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NOTEBOOK NO. CL-1024

ISSUED TO: A.C. Vallado

ISSUED BY: Velma Riff

DATE: 8-7-45

[redacted]

RUN 4 (END); see pages 1-34

RUN 5; see pages 44-75

HP/Prep; pages La 74-80

p12. paychecks from Hirohito
p20. Happy VJ day
p44. sequence fr. dis, sparg, dil., sparg
p58. Labor garage not avail.

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706 D - OPERATIONS

4-12 and 12-8 please use HNO_3 on B21. Hot spot seems t be th upper ball joint. Fill t overflowing, Rinse outside well. Filter and push t waste. Valves will have t be operated inside cell. Not job -- do only once a shift if possible.

W.A.R.

8/7/45 4-12 EJW

① B21 filled with hot HNO_3 then scrubbed around ball joint with brush twice. About half of the acid was then filtered through and the remainder flooded over the top by adding water until practically no acid was left.

At shift change, B21R is full of water with some crud in it. It would probably be best to try to flood this stuff out before adding more nitric (at 12M B21R top — at 1" - 5.2R, at 1' - 4R)

② SWMA run 166.5 curies, resampled and disposed of.

Red ③ You better get some sample bottles prepared ASAP. You'll find a couple of bottles in cabinet at entrance to cell B but you may have to cut a couple of gaskets to fit.

④ Run Status
4A-B - Extraction settling until 2:05 AM.
4A-C - Dissolving

⑤ A4-205 off-gas line not drained on this shift due to long dissolving in A1.

⑥ The dissolving of batch 4A-C is very slow and it appears that it will take about 10 hours to get 1.78 gravity. Maybe the Ring Balance is off so please have this checked by instrument man. According to W.A.R., proceed with next dissolving as you normally would, even if the readings are correct, there will be no slugs added on 12-8 shift.

8/8/45
12-8
M.L.

B21 Flotation washed with water and then acid washed. (is H.P. positive it is the ball joint which is hot - it is practically in the golden horseshoe + background there is high)

Something is not according to Hoyle! - 4-12 got a lab analysis of 166 C lost in 8WMA, + Now the lab tells us that 8WMB contains 295 C. solution is in A8 - didn't resample as there are no more of the new type tubes available.

Instrument man couldn't be found so 4A-C was diluted and used as was and 4A-D started.

Run status

4A-B - in A8 awaiting decision about analysis

4A-C - in A9 settling till 12 55/7

4A-D - in A1 dissolving.

8-8-45 4A-D in A-1 Diluted, Sampled.

8-4.

4A-C in A9 Settling cold til 5 40 P.M. Re-extraction.

4A-B in A6 neutralized 8wMB, waiting on 8wMC.

Approx. 65% H_2SO_4 in T-4. Made on high side for addition of HNO_3. No HNO_3 in.

B21 has HNO_3 in T.+R. Hold until valves are installed.

Full tank of 4% NaOH made up - 40% NaOH needed.

Water Rinse A8 + sample

Call made on results of 4A-C

4
8/8/45 ① Roy McClellan — see WAR
4-12 before leaving in the morning.
Egw ② Run Status
A1 — Loading slugs for 4B plus metal for batch 4A-E
A9 — 4A-D extraction settling until 4:15 AM
A8 — 4A-C metal waste ready to neutralize in A5 when vacuum can be gotten in A5 after slug loading.

A new batch of 40% NaOH was made up in M11
③ Sleeves that were lying on second floor have been put in decontamination room. They have not yet been cleaned up or checked by H.P. man, they are undoubtedly warm.
→ Last load of slugs ready to drop to A1 at 12M.

8/9/45 Run Status
12-8 4A-D — in A8 awaiting result of analysis (sampled)
M.L. 4A-E — in A9 - ready to start extraction
4B-A — in A1 - acid just added.

The T5 → T9 valve leaks, apparently in the bonnet.

Is the stainless steel flexible tubing which is in a box on the third floor the stuff ordered for T8+T9? – if so, could we get it installed – it would save wear + tear on the lead floor which is getting badly corroded beneath the unions where acid drips every time a pipe is changed.

A1 sampler is set for ½ cc, chemists want 1 cc – which is right?

The three seven samples on 8WMB (original 295 c) are 33.8 c, 9.6 c, + 3.7 c ??!

8-9-45 ½ cc is correct, as per Rehm.
8-4. but 1 cc on A8.

4-12 and 12-8 please spend 70 mr/man not needed for sampling on
1) Remove bricks from cell.
2) Paint all clamps and flexible tubing in B19 area with Tygon Paint.
3) Clean up cell.

WAR.

4A-E in A9 decants at 5^45 P.M.

4B-A in A-1 Ready for A9.

CO_3, HNO_3, 65 H_2SO_4 made up.

8/9/45 4-12 Ejw

① S.S. pan which J.T. Wille wanted cleaned up is now ok to turn over to maintenance shop. (outside of decontamination room)

② 6% $Pb(NO_3)_2$ solution made up in T2 but has not yet been sampled for analysis.

③ ~~See~~ WAR's log note on work in Cell B. All bricks have been removed and most of the junk cleared out. No painting done.

④ SWME ran about 100 curies as received and 14 curies clarified. We dose it.

~~Instructions~~ from WAR.

After decanting batch 4B-A (in A9 now), do not jet 4B-B to A9 until lab results are received on SWMA. If it runs 60 curies or over, call WAR before going any further with operations, if it is under 60 curies jet 4B-B to A9 and proceed with extraction.

(5) Run Status

4B-B metal solution diluted, to be sampled at 12:15 AM.

4B-A extraction settling until 4:20 AM.

4A-E neutralized metal waste in A5 ready to be jetted to A6

8/10/45

12-8 M.L. Extraneous shielding removed from the cell proper (on cart awaiting disposal)

Black drain and flexible tubing in B19 area painted with tygon.

Run status

4A-E - in A6 ready to go to W9.

4BA - in A8 - see special instructions on clip board.

4B-B - dissolved, diluted, + sampled, ready to go when metathesis is finished.

8-10-45

8-4 New $Pb(NO_3)_2$ made up - 6.0%.

Shipping carrier, cone, adapter, etc. going into cell B for testing.

Due to Li losses, 4B-A becomes 4A-F to be followed by cake washes & metathesis.

A9 ready to start cake washes.

4A-F 8WMF in A5 sampled 3:00 PM.

Jet A8-A5D is a No. 3 - very slow.

8/10/45 4-12 ① Final evaporation going on in B19 (plain H_2O). This test is being made to determine whether or not the points on Micromax are correct. So far #1 is ok and #3 is ok we are not too sure of #2 and #4

② Run Status:

4A-F — last extraction water wash settling until 12:15 AM.

The NEW 4B-A → 4B-A — metal solution diluted and sampled ready to go to A9

8WMF — neutralized in A5, waiting for extraction wash

③ According to WAR:

If in 8WW you find considerable product, settle 8WW until shortly before 1st metathesis decantation. Then decant from A8 to A5 and save the [illegible] Decant 1st and second [illegible] top [illegible] combined [illegible] A9 on the following

8/11/45 Finished checking lines to + from B10, tighting unions
12-8 etc. - all O.K. Except there doesn't appear to be any
M.L. B21 - B10 line as listed on E J W's list.

Checked both B20 + B21 with water, filters ok, all discharge lines O.K., all valves seem to be O.K., all addition lines O.K. - in fact everything appears OK — but then things aren't always as they appear.

The B20 → B19, B21 → B19, and B9+11 → B19 lines inserted into the head heater feed line and sort of taped in place — pipe was very hot during this time so please check this job.

B10 Jets checked with exception of B10 → A9 -, do not check this jet with run in A9.

The manometers for B10 do not work, appears to be a bad leak in the l.l. line - shift man says it is a day shift job.

The Black iron shims + washers on B20 + B21 coated with [illegible] - rest of Anon power expended [illegible]

Status

A1 - 4BA - ready for A9 ing
A8 - [illegible] + heel from 8WW, evacuating down to smaller volume ∥ this plus

The 2nd metathesis decant is to be [illegible] into the 4BA extraction.

A9 — 2nd metathesis settle till 9:30 A

B19 — Maiden voyage test [illegible] — should be about over — see the [illegible] be.

Since sparger is only emergency [illegible] on A9 — how about disconnecting it to forestall any distinctly of ppt. due to valves which may leak?

8-11-45.
8-4

Following jets tested for delivery:

B1 - B10 (formerly B1 - A9 on PB4A) - plugged.
B1 - A5 Blanked off.
B10 - A5 60# steam press. maximum obtainable.
B10 - B5 OK.
B10 - B3 OK.
B3 - B10A OK Formerly B3 - A5A
B3 - B10B OK " B3 - A5B.

Concrete bricks being removed from cell B entrance. H.P. suggests sweeping up warm dust. We may get this done.

Slug loading in progress. 3 loads of 26 each loaded. 4th load over hole.

A-9 has 2nd Metath. cake wash to be decanted at 4:20 P.M., prior to cake soln. in F. HNO_3.

B12 given 60% HNO_3, 5.5 L; wash. B7, B8 each used to MT B-12.

B9, B11 each used to move 550cc from B6 → B19. Work O.K. (now).

B20, 21 probe lengths adjusted.

Transfer lines from B20, 21 to B19 used & are O.K.

Steam header on B19 is on to see whether the Koroseal, used on glass & tygon line protector, will react in any way to drip crap into cone. See W.P.B. Would suggest inspection of Koroseal before 4A comes into cell B.

New. B-19 spot lights installed and ~~full~~ funnel viewer adjusted.

A-9 man. seems to gain level slowly???

Tomorrow may be V-J day so by 8:00 AM I would like to have this place CLEAN.

4-12 2nd floor
12-8 1st floor.

WAR.

8/11/45 4-12 EJW

① Slug loading was slowed up when shut on carrier drawer broke off and had to be welded.

Maintenance men decided that driving truck for more than 3 carriers of slugs was enough exposure for one man so they swapped men during lunch hour while all of them went to eat. Consequently we had to drive the truck ourselves to keep on schedule. I believe they get their pay checks from Hirohito.

② All overall viewers inserted as requested.

③ B3 and B6 filter sampling worked on until manpower ran out. The status at 12:00M is as follows:

B3 sampler — plugged at first. It worked originally, delivering .4 and but sample was very dirty. The tank was cleaned out with HNO_3 and H_2O but it was plugged altogether on the last try.

B6 sample works ok but delivers

.9 ml. It had a broken sampling tube on it. We managed to get the old tube off but were unsuccessful in our attempt to push up the stopper.

Watt wants both B3 and B6 samplers to deliver about .6 ml.

(4) After jetting metathesis and extraction combined wastes from A8 to A9 for 4B-A extraction, A8 was washed with water and acid and sampled. Results 7.9 c/c. This wash is still in A8, ok to throw out.

(5) Run Status:

4BB — Dissolving.

4BA — Extraction settling until 3:00 AM.

4A — Electrolyzing at 25 amps until 2:00 AM

{sample code # 8MW-WW according to Rimshaw}

8/12/45 12-8 M.L. Manpower expended on B3 & B6 Blistus — but like the 4-12 we had no success, B3 still plugged

[illegible] H.P. [illegible], hope we didn't lose a nut on the 6P sampler!

→ 8WMA is in [illegible] — no tubes,

→ efforts to [illegible] [illegible] [illegible].

→

Run status

4B.A – in A8 [illegible]

4B.B – settling in A9 [illegible] 9 A.M. [illegible] → 2 P [illegible]

4B.C – in A1, [illegible] – [illegible]

4A – in A6 – awaiting 4B

3WPB – in B3 [illegible] if [illegible]

8-4, get [illegible] PB1-2 and PB1-12, the difference in A1 [illegible] between the two is 5 degrees – [illegible] you [illegible] both microwave [illegible]

8-12-45
8-4

S.S. pan under B6, one spot over 1R cleaned. Survey of 2nd floor showed 1000 cts – 2500 cts all over. Entire floor, except behind PB1, mopped up. 8-4 Mon., pls have janitors clean behind PB1. All stairways have county also. H.P. reports cleaning cut readings in half, or better.

Until more new type sample tubes become available, lab is to supply us with laundered tubes, previously used.

Half batch of 40% NaOH made up.

4B-D in A1 Steam on.
4B-C in A9 Starting 1 hr. digestion.
4B-8WMB in A8 Sampled.
4B-8WMA in A6 Neutralized.

Quite a lot of literature has accumulated in Shift Supervisor's mail box requiring various signatures. Please read and sign. We leave this for your information. If you don't care to read the stuff at least sign it so we can file it.

Building looks much better, Thank you.

WAR.

Then what put the small viewers into the cell didn't fasten the parts together on one in cell A making a fishing expedition necessary. WTB

WAR

Wrenches at entrance. decontam. room treated. Pls. have H.P. check. Carrier also treated.

B3 Sampler still plugged. used dip bucket to get sample.

8/12/45 4-12 EJW

① Final product carrier (in decontamination room) was scrubbed down with HNO_3 two more times. Last survey showed 160 MR on top and 800 MR on one spot on the bottom.

The tools in the decontamination room were scrubbed again. The ones which were OK were put on third floor while the ones which are still contaminated are left in decontamination room.

② Resin Status:

4A — in B6 waiting for 4B

4BC — Extraction settling until 12:55 AM

4BD — metal solution diluted, sampled.

③ Another batch of 40% was made up, the rest of the 22 drums of frozen caustic used up.

8-13-45 12-8

Cleaned-up decontam. room. The tools were given HCl treatment. Level is low, but some tools have some extra counts at spots which can't be cleaned. Carrier also treated.

4B-E in A1, Sampled.
4B-D in A9, Settling til 11:55 A.
4A in B6.
4A-C 8WMC in A8 neutralized.

Housekeeping has improved a lot. One or two poor spots remain. Worst are the platform and equipment decontamination room.

The platform can best be taken care of by the day shift. Therefore from now on the 8-4 will take the 3rd floor and the side platform.

The equipment decontamination will be added to the 4-12's second floor in place of the platform. It will be the duty of the 4-12 to straighten the rooms, remove things which are clean and clean those which are not. However, the person who puts material in Rm 9 must clean it at the time. All material going into Rm 9 must be tagged by the person putting it in giving Date, HP reading, and name of individual. In case a person putting material in Rm 9 does not get it clean by end of shift he must leave a note in the log book explaining to the 4-12 why he is leaving it for them.

Rm 9 is not a storage room. Things must be

cleaned up at once and removed to other storage.
W.A.R.

8/13/45 8-4 EJW
① B3 sampler now working.
② Run Status:
4BE — settling extraction until 9:58PM
turn water on at 4:58PM.
4BF — Dissolving.
4A — In B6 waiting for more.

Second floor capped up around B6 blister & other places. Please consult HP for details & where, & clean up as you see fit.

8/13/45 4-12 M.L.
The "other places" mentioned in the above comment is almost all inclusive — after scrubbing the entire second floor & then mopping it, a personal check showed hot elbows, sleeves, coveralls etc which didn't come — at least we thought — from the clean up job — so H.P. was asked for an over-all smear check — results showed 2000-4000 counts on hand rails, Hot desk tops & what have you. — building is practically inhabitable again (should we put a hasp & lock on B6 Blister Maybe?) — small spot on floor directly in front of B6 still warm.

Decontamination room cleaned up — all tools either cleaned or dissolved, odds & ends removed either to trash cans or to the corral

everybody on the shift "beaming" at end of these two jobs + not with joy either.
– remaining hot jobs in Decontamination room are carrier + lead from B1 blister.

Run Status
4BE – in A8 awaiting analysis
4BF – in A9 digesting until 12[43] –

8-14-45
12-8

In return for 8 hrs. settling, we bequeath about 20 man hours to 4-12, work on prod. carrier in decontam. room. The carrier was removed, paper crud scrapped from bottom, hot spots given repeated treatments with HCl, HNO_3 Na_2CO_3 + scrubbing. Carrier returned to Room 9 and many small pieces of debris, metal, copper wire + covering removed from middle hole. Many of these scraps read ~ 2R. Put in hot cans + H.P. notified. The carrier still needs more work. When readings get down farther, perhaps a coat of paint would help. Steps should be taken to prevent repetition of carrier contamination. It may be well to use water sol. paint on carriers hereafter.

4B-F in A9, settling til 8[43] A.

8/14/45 ① Run Status

4C – Slugs being loaded, 1st portion of NaOH + HNO_3 are already in,

4B – Last extraction cake wash settling until 4:38P.

4A – In B6

② PB-1 valve handles were found warm, please use gloves on all of them. Three of these were very hot and were washed with acid, the rest of them should be painted.

Pressley → People are looking for your July time report, please turn it in.

③ All slug loading sheets are enclosed in log book.

8/14/45
4-12
M.L.

Finished loading slugs, coats removed + slugs washed – ready to start 4 ~~C~~-A metal solution.

4B, In A9, second metathesis settling until 2 45/A

Everybody stinking from drinking – any resemblance to normal operation is purely coincidental.

– Happy VJ day –

8-15-45
12-8

4C-A in A-1 diluted, sampled.

4B in A9 2nd Metath. Cake Wash No. 2
Settling til 8:12 A.M.

4A in B6.

8/15/45
8-4
EJW

① As a special favor to the 8-4 shift kindly refrain from throwing cigarette butts into the trench around 3rd floor. If you must throw them somewhere, put them in the middle of the floor where they can easily be swept up.

② T6 tank was cleaned out thoroughly by boiling it out, bubbler lines and delivery lines from T6 all cleaned out.

③ Doors on B3 and B6 blisters were taken off and completely decontaminated. The pan under the blisters is still hot and needs attention.

④ Run Status

4A - Evaporated to 790 ml in B6 ready to take 4B

4B - Electrolyzing until 6:10 PM

4C-A - Extraction hot settling until 4:15 PM, cold settling until 9:15 PM.

4C-B - metal solution, diluted and sampled.

Use the [illegible] (1½" tubes) for 12-6 samples only — (2" tube for rest — tentatively)

(5) A considerable amount of crud that was washed out of T6 is still in T8 and T9. These tanks should be flushed out some more before using.

(6) The first floor cell B north periscope was fished out of the wall and needs putting back in very tightly this time

Rimshaw & Walt -
Ball game 8:30 Thursday Night at diamond # 4. What time?

8/15/45 4-12 M.L. For General Information: (maybe we're not the only ones who weren't told) It is now possible, by opening a valve to get CO_3-PO_4 solution into M11 !!! — we didn't quite do it but almost. — it is a branch of the M1-A5 line.

Manometer lines to M11 are plugged again.

Run Status
A1 — 4C-C Metal solution in progress
A9 — 4C-B-Digesting until 12 25/A
A8 — 4C-A- awaiting analysis
B cell — see BTGO's.

8-16-45
12-8

4C-C in A-1 Sampled.
4C-B in A9 Settling til 8^27 A.M.

Funnels to B20, 21 both plugged. In process of sucking sol'n from funnels to 500 cc R.B. flask on 3rd floor, to be blown by air pressure to B21 R. About 175 cc prod. soln in B11. 150 cc H_2O wash in B-6.

B-12 cleanout sol'n to be left until we are thru with prod. worries.

T-4 has H_2SO_4 made up, gr. not taken.

Hot spots on 3rd floor at south stair cleaned at. Stairs have some counts.

8/16/45	Run Status at 4PM	
8-4	4C-C	Extraction settling until 7:20 PM
EJW	4C-D	Metal solution diluted sampled.
8/16/45	4C-C in A8 - ready for A5 ing	
4-12	4C-D - in A9 ready to start extraction - add what in B10	
M.L.	4C-E dissolving	

8-17-45
12-8
LRM.

Removed tygon line from cell B, replaced plug.

Cart platform activity increased by said tygon line in pail in old 706-C Pb carrier. Hot. Proceed with caution.

Removed all bricks to decontam. room. Many of these are warm. Bricks given several HNO_3 treatments. If these are cleaned up & kept in bldg., we will have a cool supply on hand.

All handrails on both S & N. stairs were reported hot. These have all been given scrubbing with oxalic acid. Plz. do not put warm gloves on hand rails. Handle & door to Room 12 reduced from 75 mr. to 8 mr. Plz. re-treat.

HC-E in A-1. Diluted, Sampled.
HC-D in A-9. Cold settling til 10 38 A.M.

B-6 given 4L H_2O on top of previous 350 cc H_2O, heated, sampler unplugged, sampled -4 WW-4. In case this shows sufficient C's, it is to go into A9 with next extraction.

Area around B3, B6 blisters warm.

Sleeve designations are to be re-painted on cell block today, according to W.P.B. See print on desk, room 11.

EJW --
Please leave slabs off cell B chimney until we get a proper spanner.
In connection with the valve painting job tag new valves with the colors necessary.
Continue 4CE extraction. Put cell B rinses from B6 and anything else likely back into it.
Leave settling until monday on 12-8. LEAVE Cooling water on A9 jacket.
WAR

8/17/45 8-4 EJW ① Third floor completely scrubbed, with efforts concentrated on hotest spots on lead floor. No survey taken since cleanup.
East platform hot spots scrubbed down.
Hot material in carrier on east platform disposed of and carrier washed down with water for several hours, it is now in decontamination room. No survey taken since washing.
First floor washed down and wooden

platform scrubbed.

(2) H.P. man suggested not working on cleanup of canal until building itself was further decontaminated. I felt that this was a good suggestion and followed same.

(3) Run Status

4CD — Extraction waste in A8, 1st sample ran 290 c's, waiting for resample results — 157 c's at shift change.

4C-E — Extraction settling.

4C-F — Metal solution, diluted, not sampled

(4) According to Rodgers E. E. Phillips will be in charge of Saturday's 8-4 stuff

E. E. Phillips Saturday Work

(1) Paint all valve handles in building with appropriate colors. All of the unpainted ones are tagged with proper colors designated.

(2) Continue decontamination of hand railings, floors, door handles, viewers and sampler door handles until OKed by H.P. man's smears. Work along with the H.P. man on any job he feels is necessary for further decontamination of the building.

Do no operating.

Feel free to call Peterson at 6192, Rogers at 5-3764 or myself at 5-7351 if

any of us can help you in any way.

All. Valves Panted in Buldin
Stairs in South end of Buldin
cleaned and Pass By HP man.
Hot Spots on 3 floor. cleand
and ok By HP man.
Handle for Pushing Product
carrier was cleand and all
Scapes was cleand and ok By
Sample carries are in Room 9 in HNO3

8-4 Shift Saturday

8-20-45 1) Run Status
12-8 4C-E is in A-8 waiting on lab. analysis.
STR 4C-F is settling cold in A-9 until 12^05 P.M.
4C-G is dissolving in A-1. Not finished dissolving yet.

2.) There was no lab crew in tonight. Two samples we took, 1MF and 8WME, are in south lab behind barricade where samples are usually stored. You will have to push lab on 8WME analysis, and also get them to clean you some sample tubes.

3.) Liquid level instrument on A-5 is out of order. Instr. man rigged up a mercury manometer behind P.B. 1 that is not much good. Health Physics surveyed A-5 liquid level instrument and did not find any activity with scope, but our instru. man recorded a high hand count. So get any other instru. man that works on A-5 to wear rubber gloves.

4.) All gaskets on Sulfuric acid valve on T-4 were replaced.

5) Wolt intends to run extractions until drips are all gone or until losses get too high. So check on 4C-F run sheets before proceeding with washes or metathesis.
6) Four percent emulsion will be low after 4C-B dissolving.

8/20/45
8-9
M.L.

1.) The moisture in cell A is out.
2) No 5 thermocouple on A-1 is Kaput.

Run Status
4C H - dissolving
4C-G - settling Hot till 6%, cold till 11%
4C F - in A8 awaiting analysis
4C E - in A5 ready to go to W9

→ Succeeded in unplugging B9+11 → B21 funnel via suction treatment, eqpt still set up + at present
→ and working on B9+11 → B20 funnel. (Rumor has it that if we succeed - no Decon. of cell B necessary)
App 40% K_2CO_3 made up in T-1, not yet sampled.

8-20-45
9-12

K_2CO_3 sampled.

Will be no lab man in on 12-8. Bernstein sick.

B-6 Blister interior ~ 45 R (mostly β,) reduced to about 7R by acid treatments. B6, B3 need to be prepared for GH, JTW.

B 20 funnel sucked & blowed several times. There is still a possibility that it is partially plugged, altho tests were encouraging. 500 cc H_2O was dropped by opening B11 & it went thru ok. 500 cc was immediately added, as fast as possible, from B9. This time the funnel remained half full. Repeated thru B9, 11 with 700 cc each, got good drainage. The soln does go thru, but whether line is completely open is unknown. Possibly B9, 11 supply pieces of crud each time they are used (??)

4C-H in A-1 at heat, not dissolving.
4C-G A9 → A8 Being decanted.

8/21/45 12 8 EJW

① Run Status

A9 — Extraction precipitates filed thru 4C-G, awaiting further instructions.

A8 — 4C-G metal waste, waiting for lab analysis.

A1 — 4C-H metal solution (low gravity) waiting for lab analysis.

② B20 filter disc was completely plugged and much crud appeared in reactor. Reactor was flushed out completely with flotation process but it did very little.

good. At 8:00 AM vacuum is on B20 in attempt to get rid of the water out of the reactor. Watch this because transfer vessel will have to be emptied twice to take out all the water.

③ B3 blister cleaned from 7.5R to 300 M.R.

B6 blister cleaned but practically no results still > 12R.

④ Floor around B3 and B6 blisters was found warm and was cleaned up once. Needs a good scrubbing with janitor's machine. The contamination obviously came from B3 leaking blister.

8/4/45
8-4
M.L.

Run Status

4C-H - settling until 12 midnight in A9

4C-G - in A8, awaiting use of off gas system before neutralizing - system in use by 706-C.

K_2CO_3 in T1 is 41%.

Both B20 + B21 funnels appear to be O.K. now.
- now in process of cleaning up the glassware
- removal of liquid + then the crud.

LR

New type drying tubes installed on B20 + B21 — use "pressure" with caution!

LRM → 12-8 Please have HP man check the lead blocks placed in S.S. bucket in decontamination room. These blocks must be turned over to Central Shops in morning so please try to have them clean. G.H.

A new cylinder of ammonia installed — not cut in yet.

L.R.M. + E.J.W. — We won't [illegible] until tomorrow what we [illegible] going to do with the heel of this present [illegible] start the Decantation, cake wash, Metathesis, etc at midnight. Spend all available time in decont of hot areas as discovered by H.P. All shifts are to get the Dec Rm #9 in shape. The painter is coming back in the A.M so start + add to the list all labels required around the cell, in the Bldg, outside, + for House. I'll get this list + have him start in the A.M.

Otherwise coast while you're resting.

WPB 8/24/45 4:00 P.

EE

8-21-45
4-12

4C-H in A-9 to be decanted 12^00 then Cake washing.

B20 MT, waiting on 706A research for solvent of crud.

2nd level floor is said to be free of contamination now (H.P.).

Blister handles were very hot, cleaned.

The contam. Pb bricks were returned to Rm 9, cleaned and re-piled. Removed from Rm. 9 SS. beakers, instruments, wire, long handled tongs, carriers, etc. after cleaning.

8/22/45
12-8
EJW
GH →

① Lead blocks which Hovorka wanted cleaned are now ok to take to maintenance shop. The special machined piece however is 3MR after repeated cleaning. Smears on this piece show no activity

② Concrete carrier in decontamination room was cleaned out and stored over hot labs.

③ Run Status
4C - last extraction wash settling until 8 35 AM.

8/2
8-
8-22
4

8/22/45

8-4 Cleaned NO_2 shipping cannister down to handlable level ~ 30 mr/hr and stored above hot lab.

Finished clearing of lead from B1 blister (~ 2 mr/hr)

"Crunk" on B20 filter almost entirely removed via chloroform – acetone – benzene treatment – by use of tygon lines threaded down the probe hole – appears to be O.K. now.
B6 → B11 → B20 system appears usable – needs some Nitric rinsing however.

Run Status
A1 – Nitric in to remove heel, allow to cook all night.
A6 – 4C – H, to go to W9
A8 – 8WC – awaiting second methathesis
A9 – 4C – settling.

New batch of $Pb(NO_3)_2$ made up in T-2 – not sampled as yet.

8-22-45 $Pb(NO_3)_2$ Sampled.
4-12 4C in A9. Hold.

8-22-45

Program: Run 4C-H will be continued until second metathesis ends. Decant to a 4" heel and hold in A-9 until 8:00 AM 8-23-45.

Run 5 will start on Wednesday August 29.

Cell 3 will not be decontaminated, with the exception of the off-gas system & glass equipment. Fan-house will also be cleaned up. Don't start any decontamination until tomorrow.

ACY

8/23/45 12-8 Egw — ① Run Stakes same at at midnight

8/23/45 8-4 M.L. — Metathesis cake dissolved and sampled, is now in A9 awaiting 5A-A.

a 30 Kg batch of caustic made and jetted to M11.

(4?) 5C-I diluted and sampled, in A1 yet.

One hot trap and several pieces of hot tygon

tubing removed from the glass appt. setup.

Small fans off + water running through the system.

The following items are ordered for repair or recently installed.

1. Method of jetting from caustic drums to M11.

2. Sight glasses (2-3ft ones) for M11 will be installed after Run 5. Until then M11 L.L. & sp. gr. is being unplugged & will attempt to keep it that way.

3. Sweating pipes are being lagged.

4. A better system for handling the concrete ~~tank~~ blocks is being worked on.

5. A klaxon has replaced the 3rd floor bell. Although it is not adjustable, if it is too loud even while jetting let me know.

6. Shoe shelves for the lockers are being made up & will be installed when the lockers are given a full cleaning. Soon we trust.

Programme: 1. Continue decont. of S.S. Blower
2. Bring B6 blister down to < 2 R
3. Collect + keep all tools together.
4. Leave A9 as is.

8-23-45
4-12

No. 1 fan decontam. water left running.

B-6 Blister given shots of citric, acetone . No results. Sample was circulated with hot HNO_3, dumped, rinsed. Still hot. Second shot HNO_3 left circulating.

8-24-45
12-8

~ 40% K_2CO_3 made up, sampled.
Water left running on S.S. fan.
HNO_3 in B6 was changed. Sampler still circulating.

8/24/45
8-4

A9 blister brought down to workable level,
B-6 - still too high (expend manpower on it - per WPB)
water still running in S.S. fan.

Have HP take a reading on B-6 and determine what working time is permissible inside the door. Rather than spend this time scrubbing the inside use the alloted time per man to tighten the bolts holding up the lead brick which was removed & shaved down. The brick is already inside & the nuts attached - tighten all the way up. This perhaps in the long run will accomplish our work inside in much shorter time than attempts to decontaminate it to lengthly working levels.

Also scrub down the lead brick removed from A-9 now in decontamination room. Should be ready to go to General Shop in morning.
S. Hovorka

Jet suction for emptying caustic drums installed and tested — now a one man job to make up NaOH

8-24

4-12 tightened nuts on B-6 blister

8-25-45
12-8

Lead brick removed from A-9 is ready to go to General Shop. It is just outside decont. room.

Decontaminated B-6 blister from 12 r to 3.5 r by scrubbing with conc. HCl.

All Shifts — Safety and Housekeeping inspection by the section sometime Tues. 8/28. Get all the floors & our area in A-1 shape.

8/25/45
8-4

One dummy evaporation made, product in carrier #2 on 3rd floor — around 200 mr

Valve B20 — B3 Kaput.

— Do nothing about the conc, contents & carrier on the 3rd floor, except post a sign stating Rd. level.
— Clean up around 1st floor platform do nothing

about the open sleeve, plug, etc.
- Shut down S.S Blower & start water thru again - check all the valves 1st.
- Clean up your floor + outside the building except Main. pipe, scaffolding etc.

8-25
4-12

Cleaned up around first flow platform
Shut off S.S. Blower water running thru.
Off gas to 205 stack open

8/27/45
12-8

Everything the same as at 12P.

8-4

Strainer on jet line A8-A5DA, sleeve C-8 behind PBI - 800 mr. To be checked from time to time, + if it increases, will remove. Short range staff.

B-19 Dummy Run evaporating at 140-145° til 4 P.M. Continue at 135°-140° for 3 hours and inspect. Object: to find how to deposit in bottom of cone, to suit Y. After this run, repeat run using conditions which you hope will deposit well. Dummy soln in lab. hood. Suggest varying off-gas, air temp, head heater temp., etc.

All shifts work on the above and keep adequate + accurate notes + report.

— Man power.

ML - Discontinue the graveyard. Let your men come in on either Day or Swing. Take off Wed and/or Thurs. Work Fri + Sat. 4-12 (Sat 4-12 if anyone non-tech is coming in.

J.E.C. - Work days Wed, Thurs, Fri, + Sat.

E.J.W. - Take off Fri + Sat

Rimshaw - Take off Sat.

No Sun work + will let you know about Mon (Labor Day.)

8/27/45 4-12 EJW

(1) B19 dummy evaporation left by 8-4 shift taken off at 7:00 PM. Results on run sheets on U.P.B.'s desk.

Another run started at 10:00 P.M. The only condition we set up is to have heater air at 120°C. The heater air temperature appears to be about the only condition that can be varied with the equipment we now have.

(2) 12:00 M inventory same as at 4 PM.

(3) H.P. man reports some hot rods on 3rd floor (75 M.R.) please investigate.

8/28/45
12-8:
M.J.

B19 Dummy run started at 10P was dropped at 3A — dry — in carrier on third floor — no more started since there was no synthetic solution made up — and no directions for making some.

Could it be that the "stuff" is deposited due to the head heaters being too efficient? — no refluxing to wash it into the bottom as may have been occurring with the old head heater???

everything else as at 12°°/midnight.

8.28.45
8-4

Second evap. N.G. Third evap, run at much lower head plate temp. (60°-80°) coming off for inspection. More dummy soln. available.

Area around B21 probe floor cleaned from 1.5R yesterday to ~ tolerance.

Cone from #3 shipment has had 6 HNO_3 treatments. Is down from 4.500 to ~ ~~1.1R~~. 260 mr @ 6"

Repair work on W-11 drains completed. O.K. to send stuff out.

Third evap inspected. Still on side walls. Also hot ~ 4.5R. Plug put in top & removed to decontam. Rm.

Program -

1. The mirror in the overall viewer near the dolly-shaft plug BW-K8 needs maint. work. Remove the mirror section & decontaminate.
2. Cont. the decont. of the shipping carrier, cone + collar, and plug. They were received today and are quite hot.
3. Continue Evaporation dummy runs, see LRM schedule.

8/28/45 4-12 EJW

① Final product carrier and cone assembly which was used for dummy run was cleaned out. Nitric solution was put in cone and assembled back on B19. It is ready for a new evaporation run at 12:00 mid. Just turn on the heat.

② Final product carrier and cone from #3 shipment was cleaned with H_2O, HNO_3, acetone and HCl several times. The carrier is in good shape, stored over hot labs. The cone and plug are still hot so they are being decontaminated overnight in M1.

③ Overall viewer in BW-K8 was cleaned as much as possible but it still reads 150 MR/HR inside, near mirror. An attempt was made to take it

part but after taking out 75 screws we decided the job should be done instrument men.

8-4 Said periscope worked on by inst. except for replacement of shield. work on viewer BW-B2

Dummy evap. heating stopped after [illegible] N.G.

8/29/45 4-12 EJW ① [illegible] ll A sleeve piping checked and [illegible] d in note-book on W.P.B.'s desk

② [illegible] ntamination room cleaned out, c[illegible] decontaminated and stored over [illegible] be. Cone and adapter and so[illegible] hung in M1 for fi[illegible] ontamination.

② [illegible] s on 3rd floor cleaned up to [illegible] n's satisfaction.

8-30-45 8-4 Another [illegible] my evap. started, using additions o[illegible] c each thru B6, B11. B6 MT ied to [illegible] See sheet. Due to possibility of pick-up of [illegible] tivity, we hung a plug on hook in cell.

25cc in B-6 ready to take to B-11. - to B-19

8/30/45 B20 to B3 is clamped off between B20 & the valve.

8-30-45

4-12

SR

Contamination from overall viewer removed yesterday was tracked throughout the northern part of the building on all floors. The contamination probably came from the paper on which the viewer was deposited. We scrubbed first, second and third floors and removed most of the contamination on first and third floor. The second floor, northern end, was hardly affected by our scrubbing. Have janitors concentrate on scrubbing north end of building.

Viewers and scoops tagged out as contaminated by H.P. were scrubbed with acetone first.

back

Dummy run evaporation was finished and left in place to cool. Last 25 c.c.'s was heated for 1 hour 15 minutes.

8-31

8-4

Removed carrier and cone from Cell B and decontaminated both.

up

8-31

4-12 Cleaned up two hot spots as per H.P. shift check (third floor sink + a spot on the third floor)

9-1

8-4 Washed barrel in decon room, sink in room 8, sink third floor.

Scrubbed between B8 + B9 Blists on floor. Washed down funnels & tray on third floor.

Slurry evaporation in progress T-4 emptied to allow maintenance work to be done. New Batch 65% H_2SO_4

44
9/1/45 Evaporation finished + inspected SNaFu. —
4-12 Cake dissolved + put in a bottle — now
M.J. in the hood in Chem. Lab — contact
Chemists about it.

9-4
12-8 ?
9/4/45 ① Since we have no working
8-4 thermocouples in A1 we'll have to
EJW fly blind during the dissolvings.
I would like to suggest the
following dissolving procedure, we've
tried it before and it worked
ok.

a) As soon as Sp. Gr. in A1 reaches
1.78, turn on air sparger,
keep steam to jacket on.

b) Add dilution water. Even though
temperature is high, it will
immediately drop and it will
not go under 80° C.

c) When all the water is in,
turn off A1 jacket steam.
Continue to sparge A1 contents for
15 minutes with no steam or
water to A1 jacket.

d) Turn on A1 jacket water and
continue sparging for 45 minutes
or more.

9/
4.
M

Eight loads of slugs are in A-1. Ninth load is en route.

Run 4C was transferred from A-9 to B-1 where it is being evaporated down to a more convenient volume. A-9 was washed out with a two liter water wash. See W.P.B for run sheets.

Time Cycle

Meet this and we ship #5 at noon 9/4, and #6 at noon 9/16.

260 slug in by	1900	9/4
Coats off by	2100	9/4
1st batch dis.	0200	9/5
1st Batch Extracted	1400	9/5
Batch B dis.	0700	9/5 more later.

A9 heel being evaporated in B1, a f. HNO_3, electrolysis, and Back to B1 for it.

Done → Before electrolysis check B12, B12 → B1 (via B8).

9/4/45 Finished loading slugs, and started Run 5B.

4-12

M.L. Run status

A-1 — 5B-A metal solution

B-1 — 5A evaporating to dryness, manometers plugged - probably by KNO_3, has been cooking since 3 3/P - use discretion as to when dryness is obtained - then proceed with Fuming HNO_3

and electrolysis - roughly as per sheets here-with - some pipe fitting involved as some of the capped jets must be used.

9-5-45
12-8

Jets uncapped for use:
B1- B 12 B
B1- B 3 D.

8-4 Pls. have electricians fix fan alarm to eliminate need for repeated adjustments. Shift man claims they are using a DC relay in an AC system.

Flange on M-7 pump cleaned of old gasket to stop spray. Outlet valve repacked.

5A-A in A-9 hot settling til 8^05 A.M.
5A^2 in B12 15 amps til 8^45 A.M.
actually 5 B-B → 5A-B in A1 Dissolving.

Sample 3WFN from B3 has ppt. Check with brains to see what to do.

Broken glass plug removed from orifice on T-4

9/5/45 ① New sample tubes can be now found
8-4 in both sample cabinets and in
EJW desk at A-1 blister.

Sample carriers are being kept in citric acid bath in decontamination room according to last sampling procedure written by S.H. and J.W.

N.B. ② Please try to arrange the dumping of HNO_3 into M4 so that it will go M.T. on the 8-4 shift tomorrow. Valves at bottom of M4 will be repacked.

③ Run Status

5A — in B1, (electrolyzed) hold, 1st PbO_2 removal solution in B12

5B-A — metal waste in A8 awaiting for lab results

5B-B — letting extraction hot until 6:43 PM, cold started 11:43 PM (lucky dogs)

5B-C — dissolving.

1. Load Slugs tonight — 260 of them. When 5B C is out of A1 and into A9 add the coating removal in the following order
   - All but 20# of the total H_2O
   - Add all the HNO_3
   - Rinse with 10# H_2O
   - add all the $NaOH$
   - Rinse with 10# H_2O

   } as fast as possible but not simultaneously

2. Charge now is 390# HNO_3 per batch.

3 - Run sheets than 5B-H in Rm #12.
4. - After delivering samples to the lab. notify the Chem. imediately, have the sample removed from the carrier, and put the carrier in the Citric acid bath in Dec. Rm.
5 - Flexible hose is going to be put on T9 also.
6 - 1WMA = 14.0 C's Anal. Time.
LRM → 7 - All charts being used are to be changed as soon after midnight as possible please do so.

9/5/45
4-12
M.L.

Run Status
5B-A - in A6; ready to go to W9
5B-B - in process of decanting
5A - in B1 - Just settling
5B-C - in A1 Dissolved, diluted, + sampled in process + loading slurp., Coats to be removed per above ← after 5B-C is jetted to A9

9-6-45
12-8

Total [illegible] loaded this shift - 154. Total - 258

Lose on 1WMB 224 C. Resampled.
A8 left settling.

5B-C in A9 Settling til 10 45 A.M.
5B-D? → (5C-A) in A1 Ready to start dec.
5B-B in A8. Resampled - Settling.

Jet A1-W-11 plugged. ~~Had to use A1-A5-W11 losing batch of $Cl_3 \cdot PO_4$.~~ Jet A1-A5 also plugged. Used A1-A6.

9/6/45
8-4
EJW

① New bands have been put on all face masks, if more bands are needed you'll find them in cabinet N side 3rd floor.

② Run Status
5A – hold in B1
5B-C neutralized metal waste in A5
5B-D extraction settling hot until 6:00PM, settling cold until 11:00PM.
5B-E Dissolving

③ A carboy of 70% HNO_3 was put in T5 along with some 60% stuff. Your Sp. Gr of acid in T5 may be slightly too high and may need adjustment when using. (Use as is but watch reaction – WPB).

④ Final product cones and plugs have again been put back in M1 for further decontamination, please do not remove them until tomorrow.

1 – B20 + B21 probes have been rewired so that when both probes enter the solution the upper light will go on.

2 – When sampling be sure and agitate long enough and then circulate long to avoid false sampling.

ML → 3 – Check the funnels from B11 to B20 & B21 tonight, and report same. Also report what happened on testing the plug with gasket.

9/6/45
4-12
M.J.

Good News – Both B11 – B20 + B11 – B21 are plugged – Hurray!! They both drip a little but overflow when fed from B11

Run Status
5A – in B1 – Just settling
5B-C – in A6, to go to W9
5B-D – in A8 to be sampled

5B-E – in A9, ready to start extraction

5B-F – to be started, metal solution

9-7-45
12-8

Flange outlet from M-4 leaks badly.
B20 funnel's plugged condition verified. B11 OK.
5A in B1
5B-E in A9 Settling til 10^00 A.M.
5B-F in A1 Sampled.

Stuff in M-1 requires two bags Na_2CO_3 to complete one batch.

9/7/45 ① A1 sampler was adjusted to deliver
8-4 .6 ml, we think.
EJW ② An attempt was made to unplug funnels B11-20, B11-B21 and B11-B19. They could not be tested because B20 filter disc was also found plugged and B20 reactor was full of water.

B20 filter disc is now in fair condition and at 4:00 P.M. we are filtering weak HNO_3 to B20T. Please check this soon and also try the funnels to see if they now work. B11 should have 1 liter of H_2O in it if it did not leak out.

③ Run Status:
5A in B1
5BE metal waste in A8 waiting lab results
5BF settling in A9 until 8:35P
5BG dissolving
④ Slugs are to be loaded as soon as 5BG metal solution is diluted.

9/7/45
OK 4-12 5BE was resampled since it was high and
ML. then was settled — comes time to decant and the A8-A5DA doesn't work — so it was thrown away (137 curies)

260 slugs loaded.

Cell B Program Oper WPB

1. Unstop B11 – B20 funnel + when about it is open, cover with cheese cloth (Wad on the end of present pipe probably)

2. When B20 is empty, disc is to be washed with HCl, Sunny Nitri, + oleum – to be discharged via B19 line on to floor – floor to previously be given a shot of caustic via B20 transfer vessel – do not use caustic or disc.

Hope you have better luck with the above than we did – after hours of labour we succeeded in unplugging B11 – B20 funnel, after running 2 l through it we decided to run in 150 grams or so just to be sure — and it plugged again – spent rest of shift unsuccessfully. – The 2 l we did get through is in B20 – holding up the disc washing — so —

Run Status

A1 – ready to start coating removal — nothing in but the slugs

A9 – settling till 7:30 or 8:30 AM – Contact the Powers on this – they wanted to extend the settling time if previous waste was high – (was 50 – don't know if they consider this High or not)

(5B-6)

A8 – 5BF is ready to be neutralized

A5 – 5BE – ready for N91ing.

9/8 E

9-8-45 B20 funnel sucked & blown.
12-8 Using 500 cc portions in some 6 or 8 tests, the funnel plugged twice, each time the funnel was re-tested. After each blown down, line was clear. On second try, difficulty encountered. Appears to be some crud coming from pipettes, not from cell, so cheesecloth was not put in. By watching level of liquid in R during blowdown, it can easily be ascertained when the line clears. B11 discarded in favor of B9, due to difficulty in getting more than 35" on B11 manometer. B20 filtration too slow to permit any work on disc clean-out.

5A in B1.
5B-H in A1. Sampled.
5B-G in A9. decantation started 7:30 AM.
B20 Filtering.

Vac. pumps need checking. Cut on off-on too often to permit good sleep.

9/8/45 ① Run Status at 4 PM.
8-4 5B-I metal solution diluted and sampled.
EJW 5B-H- Extraction settling until 6:05 PM.
5BG Neutralized metal waste in A5
5A — in B1 hold.

② Slugs are being loaded at 4 P.M.

③ B20 reactor is being cleaned by running

stopped at 4 PM

over with distilled water. Please check. Funnels were plugged, unplugged, plugged, unplugged, God only knows what their status is right now. Filter disc was cleaned with new special equipment.

1. B21 is in the process of being fixed so that we can use it of waste B20 → B21 → B3. A layer of wax extending from ~ ½" below the filter disk to about the 500cc mark has been installed, with supporting water underneath, and this wax is to cool till Sun A.M. so add nothing to the funnel to B21 & do not disturb any of the valve, agitation, or any line pertaining to B21.
2 - Let the funnels lines extending to B20-R etc sit until Sun. day.
3 - As changes are going to be made in the cells & externally, please ML, E.J.W. & T.R.M each prepare a list of suggestions.
4 - Any extraction waste loss over 50c's, take a duplicate resample & have one run as received & one clarified.
5 - Batch 5B-I is the last to be extracted for run #5. Start with

washes, metathesis, etc.
6 - No more slugs until mon. 9/10.
W.P.B.

9/8/45
4-12 LRM: Newton's mother called in - he's sick
m. 1 and won't be in tonight.

Loaded 257 slugs - did it again that is we stuck two in the carrier, they were removed in the canal + moved to different Holes - both stuck in the same hole so it was left open on the last round - it is the 3rd hole from the left, in the 3rd Row back - as you face the carrier - we inspected it after the last load - nothing apparent except for some white putty like substance which was removed from several holes. - recommend cleaning of whole works.
B6 given a boiling 70% HNO_3 treatment for crud removal.

Run Status
A1 - loaded, ready for coating removal.
A9 - Settling until 7:10 AM 5BI.
B1 - 5A - Just resting
A5 - 5BH - ready for W 9'ing
A6 5B-6 - " " " "
A8 given an acid rinse after emptying to insure that

156 high waste analysis are not due to build up of pyr t

9-9-45 Steam line to jet A6-W11 plugged. Jet A-6
12-8. → W-9 plugged.

5C-A in A1, diluted, sampled.
5B in A9 first wash settling.
5A in B1
5B-I 8WMI in A8 waiting lab result.

9/9/45 Run Status
8-4 5B — extraction washes in A8 waiting for lab.
5B — 1st metathesis cooling until
4:05 PM, settle from 4:05 PM to 6:35 P
5C-A — metal solution diluted sampled.
5BI — neutralized metal waste in A5
waiting for extraction washes.
5

9/9/45
4-12 Run Status:
M.L. A1 - 5C-A - sampled + diluted
A9 - 5B settling (see run sheets)
A8 - Methatesis waste - Save for dilution
of 5CA instead of water - see run book
B1 - 5A - Waiting

the new C.L. (Collier - Levenson) Transfer vessel
was designed, engineered, + built - with some
help from E.J.W's shift - Criticism + messing
around not welcomed - suggestions
however are welcome - it leaves a

10 cc heel in B6 - The cords attached to various parts are for disposal when stuff gets hot - Use thermostat as little as possible - it's hard on the tygon to be done - finish the shielding - move lead bricks on first floor, East of cell B. line from B6 + to B20 to be shielded as well as vessel proper - leave lead house large enough so ring stand, tripod etc can all be removed via the tops.

One hot spot on 3rd floor - marked in chalk - Use gloves on lead bricks - take it from us it's necessary.

9/10/45 12-8 E & W

① B1 depth tube appears to be plugged up. No attempt made to unplug it since it was near shift change. New oil needed in Sp. Gr. manometer. NH_3 manometer also needs oil.

② New batch of $Pb(NO_3)_2$ made up, not sampled.

③ Run Status at 8:00 AM.

5A - waiting in B1

5B - electolyzing at 15 amps until 8:20 AM.

5CA - extraction settling but until 10:15 AM

④ No criticism offered but we moved around a lot. Most of the shielding was torn down and a class "A" job done. Shield is now complete. You guys may take some credit but who in the heck started the idea, and who lugged 90%

of the bricks.

(Editors Note: The above parties are hereby given credit for buggery not 90% - but 100% of the lead bricks — Colored labor gangs not being available on shifts)

9/10/45 Run Status
8-4 A1 - ready to start solution of Batch C
M.T. A8 - 8WMA - to be sampled
A9 - 5C-B - extraction to be started
B1 - 5A - sitting
B6 - 5B - evaporating
B12 - plate removal in progress - see sheets
(25% HNO_3 in Stainless bucket near funnels)

to Be done - Per WPB
empty B20, some via B19 line to the floor + same to B21 → B3 to test both lines — use only the valve at B21 in the B20-B21 line — leave the one at 21. open.

9-10-45 First Sample 5C-8WMA high (375), so
4-12 resampled A8 Settling since 9 P.M. Resample 4.4C clarified.

Second clean-out shot in B12 left there as it would have interfered in use of B3. Would suggest that op. procedure be changed to clean out B12 the day after a run goes thru. First shot sampled + dumped - to B10

B6 given water wash, sampled 10^30 P.M. 3^00 P.M.

5C-C in A1 diluted, sampled.
5C-B in A9 Settling til 2^10 AM.
5C-A in A8 Settling since 9^00 P.M.

Third floor dangerous around B6 + B20 probe and Frankenstein. Around top of pile - way over 4 a R. Due to application of pressure to vessel (trying to inflate a collapsed line) the stopper blew + spewed activity out the top of the volcano. Precipitron test taken. Until results are in, wear mask if working near pile.

About 1/2 of 5A in B1 was added to 5B in B6 during evaporation

Per WPB → decant A8-A5 at 2^00 AM. This is a slow #3 jet. When finished, decant A9-A8. and settle 5 hours in A8, keeping A9 empty during this period. Then return the settlings of batches A, B, to A9 + proceed with eptradition batch C. Use about 1/2 of batch C as a wash + carrier to remove the settlings in A8, jet back to A9.

B7 in B12, with Vac. on.

9/11/45
12-8
EJW

① B7 filtrate contains 2nd PbO_2 removal solution. No vacuum is on and it is in B12. The radiation at B7 handle in 14R so it would probably be best to leave it there until 3rd floor is in better shape.

② 8WMB sample was not taken since there was a precipitate (iron hope) in A8 before waste was pitted in.

③ A5 Ring Balance was ok but the short tube to A5 was plugged. That's why it wouldn't read zero. The tube was partially unplugged by running bubbles at fast rate. The best way to thoroughly unplug it would probably be to rinse A5 with acid, when A5 is MT'd

④ Run Status:

5A+5B — fuming HNO_3 filtering in B20

5CA — neutralized metal waste in A6

5CB — metal waste + metal waste heel from 5CA settling in A8 until 9:25A. It is to be decanted to A5 and the heel transferred to A9 see WPB's instructions, page 59

5CC — metal solution in A9 waiting for heel from A8 before extraction

5CD — dissolving.

9/11 8- JE

9-1

(5) Final product cone for Run 5 has been cleaned and put back in carrier on 3rd floor.

9/11/45
8-F
JEC

1.) Cell B Status remains in inactive state - even B-20 - still suckling.

2. Run Status:

a) 5A & B - Fuming nitric still filtering in B-20.
b) 5CC - Settling in A-9 until 4^45 hot. -
c). 5CD - Dissolved - Sampled.

3.) Process of dismantling B-6 - B-20 transfer vessel on 3rd level - See WAR & WPB

9-11-45
4-12

Hot can buried. Pb carrier full of crap is in Harp's truck at burial grounds. Hot box from corral buried.

Monster Frankenstein is buried alive in a lead crypt. Sufficient oaths have been said.

Program for nite, per WPB.

1. Keep 7-8# (not more than 8#) air on disc B20 all nite. Watch for possible break thru of air.

2. Continue Pb barricade + clean up hot spots on third floor - object - longer working time.

B21 Probe is hottest spot left uncovered. If time is available, close B20 probe door.

5C-E in A1 Starting to Dis.
5C-D in A9 Digestion til 12 35 A.
5C-C 8UMC in A8 Sampled.
5A in B1

9/12/45 12-8 EJW

① There were no hot spots, just one hot spot — whole 3rd floor, north 2nd floor, north stair railings, north stairs, hot dest on 3rd floor (just 4R/hr) All items mentioned were scrubbed and washed with the exception of the lead floors on 3rd level. These have been roped off. Anyone walking on lead floors should wear rubbers and leave them there.

→ P.S. Latest report from H.P. department, 3rd floor linoleum is still hot. See H.P. dept for further surveys.

② Run Status:

5A in B1

5B – F. nitric in B20, 7-8 lb. pressure on disc, practically no air bubbling thru. (See 4-12 log.)

5CD – settling extraction until 8:25 AM.

5CG – neutralized metal waste in A5.

5CE – metal solution, sampled.

9/12/45

8-4 The "white elephant" was buried – lead

M.I. casket "et al."

2500 cc distilled H_2O added to B20R – to be very gently sparged until tomorrow morning

The lead around B20 probe was rearranged to allow insertion of the "puncturing mechanism"

Concrete floor on the third level and the lead floor along the east wall (T-area and behind PB5) all acid washed + now O.K. – according to H.P. all contamination of any extent now on the raised lead floor.

Run Status

A1 – dissolution 5CF

A9 – 5CE settling until 7 20/P

A5 – 5CD Neutralized

A6 – 5CC – [illegible] W-9

B20 - 5B [illegible]
B1 - 5A "
B6 - 5B wash "

I would like a statement from each shift by tomorrow morning ~~from~~ ~~each~~ ~~shift~~ giving your suggestions as to what you would like to see done in cell B. Start from scratch and give the whole layout.

UR

PS. Back filling with concrete is out.

We shall abandon the chlorid run. Tomorrow we will attempt to break the B20 disk and let the solution run into B20T. Thence to B21 → B3 → B10 → A9. We will then combine both runs and attempt to make a $Ba(NO_3)_2$ run.

LRM -- Please check the operation of B9 and the B19 funnel. Before doing this make sure B3 and B10 are MT and rinsed then MT and rinse B6 → B3. Work B3 to add no more extraneous material as this will go eventually back to A9.

Then add water to B6 and test B9 and B19 funnel. If it works on 500 - 1000 cc try it on 100 cc.

WAR

9-12-45 4-12 The B6 wash (105 c.) we tried to put in B1, via B3, but it siphoned on to B10. B10 contains 2nd Pb (B12) cleanout, water + No. 3 CP. After next decantation in A9, use entire contents of B10 in A9 extraction, cutting down on H_2O normally added (at B). When B10 is MT, pls. rinse B3, B10, as per WAR.

out.

B9, B19 Testing.

No. 1 — 1000 cc H_2O in B6 → B9 → B19. Perfect.

No. 2. 500 cc H_2O " " → B9 → some overflow of funnel.

No. 3 500 cc HNO_3 " " → B9 → " " " "

No. 4. 100 cc HNO_3 — ok

added 50 "

" 200 "

300 HNO_3 in B6 → would not rise due to insufficient vac. on B9. The B9 valve turns very hard, sometimes preventing good vacuum.

Conclusion:

B9 is usable for moderate amts. (~500 cc). Should be dropped to B19 funnel slowly to prevent overflow. Whether B9 will pick up 100 cc undetermined as yet.

5C-G in A1 Dissolving
5C-F in A9 Hot Settling til 1° AM.
5C-E in A8 Neutralized 8WME.
5A + H_2O in B1
No. 3-6P + crap in B10 to be used in next extraction.
(105.C)

300cc HNO3 in B6 for B9 test.

9/13/45 12-8 EJW

① All lines at PB-4B and lines leading to B9 and B11 were checked for leaks and tightened. We found one cracked valve and several leaks, this is one reason that neither B11 or B9 worked at beginning of shift. All pipes outside of cell have been piped but B11 foot valve still leaks badly.

B9 was rechecked according to WAR's schedule and found to work well at all volumes. The funnel to B19 drains all right if the flow from B9 is kept at a moderate rate. It will overflow if foot valve is opened wide.

② Run Status: 5C-H dissolving.
5B in B20, 5A in B1
5C-F metal waste in A8 waiting for lab.
5C-G metal solution in A9 — hold up extraction
③ 5C-G was cut diluted in A1 at 1.70 sp. gr. It was very slow coming up

and would have held up swift extraction. At 6:30 AM, however WAR's instructions are to hold up extraction of 5C-6 until material from B20 and B1 is put back in A9

(4) Suggestion for operation of B9:

If vacuum on B9 suddenly drops for no apparent reason. Check the vertical line from mercury pressure regulator, periodical it pops off and sucks in air.

Shift Supervisors

PLEASE each shift look in mail box and take care of all items addressed to you.

WAR

9/13/45

8-4 Dissolved, solution stuck in B20T

M.L. A1 – dissolving Heels

A8 – PW MF

A9 – 5C6 – waiting 5B

9-13-45
4-12

The whole run is back in A9 ready to start last extraction. Use no H_2O before H_2SO_4, due to rinses added. B20T punctured with rod → B22 → B10 → A9.

B21R is filled with paraffin. B21T has F. Nitric waste from B20 + H_2O. After paraffin solidifies, try press. to blow open B21T → B3. If successful, sample B3.

A1 contents to be dumped, over 40% acid.

In process of raising B3 → B10 → A9 at 11:45 P.

9/14/45
12-8
E J W

B21 was sealed perfectly with paraffin, in fact so perfectly you can't blow out liquid from transfer vessel. It appears that the pressure vacuum line is sealed off.

Instead of throwing out the material from A1, steam was put back on and dissolving of heels continued all shift, just to make sure all heels are dissolved out.

Run Status:

① 5C-H Dissolving heels.

② 5C settling in A9 until 10:15 AM

9/14/45
8-4
M.L.

Run Status

5C - extraction cake wash settling until 4:30 P
5C-H waste in A6 } neutralized
5C-G - waste in A5 }
5C-I - in A1 dissolving the heels.

9-14-45
4-12

5C in A9 first metal. settling til 2:08 AM.
8WW in A8 Sampled.
heels in A1 Steam on.

9/15/45
12-8
Eg W

Run Status

A9 - 1st metathesis water wash settling until 9:22 AM.
A8 - metathesis waste awaiting for lab results and washes.
A5 - 8WW (extraction washes)
A1 - 9heels dissolving, steam on

9/15/45
8-4
M.L.

Run Status

A5 - neutralized acid from 1st A1 decontamination stewing
A9 - Last cake dissolving settling until 4:00 P
B1 - first cake dissolving evaporating down.
A1 - cooking heels (to be sampled before disposal)

PB1-12 & PB1-15 shut off at request of instrument group (can be turned on if needed but prefer not too) also, turn off the two milliammeters on PB2 when not needed (reason is there are no more charts in store, only some on order and no way of knowing when they will get here.

Please give B6 a 5% NaOH rinse of 10 liters. Discard to B3. Then Rinse with 15 liters water. Discard to B3. Then add 15 liters 5% HNO_3. Jet most out to B3. Take 500 cc up into B9 and discharge to B19. Rinse one dose twice with 15 liters water each time taking 500 cc B9 → B19. Leave B6, B3, and B10 MT.

When jetting from B1 to B12 use B1 to B12A and have 10 # steam pressure on B1 to B12B to prevent back up

WAR

9-15-45
4-12

Results on 8-4 B-6 Samples:

agent	Conc.	Vol.
W.N. HNO_3	35 mg/L. Fe 13 " " Pb	2.3 L.
F. HNO_3	45 " " Fe 55 " " Pb	4.1 L.
H_2O	20 " " Fe 2½ " " Pb	6.0 L.

Result on IP - 2680.C.

Due to plug in steam line to jet B1-B12A, we used B1-B12B, with 10# press. on B1-B12A + added 2 rinses, 700 cc + 500 cc. Final Vol - 4 L.

A-1	dissolving heels.
A-9	Weak HNO_3 wash. Not Sampled.
B-1	I-WW Not Sampled.
B-12	#5 at 25 amps til 6^{01} A.M.

12-8] → Per WRR, after sampling 6P, about 6^{45} AM, start evaporating B6 as tho a vol. reduction were intended. Rush lab. anal. on Pb. A carbonate vol. red. may be run, depending on amt. of Pb.

Sampled I.P. twice due to crap in No. 1. B1 Sampler is now plugged - can't get enough vac. to circulate. Same condition exists in A-9. Hope you can solve this! A9 has 4500 cc wk HNO_3 (1 mole) should be sampled to learn loss of C's.

All the B6, B3, B10, B9 cleanout work on preceding page is done except the last rinse. B9 working fine at 80" vac.

9/16/45 ① An attempt was made to unplug
12-8 B1 and A9 filters. A9 suction line
EJW was unplugged once but plugged up
a short time later before a
representative sample could be taken.
The sample volume also needs adjusting.
No success met in trying to
unplug B1 sampler. Manpower
completely used up.

② There is a hot spot on floor
on right side of A9 sampler. Linear
count very high. We had no
MR absorbent to clean it up.

③ We'd like to know who the
culprit is who locked out power
panel "d" on PB-4 B. Apparently
a fuse to 3rd floor E. side
receptacles is blown out, motors
for T1 and T2 agitators do not
work, no K_2CO_3 was made up
and you now and some for
volume reduction.

④ ~~Run~~
Run #5 evaporating in B6. Steam on
at 7:00 AM, please check volume
soon.

7/16/45 1.) Valve etc for Oct A8 → A5DA sort of Hot.
8-4 (130-250 Mr at it) -
M.L.

Run Status
A1 heel cooking
A8 - A9 heel + wash, awaiting analysis
B6 - 2nd fuming nitric settling until 5:20 P.M. — note — procedure calls for leaving a 200 cc heel — before decont time get analysis of 3FNA - if excessive contact WAR about increasing heel.
B3 - 1st F. HNO_3 waste, sampled, awaiting the 2nd

Batch of K_2CO_3 made up in T-1, not sampled.

9-16-45
4-12 Let M-11 MT + stay MT so sight glass can be installed.
#5 in B6. 3rd F. HNO_3 settling til 1:50 A.M.

9WW, moved to A8, sampled, 50 C, dumped.

A-1 acid sampled

A8, A9 are boiling with ~30% HNO_3. S.S. (H.M.S.) Decontamination is launched.

B-19 in place. Check (position) funnels before using.

9/17/45 Finished decontamination started on previous shift and
12-8 in addition gave A6 a caustic treatment (cow gal) & A5
M.L. an acid wash. A1, A8, and A9 given a boiling
water treatment (maybe something is water soluble)

Run Status

Ba prep No 5 — in B6, 170 cc, awaiting analysis

La prep No 1 — in B3, awaiting finishing of above.

9-17-45 B9 Strainer removed in pail to Rm. 9.
8-4 1800 mr. To be decontaminated.

Cell A

A5 has acid ~~boil~~, trying to loosen plug in jet A7 — A8.

A9 has acid boil, sampler circulating.

Cell B.

B19 evaporating second shot 150 cc til 4^{50} P.M.

B6 wash sampled 6 WW(F). 2500 cc being concentrated.

B3 Crud for H.P.

As soon as product should be dry 5:00 PM Cool and drop away - view and record appearance Put on truck.

Transfer from B3 → B6 Rinse in with 2 2000cc portions H_2O. Evaporate until dry - allow 1 hour after it goes off manometer or probe add 2000 cc H_2O sparge 1/2 hour then boil down to 150 cc. Transfer to cone (Special for HP) and evaporate 3 hours. (Take down a view.

Meanwhile add 2000 cc more water to B6 agitate 1/2 hour boil down to 150 cc and transfer to cone and evaporate to dryness.

Take HP cone out Drop plug as carefully as possible. Bring out -- have surveyed -- drop inner cone into outer cone leaving plug in Put on truck. Collect $10000 from RP Coveyou.

WAP

9/17/45
4-12
EJW

① Sample 3WPb is in lab for analysis, there were no chemists on our shift to take it. The run sheets for PbO_2 removal could not be found so we put a couple of loose sheets on clipboard for our information.

② According to NAR, we are to start decontamination ASAP, and concentrate on the hottest spots first e.g. off gas line when present run is completed etc.

③ Run Status.
See NAR's procedure for HP run. at 12:00M. We are evaporating down the 2000 ml solution to 150 ml. It has been evaporating since 11:00PM

6140 } Falls
6313
Instrument room

9/18/45 1) Spent first part of shift staying off third floor + away
12-8 from open chimney in particular while electrician
M.L. attempted to get cell fan + vessel exhaust fans running.

2) Spent some time messing around trying to place cone in position - agree with EJW that it wasn't made square - finally succeeded however — but a trip by one of the fellows to the hand counter at this point proved interesting — a check showed everybody hot - Hands + feet.
- H.P. smeared third floor — [redacted] 25,000 on the linoleum parts. Parts of 2nd + 1st floors also high [redacted] — all of 3rd floor horrible

3) While above was going on, found B6 Probe, B9 + B11 all not working — B6 probe top light lighting first, and apparently at a constant value of 280cc 'cause twice we turned steam on + cooked some more — still 280cc, thought maybe we had dryness then so we added 200 cc H_2O — still B9 + B11 no work.

4) So — gave up trying to produce a ~~fan~~ source for time being — and tried to clean building down — found such extraneous matter as a pair of gloves on the third floor reading 1100 MR. (What a mess)

Present States

Hot parts of 1st, 2nd floors + the stairs scrubbed - all OK, including hand rails, according to H.P. smears.

Third floor still all hot ——— !!!
Paper put down from N landing to PB5 + 4A.

78

9-18-45
8-4

B-17 is in Rm. 9 in HWG. Supposed to be cleaned for shipment to N.J. in A.M.

La No. 1

~~Second~~ First shot (estimated 100-200 cc) heating in B19 until 5⁰⁰ P.M.
Due to plugging in B6 → B9 line, B6 was diluted to about 1300 cc, heated, line unplugged, and sucked to B9. Using 2hr. heating periods. Estimate amt. of soln added on conservative side (naturally)

9/18/45
4-12
EJW

① B7 pipette is bent but badly. It cannot go back in rest well so we lifted it (with some force) to its highest level and now B8 clears it by going under it. Please do not move B7 or you'll get into difficulty trying to get it out of the way for B8.

② B17 is back in decontamination room its been scrubbed over and over. It now reads 7-11 mr/hr. See L.R.M's log of 8-4 shift.

③ 3rd floor cleaned up all around north end and lead floor on east side. Lead floor over cell B not cleaned so please continue wearing rubbers over this area. Another warm spot is the concrete just south of the SE corner of the lead floor. See H.P man for more information. He is taking survey near ship end.

(4) Carrier for present run has been cleaned — ok to use now.

(5) Yes a shift check was made, Because of B19 evaporation, A16 off — gas system was not drained until about 9:00PM when all A16 vacuum was lost. The alarm did not go off. The fan was full of water. The system was completely drained 3 times and water came out of the fan housing each time. It's running ok now but please check on it soon.

(6) Run Status

Evaporating material in B19 by dropping 100-200 cc portions from B9. — use 2 hr heating periods for each slug of solution.

7/19/45 Evaporation continued on basis of a funnelfull every 2 Hrs. - still going strong.

Monometer to M11 again on the blink

Decontamination carried on in cell A, A8 + A9 hood hot caustic + A-1 + A5 hood hot acid in them now.

B17 Now in M1 getting a caustic cook.

7-19 8-4

A-8 + A-9 emptied to A-5 to W-11

Hose thru plug hole washing tanks in A-cell. Off at 4:00 PM.

La crop completed and delivered to H.P.

9/19/45 4-12 EJW

① You will find most of the decontamination procedure for cell B attached to inventory clipboard. A pencil copy of the procedure for B1, B3, B6 and B10 is on Walt's desk. Walt has not read it yet but I am reasonably sure he will OK most of it, judging by our telephone conversation.

② We have given all cell B vessels several treatments of hot nitric and flux. No special procedure was used since most of it was not yet written.

③ A S.S. beaker has been put over B19 for decontamination of said vessel.

④ B9 and B11 strainers have been removed to decontamination room. We can now add solutions to both of these directly.

⑤ Please check to see that samplers are circulating during decontamination, I doubt whether they are at present

⑥ Decontamination of off-gas line was held up until all vessels in cell B were

thoroughly rinsed and no harm would by done by shutting off vessel vacuum.

⑦ Discovered at 11:00PM that solutions cannot be added to B9 and B11 through strainers without opening foot valves — inadequate venting. We'll probably have to devise some method of putting it in under some pressure. Taking it out of B6 would screw up present program.

⑧ Hose which was put through cell A wall was taken out and installed through N cell B wall second floor.

⑨ At 11 P.M. probe reading at cell B entrance (in middle of wooden frame) was 4.5 R. It sounds too good to be true, instrument may be bad.

⑩ There is enough carbonate in A5 to take care of waste that is in Cell B vessels at present time. It should be thrown out after that.

9/20/45 12-8 M.L. How about Removal of the Frankenstein from the third floor? — If gas line decontamination not very practical until you can get at the Valve, some of which are now buried in lead.

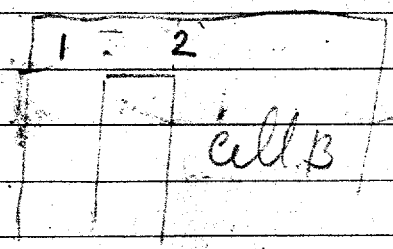
A chicago coupling + union attached to B9 + B11 at the trap location and the pipette washed by continual flow from a water hose. — pressure overcomes the vent difficulty

experiment in trying to [illegible] solution in.

Hot citric acid – caustic [illegible] given B1, B3, B6, B10 and A8, A9 given a cold treatment, ~~[illegible]~~ B12 given [illegible] and HNO_3 treatment.

Cell hosed down all sight via plug hole.

Doorway survey at 7 30/A – all vessels empty



pt 1 – 500 mr/Hr.
pt 2 – 30 R/Hr.

3rd floor funnel installation to off gas-system complete. (Behind PBR.) Has not yet been tried, watch for leaks.

Funnels to B7, 8, 9, 11 for acid addition will be worked on tomorrow. Also installation of valves + extension handles to 3rd floor soln funnels.

M.L., E.J.W. → if you have any ideas or sketches about design of grappling tongs, hooks, remote control devices which will be needed, pls. leave for ordering.

9-20
8-4

Two shots of 38% HNO_3 and peroxide thru B-12.

Caustic in A-5 to neutralize acid in B-cell.

A-9 30% HNO_3 boiling

A-8 caustic enough to neutralize acid in A-9.

H_2O running thru B-11 to B-6 etc. It has been on for 2 hours.

Cell B regular key is missing. H.P. reading to be taken on 4-12 shift Newton has the extra cell B key.

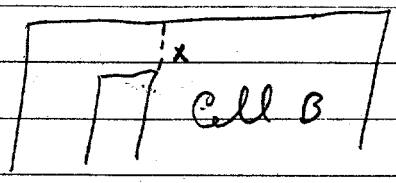
Cell A + B hosed down alternately and sumps jitted.

B-1 given two 30% HNO_3 treatments. Solution heated and jitted to B-3.

100 ft hose with Chicago coupling ordered but not delivered.

9/20/45 4-12 EJW

① A stool has been put in Cell B just below the step inside of cell. At 4:30 P.M., HP reading 1" above the stool was 12 R/hr.



At 11:25 PM reading over stool 8 R/hr.

② B9 and B11 lines hooked up so that solutions can be added from behind PB-4B. Glass funnels are there now and addition is very clumsy. We hope large S.S. funnels will replace these tomorrow.

③ Jet A6-W11 works once in a while - slowly.

④ Decontamination procedure for all cell B vessels complete on equipment check clipboard.

⑤ Six cycles of solution run thru B1, B3, B6, and B10. Other vessel cycles as recorded on instruction sheets.

⑥ Lead casket opened and some particles of glass picked out with special contraption and put in hot can now on lead floor. Can reads 21R, inside casket reads 40R. Carry on you lucky boys.

(7) B20 and B21 were rinsed with a good many gallons of 60% HNO_3.

9/21/45 12-8 M.L. All visible glass removed from Manhattan's Mass, hot string (over 40R) and few other extraneous matter, put in hot can - now on east platform - lots of R's at several feet.

Cell Hosing + decontamination cycles done all night

About 700 gals of water removed from off gas duct.

Golden harshoe washed several hours via funnels to B7 + B8 rest wells.

9-21-45 8-4 Lead pile torn down. The remaining bricks are plenty hot. Several loads of bricks buried. Bricks which can be cleaned put in Rm. 9. Hot line, wood, tape removed. The day's exposure is a good warm-up for coming events --- for all the suckers.

Can't get vacuum on tanks served by A-16, apparently due to acid in system, tho I see no report of doing so. In order to have men working on sol'n funnels tomorrow we will need vac. on A8, 9, 5, 6. Pls drain

off gas line by 8 A.M.

B19 lead heater is now connected for water cooling in addition to steam heating.

Inventory same as at 8 AM.

Precipitron reading - 3rd floor high - now they tell us.

9/21/45 4-12 EJW

① No inventory taken, so solution is used, practically no decontamination done in cells other than hosing down.

② Work continued on disposing of lead shielding on 3rd floor, there is still more shielding to take down.

The truck which was used for hauling the bricks is parked at south platform. It's probably a bit warm anyway so you may as well continue using the same one.

③ Anyone working on 3rd floor should use a respirator, the air is warm enough to give the filter a high count. Check filter frequently.

④ 1st floor and south stairway was scrubbed from 3rd floor to 1st. Locker room also scrubbed. Please survey the stairway only,

Because [illegible] definitely [illegible] that the 1st floor [illegible] still warm.

9/22/45 B2-8 M.L. As per Verbal instructions from E.J.W. given in the cafeteria, we started cleaning before entering the building. Front Porch, monitoring room, change house, clothes room, room 8 + all of the first floor cleaned up — had to get sort of drastic to get it clean so floor needs repainting.

Manpower expended loading lead on a skid — maintenance men drafted to load skid on truck — now at south platform.

No inventory taken — nothing used.

8-4 Full time spent on 3rd floor. S.W., Lab., Labor group, Design Group. Most of the plant, with one notable exception, dosed up.

B21 - 13R - hottest spot left.

B1 hole also warm.

Check all rubbers & cans. A couple cans (not red) used for hot crap. Have H.P. take care.

3rd floor sewer plugged.

88

4-22-45
4-12

Two barrels of hot rubbers carted off third floor.

Decontamination started again in Cell B. B1, B3, B6, & B10 were run over successively with 60% HNO_3 and fluo solution, and cell B hosed down each time.

Lead covering on third floor treated repeatedly with 60% HNO_3. Readings are coming down. B20 where the floor is torn up reads one R, and B21 where floor is torn up reads 75 r. Rest of lead covering varies from 20 mr to 300 mr.

Dump truck with hot lead material is sitting east of 706-D. The reading in the cab is 25 mr, and the bricks themselves read 4.5 R.

There is enough carbonate solution in A-5 to neutralize all acid wastes in Cell B now.

We could not locate the Cell B key to get a reading in the Cell on this shift.

Maintenance worked on 3rd floor sewer for about an hour, but with no success. They even worked on the trap on the second floor. The whole line must be plugged.

/23/45
12-8
M.L.

Cell B vessel decontamination pursued all shifts a couple of Hot caustic washes thrown in for variety.

Third floor washed once + lead covered part given a couple of treatments.

Maintenance succeeded in unplugging, at least

partially the [illegible] flow drains.

Cell A sump fills up continually from no apparent source — may be a leaking jacket on A5 or A6.

Cell B hosed down all shift.

Reading at the stool in cell B now 7R.

9-23 8-4

Reading at the stool cell B 6R

Cell B hosed down all day long.

Cell A sump fills up

Cell B tanks were filled with fluo and were given the treatment as per schedule

Tanks B1 - 3 - 6 filled with fluo-silicate soln

The lead floor and B-21 given a drastic HNO_3 treatment.

7 l. HNO_3 dumped thru sample probe hole on B-20

According to lab there is no distilled H_2O

9/23/45 4-12 EJW

① A steam line was hooked up to B7 pipette and steam blown through for 6 hours of the shift

B20 and B21 rinsed with several gallons of HNO_3.

Rest wells flushed with HNO_3 and fluo 4 times. Regular cycle not followed because of necessary work in hot area on lead floor.

Four cycles completed with HNO_3 and fluo through B3, B6, B1 and B10.

B9 and B11 steamed alternately for 1 hour each.

② North stairway cleaned and oked by HP. Top of south stairway cleaned and oked. The whole 3rd floor with exception of lead floor was scrubbed down and oked. Rubbers need to be worn on lead floor only.

③ Equipment Decontamination Status at 12M

B1, B3, B6 full of 60% HNO_3 and sparging. B12 full of HNO_3 and sparging with B8. Steam blowing through B11. Water running thru B7.

④ Reading over stool in cell with 50R probe at 11:30 PM was 5R/hr. At 7:30 P.M. this evening it was 4-4.5 R/hr with 50R probe and cutie pie — We should have gone home early.

9-24

Off gas lines flushed with HNO_3

Steam thru B-9 all shift.

B-cell hosed down over B-20
B-21.

9/24/45
8-4 ① Off gas line is closed off at all points, full of fluo. alarm is off. Please make complete check and drain before using!
E.J.W. ② Cell B was hosed down with fire hose until manpower ran out
③ Reading over stool in Cell B — 3.4 R/hr.

9/24/45
4-12 Cell Hosed to extent of manpower
M.F.

B7, B9, B11, steamed alternately all shift

Off gas system drained, water flushed for an hour and then back to acid treatment

Cell B vessels treated all shift.

Valves in off gas line other than on 3rd floor are as follows:

B20, B21, A6, B19, B10

Stool reading at 11 30/P — 2.1 R (Entire Bri)

Cell A sump level seems to rise faster when cell B sump jets are on??

9-25
12-8

Hosed cell B with fire hose

Third floor drainage ditches 2 to 4.5 R/hr. They were given a cleaning with HNO_3 & H_2O. They are still high - 1 to 1½ R

Steam on B9-B11 alternately about 6 hrs. Steam to B7 also

Floors including locker room are contaminated to the extent that we get high shoe count. Third floor was given a scrubbing with soap & H_2O.

Off gas system given an acid treatment.

B1, B3 B6 and B10 boiled jetted etc with HNO_3 as fast as it would take it

Pie) Cell A - hosed with H_2O.

Reading at stool 7:00 AM 2.0 R

Off gas line started to drain at 7:20 AM. A-12, B3, B12, B-17, B18 to A-16 allowed to be closed.

Funnels to B8, 9, 11, installed on third floor. Use at will.

North bank of soln inlet funnels have valves in line. More work tomorrow. O.K. to use tonite.

3rd floor lead cut out somewhat. Pls. leave carpenters tools as they are for tomorrow. Pls. decontaminate concrete tonite and advise whether you need more floor torn up to finish job. HM.

4-12
12-8

9/25/45 after 4P nothing Hot is to be run to W11, W11 is to be emptied + water rinsed, Via water added from here (2 valves at 1st floor wooden platform out/or via A4. — see tank farm bags about it.

cell B vessels + off gas line cooked.

a little hosing done and a few tygon lines cut.

3rd floor floor treated

9-26 12-8
third floor concrete cleaned several times with HNO_3
Boards taken away measure 2 to 4 r/hr. Suggest that at least 4 feet east of center be removed.

A cell hosed down

H_2O to W-11 via A-4

HNO_3 thru B-cell tanks
2 hrs.

There are a dozen 8' iron hooks in 2nd floor storage - for handling hot cans, etc. If they get hot, throw away. If not, save for re-use.

3rd floor lead ripped up - ready for more decontamination.

9/26/45 ① Both B20 and B21 are now out. There is still a some tygon that can be taken out.

② Reading at entrance to cell proper now 800 MR/hr.

③ The cell should be hosed down now that there is no glass. Before doing this however we better get rid of the water in cell A duct and sump.

④ We are going to try to cut out B9, B11 and framework from glass equipment, suggestion welcome and decontamination of these vessels appreciated.

9/24/45 Cell B cycle on all shift
8-12 Cell A sump + duct jetted all shift.

9-27
12-8 HNO 60% cycled thru B-cell 3 tanks. all shift

Third floor scrubbed with soap & H_2O and hosed several times

Cell A sump & emptied & duct also.

Note: B6 - B3 DA or DB spray third floor concrete (over)

due to leak in line which connects funnel to B-3

Over Nite Shifts Please try to get following done:

OK 1) Get rid of B9 now on back of truck.

Done 2) Check 1st floor for contamination

3) Survey cell B and work on hottest items. Try steam on B12

Done 4) Clip wires and disconnect everything on inside of plugs BW G4 and G6.

Done 5) Check that E5, E4, and E2 are all disconnected inside cell. Pull all Tygon outside cells thru the pipes and deposit in hot cans. dispose.

Done once 6) Decontaminate Pb floor on 3rd floor.

started 7) If any time left start taking out the clamps holding the Tygon Tubing

WAR

We will work Sunday. Take heed and split up the technical help on each shift. R.S.P -- proposition LRM.

There are too many shoes in Rm 8. Each man scrub his own. If NG send to laundry.

WAR

4-12
9/27/45

① Have HP take precipitron reading in Cell B sometime during 12-8 shifts
Per WAR

All manpower expended in Cell B, clearing plugs mentioned on preceding page + removing clamps etc, some stuff removed, pipe etc is now on the floor.
3rd floor washed, scrubbed etc. Per H.P. - still Hot in spots but doesn't smear. 1st floor same condition.

B3 + B6 cooked with HNO_3 + B12 steamed out. B8 steamed all shift

Cell B survey

B12 [illegible]	15 R
B12 [illegible]	12 R
[illegible]	0
B7	8 R
B8	0 —
B22	8 R

Doorway reference point is 750 mr

9-28
12-8

Removed clamps in cell B to the extent of man power.

Treated lead on third floor 30% HNO_3

Hosed cell 4 minute

HNO_3 60% in B-12 treated for 6 hrs.

9-28-45
8-4

Note to 12-8 shift. Have all tanks in cell B empty, and the cell hosed down, if possible, so that day shift can proceed with maintenance work without any delay.

For next 2 wks, approx., 706-C will share with us the 205 vac. line in order to work on their dissolver cell. LEM.

B-11 was cut out and disposed of to burial grounds. It only read 1.8 R.

Working time around B-7 & B-8 is only 30 seconds. So we are to concentrate on further decontamination of Cell B until 8:00 A.M tomorrow morning. We have been hosing down the cell with all available labor, and decontaminating B-12 by steaming HNO_3 treatment. Worked on funnels and rest-wells also.

Jet BS-A6 fills up Cell A Sump. So run Jet AS-A6 also when hosing down in Cell B.

Maintenance wants to put a sight-glass on M-11 tank. We are getting rid of the 40% NaOH in M-11 by pumping with M-3 through T-6 into T-8 weigh tank, and then draining T-8 to A-5 where the 40% caustic can be used to neutralize Cell acid wastes. There was 19" 40% NaOH in M-11 when we started. Needless to say this is a slow process so that you will have to continue with it.

Reading at Cell B entrance was down to 500 mr at 2^00 P.M.

9/28/45 4-12 Just to be different manpower was expended hosing down Cell B — using steam line. B12 + B8 steamed internally

Cell B survey:

B10	600 Mr	B7	3R
B1	600 Mr	B8	5.4R
B12	2.8R	B19	2R
B6	1R	B22	4.8R
B3	1R	B20 Valve	>20R
B20 pan	5.6R	B21 pan	1.4R

Sump at S end, 3 ft up - 9.4R
" " Center " " 5.6R
off gas line - S of cell 2.8R
Reference point - 700 Mr

9-29
12-8

M-11 emptied and rinsed with H_2O

B-cell vessels B-8, B-20 valve B-20 pan, B-12 steamed and hosed alternately all shift.

B-8 steamed and B1, 3, 6, 10 steamed by getting into them. Rinsed each B tank with H_2O. Entire cell hosed down for 4 minutes

H.P. Readings

B-12	4500 mr/hr	7:10 AM
B-20 valve	10,000 mr/hr	
B-8	4000 mr/hr	
B-20 pan	8,200 mr/hr	
Ref point	900 mr/hr.	

Program for week end.

✓ 1) Have crew each shift concentrate on hot spots.

✓ These should be B8, B12, and B19.

2) Pull out any remaining loose tygon, fittings, parts of glassware, glassware etc.

Note for

gas lines, etc that remain
to limit of 50 mr/man.

3) Scare up any strainers left for B9 and B11. Decontaminate those in Rm 9.

JLH 4) Work on sample Blistus

JLH 5) Clean up scopes.

6) Any information concerning my missing fountain pen will be appreciated.

WAR.

9/29/45 8-4 EJW

① The following items should be removed from the cell:

a) B7 pipette, lying on cell floor.

b) box of assorted hot junk at bottom of the chimney, hooked on to the crane. This box also contains B20 SS. pan.

c) B20 iron frame, this frame has some clamps that read 20R. It can probably be hooked to crane and lifted thru chimney.

② The days work has been very badly bottle-necked by brass floating around the plant.

Pls. try the new pr. tongs on table, Rm 12, and offer any suggestions for improvement. We will have this type in a few weeks. These tongs are going to cost some dough, so proper covering before using and decontamination after using will be in order in most cases. If we toss them away, it will be harder on us when supply is gone. ssm.

4-12
9-29-45
JEL

① Mechanism grew tongs seems to be very good — what are they to be used for — ? (Picking pears ?)

② All extraneous materials (B-7 pipette, B-20 rack, and box of "fire crackers") removed from cell to burial ground via dump truck.

Big question —

Was B-7 pipette to be buried?

Please don't say no - say maybe

③ In loading B-7 pipette on truck solution ran over floor in doorway — Radiating concrete scrubbed with nitric — reading 2 mr/hr. Okeh ??

④ Is it possible that Cell A sump and duct could fill daily — ? After jetting AD-A5, A5-A6, & A6-W11 for 12 hrs, the Manometer still fluctuates between 4" - 15". Upon peering through Cell A scope there doesn't appear to be liquid on floor although Manometer registers over-flow level.

Grave-yard check.

⑤ B-12 steamed with B1B-B-12 and B1A-B12 and "nitric-zid" for greater part of shift. Also B-8 steamed.

⑥ Note —;

Electricians on day shift presumably fixed dual alarm (big & little fans) system. Still no worker — Have been checking periodically to verify fan's running.

12-8 be sure to check this —

⑦ Press and the Boys —

You lucky boys — don't forget your 9 hr shift to-nite - See Bulletin Board

(8) H.P. Survey of Cell B @ 10^30

a) B-10 — 1.0R
B-1 — 3.0R
B-12 — 4.0R
B-6 — 2.4R
B-3 — 1.0R
B-8 — 5.2R
B-19 — 2.6R
B-22 — 5.0R
B-21 Pan — 1.2R

b) Sump (3' above floor)
middle — 5.6R
S. End — 9.2R

Reference Pt - 700 mr/hr

(9) Please note "Walt's Musts" for the week end PB-100-101

(10) Walts addition to week-end program via phone @ 11^00

(1) Wash Cell B floor with 10-30% HNO_3. Pour acid along upper floor - let drain to sump - remain there for short time and jet to A-5.

(2) Jet solution now in B-22 to B-10 to A-5. Then fill B-22 with nitric - jet to A5 via B-10. -

③ Concentrate on B-12, B-8, B-6 & B-1 as follows —

a) Turn on B1A-B-12, B1B-B12, and A9-B-12 for 1 hr. —

b) Turn off steam and add fluosilicate HNO_3 solution to B-12 for 1 hr — Do Not HEAT!

c) Pipette solution from B-12 to B-3 via B-8.

d) Follow fluo-HNO_3 treatment with a straight HNO_3 treatment for 1 hour.

e) During the above process steam B-8 when not in use.

f) Pipette HNO_3 to A-5 (via B-[illegible], B-10)

g) Turn on 4 Jets from A9 to B-1 — follow cleaning period with HNO_3 to overflow.

h) Repeat Step G for B-6 also.

i) Now cell thoroughly before cell survey.

j.) There is probably Caustic in A-5 now for neutralizing — Better check alkilinity by sampling.

Pleasant dreams!

9-30
12-8
Pages 104-106 completed

Second round of HNO_3 started.

Cell hosed down and H.P. made a check.

	R/hr		6:35 AM
B-10	3.5	B sump	R/hr
B-1	2.2	middle —	7.3
B-12	5.0	S. End	4.6
B-6	3.5	Reference point 350 mr/hr	
B-3	3.5		
B-8	4.0		
B-19	2.4		
B-22	5.0		
B-21 pan	3.5		

B12 has HNO_3 just added
all the other B tanks are
ready for more acid
they have been steamed 1 hr.

The reading on the sump
at 6:35 AM was favorable
so we gave the floor of
cell and sump two more
acid treatments

8-4 shift see pages 100-101.

9-30-45
8-4 shift
SJR

Acid poured and sprayed on outside
of B-12, B6, B1 & B3. Acid ~~spray~~ designed, developed
and constructed by "pat pending" Phillips is in B-6
probe. Acid is syphoned out of carboy thru spray into
tank. Reading on B-12 is 1.6 R with no change
in last two acid treatments.

There is a water spray connected directly
to water line hooked up over B-1 tank via former
B-1 probe hole. This water spray wets B-1, B-12, B3 & B-10
effectively.

Reading at Reference point is 310 mr.

South end of B Sump according to our H.P.
man read 7 20 R. This reading is way down in the
sump.

4-12
9/30/44
JEC

① All scopes, excepting two large ones in Cell BW cleaned with soap, water and Acetone and placed under stairway to instrument shop.

② Samplers B-6 and B-3 scrubbed thoroughly with 60% HNO_3. B-3 down inside to 1.5R. B-6 still reads > 4.0R.

③ Please keep absorbent paper on west side Cell B. 2nd level floor. Floor flooded at beginning of shift with drainage very effective to first floor. Considerable activity flushed through plugs during hosing.

④ Abandoned 8-4's idea of flushing Cell Bussels with HNO_3 through "patent pending" spray. B-12 Magnet really took a beating, and all angle iron and supports attacked violently. (Our personal observation).

⑤ All Bussel jets on for 1 hr — followed by hot nitric treatment.

Above repeated during entire shift with time out for hosing down Cell

and survey. All vessels H.O flushed following last HNO_3.

⑥ Cell B survey — @ 11³⁰

B-10 —	400 MR/hr	B-22 —	2400 MR/hr
B-1 —	2000 "	B-21 Pane	400 "
B-12 —	1400 "	Sump —	
B-6 —	1600 "		
B-3 —	700 "	Reference Pt. —	350 MR/hr
B-8 —	4600 "		
B-19 —	1600 "		

⑦ At did it again — Cell A Sump and Cell A Duct "plum" full of H.O. Following Jets on at shift change.
AD-A5, ASA-A6, A-6-W11.

→ H.P. used 2 different Cutie Pies and probe — nothing given. Have H.P. make thorough survey on 12-8.

12-8-Shift) All B cell tank was washed
10-1-45 with HNO_3 - and Bailed and cell Hose down entire Shift -
Cell B Survey - 700 A.m.
B10 600 MR on West Side 350 on South Side
B1 1400 MR.
B3 300 "

12-8-45 - B 6 2200 MR
B 8 H. R
B 12 2200 MR
B 19 2400 MR
B 21 850 MR over-Pan -
B 22 1950 MR
B.S. 8800 MR - on South wall -
Door-way 300 MR

10/1/45
8-4
EJW

① B 5 was cut away and it is now hanging on the pipe. This tank should be taken down and disposed of before 8AM so that it will not interfere with further maintenance work. Pushing it out with a rod or lifting it by hand we found almost impossible. It would probably be best to try to hook it on a rope through 3rd floor sleeve then pushing it clear of pipe in the cell.

② The angle iron on cell B west wall (left from B20 support) made 20R. We'll try to get all angle iron out in morning if you can possibly bring it down — just a little.

③ We cannot get B8 out until B8 and surrounding territory is brought down from 20R. The rack of manhole funnels is very hot and could be brought

down considerably by pouring in solution through sleeve in 3rd floor.

(4) Wanted;

Any ideas to clean up B sump!

The latest is to pick out all junk possible with new "Nelson tongs" standing at cell entrance.

(5) B12 all cut away from pipe, held up by 2 bolts to hold. No manpower left to complete job.

10-1-45

B5 removed after cutting the line from the funnel

B-12 not completely removed all man power of shift & maintenance expended. There remains two manholes on upper frame which must be removed.

The movable funnel rack was washed with acid several times and rinsed with H_2O.

B1, & B6 has acid which has heated one hour and half at midnight.

No H.P. man to take check.

as per W.A.R. need cell hosed down & H.P. check by 8:00 AM.

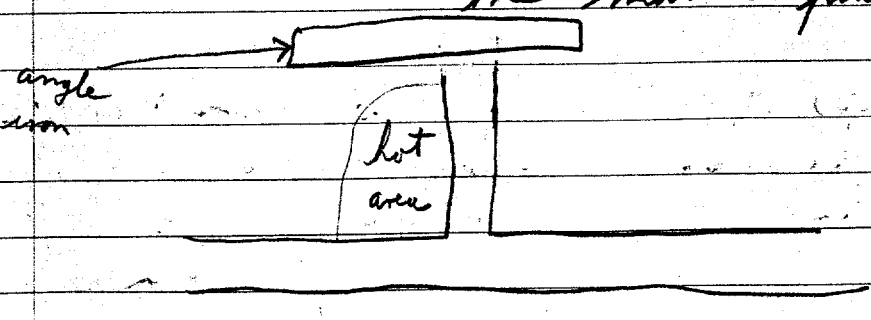
10-22-45
12-8
SJR.

We could not move the two bolts holding B-12. Suggest that you cut them off.

It may not be the B-20 angle iron that is hot. Stainless steel overflow line with two standpipes one of which extends up towards B-20 angle iron seems to be very hot. Suggest that you investigate whether or not this overflow line is hot and then cut it out. The 95 R probe ought to tell you whether or not the overflow line is hot.

Top east side of B-6 reads 1.0 R.

The movable funnels read 9.2 R.



Hot area reads as high as 100 R close to junction of standpipe to main overflow line. Try acetone washes on wall to remove paint. This may bring readings down. If they don't, overflow line is probably hot.

Readings in doorway and other tanks are the same as yesterday on this shift.

10/2/45 Clean off west-wall outside of cell B
8-4 last thing 12-8 shift so that maintenance can work on it.

Spray outside of vessels with 5% citric acid thru roof plugs. After 20 minutes hose down cell. Repeat as often as possible. Check door of cell after each treatment to see if improvement is noted.

Give B1, B3, B6 a couple more treatments with fluosilicate. Allow to stand 3-4 hours at room temp.

HEREAFTER no part of any human body is to be put in a beam of >6 r/hr.

W.A. Rodger

Special for 12-8. —
Check off gas line and if hot give it another HNO_3 treatment

Sunday, 11:10 PM - 10-2-45

B-1 1300 MR South side Off Gas Stand Pipe 7.20R

B-3 800 MR

B-6 - East side Top. 2.6 R

B-5 - South End 7.R

House Shoe Section - 1300 MR

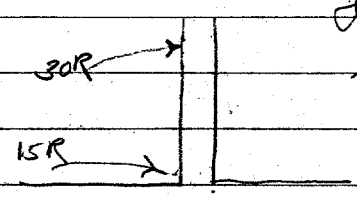
THERE IS A HOT CAN ON THE PLATFORM NEAR M-10 TANK READS BETWEEN 50 & 40 R WE DIDN'T HEAR ABOUT UNTIL 11:20 OR WE WOULD HAVE GOTTEN RID OF IT.

10-3-45
12-8
STR.

West side of Cell B is ready for maintenance.

Hot can on platform disposed of. Sprayed Cell B with 5% citric acid. HNO_3 treatment of effluent line did some good.

If you saw ff the top of the standpipe, you can bring some of the activity down



10/3/45 Decontamination Instruction for 12-8 Stuff

1. Continue spraying of Cell B with 5% citric acid, 10% HNO_3 and 30% Na_2CO_3 (see special instruction sheets)
2. While carrying out spraying of cell with solution, continue hosing down of hot spots by use of special hose rack.
3. Complete getting out all water from cell A duct. Do not permit cell A sump to fill up over 18 inches at any time to help duct from flooding again.

4. Give off-gas line one more steam treatment as per instruction sheets.

Go to sleep after no spot in cell reads over 50 mr/hr.

10-3

4-12

H P Readings at 11:20 PM

West wall opposite doorway

#1 Point (S to N) - 2.4 R

#2 Point 1.4 R

B-19 heater 1.4 R

Stand pipe in N.W. corner 9.0 R

N.W corner of cell on floor 6.5 R

Reference point in doorway of cell - - - 175 mr/hr.

T-9 has 10% HNO_3, T8 has 30% carbonate!

Cell decontamination part I completed two cycles of citric acid. It is ready for 10% HNO_3 treatment

10-4-45

12-8

SJR

The Water leaks from Cell B Sump to Cell A Duct, spills out of Cell A Duct onto Cell A floor and drains to Cell A Sump. We started to hose Cell B, and noted Cell A & Cell B liquid level indicator closely. Neither one showed a reading for about 10 minutes. Inspection of Cell B showed that water was escaping at a rapid rate from the south end of Cell B sump, apparently disappearing straight down the concrete. Armed with a Cutie pie we next inspected cell A, and after awhile noted the water escaping from the duct onto the floor in Cell A. About this time Cell A liquid level instrument for Cell A Sump began to rise rapidly. This explains why Cell A Duct has been flooded so often, although liquid level in Cell A was kept low. Each time you hose down in Cell B you flood the duct in Cell A. The leak at the south end of Cell B sump has recently been so aggravated that Cell B liquid level indicator on the Sump reads zero even when hosing down with a fire hose.

Jet from W-11 to W-5 is out of order; so, we could not jet anything to W-11 all night. Maintenance used up all their manpower inspecting the jet. Apparently the throat of the jet itself is not plugged up. Day shift maintenance will have to carry this on. Tank Farm operations are draining W-11 to the settling basin. So, you had better check with them before you send anything to W-11.

The spray on third floor is hooked up directly to T-8 and T-9 via a reducing

joint. This eliminates carboy handling. You now just transfer the spray from one plug to another to spray cell.

Water Pump motor runs five minutes, and kicks out. After cooling five minutes, you can run the motor five more minutes. It requires constant attention, but it is the only thing that we could use all night while boring down in Cell B.

Readings:

West Standpipe – 11.4R, 6.5R

Northwest standpipe – 12.8 R. Since this standpipe is made of cast iron, you may want to cut it out.

Head Heater – 1.4 R

Northwest corner of cell on floor between tracks – 4.0 R

Reference point at doorway – 155 mr.

4-12
12-8 } → Pls. squirt acid via wash bottles on leakages around sleeves on BW outside wall and on floor with sufficient washing & repetition to allow 8 hrs. working time at all spots on BW preparatory to beginning of construction work.

Decontamination for tonight:–

Spray solution of cell B wash same as last night. Continue boring down of cell by remote control concentrating on the sump and NW corner. Take bottom of

in NW corner is the west wall and step between the tracks. The sewer pipes is also very hot.
There should be enough gasoline in cans to keep the pump running all night.

12-8-10-5-45

Hose down Cell B and sprayed it with HNO3 and crite GCID through the Shift the west wall is ok all But K5.6.7 is 50 mR 6 in a way - Micramat ~~is out~~ on PB.1 could not find the Right Chart for it. It has one with a scale of 100 and should be 150.

WILL Senior Supervisors and Acting SS PLEASE look in mail box in office at least once a day -- and take out that addressed to you or anyone on your shift

WHR

10/5/45 Program for cell B decontamination.

1. Steam off-gas line; one hour through each vent, one cycle each shift. Use same procedure used before.
2. Spray cell with 10% HNO_3 and 30% soda ash. Use the pump set-up through cell entrance. Hose down cell thoroughly after each cycle.
3. Run cycles of 60% HNO_3 and 5% F100 / 10% HNO_3 } → fluo through B1, B6, B3 and B10 after all manpower is used up in cell. Use automatic hosing down of cell while nobody is actually working in cell.
4. Please record in log book all work done during shift so we can get an idea as to what decontamination methods are most effective. All suggestions will be very welcome.
5. P.S. There is a broken allen screw in B12 magnet in decontamination room. Maintenance men cannot take it apart because of high radiation. Please try to decontaminate it with HNO_3 and hot water — use no effort time on this job if at all possible.

over.

120

4-12
12-8

All lead flooring and wood on cell B top, 3rd floor, adjacent to PB 4A and PB 4B to be removed by 8 A.M., per WAR. The floor next to P.B. 5. to be left for time being. Have maint crew cut into pieces to fit scows, remove, and bury. Supply supervision, H.P. coverage, and general aid to crew. When floor is cleared, pls. decontam. as time permits. Do not let sawdust & crap plug sewer drain.

4-12.

Steam thru off gas lines for about two hour B-19, B18

Save magnet in decontamination room several HNO_3 treatment & hosed with water. also steamed for 4 hours & H_2O for 1 hr.

B cell sprayed with 10% HNO_3 + hosed down to the extent of man power

Flow taken up as requested the lead was not very hot and asit was taken off first we separated it on one show and it is on the platform outside of B building

B The wood was piled in the dump trucks to be taken away in the morning.
The concrete floor was washed with water, citric acid, 10 % HNO_3 several times.

H.P. check on third floor shows hot spots at N.W. drain and center near B-6 Probe. Smears on floor show count. H.P. suggests we wear rubbers on this floor.

B1 & B6 contain 30 % HNO_3 and has not been heated.

Cell B survey

W. wall 3' up	3.6 R/hr
Heater	650 mr/hr
Between tracks	1.8 R/hr
Sump	2.4 R/hr
B10	200 MR/hr
B3	235 MR/hr
Ref point (electroscope)	132 mr/hr.

Suggest that in spraying cell B that the north side of tanks be hit as they are hotter and also we have sprayed mostly on south sides.

10-6-45 Sprayed Cell B from north end with 10% HNO_3 & then
12-8 hosed down cell rest of shift, using water pump
STR and both jets.

Torn up floor in front of Pb-5 too, kammit. Cleaned up third floor.

Repacked and regasketed small portable pump.

Steamed HNO_3 in B 1 + B 6, and ran steam through jets.

Cleaned up decontamination room and gave B-12 one HNO_3 treatment only.

Readings:

Head Heater - 1.4 R
Trachs - 2.6 R
Iron Standpipe (NW) - 6.8 R
West Standpipe - 5.8 R
Reference Point - 115 mr.

10/6/45 Program for 4-12 shift decontamination
8-4 1. Change HNO_3 in S.S drum in decontamination room before leaving building tonight. This drum contains parts of B7, B8 and B12 which need to be decontaminated. Change acid in S.S beaker in same room; it contains small hot valves.

2. Continue to spray cell B with 10% HNO_3 and hose down completely after allowing spray job to "soak" in until manpower used up.

3. After using up all manpower, give

cell B a turkish bath by shutting off big fan and turning on all steam jets to cell B vessel. Keep off 3rd floor while carrying this out because steam leaks out through the floor. Keep steam on to off-gas line with all cell B vent valves open. Keep steam on for at least 3 hours, much longer if possible, then hose down cell completely.

4. Fill B1, B3, B6, B10 with 60% HNO_3 before leaving building tonight, keep tanks full over weekend.

12-8
10-8-45 } → P/S. reduce all hot spots on 3rd floor over cell B as far as it is possible with sol'ns. Give drastic treatment. Report No. + locations of any spots which may have to be removed by air hammer.

10-6
4-12

Gave cell 10% HNO_3, 30% carbonate, H_2O cycle twice at 7:00 PM we turned off fan and started steam into the cell including off gas lines after having thrown solid carbonate all over the tanks

and cell walls. At 10 PM we turned off steam, started fan and hosed down cell. We then gave another HNO_3 and hosed down cell again.

Cell B survey:

Ref. point	-130	mr/hr
B-1	250	"
B-3	215	"
B-10	155	"
S. end of sump 1'	1100	mr/hr
W wall 3' up	1490	"
Sump 5' from S wall	950	"
B 19 heater	525	"
N. wall 3' up	750	"
Behind tracks	525	"
S. standpipe	1600	"
N "	1350	"

The nitric in S.S. drum & beaker was changed.

B1, 3, 6, 10 filled with 60% HNO_3

Note: 10-8 12-8 shift.
See page 123
Witkowsky on phone call recommends another turkish bath treatment with soda ash solid thrown over the tanks and walls before steaming

10/8/45 JEC "Dear Shift"

① Upon arriving at 706-D found large fan off - had been off since Sat. mid-nite - me no think this good.

② Top of cell B given a very concentrated HNO_3 treatment after location of hot spots. HNO_3 reaction was permitted as long as conduits could allow. Activity reduced considerably - hottest spots are now between reading upwards to 700 mr/hr at these spots. Rest of concrete seems okeh. —

(With as many plugs removed and open holes on 3rd level all activity washed to cell B - Something like "Robbing Peter to pay Paul")

Are Conduits to be Salvaged?

③ After removal of all HNO_3 in Cell B that had been working since Saturday —

All vessels, walls, and floor blanketed with sodium Carbonate and steamed away. Steaming Continued for ~ 4 hrs - followed by thorough hosing —.

(Carbonate adheres better following a hosing, and large fan off.)

Wear masks —

④ Survey of Cell B @ 7:00 AM

① B-19 - 1.1 R
② B-6 - 800 mr
③ B-3 - 600 mr
④ B-1 - 800 mr
⑤ B-10 - 600 mr
⑥ Sump
ⓐ Midpt. - 1.1 R
ⓑ Pit - 2.4 R
⑦ Off gas line - 600 mr
⑧ Drain (By B-19) - 7.3 R
⑨ W-Wall (behind B-20) - 3.4 R
⑩ Floor between rails (near W-wall) - 3.4 R
⑪ Reference Pt - 113 mr/hr.

Note inconsistency of Surveys of B-CEII (Page 124)
Suggest standardizing Survey or Eliminating.
Present Surveys are Worthless —

Decontamination Program for 4-12 and 12-8 shifts

Cell B:

1. Complete removal of spool piece between B6 and B18. Two bolts are out, six to go, after removing spool piece clean off flange.
2. Put B6 back in place, let it hang on a couple bolts only. This is just to protect inside pipe, no gasket needed.
3. Make a thorough survey of as many flanges as you can possibly get near to with cutie pie. If you suspect any flanges to be hot, order maintenance men to take them apart; remove gaskets and spray them out with acid (about 5% HCl). Hose down area wetted by HCl. Keep all S.S. bolts in same container.
4. Cover inside cell with soda ash and give cell turkish bath with all jets to cell B turned on and ventilation cut off. Keep off third floor and away from steam shooting out of cell. Hose down cell after treatment.
5. Spray cell with 10% HNO_3.
6. Start decontamination of Cell A week when manpower is lined up. Use HNO_3 and flux (not over 5% flux 10% HNO_3)

New forms are provided for maintenance permits. To be used in place of present forms: 3 Copies.

Use all jets and best judgment not to jet stuff on top of people in cell B. Before proceeding with boiling acid, drain A4-205 line and check all vacuum.

Give all priority to Cell B

10-8-45
4-12
STR

Spool piece to decontamination room just below B-6 condenser was removed. Large flange face of spool piece read 30 R but was brought down to 600 mr by a couple nitric treatments and a scrubbing treatment to remove adhering bit pieces of gasket material.

Bottom of B-6 condenser reads over 100 R. We hit it with a fire hose, and sprayed the bottom with 60% HNO_3, but reading still did not come down. One half inch line coming off B-6 condenser jacket directly down below B-6 condenser reads 5 R at 10 inches from line. Whole B-6 condenser assembly seems to be hot on the inside.

Cell B is in the process of a solid carbonate - steam treatment (since 11:00 P.M).

10/9/45 JEC.

① B-18 spool piece scrubbed with HNO_3 quite effectively. Inner portion of spool now reading ~ 300 Mr. Being "nitric-ized" in stainless bucket in Decon. room.

② Started Cell A decontamination — progressed as far as filling A-9 (900#) and A-1 (500#) of HNO_3 (60%).
Unable to get any vacuum on A-1 & A-5. We checked the following valves and fans:

① 205 steam fan on -
② Xmas free open
③ A-4-205 Header valve (PB-1)

The only valve we were dubious over was pit valve outside Rm. 1. Unable to check as no diving suit available - pit full of H_2O. This valve is apparently open as no need for its closure has arisen.

③ Small fan on at shift change and upon checking its operation found a very odd noise coming from housing - could be blades. Emergency maintenance oiled same, but to no avail. Due to darkness and lack of working time the job was abandoned.

(3 min at housing)

Maint. to check today.

④ B-6 not replaced due to lack of slave labor. B-18 radiating like "mad". Appears to be jacket discharge line. During hosing of cell special care was taken to avoid hitting decant lines.

⑤ Check NH_3 system before boiling HNO_3 in Cell A - we shut off.

⑥ Have Instrument check monitron by Decon. Rm. - buzzed all nite.

⑦ Cell hosed down following CO_2 treatment @ 7 - no survey as H.P. spent time surveying around B-18 —.

⑧ What was 17" Soln. in A-1 ?? Jetted to A-5 and held before adding HNO_3 to A-1.

Who's the Clip tomaniac?

132

10/9/45
8-4
EJW

Please have J R Thallin fill out [illegible] form and leave on H A R's desk.

A procedure has been written up for decontamination of cell A. Please give priority to cell B but also work on cell A whenever manpower is available.

Both A1b and A4 off-gas systems are now operating. When boiling HNO_3 please see that NH_3 is going into system.

Program for 4-12 and 12-8 shifts

1. Continue spraying of cell B with 10% HNO_3. Concentrate on tops of B6 B1. B6 is still very hot at the flange where it was connected to B18 (B18 is out).

Hose down cell completely after each spray job. Repeat this operation until all manpower is used up. Watch out for hanging pipes on B6

(2) 3. When cell is clear of all men, place hose through plug in 3rd floor and hose down top of B6 for remainder of shift. Try to hit the hot flange with water stream.

STR - JEC

Note memos to you in this book

WAR

(2) Cover whole cell esp. top of tanks with Na_2CO_3 and steam down for 2 hours. Hose down cell.

4. Continue hosing down of cell with fire hose, by remote control, for the rest of the shift

5. Start decontamination of Cell A. You can start by using the acid that is now in A1 and A9. Record all progress

12-8 shift, repeat procedure

11-9-45 Decontamination started in Cell A.

4-12 STR Sixty percent nitric is coming in A-8. Decontamination procedure is on desk in front of PB-2.

Removed hot gasket material on lower flange where spool piece was removed from B-6 yesterday by hacking it off with a hacksaw blade, and brought reading down from 74R to 60 mr. Offgas and overflow from B-18 is still hot (74R at 10" from line). It is hard to pour solution thru this line because of its position way up near Cell roof.

Sprayed nitric with pump from top of Cell B. Hosed down cell B with fire-hose several time.

Removed and bottles from third floor to east platform. Straightened out Cell D door & third floor.

Microwave on PB-2 needs a chart.

134

10/10/45 J.C.

① All periscopes cleaned and placed in 2nd floor storage area. One large scope steer has spot reading > 70 R near mirrored end. Used flvo, HNO_3, soap & water, & CCl_3 — to no avail — placed separately from rest of scopes.

② Pan and floor near B-6 & B-3 sample blisters scrubbed with HNO_3 and H_2O. Floor reading between 0-15 mr. in spots. Smears taken and results were below tolerance — no danger of tracking over bldg.

③ Absorbent paper racks placed on each of three floors.

④ Cleaned up the "catch all" (Rm. 9) and all tools cleaned and placed in 3rd floor tool box.

⑤ Cell B sprayed three times from 3rd level with 10% HNO_3 and once with flvo-nitric directing solution in B-6 - B-18 area. Cell completely hosed following each shot.

⑥ Cell B "carbonated" once for 3 hrs. followed by water.

7. Cell A decontamination completed — soln. jetting from A-6 — W-11 at shift change. Impossible to pick soln. up with A-6 - W-9.

Why Neutralize HNO3 in A-6 ?

8. Cell A auxiliary pump runs but no vacuum — cell sump to overflow now!

Reading at observation pt. in cell B — 95 (Electroscope)
80 (Cutie Pie)

10/10/45
8-4

We have started to remove all valves in cell B off-gas line. Every flange broken was found extremely hot. At 4 P.M. B19 and B18 off gas valves are out completely. B17 valve is disconnected and hung on jiffy. Spool piece between B1 and its condenser is also out.

Program for 4-12 shift

1. Call maintenance men to complete removal of B17 off-gas valve. Have them start removing the off-gas valves for B12, B1, B3 until they run out of manpower.

In the meantime use our own manpower to scrape the gaskets off the flanges where the valves come out. At present time B19 flanges have been scraped but the one from B18 hasn't. All these gaskets are very hot. When the gaskets are off, scrape these flanges with brush and HCl. Also brush with HCl, the flanges over B1 where spoolpiece came out. Pick up all gasket material and throw out.

2. When manpower used up, hose down very thoroughly each set of flanges where valves came out by clamping hose to the stand.

3. Spray cell through 3rd floor plugs concentrate on the flanges where valves were taken out.
4. Give cell B a carbonate steam treatment.
5. Continue cycle in cell A, acid is now in A9.

Program for 12-5

Continue removal of off-gas valves where 4-12 leaves off. Repeat all other instructions.

10-10-45 4-12 SJR

Medical is still raising hell about Dunlap's not reporting back to First Aid for re-treatment of his minor injury. Note from Jackie is in log book about this.

Withowski mislaid his watch. Look out for it.

Removed B-3 off-gas valve and decontaminated it to < 10 mr. Hot flanges where this valve was removed were brought down from 8 R to 1300 mr by scraping. The hot gasket on B-18 flange (>100 R) was scraped off, but in the process of scraping the hot gasket was sucked up into the off-gas line. The B-18 flange now reads only 2 R right next to the flange.

B-15 offgas valve is disconnected and hung on the pipes. B-17 offgas valve is on the pipes too, since we did not do anything to it. We removed four bolts (two on each side) from the offgas line to one of the

pipettes, I believe. The offgas valve in question is right next to the B-3 offgas valve. Four bolts, two on each side, were also removed from A-12 (B-1 condenser) offgas valve.

Cell A decontamination cycle is almost finished. The acid is in A-6 ready to be neutralized, and the caustic for neutralization is in A-5.

10/11/45
LEC

Same Values > 60 R

① All valves in Cell B off-gas line removed. Valves placed in Rm. 9 for decontamination. Hosed valves down remainder of shift. All nuts and bolts salvaged from Cell B floor and are "nitric-izing" in Rm. 9.

② Unable to decontaminate valves or flanges in Cell by hand as everyone's time was by far expended. Emergency Maintenance supplied some time.

③ Cell A decontamination cycle completed and renewed.

④ All Cell flanges hosed with hose rack assembly for ~ 2 hrs, followed by a Carbonate treatment.

⑤ ~~Monitor~~ Probes at entrance to Bldg (Monitoring Rm) on fritz.

⑥ Cell A acid cooling in A-8 prior to filling —

⑦ Electroscope reading 1' in cell - 60 mr/hr.

10/11/45
8-4
EJW

All gaskets in Cell B and tanks B1 and B3 have been removed into decontamination room.

Program for tonight.

1. Bring down small pump into Cell B. Spray in between all flanges on top of tanks and in off gas line. Hose down cell. Be extremely careful not to damage pipes from B1, B3 and B6.
2. Take a survey to locate any hot spots where gaskets were taken out (flanges and under tank lids). Massage these with HCl and wire brush, wash off with water. Off gas line flanges are probably the hottest ones.
3. When manpower is used up, spray 10% HNO_3 on top of vessels from 3rd floor.
4. Follow up acid spray with soda ash steam bath.
5. Continue with decontamination of cell A. One HNO_3 batch is in A1 ready to start

cycle, one batch is in A5 ready to get to A6.

Use 5% fluo 10% HNO_3 in next cycle instead of 60% HNO_3. Do not heat fluo solution. Where heating is called for, continue circulating at low temperature during that period.

6. Help us clean up any cell B materials in decontamination room. When clean, remove from that room and place around stairway.

10-11-45
4-12 12-8 Shift. Please get on the ball and change charts on inst. on PB1. Hear! Hear!
Valve from T-1 [illegible] tank leaks bad.

10-11-45
4-12
SJR

Decontamination in Cell A: Sixty percent nitric is in A-5, and ready for dilution at 12⁰⁰ mid. Five percent fluo at 10% HNO_3 is in A9 and ready to go to A8 at 12⁰⁰ mid. Do not heat fluo!!

Cleaned up B-3 in decontamination room and put it under the stairs.

Scraped and washed with HCl all hot flanges that we could find in Cell B (B-18 and B-19 were hottest). Removed plate from the top of B1 condenser

and scraped off hot gasket (about 5 R) so that this flange is down to background. Cell B was then hosed down for the rest of the shift.

12-8
10/17/45

① PB-1 Ring balance charts changed —

② Pls do not leave obstacles in doorway preventing closing — brr — brr —

③ No scrubbing of flanges in Cell B as 4-12 checked all of them and found none extremely hot.

④ B cell hosed and carbonated — turbish bathed for three hrs.

⑤ Cell A - Decontamination

A) HNO_3 in A-6 jetting to A-5 — Neutralized HNO_3 in A-5 jetting to W-11.

B) Fluosilicate (5%-10% HNO_3) in A-8 awaiting mt-ing of A5 & A-6.

C) HNO_3 in A-1 (start of new cycle)

⑥ Pl leave notes in log at shift change if fans are on or not.

MT

Being heated

Fan (small) wasn't discovered to be off until equipment check. Decontamination was in progress in Cell A and lack of vacuum in vessels was assumed to be because of jetting into.

(7) Is there to be 3 shifts next week — Why?

(8) Both fans now on. —

10/12/45 H.P. surveys in cell B show no extremely hot spots. The contamination appears to be evenly spread all over. This however does not mean that we are to discontinue looking for hot spots which we may have missed. Please take at least one survey each shift. If you find any real hot spots, scrub them down.

We have made an attempt to pump water directly out of duct by removing north louvre. So far, the results are discouraging, try to get the water pumping out of there so we can get some vacuum in cell A. At present, the air is contaminated 3½ times tolerance (based on 8 hour exposure)

Program for tonight:

1. Continue spraying of cell B with weak HNO_3 from inside of cell (using rubber suit). Allow acid time to react and then hose down cell after each treatment.
2. After manpower used up, continue spraying acid from 3rd floor. Save last 3 hours for soda ash steam bath.
3. Continue Cell A vessel decontamination, alternate HNO_3 and flino cycles.

(over)

Start automatic hosing down of cell A. An extra fire hose can be found lying on 1st floor north wall.

12-8 shift repeat treatments.

10-12-45
4-12
SOR

Water pump in front of Cell A got plugged with pieces of concrete and glass sucked up from Cell A Duct. We drained the pump housing and pump worked O.K. Floor got contaminated and we had to scrub it twice. By turning on water in Cell B and thus blending water in with the silt in Cell A duct, we have been able to pump out some of the dirt in Cell A duct. There is some vacuum in Cell A from large fans.

Fire hose is connected up at Cell A, but we did not use it, as we were trying to clean up the duct.

Hosed down Cell B. Could not find any hot flanges in Cell B.

12-8
10/13/45
JSC

① What do you want in Cell A — ① Vacuum? ② Cell Duct MT? or ③ hose down?

To have ① you must sacrifice ② & ③.

To have ③ you must sacrifice ① & ②

to have ② you must sacrifice ① & ③.

You figure it out.

② at Shift change found both A9 & A8 full of ——?
Not knowing what these tanks contained (fluo. or HNO_3) necessitated lab. analysis before continuing decontamination cycle.

Pls. leave adequate inventories for succeeding shifts —

③ Cell A hosed with hose rack, consequently duct filled. Had trouble entire shift with hose plugging. Able to unplug by plugging discharge line and forcing water down intake line.

④ Cell B hosed several time in attempt to suck more silt, crud, &c Cell B sump from A duct.

⑤ B cell sprayed with

Lab showed fluo. in A-8 and HNO_3 in A-9 (see hope)

10 % HNO_3 and HF twice.
Then can hanated for ~ 3 hrs.

(acid pump leaks like sieve around flange - scotch tape enabled us to complete the job.)

(6) Shift Change —

all Cell A vessels Mt. with the exception of A-V which has acid heating. —

(7) Smoke fan & large fan on.

(8) Cell A duct & sump full - pump worked swell most of shift - then went kaput. Intake doesn't appear to be plugged — pump has no suction.

10/13/45
8-4

Pls. do not throw away any Cell B valves, pipes, flanges, etc. unless they are specifically designated to be tossed. Most of these pieces can be re-installed after decontamination.

① There is one warm spot in Cell B — BB rest well. There are several 1/8" pieces of lead wrapped around it now but some bare spots are still radiating. Please see if you can wrap it up some more. Lead pieces are located at N end of building around table.

② A big push is on Cell A decontamination as well as cell B, however, use up leftover time in Cell B only while looking for more hot spots, removing paint or spraying more acid.

③ At 4PM, we a steaming out A16 and off gas line to W11. Continue steaming until 6PM, then drain off all water in system, turn small fan back on.

④ Cell A vessels, esp. A1 are still hot. The decontamination procedure has been rewritten to increase time for boiling acid and circulating solutions. Please keep time record of work in space provided. Run 2 fluo treatments for each HNO_3 treatment, use same procedure for fluo as for HNO_3 except,

do not heat it. Circulate during that period instead. All jets have been unplugged

(5) If "salt blaster" is working shortly after beginning of shift, use up manpower in taking off paint on cell B walls. Try getting effused parts of west wall and dry floor hose will reach. You can keep ventilating fan on but gas mask must also be worn. If paint removal is impossible, continue spraying cell with acid and hosing it down. Finish shift with soda ash + steam treatment

(6) Help decontaminate hot equipment in decontamination room. A hot platinum screen is in S.S. bucket.

10-13-45 Salt blasted Cell B wall, but salt is too soft to take the paint off the walls.

4-12 SJR Hosed down A1, and pumped some more silt out of Cell A duct.

Finished covering B-8 slot well with lead.

Cell Fan kicked out first as we were leaving at 11.50 P.M. We kicked it on again. It seems to work O.K. Next shift to come on (12-8 a.m.) had better check it.

10-15
12-8

H P check shows A-1 and floor hottest place. A-1 given 4 acid sprays 3% HCl from top floor thru plug. and hosed down with fire hose inside of cell.

A-1 contains 1200# HNO_3 cooling prior to getting to A-9

A-8 contains 5% flow 10% HNO_3

10/15/45
8-4
EJW

The hottest spots in cell B are the sump, B8 rest well and B19 head heater. B8 is 80 MR through all the lead, this isn't very high but since the general background of the cell is much lower and much work will be done in that area, it will be worth while to further decontaminate B8 rest well.

Program for 4-12 shift.

1. Try decontaminating B8 rest well given if the lead must be torn down to do the job. Wrap some lead around B19 head heater.
2. Since table salt appears to be a good decontaminating agent, spray salt all over cell B (Use sand blaster) then turn

on all steam to cell B to give it a steam bath. Steam for 3 hours with cell ventilation off. Then hose down the cell.

3. Repeat decontamination cycle in cell A. Continue hosing down as much as possible; concentrate on tops of tanks. For the time being, pump water directly out of cell A sump (this is fourth) and keep enough air space in duct to maintain ventilation in cell.

Do not spray HNO_3 or HCl over cell A, also do not steam bathe the cell. — A 5 agitator motor is enclosed in black iron, and we do not yet know whether or not it is vapor proof. In any event will will not get as rough with cell A as we did with cell B.

Program for 12-8 shift

Repeat program outlined for 4-12

10-15-45 8-4 SJR. Cell A decontamination status is on the shift inventory.

There are about 125 sample tubes filled with rubber gaskets and ready to use in a white shoebox in the cabinet north of Cell B. These sample tubes on A1 sampler deliver .6 c.c.

We cleaned out the intake line and the pump housing of pieces of wood and concrete. John Walker had the right idea on this. He suggested covering the end of the intake line with screen wire. This has been done, and the pump has been working swell this shift.

Maintenance has been in Cell B all day. The 12-8 should have Cell B cleaned up and ready to go at 8 00 A.M., as maintenance will be in Cell B a good bit from now on.

LATE FLOW

Cell B.

10-15-45 Removed loose paint from the ceiling and
4-12 girders of Cell B, by scraping with wire
writ by hand brushes and blasting with salt via
sand blaster. Shows marked improvement.
Cell B was steamed for three hours following
the salt treatment and thoroughly washed
down. All the crap was removed from
the golden horseshoe funnels and all
pipes lines are clear of debris with the exception
of one which remains clogged.
A survey on B19 showed the pipes above
the heater to be hotter (400 M/R) than the
heater itself (150 M/R) Lead was wrapped around
both areas near the end of the shift.
Suggest you look at it and make the
necessary improvements. As yet nothing has
been done to B8 tank and B12 magnets.

Cell A

Continued hosing down the cell with water.
A5 + A8 contain 10% HNO_3 + 5% fluo.
mixture.
Limited man-power held work down to a
minimum.
Imp Check the vacuum in cell A.
Seems to contain a lot of exhaust motor
fumes.
For further info check Rodgers and Fitowski
writeups on preceding pages.

10-16-45

We scraped and brushed the loose paint from ceiling of cell B Salt blasting will not remove the paint so we sprayed the cell with salt and steamed it for 3 hours and hosed down.

Cell A was given a carbonate dusting prior to steaming for 3 hours. It was hosed down by remote control as the cell is full of steam and no vacuum.

H P took a precipitron reading a third floor during steaming of cell A. Results will be given later.

10/16/45 Program for 4-12 and 12-8 shifts

1. All conduits except the ones to B1, B3, B10, B6, thermocouples and final product viewing light will have to be scraped of rust prior to painting. Please complete work started on these. also scrape rust from final product viewer light (not the conduit itself). Conduits to B1, B3 and B6 and final product viewing light will be replaced.

2. Wrap a sheet of lead around the blank flange in cell B off-gas line,

H P says not necessary

a couple inches east of main line (120MR/hr)
3. Try draping more lead around B8 rest well, it'll take magic, but it is still warm.
4. Scrape all loose paint that's left in cell B (look hard boys).
5. Survey cell A for hot spots and scrub down with acid. The most important working areas are tops of all tanks and floors around tanks. Namely A1 + A8.
6. Take a check survey of all tanks, if you find that they are cold, complete present cycles that are already started but do not start any more. When tanks are
7 emptied, cut off cell vacuum and vessel vacuum and give cell a carbonate steam bath as well as a salt steam bath, for 3 hr periods, hose down cell.

Procedure for Steaming Cell A

1. Equalize all manometers to cell A vessels.
2. Turn off large fan, small fan and cut off vacuum to 205 stack. Open drain valve at christmas tree to W11.
3. Empty sump in cell A so that steam coming thru overflow line will not condense.

Decontamination Cell in A

4. Turn on all steam jets and spargers to cell & tanks.
5. Drain all off gas lines before turning on fans.

4-12 + 12-8 10/16-10/17 WPB

1- Remove chipped concrete on top of Cell B. It is hot. Clean off area as best you can and resurvey it. Also have precipitron run made for dust up there.

2- Clean the tags out of the Cell A addition funnel pan by T8 + T9.

10/16/41

JEC 4-12 ① All conduits in Cell B "wire brushed" - don't think we missed any. Check CJW's (Page N3) list and then check us.

② Light assembly (product viewer) brushed to completion

JRM ③ Removed excavated concrete on third level.
Results - General Area - 45-65 Mr/hr
→ Spot between B-6 - B-21 - 475 Mr/hr

④ Removed all funnel tag out tags on A-Cell.

156 (5) EJW —

Had HP check blanked off flange in Cell B - off gas line — results shows it to be no higher than background - therefore didn't attempt to do the impossible.

(6) Hung large lead sheet over B-8 rest well — rather unstable so beware when below. May be day shift and maintenance can fix in place.

(7) Impossible to work in Cell A as Decontamination cycle was in progress.

(8) Cell A Decontamination cycle now in A-5 (Step 18) - See procedure on desk PB-1. —

See EJW's instructions for Cell A - work following HNO_3 cycle. —

10-17-45

A cell survey shows top of A-5 and concrete square hottest spots. A-1 200 mr/hr

The cell floor in front of doorway and around to A-5 scrubbed with soap and water twice and HCl once.

The hot spot between A-5 and A-6 scrubbed with soap also HCl.

Man power used up so we hosed by remote control the spot between A5 & A6 by hosing and jetting and later the top of A-5 hosed in the same manner.

Decontamination cycle carried on to A-6 circulated ½ hour and neutralized (as A-6 is not hot and steaming of cell A was of greater importance.

A-cell steamed 2 hrs and hosed down. All tanks are empty.

10/17/45 Decontamination for tonight.
8-4 Continue decontamination of cell A.
EJW Concentrate on tops of A1, A5 and A8.
Top of A8 appears to be the hottest, scrub down as much as possible with acid and then wrap the flanges with sheet lead. Narrow sheets of lead can be found at entrance to cell A.

Take off blank flange from top of A8 south side, remove gasket and scrub down (this one is really warm)

Steam out A8 with off-gas valve closed, this should decontaminate the overflow line.

Continue to hose down the cell whenever possible.

Please give the entire building a good cleaning. Go after equipment decontamination room, sample blisters, etc. Have hand rails on stairs, etc. surveyed and clean where necessary. In short get this place so we can eat off the deck.

WAP

Choose your Picnic ground!

to All → Do not spray or toss any liquid in Cell B until thermocouples are installed.
LRM.

10/17/45 (A.) Work in Cell A —
4-12 ①. >20 R. flange removed from atop
J.E.C. A-8. Flange scrubbed down with
HCl.

②. Survey showed majority of A-1
flanges hot as well as A-1 itself.
Hot flanges wrapped in lead to
extent of lead sheets. A-1 vessel
completely scrubbed down with
Conc. HCl.

③ All hot flanges on A-5 wrapped in
lead.

④ Flanges on A-6 all ok.

⑤ Hoxed down cell remainder of shift
until pump failed. Maintenance
summoned three times and finally
concluded that carburator must be
cleaned — this to be taken care of first
thing on 12-8 shift.

⑥ A-8 cleaned for 4 hrs per
Eyes instructions.

B.) Police-Up of 706-D. —

1.) Whole bldg. cleaned up with
exception of decontamination room.
Please try to keep it this way!!!

(2) All railings and stairways (1st, 2nd & 3rd floors) surveyed and hot spots cleaned up.

(3) 2nd floor level scrubbed to perfection.

EJW — Strainer at AW-B9 (Line 155) reading >500 mr/hr. What is this line?

(4) 1st floor contaminated in front of Cell B, behind A & B, in front of Cell A, decontamination rm. and make-up room to extent that soap and water useless. Relied on 60% HNO_3 — suffered terribly from potent fumes, but area okth now.

Yes, I know — why doesn't some one loan me a handkerchief.

(C). Complaints or Bitches

(1) How'ze about letting us excavate top of Cell B and jack hammer operators clean up concrete? We were very willing to clean up the unsightly mess once — but little did we know it would be an everyday occurence. How about seeing that the excavators excavate everything they excavate!

(2) What equipment in Rm. 9. is to be salvaged and what is to be disposed of? We had no time left to work here

but had we the time we would have been in the dark as to what to clean up. Why not designate what funnels, flange, valves, vessels, etc. are to be cleaned for re-use.

⑤ We like to see that we are accomplishing something and are not looked on merely as the night janitorial staff. It is easy as hell to mess up, but harder than hell to clean up.
We think that everyone on day shift has the opinion of "What the hell, if we mess up we have 4-12 & 12-8 to clean up for us." What does 8-4 do in way of constructive work after they are closed up? May be they have joined Maintenance in Bldg B!

Work carried on until near shift change, please note that 3rd floor has been given some attention today since work was completed earlier in shift.

At 8AM we found no funnels, valves and only B15 vessel to contend with. We did find, however, lifty bottles, black iron bolts (normally thrown out) and hot S.S. bolts (usually decontaminated and reused. F.P. carrier is still there and that is not usually thrown away.

10-18-45

Treated flow cell A with HNO_3 twice, hosed down.

A-1 was hot at bottom and did not seem to be on outside of tank. We added 650 # HNO_3 and heated about 4½ hours. It was filtered to A-5 and neutralized.

Maintenance repaired gasoline pump and also valve on T-8

A-5 and A-8 given hosing down. A-5 top scrubbed with dilute HCl

Some of the pieces in decontamination room cleaned.

10-18-45
8-4
SJR.

After hosings, and treatments, etc. in cell A with check surveys, we got readings as follows in cell A at 1⁰⁰ P.M:

Background at door - 24 mr	A5 top - 75 mr
N. Sump - 155 mr	A5 bottom - 460 mr
S. Sump - 135 mr	A1-A5 floor - 245 mr
A6 bottom - 70 mr	A8 - flash flange - 500 mr A8 - west flange - 500 mr
A6 top - 35 mr	A8 bottom - 150 mr
A3 bottom - 50 mr	A9 bottom - 35 mr
A1 bottom - 460 mr - 1000 mr at North side	
A1 top - N. flange 385 mr	A9 top center flange - 750 mr
" " - S. flange - 285 mr	

Maintenance will work on A1, A5, A8 and A9 tanks. They will also install a new tank in the southwest corner of cell A. If possible, we want to get a planet working time of twenty minutes or more (< 150 mr) on each tank, and this afternoon we intend to lay lead over the hot spots (> 150 mr) listed to get the working time that we want. We started the lead laying. You run your own surveys on the hot spots mentioned, and try to repair our omissions. Pump and hoses have been removed from cell A corridor. Just lay lead in cell A to block out remaining hot spots as well as you can.

Maintenance work will be done on the following flanges in cell A — south blank flange on top of A8, SW blank flange on top of A9, N flange on top of A7 (A1-A5 jet), and S flange on top of A5 (A1-A5 jet). In addition, a tank A11 will be installed in SW corner of cell. We are primarily interested in getting radiation down in these areas by using lead. There are strips cut for this purpose and can be found in cell A, outside cell A and near cell B entrance.

Any spare time left over should be used up in decontaminating samples B1 and B6 (>20R/hr).

over.

4-22
12-8 } Please check the heels left in B1 by:

1. Suction line to B-2, nozzle G in B1.

2. suction line to B-6, nozzle B in B1.

These 2 lines are tagged. Get suction pump from Room 25, 706 A. Add known volume of water to tank, pump out and measure. Each shift please check heel on each line at least 4 times. At between tests, evaporate tank to dryness long enough to insure starting next test with an MT tank. Leave record on heels you find WAR.

RSP - Tanks in cell A will stand at least 50# pressure.

WAR

10/18/45
4-12
J.E.C.

A.) Work in Cell A —:

1). Hot flange (blank) atop cell A removed, and scrubbed with HCl.

2). Blank flange atop B scrubbed down with HCl.

3) Attempted to remove jet line A5-A1, or A1-A5. Flange from A-5 removed but unable to remove A-1 flange because of length of line in A-1.

To: LRM
From: JEC

As you will notice from the log book the results obtained tonight from tests to determine the heel left in B-1 by suction line to B-2 are rather inconsistent, and have no meaning whatsoever. I would be inclined to think that the 120 cc. heel would be the accepted one since B-1 was more than likely dry at beginning of tests. After each succeeding test it was noticed that some heel was left unevaporated, and each time the evaporation time was lengthened, but there was still evidence of incomplete evaporation even after 2 1/2 hr. evaporation time. To insure complete emptying of B-1 I am suggesting that grave-yard repeat tests on both lines using a peice of glass tubing on the end of the tygon line to be dropped into B-1 and sucked dry.

4.) Cra
a tap
manpo
Stu
be sh

(5) Dec
flang

(6) All
probed in an effort to locate source of Maint. Crawford's hot shoes. None found contaminated. Suggest Crawford wear rubbers in B. —

(7) Pressly how about getting a survey in A after remainder of flanges on A-8 and A-9 wrapped.

Att'n L.R.M. —

(1) Results of tests to determine heels left in B-1 by suction line to B-2.

a.) — 120 c.c. (Initial test)
b). — 90 c.c. } Evidently B-1 heel wasn't
c) — 50 c.c. } completely evaporated.
d.) — 40 c.c. (after 2 1/2 hrs. evaporation)

4.) Cropped lead around flanges atop A-8 - still some more to wrap — manpower used up.
Still hot flanges on A-9 that should be shielded.

(5) Decontamination Rm. cleaned of hot flanges, bolts, etc. -

(6) All rubbers and gloves used in B & A probed in an effort to locate source of Maint. Crawford's hot shoes. None found contaminated. Suggest Crawford wear rubbers in B. —

(7) Pressly how about getting a survey in A after remainder of flanges on A-8 and A-9 wrapped.

Attn L.R.M. —

(1) Results of tests to determine heels left in B-1 by suction line to B-2.

a.) — 120 c.c. (Initial test)
b). — 90 c.c. } Evidently B-1 heel wasn't
c) — 50 c.c. } completely evaporated.
d.) — 40 c.c. (after 2½ hrs. evaporation)

(2) Press. how about checking suction line to B-6 from BF1 through nozzle B. Suction pump, suction flask set-up in cage. Be sure to evaporate B-1 to dryness before each test.

Re-test line to B-2, but do not rely on jacket steam to evaporate to dryness - suggest a piece of glass tubing on end of tygon line to enable you to reach bottom of tank through maze of pipes.

10-19-45

Lead placed on and around hot spots on A-1, A-8, A-9
A-1 is below 150 mr/hr 6" away from side of tank.

Lines to B-2 and B-6 were checked as to heel left in tank. A stainless steel line was placed to bottom of the tank using volumetric flask 1000 c.c. of distilled H_2O was admitted from third floor funnel.

Using B-2 suction line the tank was emptied. This volume removed by B-2 was measured after discarding the first determination. Then the tank was sucked dry by the stainless steel line that we had placed in the tank. This volume was removed by a smaller suction flask and the volume measured.

To check our results we turned the steam on the jacket and air sparger in tank and evaporated 3 hours and went thru the above procedure to check the line that we

had placed in the tank, we ran 4 determination using a volume 250cc.

B-2 (1000cc)

Vol B-2 suction line	Heel
1000cc	14cc
985	20
980	14
960	24
990	16
ave 983	17 3/5

B-6 (1000cc)

Vol B-6 line	Heel
985cc	10cc
990	14
995	14
980	12
990	16
ave 988	15 1/5 cc

Volume after heating B-1 3 hrs of cooling.

B-2 (1000cc)

Vol B-2 line	Heel
930	16

Perhaps some of this volume was used to wet the lines so we checked the volume of our temporary suction line.

Vol - 250cc

Vol admitted	vol removed
250	245
250	252
250	250

10/19/45

Water now running through small pan for decontamination

The following note work is requested:
PRIORITY as listed.

① Test heels in B6 as last note on 5 lines

JEC ✓ a) Nozzle G hole A section B1 (B6-B1)
JEC ✓ b) " G " C " B9 (B6-B9)
c) Nozzle B " B " " B11 (B6-B11)
d) " B " A " B3 (B6-B3A)
~100 cc e) " B " C " B3 (B6-B3DB)

Each shift make duplicate tests until we have certain of the heels. Evap it dryness as required for a new start.

JEC ② Test vessels B2, B9, B11, B26, B27, B[illegible] B7 under full-line [illegible] pressure under water for [illegible] in [illegible] and gaskets

Record [illegible]
mark with [illegible]

(3) Continue running water thru small [illegible] when radiation under [illegible] < 6 r/hr [illegible] all junk [illegible]

JWC (4) Check all gloves and rubbers [illegible] and send [illegible] to [illegible]

(5) Wire brush I-Beams in cell B to remove loose paint

Partially (6) Further decontaminate B12 magnet

(7) Decontam[illegible] B6 [illegible] support now in Am 9

(8) Continue [illegible] lead [illegible]s [illegible]

Place [illegible]

[illegible]

JEC ③ [illegible] product [illegible]

W. A. Rodger

10/19/45
4-62
J.E.C.

① Checked tanks B-27, B-2, B-9, B-11, B-26 & B-7 or B-8 for leaks in welds and gaskets by applying 50# oxygen (from oxygen cylinder) to vessel submerged in H_2O. Results:

a.) B-27 — no leaks ✓
b.) B-2 — Leaks around large gasket
c.) B-9 — " " " "
d.) B-11 — " " " "
e.) B-26 — Leaks around nut circled in Chalk
f.) B-7 or B-8 — no Leaks
g.) B-(?) — not tested

Why not use smaller gaskets placing them inside circle of bolts — This should give more "Clamp-age" and might reduce leaks around gaskets.

② Results of tests to determine heels left in B-6 by various decant lines:

(over)

a). Nozzle G - hole A - Suction to B-1 1.) 42 cc.
2.) 48 cc
Ave: 45 cc.

b) Nozzle G - hole C - Suction to B-9 1.) 40 cc.
2.) 32 cc.
3.) 38 cc.
3) 110
Ave: 36+ cc.

Note: Be sure to blow out water held up in line after each decant - before measuring for heel.

(3) All rubbers & gloves checked and contaminated ones made ready for laundry

(4) Water to small fan continued - reading at 10:30 was ~ 1300 Mr/hr. Cleaned drain pan of all bolts, nuts, sticks of wood, putty bottles, etc., but there is still some sandy loam that should be shoveled out.
Water still running through fan.

(5) Final product carrier cleaned and placed above hot lab.

(6) B-12 Magnet scrubbed with HNO_3 washing immediately with H_2O for quite

some time, but still some spots reading ~ 50 mr/hr.

① General Clean-up of Rm 9 undertaken discarding everything deemed as extraneous. —

B-6 draining to evaporate heel at shift change.

10-20
12-8
Finished decontaminating room 9. B-12 magnet still has 60 - 120 mr/hr in spots.

I-beams in cell B brushed to remove rust & loose paint.

Suction lines from B-6 checked.

B6 - B11 checked by heating tank to dryness each time and placing 500 cc H_2O with funnel to copper tubing.

Results:

Vol in tank	Vol removed B6-B-11	Heel
500 cc	495 cc	5 cc
500 cc	490 cc	10 cc

B6 - B3A & B6 - B3DB
results were based on results obtained for B6 - B11 heel.

Results B6 - B - 3A

Amt in B6	Amt removed by B6-B3A	Removal B6-B11	Heel Calculated
500	460 cc	35 cc	42 cc
500	460 cc	41	48 cc

B6 - B3DB.

Amount B6	Amt Removal B6 - B3B	Removal B6 - B11	
500	420	84	87 cc
500	420	spilled	87 cc

PROGRAM [illegible]

10-21-45
12-8
SJR.

The nuts on the newly installed steam condensate traps could stand a round or two of tightening.

Jet B6-B3A (formerly B6-B3A) would not jet water from B6. Steam pressure on this jet at the board was only 60 pounds. Jet B1-B6 leaks at delivery end over B6 at welded joints. Screw fitting in flange may leak also.

Cell A dust hood out. sparged all night.

10/21/45

8-4 =1= The 20 R-Spot on small fan housing is
N+B. now down to 5-R. Probley all comeing
from the Bottom of the caseing, water
is flushing over it.
=2= Check program for Job's undone.

10/21/45
4-12
JEC
10-22-45
12-8
SJR

① See weld-end menu —

B-12 magnet was decontaminated down to less than 12 mr by grinding off most of excess rust and paint. The B-12 magnet is now in shape for spraying or painting. H.P. permit on this job is made out.

H.P. permits are made out for work orders on Bigler's desk. The work orders were given a penciled number which corresponds to a similar number on H.P. permits held by the H.P. group. Blanket time of one hour was allowed for all work in Cell B.

There was a hot spot near B-7 conduit that we scrubbed with acid and then leaded over with lead sheets. Reading is 30 mr through the lead sheets.

Cell A dust hosed and sparged all shift.

Work for tonite

JM ① Clean out material under stair to Rm 13. Put items of value not to be used now in low storage second floor. Put clean material ready to go back in on paper at west side of cell A.

SJR (2) Cell B beams etc still need wire flushing

JW (3) Wire brush thermocouple junction boxes in cell A.

JW (4) Recheck leak on B1-B6 discharge line.

JW (5) Have steam line cleaned to jet B6-B3A. This is a #3 jet and should be slow.

(6) Check air flow on off gas to B26

JW (7) Check jet B1-B26. Note whether this is former B1-B12A or B1-B12B.

SJR (8) Take Pb off golden horse shoe. See what this does to the level. See if further decontamination can be effected. If not put Pb back but hang better.

JW (9) Have maint clean out steam lines at PB for B22-B10 and B3-B12 if you can't get enough steam pressure.

SJR (10) 12-8 get HP permits read as yesterday. Only one needed for all cell B work.

(11) Paul Phillips report to medical for minor injury.

(12) 12-8

Starting Wednesday one of the following groups of 4 may come in days.

Renshaw Phillips
Holliman Walker

Draw straws if you like.

W. A. Rodger

(13) Check Soln line into B27 for leaks thru old B15 funnel.

(over)

10-22-45
4-12 Shift
JEC

1. Cleaned out material under stair to Rm. 13. All valves and flanges not to be used placed in second floor storage, all funnels and funnel rack, and scrap stainless carried to 706-D storage shed, and all material to be used in Cell B was placed on paper on West side of Cell A.

2. All thermocouple junction boxes in Cell A brushed free of rust and crud.

3. Checked leak reported in B1-B6 discharge line and found that leak still exists. The leak is at point where discharge line enters into top flange of B6. (No leaks found at welded joints)

4. Steam line to B6-B3A jet checked for foreign material causing plugging, but found line to be free of such material although it was impossible to jet solution through this line. The maximum gage pressure obtained was 75#. Jet proper appears to be plugged.

5. Jet B1-B26 checked and found to work perfectly with solution flooding cubicle area outside Cell B. This jet was formerly B1-B12B. (As indicated by panel board tag.)

6. (A) Steam line to jet B3-B12 checked and found to be almost completely plugged at steam header. This is probably true of all emergency jets since inertness tends to cause the building up of the alkaling "cementish" crud found to be present. With crud removed it was possible to obtain ~120# pressure and solution jetted like a dream.

(B) Steam line to jet B22-B10 found plugged similar to B3-B12, it was cleaned and works alright now.

7. Checked solution line to B27 through old B15 funnel and found no leaks.

8 Flooded portion of 2nd floor BE a mystery — only possible source would be leaky steam line on 3rd level (near hood & make up tables). This leak has been for sometime. How it gets to 2nd level — I don't know.

10-23-45

12-8
JR

Brushed Cell B walls and beams with portable electric scraper. This machine will take off paint and rust spots, but it will be slow going. You need a gas mask for this job.

H.P. permits made up and numbered the same way as yesterday.

A hole was punched in Pb around golden horseshoe, a rope inserted, and the whole supported from the ceiling.

Done
Ray M

Done
Ray M

Done
Ray M

Done
Ray M

4-12 Part of the Viewers would not fit together for some reason. We tried vasoline (which sometimes works wonders) but this failed. Suggest 12 to 8 shift try again.

We could not calibrate B26 because the lines were not connected and manometer has not been installed.

Found leak at bottom of B 6 - (marked Blue pencil)

Roy M.

12-8 All Viewers Work OK. But one and you cannot put it together it lets to light the two Pieces Mark with chalk is the one that will not fit cleaned around cells door.

[illegible]

LLF, GEP, JBW, TRM, PEP, JH, JRO, please fill out insurance forms and leave for me in morning or mark that you do not want it. It is optional.

W. A. R.

STAY OUT OF ROOM 9 TONITE

NITE WORK

18B

O.K. Roy M

① Check all [illegible] and [illegible]

② [illegible] general cleaning

O.K. Roy M Clean out B22 including paint spots

④ Plug all thermo wells in cell B with stoppers. Then

a) Test all 18 jets in cell B for good delivery and no leaks

b) Check that each has a steam pot in good working order

⑤ Check all welds in cell B visually. Some holes have been discovered. Test all you can find. Both shifts do this.

O.K. Roy M Clean up. Sling funnel bed. Scrape off all the crap

O.K. Roy M [illegible] old tar etc left around the top slab in cell A entrance hole. Scrape [illegible] funnel

O.K. Roy M Clean up [illegible] [illegible]

[illegible]

OK. Roy M

OK. Roy M

4-12 We capped all steam pots on tanks B3 & B10 and checked each line & weld for leaks. all leaks are tagged. All jets tested seem to have good delivery. We placed a towel over B22 after cleaning it out. We cleaned up the building partly leaving all maintenance material & tools as were.

Roy M.

12-8 B. cell jets tested and all teak tag Steam Pot on jet B-6-B1. leaks at top of Pot. B6-B3A jet Back up B6-B3DB and Steam came out Bottom off Steam Pot on B6-B3DB jet Cleaned up around cell Door and Sweep the floor.

4-12 Some hot spots on cell B floor, a spill from the golden horseshoe lines have H.P. to check, also the ladders

NITE WORK

See next Page. [illegible] cell B -- decontamination [illegible] solution from [illegible] it was removed [illegible] ladders etc also

Done Ray M [illegible] especially cells A and B [illegible] daily checking [illegible] and [illegible]

Done (B) GEP - pls check [illegible] B6-B3A jet again. It is supposedly fixed.

Not Hooked up - (4) [illegible] B10-A6 for leaks and [illegible]

In Progress [illegible] Golden Horseshoe [illegible] 9.

Tried but Failed See next Page [illegible] B2 [illegible] B1 [illegible]

[illegible]
record [illegible]
Repeat [illegible]
Midpoint [illegible]
enough [illegible]
agreement [illegible]
sum back

Dose A9 overflow test
Roy M a) MT A9
b) MT A [illegible]
to leave [illegible]
of A9 overflow line
c) add [illegible] # H_2O [illegible]
d) watch [illegible] overflow
line [illegible]
e) Turn [illegible] A9 [illegible]
[illegible] water [illegible]
over
f) [illegible]
to A9 [illegible]
over
(-) [illegible]
[illegible]

4-12 (a) Removed lead from Cell B floor and washed with acid. Back ground is 35 Mr. on floor. Ladders were not above background 15 Mr.

(B) We added 500 c.c. water to B1. Closed discharge valve in cell and applied 80# vacuum. We could not get B2 to pick up. We added another 500 c.c and it would not pick this up either. Checked entire line for leaks but found none. We plugged line on 3rd floor by B20 probe but this did not help.

(C) B10 to A6 is not hooked up.

(D) A9 - overflowed with agitator on at 972# (1+20) Manometer would not work but we left the water in A9 so it could be checked by guage tomorrow.

(E) Golden Horse Shoe reads less than 8 Mr. at 11 P.M.

Ray M -

12-8. Jet B6-B3A does not Back up in B6-B3DB nor B6-B3DB Leaks around Both union in Jet Cell B floor is ok - We tried B2. But could not get it to work

4-8

Roy M. O.K. Remove all the lead from Cell B-Sump.
2. Pick out all junk from sump.
Roy M. O.K. Pack all vital openings in vessels with cheesecloth.
Roy M. The overall viewers have been assembled so test the operation of them.

4-12 All viewers are in good working order except the large one with red paint. It has a bad plug.

Removed all lead from Sump.

12-8 Roy M.
Cleaned - Sump all men - Spent time in cell HP give 10 min working time here are HP Readings

Before		after in Sump
S.W.C.	2 R.	2 R.
2 Plug.	20 R.	1.5 R
3 "	1.25 R	750 mR
4 "	500 mR	1 R
5 "	800 "	600
6 "	500 "	600
7 "	650 "	700

3 FT S.W. Corner. Back Ground 150 mR.

[illegible] straight [illegible]

OK. [illegible] [illegible] [illegible]

OK. Except maintenance tools & ect.

OK. [illegible] [illegible] [illegible] sump

(5) [illegible] all B sump. Use [illegible] [illegible] by alkali [illegible] time [illegible] [illegible] all week end [illegible] [illegible] [illegible]. Repeat as [illegible] [illegible] [illegible] reach 12.5 [illegible] [illegible] HAH!

In Progress (6) Decontaminate the small fans [illegible] fans [illegible] by running water through [illegible] as long as men are on shift [illegible] week end.

OK (7) Put cover on slug shute

Done Spend [illegible] least 4 man [illegible] per shift learning [illegible] [illegible] job

[illegible]

10-28-45 8-4

Cell B Sump was [illegible] with Acid [illegible] time and [illegible] each time. [illegible] drop in Radiation was noticed. Water was allowed to run through [illegible] shift [illegible] was turned off at 3:00 o'clock. A slight drop in radiation was noticed

10-29

Water left running through small fan Water,
all health permits are in H. P. office
Cell B is awaiting Diamond OK, too
Different Instruments does not check
the same. as much as 200 mr/hr difference

Fairchild to report to medical
4-12 shift.

4-12 OK Pls. put rubber stoppers in all inlets to B 9,11 in cell B. They were lost during installation. Keep out of wet concrete in sump. [illegible]

OK

OK

OK H-12 [illegible] 3rd [illegible] platform

OK. H-12 [illegible] 105 ID [illegible]

OK H-12 [illegible] cell B over new cell pad [illegible] and cleaned [illegible] not [illegible] get [illegible] on new [illegible] on bolts.

UR

H-12 H_2O Running through small pan at end of shift.

12-8

10/30/45 Work for tonight

1. Continue circulating Na_2CO_3 solution in M1 through water pump to decontaminate the pump.
2. Decontaminate lead sheets in Room 11 and on cast platform to less than 1 MR/hr (if possible), use 60% HNO_3. Have HP man check each sheet.

All B jobs.

Done 1. Test B7 for clearance on swing under B17 probe shield. Report results.
2. Check each valve on off-gas line inside cell for leaks. Cut off valve, check that air flow thru tank is cut off. Report any leaks.
Done 3. Run B12 probe down into B12, see that it hits B12 probe hole acceptably. Have some one in cell while doing this. Check activity as some crap is stuck on probe wires.
Done 4. Remove loose cement, stray scraps on cell floor and sump. Clean off tank tops with brushes. Leave wood in sump.
HAH.

1 All lead in Room 11 cleaned and Stack on East Platforme
2 B 7. work ok under B17. Probe
3 B12 Probe is ok it goes in dead center of hole in B12.

[illegible]

10/31/45
12-8 All lead on Platform has been cleaned up.
water is running through small bar housing.

Nite Work

Done [illegible] (1) Clean building

Done [illegible] (2) Check all rubbers and gloves

Done [illegible] Test fk water to W-11 for leaks

Done [illegible] Test soln inlets to B9, B11, B2 for leaks discharge thru soln funnels. Catch water before it reaches sump

Done [illegible] Clean floor and sump preparation to installation of Pb in sump and repair of [illegible] floor.

Done By [illegible] [illegible] work with [illegible]

4-12 Shift

Water line to W11 tested and no leak in line in side or out of cell. B.2 B9 B11 line check. and are ok. no leak in inlet or outlet lines.

[signature]

Nite Work

Done [signature] Give Bldg regular daily clean up.

Done [signature] Check all gloves and rubbers

Done [signature] Move rubber rack from door of Supervisors office up to 3rd floor soln area and stack with rubbers and rubber gloves for use there.

Done [signature] Collect all operations tools. Bldg [illegible] for contamination. Clean [illegible] it. Put on tool board and clean same

(5) Test [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] "Hg [illegible] [illegible] [illegible] [illegible] [illegible]

1000 [illegible] Bypass several times.

Done By [illegible] [illegible] and [illegible] job

4-12 All tools that we could find was cleaned and oiled and put upon Board in Desk on 3rd floor B17 in HNO3 in the Big Drum in corner of Room 11

11/2/95

12-8 1: Job # 5 ON Night Work Schedule We could Not Get the Vacuum to Work ON B-9 - B-11 B-2 All Hg. MANO. Are Equalized If you close the Bypass AND open the Short + Long Sides you Blow the Hg. out Without opening the suction Valves,

2: We Added 200cc several times into B-17 AND the outcome IS taged ON Each Draw off Line to B-17 IN Room-9.

NITE WORK

Done [illegible] (1) [illegible] building regular cleaning and [illegible] all [illegible] and rubbers

Steam [illegible] (2) [illegible] steam int. B19 [illegible] [illegible] [illegible] [illegible] added to 2 [illegible] wells on B19 in [illegible] + [illegible] [illegible], Heat [illegible] [illegible].

194

202

CLINTON LABORATORIES

DATE Novemb

TO 706-D Operations DEPARTMENT

FROM W. P. Bigler DEPARTMENT

IN RE: Try 8 hours with heat lamps and sta

Report when the following jobs are done:

1. Glue the black Koroseal gasket to the lid to the slug shute. Cut where necessary for seating.

2. Stock up all equipment needed for sampling in th cabinets provided. Put absorbant paper rolls on all paper racks.

3. Check Make-up system for leaks.

4. Clean up 3rd floor - all over.

5. Clean up prod. shipping equipment.

6. Recalibrate M-1.

7. Remove excess equipment and junk from Cell A & B

8. Get all water, liquid, etc., out of all T.C. wel on B1, B3, B6, B10, and B19.

Prod. carrier in Room 11 cleaned less than 2 m R.h.
Cell A, B are clean
Thermocouple line leaks on top of B1 around weld.

8-4 Tested all 3 delivery lines from B24 at least 4 times each and got a constant delivery each time of exactly the amount of water added. Tried sucking the heel by inserting tube to bottom of tank but only got a couple of C.C. Roy M.

Nite Work

Done [illegible] [illegible] the usual cleaning and check glass and rubbers.
② ~~Test B3, B9, B11 including discharge lines thru B23 (movable funnels)~~ Hill NPB
③ ~~Check B7, B8 to see that all steps are correct. See that both pipettes pick up and deliver at [illegible]~~ → Check heels left in
DOES Not work and B12 by B7 and B8
Done [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] for lead work

(over)

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On 12-8 Mark [illegible] start the comprehensive test program in cell A [illegible] Instruction [illegible] clip [illegible]

This program should take the better part of [illegible] We are not pressed for time but we must have a complete and thorough job. Repeat each test as many times as necessary to be sure the item is right.

Have a man inside cell watching tests. (BE CAREFUL OF TIME LIMITS)

Use this period as a training period for all new men. In safe as possible let new men operate these tests working with one of the more experienced [illegible]

WAR

B.7; B 8 will not work cannot
Get vacuum - on them B.10 B.3. B19 -
thermocouple was dryed out
with vacuum. Pump -.

[signature]

128
10/5/45

a.) Comprehensive test program
begun + note progress on clip
board.

b.) Training program for new
operators very satisfactory - catch
on fast — !

c) Smoke fan on at shift change.

NITE WORK

5th ① Clean building and check
rubbers

5th ② [illegible] lead in [illegible] against
[illegible] [illegible] [illegible] to [illegible] [illegible]
[illegible] to at least 1 [illegible] of
[illegible]. Do not [illegible] [illegible]
[illegible] [illegible] [illegible] to [illegible]

SJR (3) Clean out B12. Use [illegible] line (tygon on pump). Remove all [illegible], dust [illegible] without altering position of Pt lines [illegible] B12.

SJR (4) Test B7, [illegible] upper level funnel. Report whether funnels need adjustment.

SJR (5) Test all tank jackets and lines for leaks and report

SJR (6) Continue with testing of cell A as per clip board.

WAR

11-5-45
4-12
SJR

B7 funnel is too high. It will have to be lowered, or else periscope moved out of the way so that B7 can be raised high enough to deliver into the funnel. B8 is OK.

There are two bad leaks on the bottom of B3 jacket at screw fittings which ought to be back-welded to hold water. A number of flanges need tightening. Leaks are marked in red.

After cleaning out B-12, we plugged the probe hole with cheesecloth.

NITE WORK

(1) MOST IMPORTANT. This
SJR place looks like a
pigsty. CLEAN IT UP.

(2) [illegible] and gloves
SJR Cache [illegible] / close rubbers if
[illegible]

SJR (3) [illegible] B7 and B8 again

(4) Clean cell B Floor. Mark
SJR holes in lead to be
repaired

SJR (5) Recheck B3 jacket for
leaks

SJR (6) Check B12 for agitation.

SJR (7) Continue with cell A check

See Log Book # 4.