5/9/56 Day

9 05/a 1 MB Taken by D. King. 10 r/m @ 8"

7 [illegible]/a 8 WMB Taken by D King. 10 r/m @ 4".

4 15/p 8 WMB Taken by Maples, 10 r/hr @ 4".

5/10/56

0450 8 WMC TAKEN BY JOHNSON 10 r/hr @ 3", 1100 mr/hr THRU CARRIER SIDE. FOLLOWED 1ST CUT WITH J. OXENDINE, READING 1800 mr/hr THRU SIDE OF FLASK.

0350 6 WMB. TAKEN BY JOHNSON 10 r/hr @ 4", 780 mr/hr THRU CARRIER SIDE. FOLLOWED 1ST CUT WITH OXENDINE, READING 780 mr/hr THRU SIDE OF FLASK.

5 40/a A-9 Special 10 r/m @ 4". Taken by D. King

[illegible] 1 MD Taken by D King, 3 [illegible] @ 4" 1 r/m [illegible] side of Carrier.

3 15/P 8WMD 8 R/M @ 4" Taken by Jerry - Two samples, 1½ R/M Bg.

11 30/P Blowing samples two (2) ASKC's
1st read 700 mr/hr @ 3"
2nd read 1 r/hr @ 2"

5-11-56

0244 8WCW SAMPLE TAKEN BY JOHNSON, READING 1 r/HR @1", 250 mr/HR THRU LEAKY SIDE OF CARRIER. CHECKED 1ST DILUTION WITH OXENDINE, READING 710 mr/HR THRU FLASK.

0445 FTP SAMPLE PULLED BY JOHNSON READING 40 r/HR @1', 8 r/HR THRU CARRIER. DILUTIONS MADE UPSTAIRS. 1ST DILUTION READING 2.8 r/HR THRU FLASK MADE BY CASE.

0643 FTPH-1 SAMPLE PULLED BY JOHNSON READING 10 r/HR @6", ~~300~~ 400 mr/HR THRU SIDE OF CARRIER.

0655 FTPH-2 SAMPLE PULLED BY JOHNSON READING 10 r/HR @6", 350 mr/HR THRU SIDE OF CARRIER.

MINOR SPILL OCCURRED WHILE PULLING FTP SAMPLE. DROP ON CUBICLE SAMPLER SLIDE READING 10 r/HR @6". DECONTAMINATED TO 250 mr/HR. ONLY CASULTY WAS RAY JOHNSON WHOSE HAND READ 70 mr/HR AFTER 2 VERSENE SCRUBBINGS. FURTHER DECONTAMINATION LOWERED THEM TO _____. 10 SMEARS

TAKEN OUTSIDE CUBICLE INDICATED CONTAMINATION NOT SPREAD EXCEPT 1 SMEAR ON CUBICLE CURBING COUNTING γ3γ c/m β.

5/11/56

10 00/9 A-8 Resin Cubicle waste, 10 R/m @ 4". Taken by D King.

9 30/pm Column waste sample taken by Hodges - 1 r/hr @ 3".

5-12-56

0030 Fuming HNO_3 operation

0430 Product transferred to cone (400 ml)

0445 A-8 samples read 10 r/hr at ~4"

0730 Gradual rise on 2K on bldg CAMs. Product evaporating in cone.

5-12-56

1600 Product still evaporating.

1730 at ~1700 carrier was placed in pit to put in product. Reading about 2 ft from pit was 1 r/hr. No unusual incidents involved. Paper

on carrier read up to 800 mr/hr. After removal and wiping by operators paper towels smears read up to 0.5 mr/hr. After re wiping 8 smears by Martin counted o.k.

Truck readings ranged 0.5 mr/hr to 1 mr/hr (opposite carrier on each side - ~0.8 mr/hr at rear. Cab read 1 mr/hr. Newton, Ferguson, Daily, Maples plus Martin and Noe.

Rala Run #67

4-14

Day 8-4 Sharp

2 30/P Sample # ~~[illegible]~~ 1 C read 380 mr/hr
E Maples did the Sampling

12-8 Peery

2 27/Am 1 MA pulled by Johnson read 9.3 R/hr
@ 10". Johnson in 1400 mr/hr field
few seconds.

9/10/56 Day

1MB - 10 R/hr @ 6" Taken by Bailey

8WMA - 10 R/hr @ 4" Taken by Kinney

8WMB - 10 R/hr @ 3" " " Maples

4-12

1MD - 9.3 r/hr @ 4" Taken by Blevins

8WMF - 10 R/hr

8WMC 9.3 r/hr @ 4" " " Hodges

9-11-56

12-8 6 40/hr - 1ME - 10 R/hr @ 7" taken by R.D. Johnson in field to 950 mr/hr ~ 5 sec. 1st dilution by P.W. Pair read 3.5 R/hr. Pair in 40 mr/hr b.g. making dilution.

4-12 1710 - 1MF 8.4 r/HR @ 4" TAKEN BY E.O. MAPLES IN FIELD TO 850 MR/HR ~ 5 SEC.

12-8 9-12-56 Perry

12 hrs 8WMF pulled by J. Ferguson read 8 R/hr @ 4". 500 mr/hr thru Carrier. Ferguson in 400 mr/hr b.g. ~ 5 sec. P.W. Pair in 200 mr/hr B.g. ~ 2 min. making dilution.

7 20/hrs MG pulled by R.D. Johnson 10 R/hr @ 4" 400 mr/hr thru Carrier - Johnson in 400 mr/hr field ~ 4 sec.

9/12/56 Day

$14\frac{30}{9}$ 8WCW - 5 r/m @ 1" By Dave King

$10\frac{50}{P}$ FTP - 3.3 r/m Thru the side. Taken by Bailey -

$1\frac{50}{P}$ + $2\frac{10}{P}$ 2100 PH samples were taken - Pemberton took the readings

9-12-56 4-12

Hubbard Coleman

Main waste samples taken at 1800 and 2000 read to 500 mr/hr at ~4" over the top. E. Dunlap took samples. Gave lab personnel the readings. Product on column at the end of the shift.

12-8 9-13-56 Peery

$NaNO_3$ elution 3200 Mr/hr @ 4" pulled by R.D. Johnson in ~50 mr/hr b.g.

9/13/56 Day

$11\frac{45}{N}$ Slight ant. of air activity noted - Cause undetermined.

$14\frac{00}{N}$ 8WFN - 10 r/m @ 2". Taken by King -

9-13-56 4-12 Hubbard-Coleman

1700 Dunlap, Blevins and Newton drew samples out of cubicle and put in carrier to Stage for 3038. Samples read 2 r/hr through carrier.

2200 Product pulled. No unusual incidents. Carrier read to 3 r/hr at ~6" at one spot but averaged 40 mr/hr at 1 foot. No air activity. Probe of paper and floor showed no new contamination that was significant. Personnel used gloves, towels, covers, masks and protective coveralls. All checked OK after job completed. Carrier probed to 15 mr/hr at end of shift. (10) smears showed 6 >100 c/m β to 2534 c/m. All <10 c/m α. Results to Newton and next shift.

12-8

Product loaded on truck, readings around truck at all points <0.1 mr/hr. Smears on carrier to 194 c/m β. Product carrier sheets completed.

[illegible] Run # [illegible]

10-[illegible]

Dave K[illegible] IC, coating removal at 12 45/pm [illegible] read ~1r/hr at 3".

10-22-56

0103 1MA PULLED BY RAY JOHNSON, READING 10r/HR @ 5" OVER OPEN TOP AND 640 mr/HR THRU CARRIER SIDE.

0655 8 WMA PULLED BY RAY JOHNSON, READING 4r/HR @ 3" OVER OPEN TOP AND 200 mr/HR THRU CARRIER SIDE.

10/21/56 Day

11 06/9 1MB, 10r/h @ 8". D.C. King did the sampling -

10-[illegible] 4-12

[illegible] @ [illegible] pulled by [illegible] field [illegible]

1MC Pulled by Jim Ferguson - 8r/hr at 8" - Ferguson's hand read about 2mr/hr - checked

around A-1 sampler - Smear on blotter paper read 2mr/hr - by two high to tell anything with cp - 2 smears on concrete next to paper hardly detectable.
10-23-56

0510 8WMC PULLED BY RAY JOHNSON, READING 10r/HR @ 4", OVER OPEN TOP. 650 mr/HR THRU CARRIER SIDES.

10/23/56

9 00 a 1MD 68, 10r/hr @ 6". Taken by Terry - 4r/hr Bg fr ~ 1 min.

8WMD - 10r/hr @ 4". Taken by Jacobs -

7 30 p - Ogg
Ferguson took 8WC at 8AW - read 1.2 R/hr at 1". Hendrix Pair analyzed same in lab in fields to ~ 200 MR/hr

11 00 p 8WCW pulled by Clevens Newton in fields to 100 MR/hr body 500 mr/hr hands. Sample read 1 r/hr at 1

11 35 p Monitored bringing down of product to cubicle. No unusual

incidents. Cracks over cell - [illegible] 200 mr/hr.

10-24-56

0215 FTPH-1 DRAWN BY JOHNSON READING 1r/HR THRU SIDES. PH OF 7.6

0240 FTPH-2 DRAWN BY JOHNSON READING 1.2r/HR THRU SIDES. PH. OF 6.2. O.K.

0710 8RCW DRAWN BY JOHNSON READING 10r/HR @ 3" OVER OPEN TOP. 550 mr/HR THRU SIDES.

10-25-56

0145 A-8MWFN DRAWN BY O. WILLIAMS READING 8r/HR @ 3", 220 mr/HR THRU CARRIER.

0620 PE RINSE DRAWN BY JOHNSON READING 1600 mr/HR OVER OPEN TOP OF CONE.

10/25/56

Product pulled -
Smeared Carrier - < 200 c/m
< 20 mhr
15 smears air floor, < 200 c/m
Carrier to be shipped on 10/26/56

10-26-56

0715 READINGS ON RALA PRODUCT TRUCK.