4051

706-D Logbook # 15

10-22-48 to 2-25-49

OAK RIDGE NATIONAL LABORATORY

OPERATED BY

UNION CARBIDE CORPORATION

NUCLEAR DIVISION

UNION CARBIDE

POST OFFICE BOX X
OAK RIDGE, TENNESSEE 37830

p17 installation of filters.
also p23.
p37; scrubber flow rate.
p112: "4% NaOH was 4.96% by analysis
p196: 4% NaOH, 390 # HNO3.

UNCLASSIFIED NOTEBOOK NO. A-7881

Assigned To: Hannes Blauer

Department:

Location:

Date Issued: Sept. 30, 1976

This notebook is assigned to personnel performing unclassified research and development work. Because of patent requirements, it must be returned to Laboratory Records, Building 4500, when completed or upon termination of assignee.

This document has been approved for release to the public by:

David R Hamrin 9/17/96
Technical Information Officer Date
ORNL Site

UCN-6202
(3 11-66)

Run 28; see pages 35-44
Run 29; see pages 113-126
Run 30; see pages 171-~~200~~ 189
RUN 30A; See pages 190-200

10/22/48 Schaich 8-4

① Received 4 trucks from Chicago #4221, 4222, 4223, 4224. Two empties (4222, 4224) park beside tank farm. Sent S.S. drums #65, 111, 66, 14 to W-5. Sent S.S. drums #2, 105, 22 to W-10. Pot #22 jetted into W-4 and 4 sugarman carriers sent to 105. S.S. drums #2 + 111 had spills on top reading 18 mr/hr.

② Started up vacuum pumps and hood fans in N. Hot Lab.

③ Started up A4-205 offgas for C building's cold run.

④ Made up 5000# 4% caustic and stored in M-10. Reason – King needed two drums.

⑤ Riggers moved carriers into garden inorder to sow grass seed.

⑥ A4-205 shutdown to drain system.

⑦ Dayton Truck #4476 has been okayed and ready to leave Sunday morning.

⑧ A4-205 started up again for C blds.

⑨ Drum #22 going thru hexone still. Drum #2 on platform across the road ready to go thru still.

⑩ Drum #111 clean and ready to be smeared. All other drums + pot in decontamination room not clean.

⑪ Pot #22 has been pressure tested.

10-22-48 4-12 Russell

① Scrubbed all drums and the pot. They have not been smeared. <5 pounds air pressure on Pot 22 produces air babbles from bottom of pot. There must be a hole somewhere!

② Held the regular monthly safety and security meeting.
③ Replaced electrical switch to east platform lights.
④ Finally obtained 10 towels from laundry.
⑤ Obtained three Te samples and started I^{131} Run 609. Holding oxalic at 12 MN.
⑥ Emptied hexone drums. Still is now operating.

10/23/48 12-8 Munford
① Completed iodine run 609 - took only 3 cuts. Started iodine run 610 - cooling down after boiling.
② Smeared drums and pot. Drums all OK Pot still hot smear #3.
③ Drained A4-205 as per instructions.
④ Shut down hexone still.

10/23/48 8-4 Schaich
① Cleaned hot spot on pot #22 and smeared okay.
② Loaded pot & 7 S.S. drums on truck #AE-4222 Pot #22 & S.S drums #65, 68, 14, 22, 2, 111, 105
③ Drained A4-205 off gas system for "C" bldg.
④ Completed iodine run 610.
⑤ Obtained three Te samples and started Run 611.

10-23-48 4-12 Russell
① Made housekeeping inspection and completed all items.
② Repaired steam regulator, north still.
③ Completed I^{131} 611. Obtained three Te cans for the next run.

④ Checked slug dissolving in C Bldg.

10/24/48 ① Started iodine run 612. Adding oxalic at 8:00 AM
12-8 ② Melted up 2 sulfer cans as per E.K.
Benford ③ Checked C building slug dissolving.

10/24/48 ① Received 6.5 Kgms of metal wastes from 205
8-4 into W-4.
Schaich ② Completed I^{131} 612. Evaporated product to 200 ml, filtered, and sampled.
③ Made up solutions for I^{131} runs.
④ Held monthly safety and security meeting.

10-24-48 ① Analysis I-612, 2AC, roughly 900 mc's AT.
4-12 ② Followed through with volume reduction
Russell ~~and heat dissolving~~, C Bldg. I^{131}.
③ Ran P-157 thru the glassware. Analysis of W1, 24 mc's; P-1, 1030 mc's AT.
The product solution is now going thru the column. H_3PO_4 has been added.

10/25/48 ① Checked P157 through the column at cell V. About
12-8 200 ml to go
Benford

10/25/48 ① Turn on large jet W-6 - S.B. for 5 hours.
8-4 ② Placed tag on Pot #22 stating it leaks.
Schaich ③ Drilled 3" hole thru south side of [illegible] Barricade and dug 4x4' hole to AQ-205 line northeast [illegible] for pipe fitters.

④ Sent Todd, Jones, and C. Phillips to burial ground all day.
⑤ Lead sheets around hand in decontamination room are cleaned but not checked. Lead on skids is to be cleaned.
⑥ Hand lead stills cleaned + repaired

10-25-48 ① Checked and recleaned where necessary the
4-12 lead in decont. room. Decontaminated the
Russell skid of lead and placed on east platform.
② Focused heat lamp on under side of oil bath to increase rate of P-157, P-3 evaporation. With the heat lamp on, the temperature of the oil bath leveled off at ~94°C, a good temperature. The 200 ml. of product solution is now filtering very slowly into P-3.
③ Emptied hot cans and did routine clean up work.

10-26-48 ① Held October Safety meeting
12-8 ② Scrubbed N. Hot lab.
Buford ③ Sampled P-157. and brought product down.
Drained ~~250~~ ml of solution from TV-2 into bottle and started regenerating column. The solution is in a bottle in the glassware cabinet. Sampled F-2. Analysis looks mercury 2.18 mc. Product 663 mc B.T.

10-26-48 ① Drained and flushed stack. Ran steam
8-4 engine for 4 hours.
Schaich ② Turned on large jet W6-SB for 3 hours.
③ Loaned two carriers and truck to 205.
④ Electrician relamped building.
⑤ Pipefitter finished connections to A-16 line.
⑥ Cleaned up hot spots in N Hot Lab.
⑦ carriers + truck returned clean by 205.
⑧ Repaired 1st + 2nd level water coolers
⑨ Ladd + Jones at burial ground most of the day
⑩ Lead in decontamination room to be cleaned.
⑪ Received 2 drums of metal wastes ents W-3 from 102.
⑫ Received 110.7 lbs. UNH waste from 305 to W4. Going in at change of shift. Shut valve at 4 P.M.

10-26-48 ① Cleaned up the lead and placed on skid on
4-12 east platform. It's OK.
Russell ② The column is being regenerated. H_2O rinse has been added. P-157, R-1.
③ Followed thru with Schallert's column sampling in C Bldg. and passed information on to 12-8 shift.

10-27-48 ① Supplied manpower for Schallert's column in
12-8 C building.
Benford ② Sampled P157 rinse

10-27-48 ① Repaired jet line W-5 to W-6.
8-4 ② Loaned Lones to Rimshaw all day.
Schaich ③ Ladd at burial ground all day.
④ Skid of lead in decontamination room to be cleaned.
⑤ Sent two heating mantels to burial ground for Rimshaw.

10/27/48 ① Cleaned up the lead in the decontamination
4-12 room. It is 0.15 and on a skid on the E. Platforms.
Sachs ② Received 18 Kg's metal waste into W4 From semi-works.
③ Did decontamination work on D2. Used water and nitric and brought activity down some.
④ Turned on the W5-W6 jet at 4:30 p.m. Let her go until she quits.
⑤ Operated Schalerts column in C Bldg. Verbal instructions to the 12-8.

10-28-48 ① Attended to Schallarts column in C building.
12-8 ② W5 → W6 jet ran all night.
Binford ③ Continued decontaminating D-2. It appears to be down to about 2013 mr/hr.

10-28-48 ① Newton ran Te Iodine in 706-C all shift.
8-4 ② Started I131 run #618 in N. hot lab. also.
Blauer ③ Got ½ barrel of waste from W6 for Culler in Tech.
④ Received Metal waste into W4 from semi works 15.10 Kg of U.
⑤ Turned on Cell fan for 24 hr H.P. test.

⑥ AE 4222 + AE 4224 are in from Chicago nothing has been done to the trucks as yet.

10/20/48 Please notice the official bulletin on "mine fill for today" on our bulletin board.

10/28/48 4-12 Sachs

① Disposed of some of the Chicago waste. Put UNH From Pots 24 and 3 into the new S.S. tank. Pot 25 is on the truck at W4 ready to go in. Also put a drum of Hexone under the still. There are two other ones up on the platform ready to be put under when this one is finished.

② Watched Schlantis column in C Bldg. Afraid we let one of them run over. Guess we better start using the timer. 12-8 please continue. Instructions are at the control panel on top of the cell.

③ Picked up two Te samples for next Iodine run.

④ Completed Iodine Run 618 but didn't start another due to the fact that the whole crew had used up their exposure time and then some.

⑤ Maintinance repaired the air jet at the Hexone still.

⑥ Maintinence was to close the large flange on the North side of the new tank at W4. The jet doesn't work too well and steam blows back out of this flange and all over the truck and anyone in the truck. However some of the maintinance got burned at a fire in 703B Bldg and was unable to do the job. The word will be passed along to the 12-8 crew

⑦ G. Winn will be at Room 10, C Bldg until about 2 a.m. running Te Iodine.
⑧ Took one 5 ring truck to 105 Bldg. Took the red truck up in front of 735B because Perez men were supposed to tar the roads around D Bldg but they never did. This red truck will take some of the stuff we unload this weekend back to Chicago on Monday.

10/29/48 ① Dumped pot 25 into tank at W-4, also drum 23.
12-8 The two small drums have not been emptied, we didn't
Buford have the exposure time.
② Finished one drum of kerosene and brought it back to the building started another
③ The pot and drums have not been cleaned
④ Delivered AE 4224 to wash rack.
⑤ Attended to Schaller's column
⑥ Started I 619. Oxalic about all in at 800 AM
⑦ Had gasket installed in flange on tank at W-4.

10-29-48 ① Obtained lead at burial ground for making
8-4 tests of radiation readings of tanks at
Russell W4 using shielding.
② Emptied the two five-gallon drums into W5. Cleaned all pots and drums. Results of smears not back yet.
③ Completed iodine run 619. All oxalic has been added to Run 620.
④ Made iodine from Te in C Bldg. See Pierce for run status and instructions.

⑤ Disposed of a 10R hot plate and tygon lines on third level.
⑥ Continued work on installation of A9-205 filters.

10/29/48 ① Made a housekeeping inspection and checked off all
4-12 items.
Sachs ② Picked up two Te samples For Run 621. These samples Nos. 459-75 and 459-76, were to go to C Bldg but ovens had'nt been pushed yet so we used them. C Bldg setup will have to use two of our samples when they are ready.
③ Attended to Sehlarent's column in C Bldg. Clipboard with instructions on this operation is on shift supervisor's desk.
④ Made up 18 Normal H_2SO_4 For Iodine Runs.
⑤ Received our two slug carriers From 205 Bldg and stored over hot labs. They were Fairly clean For a change.
⑥ G. Winn operated Te Iodine in C Bldg. all shift.
⑦ Finished Iodine Run 620 and started 621. Just about ready to take cuts. (see note 10)
⑧ Picked up two Te cans For Run 622.
⑨ Took the last dream off the hexone still. It has been washed and smeared along with the little Five gallon can (No. 412) which had to be rewashed. Both of these go on the truck now in the driveway when they are O.K.'d.
⑩ Note on Iodine status: Run # 621 ready For the 3 sample. All cuts taken.
⑪ Both ovens in Front of decontamination room are O.K. to go.

10/30/48 ① Loaded 5 gal can and drum onto Chicago
12-8 truck.
Schaich ② Had maintenance check and grease cell fan. It was squeaking.
③ Finished iodine run #621 and started #622 in N Hot Lab.
④ Started iodine run #617 in 706-C.
⑤ Attended to Schallert column in C Bldg.
⑥ Instructions on iodine runs and Schallerts column passed on verbally.

10-30-48 ① Laborers continued work on the A16 filters,
8-4 ② and the A-4, 205 off-gas filters.
Russell ② Placed tarp on Chicago truck and parked east of Bldg.
③ Shut down Schallarts column after peak of activity had been reached.
④ Cleared up around isotope shipping area and emptied hot cans.
⑤ Completed the iodine runs in C Bldg and evaporated the product to 200 ml. and submitted samples to lab. The product solution is still in the glassware, C Bldg.
⑥ Completed iodine run 622 in N. Hot Lab. An extra 150 gms oxalic was added when three cold cuts were taken. The iodine came over in six cuts following the addition of oxalic.
Started run 623. Adding oxalic. Verbal

information passed on to 4-12.

⑥ Spreading top soil in tank farm area was continued.

10/30/48 ① Completed Iodine Run 623 and started 624.
4-12 Adding Oxalic Acid at shift change.
Sachs ② Replaced the addition line to the receivers on the Iodine apparatus. The old one had a hole in it just above the stopcock and it was impossible to wash back through the condensers.

10/31/48 ① Melted up two cans of sulfur for Run 158. Both
12-8 cans were sealed and are not to be returned Schaich to pile. (Can #91, 94) Can #94 read greater than 20 R on entering pile.

② Completed Iodine Run 624, filtered ~~and sampled final product~~. Verbal explanation

③ Vacuum pump in decontamination room needs a general rebuilding. Came from cell A entrance and was replaced by pump setting in N Hot Lab. Needed vacuum to filter final product!

④ Vacuum pump has some hot spots.

10-31-48 ① Evaporated Iodine product solution to ~250 ml.
8-4 and sampled. Analysis: 777 and 785 mc's S.T.
Russell Cleaned up the glassware and unplugged the jet. Cleaned up the lab and iodine equipment, placed tygon on tongs & MTd hot cans.

② Hauled in a skid of lead from burial ground and decontaminated it. That's all the light stuff.

③ Helpod Campbell unplug P2 to P3 valve and dispose of unusually hot sulfur cans.
④ ~900 mc's of I^{131} was produced in C Bldg.
⑤ The lead on skid in decont. room has not been cleaned.

9/31/48
4-12 Sachs
① Walker worked with P.B. Onn at cell II most of the shift.
② Cleaned up some lead. It's on a skid on the East platform.
③ Had maintinance push steam regulator at Cell II back to 50 lbs. It wants to keep creeping up. Onn had it set up to 50 lbs earlier in the shift.
④ Checked P^{32} going through columns. The lamp is on and seems to be keeping the evaporator at about 100°C.
⑤ A couple of steam traps at the 205 stack are blowing steam continually. Job For day shift maintinance? Order placed IR
⑥ Called maintinance about the leaking safety shower on 3rd level. They haven't done anything about it however. Done IR

10/1/48
12-8 Schaich
① Repaired vacuum pump for I^{131} setup and placed in operating position in cell A
② Cleaned up oil spill around vacuum pumps over Hot Labs.
③ Checked P^{32} going thru column

11-1-48 ① Ran the big W6 to S.B. for one hour.
8-4 ② Removed iodine product solution from C
Russell Building to D Building storage.
③ Oiled the Cell fan.
④ Work was continued on the A4-205 and the A16 off gas filters.
⑤ Drained A4-205 for tests made by Geo Parker.
⑥ Loaned one man to Rimshaw for six hours.
⑦ Dispatched AE 4221 with Pole 3, 24 and 25, and drums 22, 23, 46064 and 46098.
⑧ Checked air flow (cfm) from Cells to Cell fan.
⑨ Returned the clean lead to burial ground.
⑩ Laborers spread top soil in tank farm area.
⑪ Installed a 3/8" copper drain line on the third level safety shower.
⑫ Checked lead at burial ground and hauled in two truck loads for decontamination.
⑬ Replaced union to stop steam leak at steam regulator on third level.
⑭ Obtained one carboy acid pump.
⑮ Loaned manpower to isotope packing group.
⑯ Lead on skid in decont. room has not been cleaned. Lead in barrel has been cleaned, not checked. Lead at Cell A door is OK. Lead on 1½ ton truck just in from burrial grounds to be cleaned.

11/1/48
4-12 ① Maintinance repaired the oil pump which services
Sachs the cell Fan. Turned cell Fan back on.

(2) Watched Rimshaw's corrosion test on the 3rd level. Instructions verbally to the 12-8.
(3) Cleaned up all the lead in the decontamination room. The stuff which is O.K. is along the East side of the Bldg. on a skid. There's some stuff to be cleaned on the truck and on the skid by cell A door.
(4) Own electroscope is on the blink
(5) Watched P158-P3 and started taking it up. The filtration was very slow and we closed it down at 11:40 p.m. with only a 100 ml. having been sucked from the evaporation to P3. 12-8 please finish [redacted]. Also think that E.K. probably wants the column regenerated.

11/2/48 12-8 Schaich
(1) Finished and sampled Run P158. Regenerated the column. (100 ml feed to go thru at end of shift)
(2) Attended Rimshaw's corrosion tests.
(3) Lead on skids is okay. Sheets on the truck haven't been touched.
(4) First can of sulfur on Run P154 was plugged and held up operations. Second can wasn't started till 6:45 A.M. Third can still in pig.

11-2-48 8-4 Russell
(1) Assorted more lead at the burial ground. Unloaded lead from big truck and did some cleaning on it in decont. room. Hope to have lead bumper cut it into sizes to handle. Returned all the clean

lead to the burial ground.
② Loaned Blevins to Rimshaw one half day.
③ Laborers continued construction work on the A4-205 and A16 off gas filters.
④ Did not run the steam engine. Maintenance are now repairing the engine.
⑤ Received 28.3 kg U from Semi-works, ink W-4.
⑥ Started W3 & W5 jet, and sampled.
⑦ Flushed and drained 205 stack.
⑧ Steam engine repaired.

11/2/48
4-12 Sachs
① Melted Sulphur and filled two cans at C.U.
② Finished up P159 run, pulled W1 and P1 samples and ran the stuff up to the columns. Run now going through column at about 10-12 drops/minute.
③ Checked Rimshaw's corrosion test on 3rd level. 12-8 please continue.
④ Cleaned up all the heavy lead. That's all there is, there ain't no more!
⑤ Ran the W3-W5 jet all shift. See P.B.'s note in tank farm log.
⑥ Ina will pass on the dope to the 12-8 concerning the operation of ~~Whitney's~~ Schillen's columns.

11/3/48 12-8 Schaich
① Attended Schillen's columns until 3:15 AM. At which time it was shut off by order of J.B. Whitney. (Via telephone)
② Checked Rimshaw's corrosion test on 3rd level.
③ Turned off W3-W5 jet
④ Cleaned up decontamination waste.

④ Sulfur cans were swelled and could not be pushed from the pile. Therefore did not start Run P160.
⑤ Checked Run P159 going three column. 150 ml to go.

11/3/48
Blauer ① Washed up fan house floor
8-4 ② Maintenance started installation of steam line through B19 cone heater.
③ Took skid full of lead to burial ground.
④ Sent Slug carriers and truck to 205 bldg.
⑤ Mait. repaired oil leak in big fan.

11/3/48 ① Took up P159-P3 in 175 ml H_2O. pH 2.7
4-12 Started it evaporating again.
Thompson ② Rinsed I^{131} equipment + made up chemicals.
③ Attended to Schallert's columns in "C" bldg. 12-8 please continue.
④ Attended to Rimshaw's corrosion test. 12-8 please continue.
⑤ Received metal waste in W4 from 205.
⑥ 205 returned slug carriers.

11/4/48 ① Shut down Rimshaw's corrosion tests 1 hr due
12-8 to the repairing of main water line.
Schaich ② Cleaned and stored carriers above Hot Jabs.
③ Attended Schallert's columns in "C" Bldg.
④ Used Jones & Schaich's exposure time at 105 fan house.

⑤ Finished and sampled Run P 159. (188mc S.T.)
⑥ Melted two cans of sulfur for Run P 159.

11-4-48
8-4
Russell

① Ran the W6-S.B. jet for one hour.
② Closed off the north-east iron line running up the hill from the A16 for construction workers who are installing the filters.
③ Thoroughly drained the A4-205 system and started a three can iodine run in C Bldg.
④ Repaired leaky steam valve on jet in make up room.
⑤ Took pick up truck to garage for an overhaul job, and borrowed another one for D Bldg.
⑥ Flushed and made pre run check on the north hot lab. iodine equipment.
⑦ Electrical installed lights in Run 106 shed.
⑧ Repacked Cast Vac. pumps.
⑨ Replaced filters in N. hot lab. door.

11/4/48
4-12
Thompson

① Started I^{131} run 631 — oxalic all in.
② P^{32} going through the column Cell I.
③ I^{131} run going in 706-C. room 10.
④ Attended to Schallert's column.
⑤ Started on print inventory - 12-8 please finish it if possible.
⑥ Received fan seals from 205

11/5/48 ① Finished inventory of blueprints.
12-8 ② Maintenance repaired North Still and
Schaich replaced lights.
③ Finished I^{131} Run 631 and started Run 632 in N. Hot Lab. adding oxalic at shift change
④ Finished I^{131} Run 626 and started Run 627 in "C" Bldg. adding oxalic at shift change.
⑤ Attended P32 going thru alumn.
⑥ attended Rimshaw's corrosion tests.

11/5/48
8-4 ① Finished Iodine Run 632 and started 633. Oxalic
Sachs Acid being added at shift change.
② Picked up two Te samples for Run 633.
③ G.E. Phillips worked at C Bldg Iodine set up the whole shift.
④ Received three Pots From Chicago on Trucks 4297, and 4224. Pots 10 and 5 were put in the S.S. tank at W4. Then the S.S tank was filled with H_2O and is now jetting to W4. Pot 26 is on truck 4224 at W4 and has not been emptied. It is to go to W4. The S.S. tank business is Finished. Truck 4297 has been taken to the wash rack. Pot # 5 is in the decontamination room. Nothing has been done to it.

11/5/48 ① Finished jetting tank by W-4 + jetted
4-12 2 Chicago pots. Could not bring
Thompson pots into bldg because driveway is blocked off.

② I^{131} status: completed run 633 + started 644 - now adding oxalic. C bldg. also adding oxalic.
③ P^{32} status: P-3 agitating until 12:00 prior to sampling.
④ Dumped hot can in N hot lab.

11-6-48 ① Sampled P-160, P-3. (Was there any P^{31} added
12-8 to this product?) Started regenerating column.
Russell ② Completed I-644 and started 645, D Bldg.
Completed I-629 and started 630, C Bldg.

11/6/48
8-4 ① Picked up two Te samples for Iodine Run 636.
Sachs ② Completed Iodine Run 635 and started 636. Oxalic acid being added a shift change.
③ Brought Truck 4224 to the building and unloaded Pots 10 and 26. Pots 10 and 5 were blown with air and washed. All smears were hot. Nothing has been done to Pot 26. It stays here this week.
④ Picked up some P^{32} glassware equipment at the glassblowers shop for E. King.
⑤ Added H_2O wash to column after regeneration. Sampled P160-R1.
⑥ Completed last C Bldg I^{131} Run and evaporated product at 3:30 p.m. to 300 ml. Does that stuff have to be filtered before it is sampled? E.K. phoned earlier and said to let the 12-8 do the sampling if we didn't get that run.

11/6/48 4-12 Thompson
① Chicago pots in decontamination room are ready to smear.
② I^{131} status: Composite filtering. 706-C I^{131} ready to sample.
③ Resampled P160-R - analys 210 mc. Ed King says to hold it - they will reprocess it tomorrow.

11-7-48 12-8 Russell
① Sampled iodine composite in C Building. Analysis, 988 mc's S.T.
② Iodine product solution in Lab. would not filter. Changed filters. Still would not filter. Disassembled vac. lines and found line and valve plugged. Lines and valve have not been cleaned and reassembled. Background >2 R. Set up temporary vac. line and filtered and sampled product. Analysis, 1106 mc's S.T.
③ No sulfur cans pushed for P-161.
④ Rescrubbed pots in decont. room. They are ready to smear.

11/7/48 8-4 Sachs.
① Maintinance couldn't get to the job of reassembling the vacuum lines in the I^{131} N. Hot lab apparatus.
② The S.S tank at W4 is reading from 4R to 6R at contact.
③ Worked on the Pots. Nos. 10 and 26 were O.K. Pot 26 put over hot labs. Pot 10 loaded on

trycle. Pot 5 is hot. Used everything in the book but to no avail. An area around the bottom drain off line reads 600 mr/hr with a cutie pie. Perhaps it won't smear. New smears being counted by H.P. at 3:30 p.m. The 190 lbs of S.F. material at the cubicles goes in the truck too.

11/7/48 ① Pot 5 still hot. It has been scrubbed
4-12 + is ready to be resmeared.
Thompson ② Maintenance repaired I[131] vacuum line. Saran connections have not been completed.
③ Decided to circulate hot water through pot #5 in an effort to reduce the radiation.

① Saran connections were not made on I[131] vacuum
8/48 line because of high level of radiation from product -
12-8 please have line repaired after product is removed.
King ② Started phos run in cell 5 as per instructions.
③ Pot #5 is still hot - last smear counted 315 c/m from top of pot. It has been rescrubbed - ready to smear.
④ Loaded S.F. mtr's on truck.

11/8/48 ① Cut C Bldg. into the south A16 off gas line.
8-4 (the one without the filter). Check with
Fochs them before starting A16. They will be running over there all night.
② Maintenance started work on installing a filter on the A4-205 line.

③ Worked on Pot #5 but didn't do much good.
④ Worked on the decontamination of the S.S tank at W4. Couple of H_2O washes brought it down to 1500 mrs/hr.
⑤ Dispatched Truck 4223 to Chicago with Pots Nos. 10 and 26. No. 5 was kept here because it was hot. 1901bs of S.F. material also went to Chi.
⑥ 205 Bldg. borrowed our slug carriers and brought them back red hot. Some of their men will be down here at 4 p.m. to clean them up.
⑦ Both water stills are on the blink. Andy Sears working on them at shift change.
⑧ Sutton worked with Rinehart four hours today.
⑨ Received 1525 waste into W4.
⑩ Turned off the stack jet on the A4-205 line when maintinance cut into the line. It's still off.

11/8/48 ① Phosphorous product going through the columns
4-12 Checked periodically
Bunford ② Attended dissolving in C building
③ Cleaned and stored slug carriers over N hot lab
④ Finished emptying K-25 tank truck at W-4
⑤ Setted 7 drums of caustic into W-3
⑥ Locked burial ground gate
⑦ Pot #5 in decontamination room still hot

11/9/48 ① Repaired leaking steam valve in make up room.
12-8 ② Dumped 8 drums caustic in W-3
Thompson ③ Watched P^{32} column in cell 5.

11/9/48 ① Washed and drained the 205 stacle and ran
8-4 the steam engine for four hours.
Sachs ② Received waste from 1525 into W4.
③ There is some H_2SO_4 in the receiver of the I^{131} equipment, N. Hot lab. It is to go on through the rest of the glassware when the remainder of last weeks product is removed from the burette.
④ Ran the big W6-3B jet for one hour and sampled the manhole.
⑤ Maintenance continued work on the filter barricades on A16 and worked on the installation of the filter on the A4-205 line.
⑥ Put two H_2O washes through the S.S. tank at W4. There is another water wash spanging in it now.
⑦ Picked up five dozen pairs of cotton gloves at stores.

11/9/48 ① Took up phosphorous product and submitted
4-12 samples to lab.
Sanford ② Made up carries for use in B cell tomorrow AM
③ Dumped 7 drums of caustic into W-3
④ Received waste from 205 into W-4.

11/10/48 ① Started regenerating P^{32} column. HCl
12-8 still going through.
Thompson ② Maintenance repaired mercoid switch on bldg. vacuum pumps.

③ Pumped NaOH in W3.

11/10/48 ① Scrubbed the North Hot lab.
8-4 ② Received metal waste into W4 from Semi-works.
Sachs. ③ The S.S. tanks at W4 is reading approx. 800 mm/hr around the bottom at contact. Water wash now spanging in the tanks.
④ Repaired the vacuum line on the I^{131} equipment.
⑤ Maintinance worked on the filters on both off gas lines.
⑥ Made a dummy run of the final product evaporation on Rala. Stuff came out very clean. Took another cannicin to 3rd level and put the dead stuff in it. Use the paper covered cannicin for next dummy run.
⑦ Maintinance worked on South still.
⑧ Fourteen drums of caustic annived at W3.

11/10/48 ① Had laboratory run special sample for Pile Bldg.
4-12 ② Sampled Settling Basin & Decission Box every
Sebaich ½ hour from 7:30 PM to 12:00 P.M.
③ Set up HCl distillation apparatus.
④ Collected blueprints for E.T.W.
⑤ Made a dummy run of the final product evaporation on Rala. Product looked good.
⑥ Attended heel dissolving in "C" Bldg.
⑦ Temperature recorder on Panel Board 4-A needs repairing.
⑧ Jetted 8 drums of caustic into W3. Four to go.
⑨ Distilled approx. 2000 ml of HCl. 3.0 liters to go.

11/11/48 ① Started S melting at cell V-
12-8 ② Watched HCl distillation on 3rd level.
Thompson ③ Dumped NaOH into W-3.
④ Sampled SB every ½ hour until 2:00 PM
All results low — so we discontinued the sampling.

11/11/48 ① W6 manhole overflowed because of tremendous
6-4 flow from the canal. Area to the ditch E. of
Blaner manhole reads 65 mm/hr.
② Water is being diverted through the East
pond instead of the S. Basin.
③ Started pre-run check for run #28.
④ Repaired micrometer on P.B. 4A.
⑤ Flow diverted back to the S. Basin.
⑥ Inst. dept. started checking all P. Boards.
⑦

11/11/48 ① Maintenance repaired 46-W12 jet.
4-12 ② Attended P162-P1 going thru columns in Cell V
Schaick ③ Stored acid from east platform.
④ Continued pre-run check for run #28
⑤ Maintenance revamped building.
⑥ Started evaporation of product and found that No.
2 heater needs a new asbestos gasket. Had
maintenance switch to No. 1 heater and continued
evaporation. No. 2 heater started to smoke a little
before we shut down. Have it checked for a short
or burnt wiring.

⑥ Started dummy Rala run thru glassware and evaporating final product at shift change. Noticed greenish-yellow cloud spots on reactor disk after addition of HCl-alcohol.
⑧ Water rinsed B-20 + B-24 and sent rinse to B-3.
⑨ Cleaned out the back end of the pickup.
⑩ Replaced dicrete in B-20 vacuum line.
⑪ B-20 air pressure valve needs repairing.

11/12/48 ① ZOS is purging the canal with a some-
12-8 what reduced flow - manhole water level ok.
Thompson ② Started S melting in Cell V.
⑤ Attended to PG2 column.
④ Completed dummy run. Product is fairly white (through 'scope) and concentrated in the bottom of the cone, though there is some ppt on the sides. Not much evidence of foreign matter is visible through the 'scope — it looks pretty clean to me. Dolly, carrier + cone are under the chimney.
⑤ Completed ~~prerun~~ check.
⑥ Added Pb removal soln. 4L in B7, B8 + B12 20 L in B6. H_2O_2 has been added to all of them.
⑨ Bank A batteries charging until 8:20 AM

11/10/48 ① Removed product carrier from Cell B. Presented product to Whitney for analysis. The color is not soluble in HCl but is taken up in Benzene. The material is organic & probably comes from the Tygon.

② Tookation, product carrier & core to decont. room.

③ Received 2 Chicago trucks AE-4221 & 4223 with 10 drums, 1 pot & 4 sugarman carriers. Tied drums # 34, 75, 69 & pot # 21 into 10-4, drums # 5, 72, 70, 118, 144, 68 into 10 S - drum #96 went to the hot pilot plant.

④ Pot # 5 was tagged as being impossible to decontaminate.

⑤ Sent some Hastelloy sheets to shops for fabrication into Hastelloy transfer vessels.

⑥ Welded lifting rings on covers of product carriers.

⑦ Checked A16 filter - readings without filter (manometer)

Top A16 - 36" H_2O

Bottom A16 30" H_2O

Readings with filter

Top A16 36.75" H_2O

Bottom A16 30." H_2O

⑧ Bank "B" batteries charging until 4:20 P.M.

⑨ Pot # 5 is hot radiation wise but smears OK. It cannot be decontaminated further and is to be shipped as is. Pot 21 smeared hot not counted. All the drums have not been cleaned -

⑩ The core from the product carrier is in the barrel in the decontamination room.
⑪ Flushed iodine equipment in N. Hot. Lab. Replaced broken receiving flask.

11/12/48
4-12
Schmich

① pH meter in cell F read 3.7 on distilled H_2O and other solutions. Borrowed one from Lab which ~~was~~ instrument fixed the other one. P162 had a pH of 2.4. Took up in water and evaporating to dryness again. Meter has been repaired.
② Started dummy Lala Run No 4. Went thru glassware and is evaporating at shift change.
③ Had maintenance tighten all jet valves that were leaking, replace low pressure steam trap on PB-2, and stop squeak on all fan.
④ Seen S.S. drums in front of decontamination room have been cleaned but not smeared. Three more to be cleaned.
⑤ Sent S.S. drum #2 thru hypone still.
⑥ Maintenance promised to fix ~~air~~ air pressure gauge and valve on B-20 air line.
⑦ No 1 heater gets too hot (150°C) on 1 element and yes on variac and kicks out. The best you can control it is between 140 + 150°C.

11/13/48
12-8
Sachs

① Finished drying dummy run product and removed same from cell B. The cannier is on the 3rd level with plug inserted. Product has a brownish tinge.
② Scrubbed N. Hot Lab. Hasn't been smeared.

(3) Washed the remainder of the drums. All drum smears are 0.1S. although there is activity coming from the inside of most of them.

(4) Washed out T1 and T2 as per instructions

(5) Sampled bead removal solution in B6 and B12 B12 was .04 milligrams/ml. B6 was .016 milligrams/ml. The solutions are still in the tanks B7, B8, B6, B12.

(6) Maintinance replaced the pressure-vacuum gauge on the B:20 glassware.

(7) Took up P162-P3 in 250 ml H_2O. Added the 1:1 HCl for regeneration of column. Now going through. Run 163 is in P1 ready to go to column when regeneration is complete.

(8) Made a general cleanup of Bldg. Hosed down make-up room, straightened up decontamination room. Put fresh paper in 3rd level cabinet. The others looked 0.1S. Picked up and discarded trash etc.

(9) The 11 p.m. D.B sample was something over 23,000 counts due to the pumping of the deep pit at 105 Bldg. 3 a.m. sample came down to normal.

(10) The 3rd level Eberline-Argus Air monitor needs a new chart.

(11) PH of P162-P3 was 3.5. Product is in North barricade of Isotope shipping room.

(12) If anyone has some exposure time, how about changing the filter between the evaporator and P3 on the D^{32} equipment. It took 1 hour and 13 minutes to filter 250 ml of product. Tedious business.

11/12/48
8-4
Binford

① Sampled P-162 R1 27 mc 51. Started P-163 through the column. Still going through (Dead Padded, 80 mc)
② Loaded pot #5 and all ten drums on AE 4225 Pot #21 is to go on the truck. It has been cleaned but not counted. Now OK and all loaded. West of 706A
③ Received waste from fan dust at 105 into W-1 & W-2
④ Repaired leak on tygon distilled water line.
⑤ Made up 4% caustic in M10 Analysis - 3.96%.
⑥ Made up 45% caustic in M11 analysis 45.1% should be butted down to 35%.
⑦ The other truck with the Lugarman carries is stored up ready to go, also west of 706-A
⑧ Scrubbed up AEC's "floor" but with little success it is on the E. Platform
⑨ Worked on housekeeping inspection items
⑩ Glued 2 gaskets to lids of carries - only two available.

11/13/48
4-12
Schaich

① Cleaned AEC's floor and smeared it.
② Attended P-163 going thru column.
③ Diluted M11 from 45% to 35% caustic - See note 9
④ Note to 12-8 shift. Hold W1 + W2 ready to receive 3000 gals of solution from 105 Bldg Early tomorrow morning.
⑤ Received 144 Kg of UNH waste from 205 Bldg. into W-4.
⑥ Checked W-6 manhole for overflow while 205 Bldg drained out canal.
⑦ Wooden flooring smeared okay and was loaded on 5-ring truck.
⑧ Stenciled 60 pamphlets for E.J.W.

⑨ Added less than the calculated amount of H_2O to M11 and the percentage dropped to 19.8% NaOH. Calculations seem to be okay so it looks like 45.1% was gotten from a poor sample.
⑩ Safety shower is out at acid platform on road to burial ground.
⑪ Checked all sampling equipment. Everything okay.
⑫ Micromax chart is running out on PB-1 #5.

11/14/48
1C-8 ① Washed and stoned slug cannions which were returned by 205 Bldg.
Sachs ② Sampled B12 and B6 lead removal solutions. B6 was .004 milligms of Pb/ml; B12 – .03 milligrams of Pb/ml.
③ Checked P^{32} at Cell V. Added 150 ml water wash to column after product had gone through. H_2O still going through at shift change.

11/14/48 ① Made up $Pb(NO_3)_2$ Analysis 20.0% and K_2CO_3
8-4 analysis 45.6% (After cleaning tanks)
Bunford ② Drained all A and B cell tanks. Checked B-6 the manometer zeros at 0.2 inch. We were able to pick up about 0.1 ± 0.05" with the pipette but no more. Washed pipette when finished
③ Rechecked Caustic in M-11 & it is 19.7%. This will require a lot of caustic to change.
④ Cleaned up decontamination room.
⑤ HP says the track floor is ok
⑥ Turned steam on full in M11 to try and boil it down some.

⑦ Took up P-163 in 175 ml and submitted duplicate samples to the lab

11/14/48 4-12 Schaich
① Cleaned and stored cone, clamps, tongs, and adapter that were in decontamination room.
② Receive two fan seals into W1 + W2.
③ Turned off steam on M-11 as it wasn't concentrating caustic.
④ Maintenance repaired electrical outlets in decontamination room.
⑤ P-163 P3 was 630 mc. at S.T.
⑥ Regenerated column and took R-1 Sample at Cell V

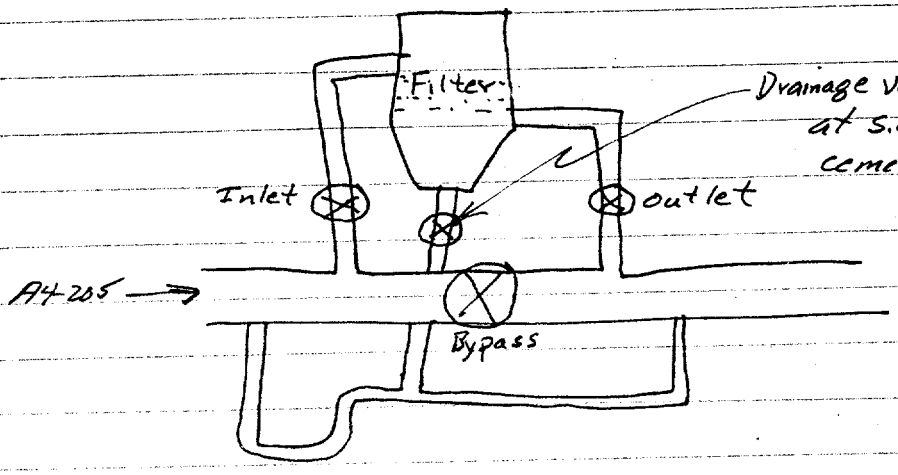
11/15/48 12-8 Sachs
① Sampled the M11 caustic again. Analysis: 19.5% NaOH.
② 205 Bldg. borrowed our slug carriers at 2 a.m.
③ Put some heat lamps on the floor of N. Hot Lab for E.K.
④ Picked up some glassware for H.B.

11/15/48 8-4 Blauer
① Checked A4-205 filter – A1 vacuum loses .1 of an inch when flow is through filter as against reading taken when flow is by-passed.
② Electricians checked + are repairing heater #2 for B-19. 3 units are burned out + are being repaired
③ Dispatched A5-4222 + 4225 to Argonne.
④ Instruments dept checking all instruments on P.B #1 + 2
⑤ Periscopes checked.
⑥ Made some fluorethene to glass connections.

⑥ Cleaned up a product cone. It is in the decontamination room.

H.B.

11/15/48 ① Cleaned up product cone and smeared product
4-12 carrier. carrier smeared okay. cone + plug read about
Schaich 5mr but are clean. Stood on 3rd level.
② Received 5.69 Kg of HNH solution from Semi-Works into W-4.
③ Made up 35% caustic in T-9. (306#)
Lab Analysis - 36.3%
④ Maintenance replaced lights above scale tanks.
⑤ Shut down and drained A4-205 system.
⑥ A drain valve has been added to the A4-205 filter as indicated in sketch. This must be closed when filter is by-passed.



11
16/16/48
12-8 ① The rotor and gear box which rotates the chart on
50chs the 141 vacuum wing balance seems to be faulty. Had instrument man check it and he seems to think we ought to have a new one installed. Have got it running

again but it may stop again at any time.
② Emptied all cell A tanks
③ Drained the A4-205 off gas system.
④ Checked dissolving in C Bldg and recorded data every hour on the half hour.
⑤ Changed the charts on the ring balances.
⑥ Put 1st part of coating removal in A1. The HNO_3 is about 71% with a Sp. G. of 1.42.
⑦ Dumped Nitric acid in make up room.
⑧ Our brethern from 205 Bldg brought our slug carriers back to 706D at 11:45 p.m. last night. Tried to get their 12-8 shift to come down and clean them up but as usual we solved the whole ugly deal by cleaning them ourselves. Stored carriers over Hot Lab.
⑨ There is a bad leak from a ⅜" steam valve in the steam engine shack. Shift maintinance can't manage the job.

11
10-16-48
8-4 Blauer
① Repaired steam valve at steam engine shack
② 205 sent men down to clean slug carriers which had already been cleaned by 12-8 shift. A little late but good intentions.
③ Turned W12 → W5 on automatic after shutting W-11 + W12 to W5. (Turned it off again)
④ Started steam fan. Ran for 4 hours. Washed + drained stack.
⑤ Maintenance finished repair of electric heater for B-19
⑥ W12 - W5 jet plugged. Maintenance is working on it. It is all repaired now

⑦ Cleaned up a couple truck loads of scrap in tank farm.

"
10/16/48 ① Jetted solution out of A-9.
4-12 ② Cleaned up hot spots in N Hot Lab.
Schwich ③ Attended "C" Bldg dissolving.
④ Held monthly Safety meeting.
⑤ Turn off W-5 to W-6 jet.

"
10/17/48
12-8 ① Attended "C" Bldg. dissolving and took readings
Sachs every hour on the hour.
② Changed charts on the P.B# Ring balances
③ Drained the A4-205 line.

"
10/17/48 ① Loaded 36 slugs
8-4 ② Opened cubical III and removed reactor preparatory
Binford to putting in new addition lines and reactor
③ Fluothene addition line is "stretching" new cubicles.
④ Returned charging machine to 205 blk, after cleaning.
⑤ Made up 35? % caustic for next coating removal
it is sparging in the scale tank. Be sure and check it
well before it is needed so as to have time to build it.
⑥ Shipwash worked with the shift 4 hours and
loaded for 6. Ferguson off sick.
⑦ Rem States — first coating removal in A-1
⑧ Calibrated new reactor.

"
10-17-48 ① Attended to Whitney's operations on 3rd level.
4-12 ② Butted the NaOH in scale tank to 35%.
Russell ③ The sampling equipment west of the fan

house may get hot when dissolving begins. 12-8 please have a survey made before Dr. Winters' men work with it. These men are inexperienced in radio active materials, so says the Lab. Shift Supv. Also note the amount of condensate collected in the jar on the A-16 line. It may be wise to install a larger jar while the background is low.

④ Relamped the Building.

⑤ Sampled the first coating removal soln. Analysis: 1583 grams which is roughly 88% of total Al on the 36 slugs. No U present.

⑥ The filter material to be used by Dr. Winters' men will be delivered from Knoxville to X-10 by 2 AM 11-18-48. Gillette has the story.

11/18/48 ① Finished calibrating the new reactor.
12-8 ② Installed the new reactor and made all the necessary connections. The spray ring seems to
Sachs work fine. Made a couple of filtration tests on
Blacer. the disc. A liter of water went through the disc in three minutes and twenty seconds at 7" of vac.

③ There is a leak on a steam line at the southwest corner of cell A, 1st level. It's a welding job. Will the day shift take care of it

⑤ Instrument man repaired the clock on the Al vacuum ring balance.

⑤ On the A1 dissolving, we ran 5 gallons/minute through A4 scrubber for first ten minutes then cut it up to 6½ gallons/minute
⑥ Cleaned up the glassware exhibit North of Cell B, 2nd level.
⑦ Took a special sample of W12 one hour after reaction temperature was reached in A1. Reading 150 mr/hr; to be run for I^{131}
⑧ Stay away from the sampler apparatus on the A4-205 off gas line. They're getting hot.
⑨ Run Status: A1 - Batch A dissolving

11/18/48

① Moved glassware rinse from run 27 from garden to decontamination room.
② Reassembled xylene equipment
③ Run status: - A1 dissolving.

11-18-48 ① The key to Chem. Stores is broken. Day shift
4-12 please replace.
Russell ② Recorded hourly readings on heel dissolving in C Bldg.
③ Ramsay ran iodine in C Bldg. Room 10.
④ Made up A1 ether carrier.
⑤ Made up product carrier. (except gasket)
⑥ Completed dissolving in A-1 and sampled. The cone read 10 R at 18" while A1 sample was circulating. The ~ 0.8 ml. sample read 2R @ ~ 3"

Analysis of the 1MA, 2681 C's F.T.
2209 C's S.T. 29.3 slugs.
Run Status:
A9 Settling hot until 12:05 PM.
A1 Heels. Do not dissolve.

11/19/48
12-8 ① Checked the heel dissolving in C Bldg
Sachs ② Run Status:
A9 - 3.3" of product (?)
A11 - Waste from 8WMA decant settling until 11:10 AM.
A1 - heels.
③ Emptied B Cell tanks

11/19/48 ① Received 174.8 Kg of UNH waste from Hot Pilot Plant
8-4 into W-4.
Schaich ② Started I^{131} Run No. 637. Adding oxalic at shift change.
③ Received two trucks (#4222 & #4225) from Chicago with Pots No. 25, 26, 1, 9. Also 2 sugarmans which were sent to 105. All pots empty into W-4. Four bags of laundry sent to the laundry.
④ Received 22.4 Kg of UNH waste from Semi-Works into W-4
⑤ Started heel dissolving in A-1.
⑥ Sample No. 6WMA gave 19c at S.T.
⑦ The four pots have not been cleaned.
⑧ Run Status:
A-1 - Heel dissolving
A-5 - Neutralized batch A

A9 - ½ Dy wash settling to 4:48 P.M.
A6, A8, + A11 - Empty.
M1 - Carbophosphate solution

A4-205 filter H.P. readings
N. side — 190 mr/hr
E " 25 " " exposed pipe 520 mr/hr
W " 185 " "
Top " 0 " "

A16 filter H.P. reading
625 mr/hr — Top
32 — S. Steel side
48 mr/hr - south side through brick wall
46 " " East " " "

11-19-48 4-12 Russell
① Put a gasket on product plug. Made up and stored three extra gaskets and cement in cabinet.
② Drained A-9-205 system.
③ Completed iodine run 637 and started 638. Adding oxalic at 12 MN.
④ Placed a new key to Chem. Stores on our ring.
⑤ Scrubbed all the pots. Have been smeared.
⑥ Replaced the steam gauge on A9-A8DB jet.
⑦ Decontaminated the carrier now steaming in decont. room. Was reading 10R.
⑧ Checked heel dissolving in C Bldg.
⑨ Pressure tested B20T. It appears OK.
⑩ (over)

⑩ Run Status:
First Metathesis in progress, A-9.
Heel dissolving in A-1.
The water washes are in A-8.
Batch CO_3PO_4 in A-5.
⑪ Flash — the Chicago Pots are all OK!

11/20/48 ① 8WW 136 ST, Heel dissolving 290 ST.
12-8 ② Loaded two 2000# pots #1 and #9 on AE 4221 and
Binford delivered to 105 for loading of Sugarman carriers
③ Checked heel dissolving in Chemical
④ Completed Iodine run 638 and started 639 adding oxalic at 8:00 AM.
⑤ Run Status:—
A1 - heel dissolving - diluted and sampled
A5 - Batch CO_3PO_4
A8 - 8WC
A9 - Run 28 settling til 9:00 AM (second shot of K_2CO_3)
A11 - 8WW
⑥ The clock on the PV instrument #5 at PB 1 is broken.
⑦ Made up iodine solutions.
⑧ The hand and foot counter is out of comission. The instrument man says he can not fix it til Monday. however we can use the one in A bld.

11/20/48 ① Attended heel dissolving in "C" Bldg.
8-4 ② Lab reducted IMA calculations and found
Schaich 32.7 slugs.
③ 8WC 165 ST. A-1 heel dissolving gave 3.6 slugs.
④ Stood glassware rinse carrier over in Hot Lab. The bottom

reads 75 mr/hr and could not be reduced.
③ Maintenance repaired Ring Balance No 5 on PB-1, Cell B monitor, and replace NH_3 cylinder in "C" Bldg.
④ Finished I-131 Run No 639 and started Run No 640. Adding oxalic at shift change
⑤ Run Status:
A-1 - Empty
A5 - Neutralized metal waste
A6 - Empty
A8 - 8 WCW & 8 WC
A9 - 4 liter of 70% HNO_3 rinse
A11 - 8 WW
B12 - Run 38 4450cc electrolyzing till 6:17 PM.

⑧ Maintenance checked vacuum pumps and reported nothing worth worrying about.

11-20-48 ① Run Status:
4-12 Product solution electrolyzing until 1:17 Am.
Russell No change in status of tanks from the previous shift as noted above.
② Placed scopes in Cell and cubicles.
③ Emptied B-20 glassware.
④ Analysis of A9 Rinse, 8 o's A.T.
⑤ Checked heel dissolving in C Bldg.
⑥ Completed iodine run 640 and started 641.

11/21/48 ① Ran 500 ml of H_2O through B6 to B20 via B11. Transfer
12-8 gave 475 ml of H_2O in B-20.
Binford ② Did not work on I 641 due to lack of exposure time.
It is ready to sample before adding H_2SO_4.
③ Checked C bld hell dissolving periodically.
④ Supplied gloves, masks, nitric acid etc at Glassware P.B.
⑤ 6P 1563 ST (11⁰⁰ AM 11/22)
⑥ The manometer on B6 sparger is on the blink. We had it apart but it appears to be plugged in the cell according to the instrument mechanic. Thus apparently we aren't getting any sparging to speak of.
⑦ For some reason the air current went up right after the B-12 to B6 transfer. Also a slug of activity hit the fan house although the vessel was off gassed properly. The fan house held steady after a short rise (50 mr at the motor) but the air current is staying up.
⑧ Melted up three sulfur cans as per instructions from E.K. Third can started at 6:05 AM
⑨ Run status

A cell - No change in status from previous shift
Product in B6 nitric added - evaporating.

11/21/48 ① Checked hull dissolving in "C" Bldg.
8-4 ② Finished I^{131} Run 641. Run 642 ~~starting~~
Schaich at shift change.
③ Run Status

A cell - No change from previous shift status.
B3 - 3WFR (sampled)
B6 - 4000 ml B-6 rinse (sampled)
B-24 - 1850 ml HCl Ether

Product evaporating in B19 until 7:30 P.M.
B19 off gas setting on PB-6 is not to be changed.
④ Thermocouples to B-6 micromax are shot.

11-21-48 ① Completed the glassware, Run P-164. The
4-12 product solution is now going thru column.
Russell Dead phosphorus has been added.
Analysis P-164, P-1, 1332 S.T.
" " W-1, 102 mc's At. 86 at S.T.
② Checked heel dissolving in C Building.
③ Prepared a carrier with ss cone and sawed off plug for glassware rinse.
④ Run Status:
Evaporated Raka Product to dryness and took Sky Shine. Estimated, 1350 C's S.T.
The plug is partially inserted in the cone.
No other movements were made in the Cells.
⑤ The sky shine reading was 11 R.
O.P. reading over plate was 12.4 R.
Probe " " " " 6 R.
⑥ Note: A tissue paper behind the high barricade in South Hot Lab. is reading 14 R. A sign has been posted.
⑦ Held safety meeting.
⑧ Charged both sets B12 batteries.
⑨ Made an iodine run. The final product is evaporating.

11/22/48 ① Checked shell discoloring in C hell
② Took up iodine in 300 ml and submitted duplicate samples to the lab
③ P-164 still going through the columns
④ Took skyshine at 7:10 1378 C ST estimated.

11/22/48 8-4 Schmidt ① Sent out AE 4221 with Pots 25 + 26 and two engineman. Loaded and sent out AE 4222 with Pots #1 & 9. Loaded and shipped out product carrier with Rem #28 on AE 2769.
② Rinsed glassware with 2L H_2O and sent to B-3. Rinsed glassware with 250 ml H_2O and stored in ~~corner~~ east of cell A. Glassware rinse carrier stored in garden.
③ HA-ether from Rem 28 removed from B-24 and stored in carrier which riggers removed to garden. (reading off scale on outlet pit) Sampled HA-Ether
④ Disposed of PbO_2 waste from B-12 and took 3WPB sample.
⑤ Emptied all A cell tanks into A6 and jetted solution to W-9.
⑥ Added 1st 40 gal rinse to A cell.
⑦ Rinsed and sparged cell B tanks and jetted into A cell 1st 40 gal. rinse.
⑧ Small jet W6 - S.B. ran all shift.
⑨ 1st 40 gal rinse sparging in A11 at shift change. A5 & A6 to be rinsed.
⑩ Recirid wastes from A25 into W5.

11-22-48 ① Made up chemicals for the iodine runs and
bls 4-12 cleaned up the N. Hot Lab.
Russell ② Stopped all micromakes on operating panel boards.
③ Emptied all hot cans.
④ Stored chimney posts and chains.
⑤ Removed, covered with paper and stored scope, north side Cell B. Turned out Cell B lights.
⑥ Continued the iodine run (slug dissolving) C Bldg.
⑦ Did some work on installation of new Ru^{106} glassware on third level.
⑧ Rinsed all Cell A tanks, jets and sampling lines and turned off the headers.
⑨ Took up P-164, P-3 and submitted duplicate samples to Lab. Replaced plugged filter in P-3.
⑩ Started Column regenerating, P-164, R-1.
⑪ Decontaminated sample blisters as much as possible. B6 still hot.
⑫ Cleaned and stored sampling equipment.
⑬ Started decontamination of cubicles. Filtrations are very slow. (on B20R) Status passed on verbally to 12-8.

11/23/48 ① Followed dissolving in C building. Readings every hour on the hour.
② Small jet W6 to SB on all shift. Shut off at 6:00 AM
③ Added rinse to P-164 R1 Sampled R1
④ Continued decontamination of cubicles. All done both cycles in B21 Cubicle reads 800 mr/hr just inside the door. The B-20 filter is very slow. Completed 1st cycle and fuming HNO_3 and 70% HNO_3 of second cycle. Filtering the waste to B20T at 8:00 AM

③ Put 40 gallon rinse A1 → A9 → A8 → A11 → A5. Holding in A5 to receive waste from B-3.

⑥ H.P. smeared the first level - no results as yet.

11/23 1:8

8-4 Blauer

① Received Waste into W 4 from Semi works

② Received 270 gals liquid waste to W-5 from K-25

③ Removed 2 reactors from cubicles — very, very hot.

④ Cleaned up East of Cell A.

⑤ Washed + drained stack. Ran steam engine 4 hours

⑥ Decontaminated scopes, stored scopes + pipes.

⑦ Received 270 gals (2nd load today) from K-25 to W-5.

⑧ Took samples of supernate + precipitate for P.B. Orr from W3, W4, W7, W8, W10 (24 samples in all)

⑨ Removed troughs vessels from cells I + III

⑩ Cut all lines in cells I, II + III.

⑪ Replaced tie rod on 1½ ton truck.

① Scrubbed hot areas on second and third floors with soap and water. Both floors have been resmeared.

② Cleaned out troughs under panel boards.

③ Unplugged 3rd level floor drains.

④ Cleaned out desk drawers.

⑤ Continued installation of Rimshaw's Ru^{106} glassware on third level.

⑥ Set up a carboy on third level for use spraying the cubicles with HNO_3. Made up another S.S. spray (kinda' short) and threw the H_2O to the cubicles with

ein

intermittent nitric and citric washes.
Progress has been made.
Cell I 1200 mr in door way - Coming from Hood.
Cell II 600 mr " "
Cell III 5 R " " Coming from Hood
25
ey Cell II has come down nicely.
The cells are now covered with citric.
① Continued decontamination of equipment in decont. room. This equipment was checked again at 11 PM and found to be still hot. It is now cooking in fresh citric.
② Cleaned up the east platform.

11/24/48 ① Committed general housekeeping - cleaned up tool chest.
12-8 ② The 1st level and the N hot lab have not been counted yet
Binford ③ Continued decontamination of the cubicles. Removed the valves from cubicle II and put in barrel in ~~H. hot lab~~ decontamination room to steam they are hot ~5 to 7 R. The upper set of valves and the hardware from I & III are OK. The rest of the valves are in the barrels.
Cell II is reading 300 mr at center, cell III 800 mr just inside door.
④ Melted up two cans of sulfex as per E.K.'s instructions.
⑤ Water on in cell II Jets C20 & C21 → B22 → B10 → A5 are on. Level in A5 is 30" as of 7:30 AM.

11/24/48 ① Small jet W6 - S3 is on till 4:20 PM.
8-4 ② Brought cell I level down to 800 mr/hr and removed Schaich hood and rings.
③ Brought cell III level down to 6 R removed hood and

removed hood and rings.
④ Cell I is down to 800 mm/hr at the off-gas line
Cell II is down to 2R/hr at the off-gas line
⑤ Cell I + Cell III caused leak in cell wall when filled with H_2O. Leaks read about 300 mr/hr.
⑥ Received 700 gal of solution from "C" Bldg into W-12 and then jetted to W-9.
⑦ Removed all tygon connections to Cell I + III.
⑧ Hoods and accessories are in respective bands in decontamination room. Hood off-gas line read about 8 R.
⑨ Received metal waste from Semi-works to W-4.

11/24/48
4-12 Socks
① Turned the small W6-SB jet off at 430 p.m.
② Stripped all the tape, wire, and tygon from the lines in Cubicle II. Sprayed cubicles with carbonate from 3rd level carboy.
③ Shut down Ira's apparatus behind bannier in the North Hot lab.
④ Cleaned up pruning tool and stoned. Couldn't get it under 8 mr/hr. Some hot spots in the wood.
⑤ The cubicle equipment in the decontamination room barrels is boiling in Citric acid solution. The stuff is very hot.
⑥ Checked P^{32} going through column at cell V. 12-8 please continue.
⑦ Checked heel dissolving in C Bldg and operated product evaporation. Passed dope on to 12-8.

11/25/48 ① Happy Thanksgiving!
12-8 ② Checked phosphorous P-1 at cell V – Should be done about 8:00
Burford ③ Scrubbed up hot spots on third level
④ One man to C building evaporation all shift. I think its all completed. We were unable to bring any more product over from the cell to room 10 so I assume the vessel is MT. Better check George Winn on this in the morning.
⑤ Continued decontamination of cubicles. ~~at~~
⑥ Worked on hardware in decon. room. The hoods are down to about 50 mr. but one bank of valves is still very hot.
⑦ The pile increased the flow of water from the canal to the S.B. all shift.

11/25/48 ① Received 172.2 Kg of LiNH solution from 205 Bldg into W4.
8-4
Scharich ② Continued decontamination of hardware in decon. room. The hoods are down to 200mr/hr but valve bank reads 6 R. Continued sparging in citric acid.
③ Used off A4-205 system behind PB-1 because "C" Bldg couldn't get enough vacuum. Also drained A4-205 & A16 system for "C" Bldg.
④ Stewart raised hell this morning because the hold up flask overflowed into the receiver. Somebody forget to set the bell.
⑤ Cleaned up hot spots in N Hot Lab. It has not been smeared.
⑥ Used exposure time of shift taking out all loose pieces of tubing, nuts, bolts, and etc. from all cells.

⑦ Cleaned up spot on floor in Cell II which read 30R.

⑧ Latest readings on cells at hottest point by "long arm Ladd" Cell I - 2R
Cell II - 1600 mr.
Cell III - 5R

⑨ Cleaned up carbonate spills and sprayed cubicle with HNO_3 followed by H_2O rinse. Also scrubbed bottom of Cell II with dilute HCl and brushes.

⑩ Stood empty acid carboys

⑪ The two 4x4" railings around cubicles read 2mr & 7mr respectively on one end.

11/25/48
4-12 Sachs

① Decontaminated the two reactor hoods in boiling HNO_3 and put them behind panel Board 3. One has a spot reading about 40mr/hr. The other has no spots over 12½ mr/hr.

② Worked on valve (cubicle) decontamination. Citric doesn't seem to be doing much good, but we put in a fresh batch anyhow.

③ Filter trouble at Cell V prevented the taking up of P^{32} product. Impossible to agitate p evaporator solution by putting pressure on P3 and 10" of vacuum on P3 won't even start product solution up the draw off line. Filter discs cleaned with NaOH, HCl, Ammonium bifluoride but no soap. Turned lamp and steam back on evaporator. Should be about dry at shift change.

④ Had light in passageway of Cell V repaired.
⑤ Worked on the cubicles using HNO_3 and carbonate. Readings in mr/hr at middle of cell as follows: Cell I - 250 mr/hr., Cell II 175 mr/hr, Cell III 275 mr/hr
Some HNO_3 still in the carboy 3rd level.
⑥ Checked heel dissolving in E Bldg.

11/26/48 ① Re Stewarts' comment on the overflow vessel in room
12-8 10. It was full as of 12:00 MN last night 11/25/48.
Binford ② Shut off heat lamp at cell I at about 1:00 PM
③ Checked C building periodically
④ Continued decontamination of cubicles and hardware. Second bank of valves is OK. The last one is still pretty hot.
⑤ Last readings taken in center of cubicles I - 240, II 80
III 320
⑥ Finally got all but two of the valves down. They are sparging in the decontamination room
⑦ The pile continued with heavy flow from the canal.

11-26-48 ① Surveyed cubicles:
8-4 I Right bottom rear 180 mr-hr
Russell Left bottom rear 180 "
Left front 130 "
Right " 165 "
Center Cubicle 130 "
Top Left 2000 "
" Right 1600 "
" Center 2000 "

Cubicle survey, cont'd:

II	Rear right bottom	185	mr-hr
	" left "	100	"
	Left front "	125	"
	Right " "	125	"
	Left rear top	125	"
	Right rear top	140	"
	Left top center	52	"
	Right " "	52	"
	Mid way - center	80	"
	Cell B lines	440	"
III	Center of cubicle	220	"
	Upper left top	270	"
	" right "	2000	"
	Bottom left back	210	"
	" right "	440	"
	" left front	450	"
	" right "	450	"

② Made tygon connections to transfer vessels.

③ Received Chicago Trucks #4221 and 4222, with Pots #4, 20, 24, 2, and 11 and drum #409. Emptied the 5 gal drum into W-5 and the pots into W-4. The drum and pots 4, 20 and 24 have been cleaned but not smeared.

④ Ran the small W6 to 5B jet for 4 hrs.

⑤ Calibrated a Reactor.

⑥ Closed the A4-205 off gas valve behind PB1, to increase vacuum in C Bldg.

⑦ Obtained special W-3 samples for Al.

⑧ Loaned Ramsay to J. A. Cox.
⑨ Removed lead from top of cubicles and vacuumed the entire area.
⑩ Placed new tygon on Reactor rings.
⑪ Some valves, nuts and bolts belonging to the cubicles are in the barrel and in a bucket in the decontamination room.

11/26/48
4-12 Sachs
① Scrubbed all the pots. Nos. 4, 20, 24, 2 and 11. Had them smeared. All were hot except No. 20. It's O.K. to go.
㉑ 205 Bldg. returned slug canniens. Stored them over hot labs.
㉒ Calibrated a Reacton.
㉓ Made housekeeping inspection.

11/27/48
12-8
Schaich
① Maintenance replaced leaking safety-shower valve on 3rd level.
② Cleaned up make-up room and acid storage behind cell 4.
③ Cleaned up hot spots in N Hot Lab.
④ Took care of housekeeping item such as storing mops, buckets, carboy pumping equipment; clean up around T 8 + T 9; put clean paper over hot labs.
⑤ Scrub pots again and all smeared okay.
⑥ Continued decontamination of valves & cubicles.
⑦ Small drum #409 has not been smeared.
⑧ Loaded 4300# pots No. 2 & 11 onto truck AE 4297 and packed up to tank farm.
⑨ Covered off gas lines with lead in cells I + III. The

center of Cell I reads 150 mr and Cell III 200 mr.
Valves read 200 & 900 mr/hr.
⑩ AE 4297 does not have a tarp to cover port end.

11-27-48 ① Received a clean truck AE 4224.
8-4 Loaded this truck with two 2000# pots
Russell and one 4300# pot and parked the
truck west of 706-A across from tank
farm. ~~The 5 gal. drum was loaded on~~
~~this truck also.~~
② Made a three slug dissolving for iodine
in the C Bldg. Following shifts are
to carry this operation on over week-end.
③ Ran water thru the lines in Cubicle II
in an attempt to lower the reading
at the opening into Cell B. Cleaned
up around the Cubicles.
④ Added the water to Column and
sampled the R-1.
⑤ The 5 gal drum is hot with
α, β and γ and is now boiling
in decont. room.

11/27/48
4-12 ① 105 Bldg. was throwing a lot of water to the
Sacks S.B. from the canal. May continue to do same on
12-8.
② Took hourly readings on "C" Bldg dissolving. 12-8
please continue.

③ Worked on the decontamination of the cubicles. Used HNO_3 and carbonate solution from 3rd level carboy. Ran water into the lines ~~running~~ in Cell II. Attached are some rather amazing readings taken at the beginning of the shift. H.P. was absent toward end of shift and no additional readings have been taken.

④ Cleaned small S.S. can from Chi with HNO_3 in decontamination room bonnet. It has been smeared, counted and is 0.15. to go.

11/28/48 ① Took hourly readings on "C" building disarming.
12-8 ② Continued decontamination of cubicles. Ran Schaich water and HNO_3 thru lines into Cell II. The outlet read 400 mr/hr, background 100 mr/hr, and bottom of Cell II reads 2R. They were reading off scale when we started.

③ Melted up Two cans of sulfur in Cell I for run No 8166.

11-28-48 ① Exchanged our pick up truck for one
8-4 having a good battery.
Russell ② Did some assembly work on Ru^{106} glass ware.
③ Continued dissolving in C Bldg.
④ Loaded the 5-gal. S.S. drum on Chicago Trucks.
⑤ Continued Cubicle decontamination. Highest reading we could get in Cubicle II was 100 mr-hr. @ 2 pm today.
⑥ Received metal waste from 205.

① Purging of canal at 105 was continued.

11/28/48 ① Sampled P166-P1. Pushed product from
4-12 P1 to the column and adjusted flow. It is
Sachs still going through the column at shift change.
② Had maintinance repair valve 5F at cell V.
They put in new packing, gland and nut.
③ Continued decontamination work in cubicles.
Used HNO_3 and carbonate from 3rd level
carboy, and plenty of water.
④ Checked dissolving in "C" Bldg and recorded
data hourly. 12-8 please continue.

11/29/48 ① Checked dissolving in "C" Bldg and recorded data.
12-8 ② Checked P166 going thru column and metted
Schmidt down two cans of sulfur for P167 at cell V
③ Continued decontamination work in cubicles.
Latest Readings Cell I Top - 75 mr/hr
Center - 60 "
Bottom - 150 "
Cell II Top - 300 mr/hr
Center - 60 "
Bottom - 100 "
Cell III Top - 80 "
Center - 50 "
Bot - 100 "
④ Cleaned and stored decontamination equipment
and cleaned up around cubicles.

11-29-48 ① Received and stored one clean Chicago Pot.
8-4 ② Loaned Ramsay to Cox.
Russell ③ Bailey followed thru iodine runs in C Bldg.
④ Serviced pick-up truck and returned the truck we borrowed yesterday.
⑤ Dispatched two Chicago trucks #4297 and #4224 with Pots #2, 11, 9, 20 and 24 and 5-gal drum 409.
⑥ Ran the W6 to 5B jet for 4 hours.
⑦ Lab. Shift Supv. has ask that we use only enough water necessary to keep operations going. The supply to our reservoir will be cut off for ~9 hrs. on the 4-12 today.
⑧ Began dismembling, cleaning, repacking, and pressure testing Cell II valves.
⑨ Unplugged north hot lab floor drain.
⑩ Received 1-220 and 1-50 gal. tank U and Pu waste from K-25 into W-4.
⑪ This waste is being jetted into W-4 now.
⑫ D-2 has been cleaned. 4-12 please place two heat lamps inside D-2.

11/29/48
4-12 Sachs ① Put a heat lamp into D2 tank so that it will be dry for painting tomorrow. It ought to be turned off in case of rain.
② C Bldg Iodine. Cut off master off-gas valve and cooling water to still when temperature dropped to about 20°C. Will then 12-8 please

drain both off-f gas systems at about 7a.m. "C" Bldg is scheduled to start another dissolving in the morning.

③ Took up P166-P3 in 300 ml H_2O, and submitted duplicate samples to lab. Added 500 1:1 HCl for regeneration and the 100 ml H_2O wash at 11:35 p.m. See E.K's instructions for running P1 to the column Also pull ~~Q~~ R1.

④ Disposed of waste and pulled a sample for Rinsham at 3rd level Ru^{106} setup.

11/30/48 ① Took R-1 sample for P166 and started P167
12-8 through column.
Adraich ② Cleaned up decontamination room and all contaminated equipment except one valve which reads approx. 40 mr/hr.
③ Drained A16 and A4-205 off gas systems at 7 A.M. for "C" Bldg.
④ Emptied all call A + B tanks.

11-30-48 ① Flushed and drained 205 stack and ran
8-4 the steam engine for four hours.
Russell ② Dispatched K-25's metal waste truck.
③ Loaned Ramsay to Cox for eight hours.
④ Bailey followed through with another slug loading, coating removal and dissolving in C Bldg. 4-12 + 12-8 please Continue.
⑤ Reseated all Cubicle valves and continued repacking etc. Work is not complete as yet.

⑥ Ran the W6-5B jet for three hours.
⑦ Received 1-220 and 1-50 gal tanks of U and Ru waste from K-25 into W-4.
⑧ Obtained two one pint samples of the sludge in W-5 reading ~350 mr-hr.
⑨ Loaded slug carrier and 1½ ton truck to 205.

11/30/48
4-12 ① Finished disposing of K25 waste into W4.
Sachs ② Cleaned out the Iodine evaporator in North Hot lab. Used H_2SO_4, H_2O and finished up with a basic wash.
③ Checked "C" Bldg dissolving and recorded data hourly. Also completed Product evaporation in Room 10.
④ Turned off the steam sparger at W3 at 11 p.m.
⑤ Checked P. Schalen's column via a phone conversation. It needs no further attention.
⑥ Held November safety meeting.
⑦ Checked P164-P1 going through column. 150 ml H_2O wash added to column at 11 p.m.
② left word with 12-8 electrician to replace bulb over 1st level safety shower.
④ 12-8 might have to change the NH_3 cylinder in C Bldg. We've had to boost it up a bit.

12/1/48 ① Slug carriers returned and cleaned up by 205 Bldg.
12-8 ② Checked "C" Bldg. dissolving and recorded hourly Schaich data.

③ Power failure occurred at 5:12 AM and emergency generator did not start up until a minute later. Better check the emergency supply.
④ Changed NH_3 cylinder in "C" Bldg.
⑤ Maintenance ~~building~~ relamped building except for those lights above crane. Day shift will have to get those.
⑥ Took up P167-73 in 275 ml H_2O and submitted duplicate samples to lab. Added 1000 ml 1:1 HCl for regeneration at 7:25 AM.
⑦ In case anyone is interested, H.P. removed the cellophane from that cutie-pie!!

12/1/48 8-4 Thompson
① Turned on W-3 steam sparger (steam hooked up to air sparger) + sampled W3 at 3⁰⁰ for Al analysis.
② Ran small W6-SB jet for 2 hours.
③ Delivered the K-25 truck to its driver.
④ Finished relamping building.
⑤ Checked emergency generator – okay.
⑥ Drained A16 for C bldg at 2⁰⁰ PM.
⑦ Completed work on hastelloy cubicle valves.
⑧ Received another truck from K-25. It is now jetting into W-4.
⑨ Air count went up at 3⁰⁰ PM due to difficulties in C bldg.

12/1/48
4-12 ① Continued work on assembling transfer vessels. All the lines
Binford have been attached to B20T and B21T. Accidentally broke
nipple on on vessel, but replaced with another.
② Received waste from 205 → W4.
③ Finished emptying K-25 truck at W-4
④ Shut off steam sparger at W-3
⑤ Serviced Schalbert's column until 10:30 PM when he arrived.
⑥ Filtered and sampled the Sr 8 and Sr 9 as per instructions

12/2/48 ① Instruments repaired micromax #7 on PB-2
12-8 ② Started to assemble drierite traps for press-vac
Schaich lines to cubicles but ran out of drierite. There was
none to be found in storeroom or Cell V or Lab.
③ Melted down 1st can of sulfur for Run P168 at 4 AM.
It did not come up to temperature until 5:10 AM.
Instrument checked micromax and it is okay. May
be thermocouple or one part of heating element out.
④ Worked on valve in decontamination room but
had little success
⑤ Cleaned up hot spots in N Hot Lab.
⑥ Melted down 2nd can at 6:30 AM for P168. Temperature
never went higher than 130°.

12-2-48 ① Turned on the W6-S.B. jet for 4 hrs.
8-4 ② Turned off the W12 automatic jet. W12
Russell is overflowing into W11 and W11 is
draining to S.B.
③ Delivered K-25 liquid waste truck to
driver at entrance.

④ Followed thru with ioding run in C Bldg,
⑤ Finished up reseating all cubicle valves and began making tygon connections.

12/2/48 ① Emptied drums 5,17,10,80,40,67,8,65 at W4, Drums 68,73,81
4-12 at W5. Drums 24 and 106 are at hexone still.
Binford ② Cleaned up the lead floor on the third level.
③ Checked the strontium equipment. 12-8 please check the heater. all else OK
④ Calibrated three and timed filtration on four reactors They are labled with time etc.
⑤ None of the drums have been checked or cleaned.

12/3/48 ① Cleaned and smeared 12 drums.
12-8 ② Sulfur cans were not pushed from pile Schmich at 4:30 PM (12/2/48) and therefore run No P169 was not started.
③ Heater for Sr equipment is not working.
④ Emptied S.S. drum into hexone still. another one going thru at shift change.

12/3/48 ① Delivered a slug cannion to 105 Bldg. For
8-4 George Parker.
Sachs. ② Continued with the pickling of the new transfer vessel in the decontamination room.
③ Received waste into W4 From 205 Bldg. Should be through at about 3:45 p.m.
④ Sent waste (metal) From "C" Bldg to W9 via W12.

(5) Maintinanace shortened the dip-leg into W5 which supplies materiel to the new evaporation equipment.
(6) Brought in 20 ml Hcl-ether waste for Sr men tomorrow.
(7) 205 Bldg borrowed our slug canniers.
(8) "C" Bldg has a heel dissolving going on so check before draining A16.
(9) Had a new generator put in the 1½ ton truck.
(10) Worked on installation of cubicle valves all shift.
(1) The product cannier in the decontamination room is clean and can be stored. Also the cone. The plug has a spot reading about 100 mr/hr.
(2) The drums are all 0.1r. but stay here a week. See P.B. for the dope on this.

12/3/48

(1) Continued with cubicle work as exposure time permitted.
(a) Wired all connections that have been made in upper hob.
(b) Made glassware connections to upper bank of valves
(c) Tied in solution addition valves to B20T
(d) Connected P-V lines to B20T from PB through trap.
(2) Made and completed housekeping check
(3) Run small jet to SB from W6 four hours.
(4) Checked C building heel dissolving.
(5) Filtered and sampled Sr 10 and Sr 11
(6) 205 returned the slug carriers and cleaned them
(7) Stored product carrier and cone. Recommended plug and stored
(6) There is a leak in the gasket on the discharge side of the main valve at the 205 stack jet.

⑨ 105 has increased the flow from the canal at 11:30 PM
⑩ Finished recieving waste from 205 into W-4

12-4-48 ① Checked C Building dissolving.
12-8 ② Obtained two sulfur cans from 105
Russell and melted out for Run 169.
Where is the long handle sulfur can carrier?

12-4-48
8-4 ① Furnished manpower and exposure time to "C"
Sachs Bldg. FI product was dumped batch into evaporator in Room 10 For reprocessing.
② Delivered slugs from Pile Bldg to George Parker in "C" Bldg
③ Gave the A16 off gas system a good draining at the request of G. Winn.
④ Pickled the new transfer vessel in the decontamination room.
⑤ Started and completed Sm 26-1. Submitted samples to lab and hosed down decontamination room.
⑥ Brought down a 500 lb product shield From 105 Bldg For G. Parker.
⑦ Winn was in C Bldg all shift and checked the heel dissolving.
⑧ Check with Bill Campbell at Cell U For status on P^{32}

12/4/48 ① Received metal waste from 205 into W-4.
4-12 ② Phosphorous is going through the column. Twelve mgs
Binford of dead phos. have been added. Please check analysis
and add more if needed.
③ Checked C building heel dissolving
④ Completed wiring of lines in cubicle. Installed upper
bank of valves. Connections to B 20T remain to be done.
⑤ The background in C building is high due to a hot
off gas line on the roof. (Parker's 6H iodine I guess)
⑥ Ran small jet to SB 4 hours.

12-5-48 ① Added 13 mg P^{31} to P-169, P-3. This
12-8 makes a total of 25 mg P^{31} added to
Russell this product. Going thru column.
② Decontaminated hot spot reading 400 mr/hr
in front of iodine hood north hot lab.
③ Obtained 100 ml. samples from Ira's
column in C Bldg.

12/5/48
8-4 ① Took samples from the column in "C" Bldg.
Sachs 4-12 please continue. Don't change the flow rate
even if the thing almost stops running
② Checked P169 going through the column. Added
water wash at 1 p.m. Will be through at 4 p.m., but
evaporator won't be through. Take up in 400 ml H_2O.
③ Pickled the new transfer vessel in the
decontamination room.
④ Gassed and oiled the pick up truck.
⑤ Checked heel dissolving in C Bldg.

12/5/48 ① Continued taking cuts on Whitney's column in C building.
4-12 Do not change the flow.
Binford ② Checked heel dissolving in C building.
③ Took up phosphorous - it is filtering at 12:00 MN
④ Finished the indicated work in the cubicles.
⑤ Run W6 → SB jet four hours.

12-6-48 ① Day shift: Please have the west vacuum
12-8 pump checked for a leaking exhaust
Russell valve. We are loosing vacuum as
indicated by this pump running
backwards. when the current is off.
② The P^{32} product solution would not
filter, so again it was necessary
to replace the filter. The plugged
filter is in sink reading >10 R. The
product solution was sampled & stored.
③ Analysis P-3, 1728 and 1790 mc's S.T.
③ Checked heel dissolving in C Bldg.
④ Continued taking cuts on Whitney's column
in C Bldg.
⑤ Set up a reactor on third level for testing
air agitators.

12-6-48
8-4 ① Maintenance repaired W vacuum pump.
② " worked on foot valve in
Thompson N. hot lab.
③ Disconnected bubbler lines at PB6-
④ Continued work on cubicles
⑤ Received waste from Knolls.

12-6-48 ① Dunlap worked in C building all shift taking cuts
4-12 on Whitneys columns and watching the O building
Binford iodine.
② Dumped 15 small containers into W-5. After trying futily to jet them just poured them in. We would do better with a shovel.
③ So far have been unable to get the drums to jet. All ~~five~~ 15 MT containers are on the ~~E. platform~~ Decon room.
④ Had maintenance work on four bubbers.
⑤ Key to boxes is in this book.

12-7-48 ① Cleaned the crock in decontamination room
12-8 and stored in low storage.
Russell ② Continued I^{131} slug dissolving in C Bldg.
③ Bailey operated Whitney's fission column in C Bldg. half shift, King operated half shift.
④ Emptied the three 55-gallon drums into W5. Transferred four full ones from east platform and emptied contents into W-5. The fifth drum was empty. Decontaminated all the small S.S. containers. They have not been smeared.
⑤ Day shift, please provide a sufficient supply of old Dutch for decont. purposes.
⑥ Key to boxes attached to this page.
⑦ Set up a steam hose and steamed down bubbler lines to B19. Now going.
⑧ Cleaned up the N. Hot Lab.

12-7-48 ① Received metal waste into W4 From 205 Bldg.
8-4 ② Drained and washed the 205 stack and ran the
Sachs steam engine For Four hours.
③ Carpenters repaired some bad Flooring on the 3rd level.
④ Maintinance has some wrenches boiling in citric acid solution in the decontamination room.
⑤ Maintinance adjusted the governor on the steam engine.
⑥ Did a thorough job of cleaning up the N Hot lab. Took out everything that wasn't bolted down. Also scrubbed and hosed.
⑦ Continued blowing down B19 bubbler lines with steam. Changed lines every Four hours.
⑧ Worked on the cubicles all shift.
⑨ "C" I^{131} will be down after 4:30 p.m. Don't drain A16 until then.

12-7-48 ① Completed cleaning of bubblers except for section from
4-12 valves to brass pipe. Hot water just in and leaked
Bunford ② Washed N. hot lab
③ Checked Pressly evaporator? on third level. Passed instructions to 12-8.
④ Continued with Whitney's columns in C bld.

12-8-48 ① Oiled vacuum pumps over hot lab.
12-8 ② Checked dumping P^{32} run on 3rd level.
Russell ③ Continued with Whitney's column in C Building. A slug of β activity immediately followed the β emitter which is still coming off.

④ Disassembled lines to B-19 behind PB 6 for cleaning. Some of these lines and valves were dripping with oil. They are now boiling in water in decont. room.

⑤ Delivered two cans of sulfur from 105 to Cell I. The first can has been melting down very very slowly and is still in P-1 about ⅓ full.

8-4 ① Painters started painting product carrier
12-8-48 lids.
Thompson ② Ladd in cell I all day.
③ Continued work on cubicles. Installed + connected the hastelloy TV. All connections are Fluorethene except the spray ring line + pressure-vac. line
④ ~~Ran~~ Ran small W6-SB jet for 5 hours.
⑤ 205 borrowed slug carriers + truck.

12/8/48 ① Phosphorus in Cell I is to be a carrier for run.
4-12 ② Turned all the small wooden boxes on east platform.
Schaich ③ Attended evaporation in room 10 "C" Bldg and shut down according to instructions.
④ Attended Whitney's column in "C" Bldg and took cuts according to instructions. Verbal instructions given to 12-8 shift.
⑤ Attended bed dissolving in "C" Bldg.
⑥ Dump 15 drums of caustic into W-4. 15 drums to go you have today. Team up with the truck in order to

dump them.
⑦ Wired and taped all unfinished connection in cell I & II.
⑧ Continued cleaning oil out of lines to B19. The three long pieces have been rinsed in CCl4 and look good.
⑨ Checked Phosphorus going thru column at Cell V
⑩ 205 cleaned & stored slug carriers.

12-9-48 ① Dumped 15 drums NaOH into W-4, washed
12-8 the drums and rolled them aside at W4.
Russell ② Cleaned out B-19 bubbler valves at back of PB6 with CCl4 and connected all lines and valves from the bubblers back to the cell wall. Cleaned up after maint.
③ Checked heel dissolving in C Bldg.
④ Attended to Whitney's column in C Bldg. and took auto as per instructions.
⑤ Checked phosphorus going thru column Cell V.

12/9/48 ① Worked on the cubicles: only one more
8-4 connection to be made. Cleaned up surrounding
Sachs area.
② Painted the bottoms of the Knoll's canvas boxes. They have been smeared.
③ Took the 13 S.S. drums from Chicago to the salvage yard for storage.
④ Brought in two product canvas from burial ground. Don't touch please.

12/9/48 ① Received 32.9 kg of UNH solution into W-4 from
4-12 Semi-works.
Schaich ② Turn off steam at W-3 and submitted sample
to lab for determination of Pu in supernatant.
③ Maintenance replaced lights & bowls in cubicles.
④ Tried to install reactor but ran into difficulties
which seem to be due to flowsheeting tubing between
reactor & transfer vessel. The strain on nipple of
transfer vessel would probably snap it. The best
bet would be to change that line to type.
⑤ Checked P170-P1 going thru column at Cell V
⑥ Attended Whitney's column in "C" Bldg and
took cuts periodically.
⑦ Packed knolls containers and stored on East Platform.

12-10-48 ① Turned steam off Rimshaw's steam
12-8 jacketed tank on third level at 6 AM.
Russell ② Attended to Ira's fission column in C
Bldg and took cuts as per instructions.
③ Added the rinse (H_2O) to P-170, P-1 ~~now~~
~~going through the column.~~
④ Obtained two cans of sulfur from oil
bldg. The second can is melting down.
⑤ The HCl is now going thru calcite.
⑥ Will some one please turn off the water
supply to the Ru^{106} set-up on tank farm
and drain the lines when they thaw.

12/10/48 ① Finished making connections in cubicles
8-4 ② Worked on information for Cox
Bufford ③ Thawed out lines on ruthenium set up and on W1 and W2 – Headers off on water line – other valves open!
④ Brought down towels from laundry.
⑤ Lemons worked for Emlets office two hours.

12/10/48 ① Made housekeeping inspection and took care
4-12 of all items.
Schaich ② Maintenance required taking steam valves in makeup room & decontamination room. Also sampling sink in make-up room.
③ Cleaned out cubicles and washed them down. Placed gaskets on all cubicles plugs.
④ Attended Whitney's classes in "C" Bldg and took cuts periodically.
⑤ Cleaned up broken bags of CO_3 in make-up room and stored CO_3 in cans at CO_3 make-up on tank farm. Each can contains 100 #
⑥ Turned steam off of Simonson's tank on 3rd floor and reported temperature reading to him.
⑦ Drained 2 ft of H2O from M11 into make-up room sump and jetted to S.B.
⑧ Checked phosphorus going thru column at Cell V

12/11/48
12-8 ① Checked P-171 through column at cell V
Bufford ② Continued taking cuts on Whitneys column in C bldg.
③ Drained rest of water from M11, blew out steam coil and shut off steam.

12/11/48 ① Checked P-171 still going through about 150 ml to go.
8-4 ② Watched Whitney's column in C building
Bunford

12/11/48 ① Checked P-171 going thru column.
4-12 ② Attended Whitney's column in "C" Bldg.
Schaich ③ Removed sulfur can and added 2 liters .2 N HNO_3 to Rimshaws tank. Turned steam on at 10 P.M.
④ P-171 has 75 ml H_2O wash to go yet.

12/12/48
12-8 ① Took up P171 P3 in 400 ml H_2O and submitted
Sachs samples to lab. Started regeneration of the column at 6:30 a.m.
② Maintenance repaired plugged floor drain in cell D
③ Checked Whitney's column in C Bldg.
④ Checked the pressure gauge on Rimshaw's 3rd level tanks.

12/12/48
8-4 ① Closed down Ina's column in "C" Bldg. by closing
Sachs valve on top of cell marked "bottom outlet column 3.
② Let most of the P171-R1 get away from us. The error was made on the 12-8 shift. Did save a little bit. Water wash has been added.
③ Checked steam pressure on Rimshaw's 3rd level tanks. It's to be shut off at 4 p.m.
④ Gave Pressley a hand with some column work behind B cell.
⑤ Sampled P171-R1.

12/12/48 ① Turned steam off of Rimshaw's apparatus and
4-12 tried to sample but solution had disappeared.
Schaich ② Maintinance repaired two steam valves
at 3rd level lab

12/13/48 ① Cleaned up around the Building.
12-8
Sachs

12/13/48 ① Attended to sampling of Pressley's column.
8-4 ② Operated small W6-SB jet for 4 hours.
Thompson ③ Turned on water into W-3. Please
turn it off at a level of about 8'
④ Replaced two B-24 lines in Cell II
with fluorethene + made minor adjustments.
⑤ Welcomed H Blauer back from vacation.
⑥ Removed metal tank from W4 to burial
ground.

12/13/48 ① Wired and taped all loose tygon connections in
4-12 Cell II.
Schaich ② attended "C" bldg dissolving and took hourly readings.
③ Maintinance stamped building.
④ Turned steam off Rimshaw's apparatus at
11:30 PM.
⑤ Turned water off W-3 at 8'.
⑥ Ran W-5 to W6 jet all night. Jet until level
in W6 is 11'6".

12/14/48

12-8 ① Washed out the decontamination and make up Sachs rooms.

② Supplied manpower for coverage of I^{131} dissolving in C Bldg.

③ Cut the W5-W6 jet off when W6 reached 11'6"

12/14/48 8-4 Binford ① Washed and drained 205 stack, Ran steam engine four hours.

② Maintenance replaced cotter key on third floor hoist.

③ Decontaminated tools for maintenance

④ Painters started work on Ruthenium tank on E. platform

12/14/48 4-12 Schaich ① Maintenance finished retamping building.

② Made glassware check on B-21 and found 1 valve leaking (Pointed out to W.E. Thompson). It took 4 lbs pressure to get agitation on disk. 5 psi would be just about right. Everything else on B-21 okay. B-20 check was started but glass nipple on transfer vessel broke after 1st filtration. W.E.T. took over from there. All lines and valves checked okay up to that point.

③ Attended Russley's autumns and turn one off according to instructions. Verbal instructions passed on to 12-8 shift concerning other one.

④ 205 Bldg cleaned and stood stag carries.

⑤ Cleaned up hot spots under F-1 blister

⑥ Turned steam on Rimshaw's tank at 10:30 PM. Shut off at 4 A.M. (12/15/48)

12/15/48 ① Turned off the steam to Rimshaw's P^{32} 3rd
12-8 level tank at 4 a.m. as per instructions.
Sachs ② Made a B20 glassware check after tying in last couple of connections. The check sheet is attached. No leaks were spotted. Looks like everything is in good shape. Both transfer vessels now contain a liter of water and are under pressure.
③ Cleaned up around cubicles and stored materials.
④ Turned off Pressley's column as per instructions.
⑤ Picked up two sulphur cans from the Pile and started melting them in at 0400 a.m.

12/15/48
8-4 ① Maintenance repaired flange on pump pit set in ~~decon~~
Bunford make up room.
② Painters put another coat on Re tank
③ Maintenance removed coils from M11.
④ Turned on small jet W6 → SB at 1:30 PM - Let run 5 hours (til 6:30 PM)
⑤ Continued testing of cubicles.
⑥ Decontaminated two filters for engineering.
⑦ Dumped drum of waste from semi works into W4

12-15-48 ① Installed an NH_3 cylinder, A-16.
4-12 ② Evaporated C Building product iodine
Russell solution to the desired volume.
③ Attended to C Bldg. heel dissolving.
④ Completed the housekeeping items listed by H6.
⑤ Removed paper from Cubicle II.
⑥ Turned off the W6 to S.B. jet at 6:30 PM.
⑦ Completed pressure test on B20T and B21T. No leaks noted. Emptied both vessels.

⑧ Set up reactor on third level for testing air agitators.
⑨ Checked the accuracy of the four pressure gauges on glassware panel board and replaced three with new gauges.
⑩ Maintenance began draining and cooling hot water tank in low storage for general inspection tomorrow.
⑪ Received metal waste from 205 into W-4.

12/16/48
12-8 ① Furnished manpower for coverage of Heel dissolving in
Sachs "C" Bldg.
② The low storage hot water tank stopped draining at about 1 a.m.

12/16/48 ① South still leaking at ~~diaphra~~ diaphragm valve.
8-4 ② Painters put another coat on Ru tank
Bruford ③ Checked glassware for hold up.
④ Shipped 13 drums to Chicago plus laundry via AE 4221
⑤ Ran small jet to SB 4 hours
⑥ Boiler over N. Hot lab was inspected.
⑦ Boiler over locker room blew a gasket & flooded the locker room + hall. ~~[illegible]~~
⑤ Maint. altered one product cone.

12-16-48 ① Received 10.7 Kgms U from semi works into W-4.
4-12 ② Took hourly cuts and sampled the
Russell effluent of two columns east of Cell B.

③ Completed filtration of Na strike and started the P.1 thru the column. 1368 mcs
④ Obtained new head for low storage hot water tank. Bolts for installation will be made up tomorrow as per maint.
⑤ Repaired shovel light on 3rd level.
⑥ The exhaust valve in the west vacuum pump over labs is leaking again.
① Repaired steam valve on P.B. 3.

12/17/48
12-8 ① Continued taking cuts on Pressley's columns behind
Sachs Cell B.
② Checked P172-P3 going through thru column.

12/17/48 ① Painters applied another coat to Re tank.
8-4 ② Excavation for filters started at N.E. side of bldg.
Schmich ③ Cleaned out glassware, equipment, and tool cabinets N. of cell B.
④ Maintenance continued work on boiler in low storage.
⑤ Made dummy glassware run and found leak in cell II plus green solution after addition of HCl-ether. Product evaporating at shift change.
⑥ Numerals repainted on cubicle valve board.
⑦ Rinsed out all cubicle lines and sent waste to 45.

12-17-48 ① Placed W-12 on automatic jet.

68 mcs 4-12 Russell ② Completed product evaporation (dummy run) pulled product out and stored on third level. Replaced chimney blocks and stored guard ~~posts~~ and ~~chains~~. Reading ~ 1 R.

③ Attended to Prossley's columns on east side Cell B.

④ Made housekeeping inspection and completed all items except maintenance jobs. ~~Those checked off the list.~~

⑤ Placed plugs in cubicles, turned out all Cell lights, removed, wrapped and stored scopes and cleaned up around cubicles and PB-3.

⑥ Obtained a sample of dilution water to W6 manhole from the manhole south-west of W6. Analysis of this water going to W6 manhole was ~~29,400~~ 2,940 c/m/ml. A sample from W-12 at the same time (8pm) ran 50,670 c/m/ml.

⑦ Added H2O to column, now going thru, Cell V.

⑧ Analysis of sample from man hole at 709-A was 412 c/m/ml @ 8:40 pm. The east man hole at 709-A was 146 c/m/ml. The activity is apparently coming from Semi works, since 706-C is down.

12/18/48 ① Phosphorous is ready to take up. Call E. King to find proper volume.

12-8 Benford ② Checked and cut and sampled Prezely's columns

③ Cut W-12 back into settling basin. It has not

started overflowing yet but the D.B. should be checked as soon as it does.

12/18/48 ① Attended Pressley's columns and took cuts
8-4 according to instructions.
Schmich ② Took up P-172 in 300 ml of H_2O and submitted duplicate samples to Lab. P-172 P3 445 mc S.T.
F2 - 82 mc S.T.
③ Started regeneration of column in Cell V
④ Emptied M1 & A5 into W12.
⑤ Finished regeneration of column and took R-1
⑥ Receiving metal wastes from 205 into W4 at shift change.

12-18-48 ① Attended to Pressley's columns and sampled
4-12 as per instructions.
Russell ② Analysis P-172, R-1 53 mc's @ S.T. 12-22-48.
Attempted again to take up P-172, P3 in 300 ml. water. No luck. The product was removed in an HCl solution, sampled and started thru the column. The solution now going thru the column contains 869 mc's S.T. Follow this solution thru the column with 150 ml. water wash, bake the dry cake <u>two</u> hours and take up in 300 ml. H_2O. Do not add dead phosphorus.
③ Received 90.5 Kg U from 205 into W-4.

12/19/48 ① Still taking cuts and samples on Pressley columns.
12-8 ② Phosphorous going through the column, about
Benford 400 ml to go.
③ Settling basin and W12 seem OK

12/19/48 ① Attended Pressley's column and took cuts periodically
8-4 ② Check phosphorous going thru column at Cell V
Schaich ③ Stored chains & posts from 3rd level. Also stored hose left on ground North of Bldg.

12-19-48 ① Attended to Pressley's columns, obtained
4-12 cuts and submitted samples.
Russell ② Day shift please have electrical maintenance replace metal cover plates on two open conduit boxes on west side Cell A 2nd level. These plates are not accessable on shifts.
Done 4-12
③ Repaired two steam leaks at PB-6.
④ Repaired and replaced T-1 agitator.
⑤ Removed a collection of oil from one of the B-19 bubblers at PB-6. Refilled with H_2O.
⑥ Added the H_2O rinse to P-172, P-1A, took the product up in 300 ml. H_2O and sampled.
⑦ The exhaust valve on the west vacuum pump is still leaking. This is a day job.
⑧ The column in Cell V has not been regenerated. This will be P-172, R-1A.

12/20/48. ① Had millwright fill oil cups on N hot lab and chem
12-8 lab exhaust fans - they were MT.
Benford ② Maintenance repaired lights at 205 stack
③ Started column regenerating at cell V — sampled R1-A
④ Continued settling Pressley column

12/20/48 ① Added 500 lbs. Na_2CO_3 to W-5
8-4 ② Added ~~500~~ 500 lbs $CaCl_2$ + 1000 Na_2CO_3 to W6 to Blaser precipitate activity in W6. Tank ~~was~~ sparging 4 hours. ~~in process of settling~~.
③ Maintenance installed coils in M-11 tank.
④ Removed old Rala product from carrier + sitting on cast platform. Carrier, cone + plug were washed + stored.
⑤ Received 270 gals. of waste from K-25 into W-5

12-20-48 ① Turned off the W6 air sparger at 6 PM.
4-12 ② Checked Whitney's magnetic agitator
Russell in N. Hot Lab. Verbal instructions passed on to 12-8.
③ Completed the addition of solution to Pressley's column on third level.
④ Kept Rimshaw's P^{32} extractor hot during the entire shift. Verbal instructions passed on to 12-8.
⑤ Assembled and stapled shift check sheets.
⑥ Dissembled and stored equipment used for testing Reactor on 3rd level.

⑦ Continued slug dissolving in C Bldg.
⑧ Replaced some fluorescent lights.
⑨ Received 25.7 Kg U from Semi Works into W4.
⑩ Unpluged floor drain in Cell V
⑪ Made volume reduction of two P^{32} products, sampled, and stored. Analysis 1088 mcs S.T.
⑫ The NH_3 cylinder to C Bldg dissolver is almost empty.

12-21-48 ① Continued with slug dissolving in C building.
12-8 ② Serviced Rimshaus phosphorous reactor on the third
Binford level
③ Watched Whitney's agitator as per verbal instructions.
④ Finished addition of solution to Pressly's column.

12/21/48 ① Washed and drained 205 stack. Ran steam
8-4 engine 4 hours.
Schaich ② Added 200 lbs Na_2CO_3 & 100 lbs $CaCl_2$ to W5.
③ Added 200 " Na_2CO_3 & 100 lbs $CaCl_2$ to W6
④ Received 270 gals of waste from K25 into W-5
⑤ Maintenance fixed last vacuum pump and refilled with oil.
⑥ Ran small jet W6 - SB for 2½ hours.
⑦ Repaired sparger at W-5.
⑧ House vacuum off until 3 P.M. due to water shut down.
W-6 10 ⑨ Took small truck down for semi-annual inspection
⑩ PH of W5 at 3 P.M. was 8. Took samples of W5 + W6 for centrifuging and counting

12-21-48 ① Added two bags Na_2CO_3 and one bag
4-12 $CaCl_3$ to W-5 and the same amount
Russell of each to W-6. After thoroughly agitating sampled each, ran supernate

W-5	pH ~10	229,797	c/m/ml
W-6	pH ~10	243,300	"

② Evaporated the product iodine solution in C Building to the desired volume.
③ Added one bottle of 70% HNO_3 to Rimshaws P^{32} extractor on 3rd level and kept it near boiling all shift. 12-8 please keep it hot as per verbal instructions.
④ Checked Whitney's magnetic agitator, N. Hot Lab.

12/22/48 ① Added two bags carbonate each to W5-W6, also one bag
12-8 of calcium chloride to each. pH of both about 10.
Binford ② Checked Remshaws heater on third level
③ Melted up to fluorescence cans in all V.

12/22/48 ① Checked current thru B12 and charged "A" bank for
8-4 4 hours.
Schaich ② Ran small jet W6-SB for 2 hours.
③ Obtained new emergency lantern for N Hot Lab.
④ Added 2 bags CO_3 and 1 bag of $CaCl_2$ to W5 and W6. Turned gauge off of W6 at 1:30 P.M.
⑤ Obtained quart sample from W6 for Whitney
⑥ Received 116.7 Kg of UNH solution from 205 Bldg.
⑦ Took large truck to garage for irrigation and changed flat on small truck
⑧ Received 270 gals. of waste from K25 into W5

⑨ Turned spargers on W6 and added 250 lbs NaOH

12/22/48
4-12
Sachs

① Finished up an evaporation of product solution in room #10, C Bldg.
② Cleaned up the barrel in the decontamination room to be used at the tank farm tomorrow. maintenance made up a Chicago fitting for the barrel and two sections of hose were brought down from low storage to be used in the operations.
③ Turned on the 205 stack lights by throwing the main switch in 205 Bldg. Is this a new way to do it?
④ Analysis: P173-W1, 31.4 millicuries S.T.
⑤ Worked with the P^{32} all shift. The filter SR-2 is in lousy shape and needs a cleaning. At shift change, P173-P1 is filtering from SR-2 to P1. There is about 300 ml H_2O to go. It's in a graduate on the side.

12/23/48
12-8
Benford

① Started phosphorous through the columns — took a long, long time to filter
② PH of 5 and 6 both 10
③ Drained A16 at 7:00 AM

12/23/48
8-4
Schaich

① Sampled W6 manhole and obtained pint sample W6 for Whiting.
② Cleaned and stood product carrier, cone, and plug.
③ Added 1000 lbs $FeSO_4$ to W6. Sparged for 1 hour and then shut down.
④ Returned 100# caustic borrowed from 205 Bldg.
⑤ Received wastes from C Bldg into A9 via W12

⑥ Received 400 gms of metal waste into W4 from semi-works.

12/23/48
4-12 ① Sampled W6 supernatant. 232,420 c/s/m/ml.
Sachs ② PH of W5 and W6 was 10 at 10 p.m.
③ Operated Pressley's columns. Oral Instructions to Binford and the 12-8:
④ Electrician replaced boolean light bulbs around Bldg.
⑤ checked P173-P1 going through column. Added 150 ml H_2O wash at 11:35 p.m.

12-24-48
12-8 ① Phosphorous went to dryness at 7:30 AM
Binford ② PH of W5 & W6 still about 10
③ Attended to Pressleys columns
④ Merry Xmas

12-24-48 ① Cleaned up odd pieces lead around PB-3
8-4 ② Ran the W-6 to S.B. jet for 1½ hours.
Russell Turned the jet off when W-6 manhole ran 5,550,000 c/m/ml.
③ Obtained special samples from W-6 and assisted Whitney with column work. Verbal instruction passed on to 4-12 regarding the operation of this column in N. Hot Lab.
④ Attended to Pressley's #2 column behind Cell B. 4-12 please turn off this column at 8 P.M. using pinch clamp at bottom of column.

⑤ Changed the dip leg of the small W-6 to SB jet to 9 feet from bottom of the tank in order to decant the supernate. At this level, the supernate is nice & clear.

⑥ Received two trucks from Chicago containing Pots 1, 3, 21, 4, 9 and 20, and 4 bags laundry. Unloaded all pots into W-5. The battery on AE 4221 is dead. We had to use a booster to start the motor.

⑦ The three rain suits used today have been scrubbed in soap and water and left to dry on first level. They have not been checked for contamination.

⑧ AE 4221 was weighed with two 4300#(?) pots. The weight 21,810#. ~~4-12 please weigh the empty truck and record weight in this log.~~
The truck weighed 13,000 empty, therefore each pot weighed ~ 9405# each.

Merry Christmas Everyone

12/24/48
4-12 Sachs

① Moved AE 4221 off the scales. Couldn't get it started however. Took truck 4224 up on the hill to be washed

② Unloaded three pots from AE 4224 into Bldg. Pressure tested all pots, washed and smeared. All O.K. Three lids are slightly over tolerance and one back in decontamination room.

③ Clamped off Pressleys #2 column at 4 pm as instructed.
④ Attended to Whitney's column in N Hot lab. Passed on oral instructions to 12-8 man.
⑤ Made Housekeeping inspection and checked off most of the items.
⑥ Note From Blauer: If S.B. gets to 750 counts or below, man the small jet For Four hours.
⑦ Santa Claus certainly will have a hell of time tonight in Oak Ridge — Merry Xmas kiddies!

12-25-48

12-8 1. Run W-6 to S.B. (small jet) 4 hrs 1:30 pm to 5:30 pm
2. Scrubbed the three pot lids in decontamination room, they haven't been smeared.
3. attended to Whitneys column in north hot lab.

12-25-48 (8-4)
1. Filled up pickup truck with gas and put one quart oil ~~a~~ in it.
2. Used oil put in big can out at fan house.
3. Loaned slug carriers to 205 bldg.
4. Attended to Whitneys Column in N. H. Lab.

12-25-48 4-12.
Summoned an w-6 to S B Small jet at 10:00 pm turn off when count goes over 5:00
attended to whitney column in N.H ~~Lab~~ LAB

12/26/48 ① Turned off small jet W6-SB at 2 A.M.
12-8 ② Attended Whitney's column N. Hot Lab.
Schaich ③ H.P. resmeared carrier lids All okay.
④ 205 Bldg cleaned and stored slug carriers

12-26-48 ① Thawed out the small W6 to S.B. jet and
8-4 started it jetting. The W6 manhole sample
Russell was free off precipitate; the analysis
ran 230,848 c/m/ml.
② Turned on the big W6 to S.B. jet to see
if the precipitate had settled below the
dip leg. Turned the jet off when the W6
manhole continued to run muddy.
③ Added one bottle 70% HNO_3 to Rimshaw's
P^{32} reactor on third level and kept it
hot during the shift.
④ Placed a roll of blotter paper on third
level rack.
⑤ The small W6 jet is still going
⑥ Scrubbed some more on the rain suits.
A few hot spots were found.
⑦ Received metal waste from 205 into W-4.
⑧ Ira's column is going slowly in N. Hot Lab.
⑨ The steam trap at W-4 froze and burst
under 125# steam pressure. A new trap
was installed.

12/26/48
4-12 ① Turned off the small W6-SB jet at approx. 8:30 p.m.
Sachs when 7 p.m. S.B. sample read 794 c/s/m/ml.

⑧ Watched Whitney's small column in N Hot lab. It's running very very slowly.

12/27/48 ① Attended Whitney's column in N Hot Lab.
12-8 ② Small jet W6-SB off all shift. Count to high.
Schaich ③ Melted down two cans of sulfur for P-174

12-27-48 ① Turned on the steam blower-type heater in
8-4 the Cell fan house.
Russell ② Obtained a drum of supernate from W6 and delivered to semi-works.
③ Thawed and started the small W6-SB jet.
④ Turned on the big blower type heating system when outside temperature dropped to 11°F.
⑤ Stored rain suits in cabinet drawer, shift supv. office.
⑥ Pushed off both AEC trucks and parked them at the wash rack.
⑦ Received 5.8 Kg U from 205 into W-4.
called in. ⑧ A "T" froze and busted in the shed at W-7.
⑨ Oiled all hood fans.
⑩ Repaired horn on pick up truck.
⑪ Decontaminated tools for Andy.
⑫ Removed motor and fan from heater in make-up room and installed in change house.
⑬ Repaired steam leak at W-5.
⑭ Repaired steam radiator in change house.
⑮ Verbal instructions to 4-12 regarding a second
Job Completed → drum of supernant from W6 to semi works.
⑯ Replaced lights in North Hot Lab Hood.

12-27-48

4-12 Sachs

① Completed Pressley's evaporation in 3rd level hood.

② Tunned off the small W6-SB jet a 10 p.i.m as per instructions.

③ Watched Pressley's column and clamped one off when level in 3rd level jug reached ¼". Qual instructions passed on to the 12-8.

④ Pulled a sample from W3 for P.B. Onn.

⑤ Pulled a sample from W6 for Ina Whitney.

⑥ Checked dissolving in "C" Building. Recorded data every hour on the hour. 12-8 shift please continue.

⑦ Checked P174-P1 which is going through the column. Status at shift change verbally to the 12-8.

⑧ A "T" on the steam line to the hexone still blew out this evening. Maintinance repaired it.

⑨ 12-8 maintenance knows about a bupleen 1½" elbow on a steam line at the carbonate make up tank at W1-W2.

⑩ Analysis: P174-P1, 1769 millicuries S.T.

12/28/48 12-8 Schaich

① Turned off Pressley's column according to instructions

② Checked P174 going thru column at all E.

③ Maintinance stamped building and repaired elbow in steam line at tank farm makeup

④ Attended Whitney's classes in N. Hot Lab.

⑤ "C" Bldg off gas was 0.0 at 12 A.M and cutting in the A4-205 did not help. The 4-12 had the cooling

H_2O on the dissolver in preparation for draining A16 system. A16 was giving a steady 30 inch phase in "D Bldg". While checking the valves outside, the A16 valve to "C" Bldg was turned one revolution and then back to wide open. Upon returning to "C" Bldg the vacuum had started to rise and finally assumed normal operation. Dissolving operations were resumed at 12:30 AM. Take hourly readings rest of shift.

12-28-48 ① Flushed and drained 205 stack and ran
8-4 the steam engine for four hours.
Russell ② Ran the small W6-3B jet for 7 hours.
③ Thoroughly drained A4-205 vacuum system for special testing by engineering.
④ Began jetting W3 to S.B. Note W3 is jetting to Ruthenium tank, D-3. D-3 is jetting to W12 → W11 → S.B.
⑤ Work was continued on the Cell ventilation off gas filter system. The filter frame was cleaned for painting; the manhole cover was removed; and the hat, detail E, was installed. A shed was set up to keep the filter frame dry. The HCl-ether storage area was roped off and tagged as a hot area.
⑥ The funnel at south east corner of W-5 platform is still reading 2R. The activity is somewhat soluble in HCl.

⑦ Received 12.5 Kg U from Semi works, into W-4.
⑧ Received a truck of metal waste from K-25. This truck is now at W-4 and is to be emptied into W-5.

12/28/48
4-12
Sachs

① Emptied waste From K-25 into W5. The truck was left at W5 platform. It will be driven away in the morning.
② Shut off the small W6-SB jet at 6 p.m as per instructions.
③ Added two bottles of HCl to the funnel at W5 platform. Does seem to take some of the activity along with it.
④ Completed evaporation of product in Room #10, "C" Bldg
⑤ The pH of W5 was a good 8 at 8:30 p.m.
⑥ 205 Bldg. borrowed oven slug canneins and truck at 9:30 p.m.
⑦ Took up P174-P3 in 400 ml H_2O. Started regeneration of column and submitted duplicate samples to lab.
⑧ Continued the W3-D3-W12-W11-S.B transfer. states to 12-8 verbally. h.h. of W3 at 11:20 p.m was 6'3". See Blowers note about getting a sample of W3 at D3 when W3 h.l. reaches 6'.
⑨ Whitney's column is still sputtering in the N Hot Lab.

12/29/48 ① Sampled D3 when W3 was at 6' level. Lab downstairs
12-8 does not run Pu analyses and 205 Bldg doesn't
Schaich run Pu on shifts. Thus one sample was left in lab
for day shift.
② Continued W3 - D3 - W12 - W11 - SB transfer. W3 liquid
level at shift change is 5' 3".
③ Took F2 sample at cell I and started
regeneration of columns. H_2O wash going thru
column at shift change.
④ Brought funnel at W5 down to 100 mm/hr.

12-29-48 ① Delivered the K-25 metal waste truck to the
8-4 driver at the front entrance.
Russell ② Continued the W3 → D3 → W12 → W11 → S.B. operations.
Liquid level in W3 is now 3' 11".
③ 205 returned the truck & carriers.
④ Work was continued by Jones on the
Cell Ventilation off gas filter system.
The filter frame was cleaned and the
first coat of paint applied. A hole was
burned in existing metal duct for
connecting the filter by-pass system.
Neoprene gaskets were cut and line connections
were made to the filter frame.
⑤ Received a truck of metal waste from
K-25 now parked at W-5. This waste
is going into W-5 at shift change.
⑥ ~~Assembled~~ glassware equipment for Rimshaw's
Ru^{106} on hand level.

⑦ Added Pistons to both our trucks.

12/29/48 ① Shut off W-3 lines and closed all valves. W-3
4-12 stopped jetting at 3'10". MTied D-3 and drained
Bunford lines.
② Finished jetting K-25 truck into W-5
③ Checked Whitney's agitator in N hot lab periodically
④ Will 12-8 please turn off small jet W-6 to SB
right after midnight
⑤ Serviced Presley columns Passed on to 12-8
⑥ Received drum of waste from semi works into W4

12/30/48 ① Turn small jet W6-SB off at 12:30.
12-8 ② Attended Presley's columns on 3rd level.
Schaich ③ Held monthly safety meeting.
④ Checked Whitney's agitator in N Hot lab.
⑤ Melted down ~~one~~ cans of sulfur in Cell F according to instructions. Second can could not be melted down because it didn't fit in D1. Used up all spare time trying to get it set.

12/30/48 ① Turned small jet W6 → S.B. on at 8:45 A.M.
8-4 ② Delivered K-25 truck to drivers.
Blauer ③ Received metal waste to W-4 from 205 Bldg.
④ Added 15" to dip pipe in W3 and started jetting W3 → D3 → S.B.
⑤ MTED one truck from K-25 with 270 gal. of material into W-5.
⑥ Cleaned up hot spots on 3rd level.
⑦ Unloaded a second load of 270 gal. of K-25 waste into W-5 & sent truck back.

⑧ Filter house 80% complete. Installed remainder of duct, started brick facade + painted today.
⑨ PH of W5 is 8

12/30/48 ① Phosphorous going through the column at cell V
4-12 ② On the third level Kimshaw has his reactor
Buford going. There's a thermometer sticking in the lagging he wants to know at what time the temperature reaches 130°. It seems to have settled down at 124° starting about 9:30 PM
③ Continued Presleys column - passed on to 12-8
④ Shut off small jet to SB at 9:30 - leave it off (H.B.)
⑤ Continued jetting W-3 → D3 → SB. Jet is off now we are down to ≤ 2'-5" note Ramsey description of how to start jet (in TF log)
⑥ pH of W-5 about 8.

12-31-48 ① Continued jetting W3 → D3 → S.B. Sampled W3
12-8 at D3 when level in W3 dropped to 2 feet.
Russell W3 quit jetting at 1 foot 11 inches
② Kept Presleys column going all shift.
③ Checked Kimshaw's third level operations. The temperature reached a maximum of 128°C at ~ 3:30 PM.
④ Checked P^{32} going thru column Coil V.
⑤ PH W5 is 8, pH W6 is ~10

12/31/48
8-4
Sachs

① On the supervisor's desk is a drawing of the valve settings for flow of waste from 205 Bldg. All chemical waste is now going to W3 not W5. For receiving metal waste into W4, drop the plug cocks on W3 and open the one to W4.
② Received metal waste from semi-works into W4.
③ Brought in an M.T. HCl-ether canniser for decontamination.
④ Welders cut into the W11 drain line at the N.E. corner of the Bldg. A new drain line from the filter box is [redacted] installed.
⑤ Had a new windshield WIPER installed on the pick-up.
⑥ Finished manpower for clean up job in the N Hot lab.
⑦ The filter job on the cell ventilation duct is virtually complete. Only clean-up work remains.
⑧ Cleaned and stowed a HCl-ether canniser.
⑨ Picked up 30 pairs of coveralls from stores.
⑩ Come and plug of HCl-ether canniser are in the decontamination room barrel.

12/31/48
① Took up phosphorous in 200ml of distilled water and submitted samples to lab.
② Checked Pressly's column
③ Shut off small ft W6 → SB at 11:30 PM
④ Took readings on filter box for #B
⑤ Happy New Year!

1949

1-1-49 12-8

1. Kept Pressley's Column going all shift.
2. Kept routine work going.
3. 1 emergency light is burnt out behind PB #5.
4. John try and pick up some towels at the laundry we are out in change house

1-1-49
8-4 1 Watched Pressleys Column all shift.
J. Walther

1-1-49 1. Cont. Pressleys Column.
4-12
Ferguson

1-2-49 ① Took cuts from Pressley's column on
12-8 third level and recorded data.
Russell ② Began the installation of pressure-vacuum manometer on glassware panel board for measuring pres-vac on B20T or B21T.
③ Maintenance began some work on additional shielding for Ru^{106} glassware on 3rd level. This job was completed and some more glassware equipment was installed.

1/2/49
8-4 ① Received metal waste into W4 From Sachs 205 Bldg.
② Replaced burned out lightbulbs at the 205 stock.
③ Checked Pressley's column on 3rd level. Took

hourly cuts and recorded data.
④ Turned on the small W6-SB jet at 2:00 p.m. Goes until 8 a.m tomorrow.
⑤ Watch the ice on the east platform. Condensate from mill steam coil was what did it. Seems to have stopped now.

1/2/49 ① Regenerated columns at cell V and sampled R-1
4-12 ② Continued with Pressleys columns on third level.
Bufford ③ PH of W5 8
④ Small jet to SB still running.

1-3-49 ① Filled oil cups on hood-fan motors over
12-8 the hot labs.
Russell ② The check valve on the west vacuum pump is still leaking. The pumps run at unusually close intervals in order to maintain necessary vacuum. Shift maintenance did not have time to make repairs.
maint. on pit is O.K. W.B.
③ Completed installation of B20T and B21T manometer at glassware panel board.
④ Obtained cuts and recorded data on Pressley's third level column.
⑤ Emptied hot cans.
⑥ Turned off the W6-S.B. jet at end of shift.

1/3/49
8-4 ① Received metal waste from semi-works into Sacks W4.
② Received some low activity waste from hot pilot plant into W5.

(3) Pulled a special sample from W3 for P.B. Orr.
(4) Received new hook carrier from paint shop and put five hooks on it. The carrier is on the 1st level.
(5) Cleaned up make up and decontamination rooms.
(6) Cleaned up a few contaminated tools for J.A. Jones.
(7) Measurements were taken on the pulleys and V belts on the cell fan drive. In all probability, cell A vacuum will be brought up to 1" by increasing fan speed.
(8) Aided semiworks in getting 50 gallon samples from W6.
(9) Loaded Pot No. 21 on truck 4224 and took it to 105 Bldg. for sugarmans. Loaded Pots 3 and 20 on truck 4221 and took them to pile building for more loading. Loaded pots 4 and 9 on truck 4223 and parked same east of T.F.
(10) Started jetting from W4 to W7. Let him go until she starts blowing steam.
(11) Started cleaning up the Iodine equipment in the N Hot lab for this weekends runs. Status verbally to the 4-12.
(12) Dispatched truck 4223 to Chicago with Pots Nos. 4 and 9, both 4300* pounders.
(13) Received tongs for the removal of filter frames from the cell ventilation filter box.
(14) Hot pilot plant, after a delay, is supposed to dump some metal waste. The valves are now set to go to W4. Better check on this trouble.

1/3/49 ① Continued Pressley's column on third level.
4-12 ② Received waste from 205 into W-4 107.4 Kg
Buford ③ Setted W4 to W7 all shift
④ Completed pre run check of Te iodine equipment. We should get a faster filter — couldn't find one tonight
⑤ pH of W3 - 11 pH of W4 - 8
⑥ W1 and W2 got very hot — W1 - 248,295 c/m/l/m W2 - 39,495 Sent both to W-5. Tried to locate it but both 205 and 105 denied anything to do with it. The valves are all set OK and there is nothing coming out on the floor at all II. I suspect a leak at 205.
⑦ Where the *!! in are this shifts time cards?
1-4-49 ① Ours disappeared too! Where are they?
12-8 ② Continued Pressley's third level column.
Russell ③ Allowed W4 to jet into W7 until W7 reached the overflow line to W8. Cut the jet off at 2:30 Pm. W4, 5'2" W7, 11'8".

1/4/49 ① Washed and drained the 205 stack and ran the
8-4 steam engine for four hours.
Sachs ② Received some hot waste into W5 via W12 from semi-works.
③ Anyone fond of fried rabbit may find some in W12 valve pit.
④ A 20 horsepower motor is to be installed to drive the cell fan. Job to be completed by Friday evening.
⑤ Dispatched truck (Ill. H5392) with pot #1 to Chicago. Carpenters shoved up the truck.

⑥ Picked up a sample at the Pile 131bq. and delivered it to the N. hot lab.
⑦ Replaced broken belt on S. Hot. lab exhaust Fan located over hot labs.
⑧ Tightened up the packing on the E. vacuum pump.
⑨ Threw some HNO_3 on a truck From Sam Prince.
⑩ Instrument men Fixed M11 and M10 manometers and inserted on A1 ringbalances
⑪ The main valve For A16 is now open.

1/4/48 ① The floor on the second level in the NE corner (behind the scope rack) is in pretty bad shape. It needs carpentery.
4-12 ② Started charging bank A of batteries at 6:45 PM
Buford ③ Cut off small jet A16 → 5B at 9:00 PM
④ Electrician checked sulfer heater — it is OK — in decon room
⑤ Continued pre run check - still a few items to go
⑥ Drained and washed T_1 and T_2
⑦ Located at least three sets of sampling equipment they are in cabinet
⑧ Installed filter in iodine 131 equipment — The new one was too big cleaned up and replaced the old one. It is OK now.

1-5-49 ① Took cuts and recorded data every hour
12-8 on Pressley's third level column.
Russell ② Greased and checked slug carriers.
③ Dumped acids and filled up the head tanks.

④ Repacked the 178-1711 steam jet valve.
⑤ Relamped the building.
⑥ B-Bank of electrolysis batteries charging until 10:45 Am.
⑦ A water sample obtained at the White Oak Creek Dam 1:30 Pm ran 17 c/m/ml.
⑧ Semi-works (6273) want to drop some hot waste to W12 shortly after 8 Am. W12 is overflowing to S.B.
⑨ pH of W5 is about 8, W3 is 11.

1/5/49 8-4 Sachs
① Instrument men made final repairs and checks on Al ringbalance
② Received metal waste into W4 from semi-works.
③ Received semi-works waste into W5 via W12. See note about having them send a 50 gallon rinse after the waste.
④ Received washes from hot pilot plant into W5.
⑤ Received metal waste into W4 from the hot pilot plant.
⑥ Pipefitter checked faulty pressure gauges. They are O.K now.
⑦ Holes were cut in the cell ventilation duct and A16 line in order that engineers might install sampling apparatus.
⑧ Had the tires on both hoists inflated to 35 lbs. pressure.
⑨ Closed the W11 drain valve in accordance with the new W12, W11 tank farm procedure.

(10) Installed a 1½" orifice on the A4-205 line at the stack. This replaces the old 2" orifice.
(11) Put two new batteries in Boyle B. Did some clean up work around battery table.
(12) Dumped some waste into W5 From K25 truck.
(13) The 4-12 shift at hot pilot plant will be run over slag carriers sometime during the shift.
(14) Rechecked Al vacuum after the new orifice had been installed. It was 0.15.
(15) Put lead removal in B6 and B12. It's still there.
(16) Electricians want to work on the installation of the new cell fan.
(17) The motor on the cell fan has been removed.
(18) Engineers inspected the impellers on the cell fan. They are O.K.
(19) Engineers determined that the cell fan was pulling 2085 c.f.m. through the filter.
(20) Bob, check hot pilot plant and see if they've finished sending their washes to W5. That's how the valves are set now. They should be about through.
(21) Also Robert, check On about a K25 truck which is waiting at the plant gate to be picked up.

1/5/49 4-12 Schaich

① 205 Bldg borrowed truck and 2 slag carriers
② Hot pilot plant finished sending washes and valves changed.
③ Received truck load of metal wastes from K25 into W5. Truck left at W5 to be delivered in morning.
④ Turned E. King's apparatus off at 7:30 PM. at which

time temperature was 141°.
⑤ Attended Beasley's column on 3rd level and took hourly samples.
⑥ 205 Bldg. cleaned and stored slug carriers.
⑦ Received approximately 80 gals of coating removal solution from 205 Bldg into W3
⑧ A16 fan shut down due to repair work on cell fan motor. They are connected on same 440 volt line.
⑨ PH of W5 is 7 + pH of W3 is 10.
⑩ Maintenance replaced battery connectors on "A" Bank and half of "B" Bank. 12-8 please continue work. "A" Bank works okay.

1-6-49 ① Sampled lead removal solution in B6 and
12-8 B12 and sucked solution from B12 to
Russell B7 where it is now sparging.
Analysis B6 .01 mg/ml Total Pb 400 mg.
B12 .02 mg/ml Total Pb 90 mg.
② Completed job on B Bank of batteries. Both sets of batteries check OK, however the B set are not too good. They will not recharge as they should.
③ Obtained cuts from Pres. column and recorded data.
④ Moved the K-25 waste truck to front entrance.
⑤ Melted down two cans of sulfur. The second can is in P-1.

1-6-49 ① Sampled solution from B-7 in B-12. Called it B-7
8-4 lead removal. 126 mg total - 90 from B12 = 36 mg in B-7.
Blauer ② Water on B12 jacket at 8th A for 12 hours. L.L. of B12 at start 7.9" Time started 9¹⁰ A.M. Time shut off 9¹⁰ P.M.
③ Received K-25 waste 270 gal into W-5.
④ Instrument men worked P.B. #2
⑤ New motor installed in fan house. The motor ~~was~~ is 20 H.P. 1750 R.P.M. Not hooked up yet. New wiring run from building electrical board to 706 DA (the fan house)
⑥ Received a waste from semi-works to W12 to W5. They will call when they are through. Be sure they drop a 50 gal. water rinse down behind the actual waste.
⑦ A16 is back on.

1/6/49 ① Received 22 kg of H3PO4 solution into W4 from semi-
4-12 works.
Schmich ② Washed out W11 dry well.
③ Received 270 gals waste from K25 into W5.
④ Both still tanks on 3rd level were very low at shift change (4 P.M.) The N still is not in operation due to repairs. The S still is working okay.
⑤ Maintenance shoveled a truck load of loose stone that had fallen into A16 drain valve at the NE corner of building which plugs it up tighter than a drum. Should be a cover placed over it to keep out water and stones.
⑥ Emergency lanterns at 2nd level North and 3rd level by lab bench in need of repair.
⑦ 105 Bldg. purged the canal and dumped an estimated

700 gals to S.B. before they got order to shut it off.
⑧ Attended P176 going thru column in Cell E
⑨ Took hourly cuts & readings on Pressley's column on 3rd level.
⑩ Turn water off 312 jacket at 9:00 PM. L.L. was 7.7"
⑪ pH W5 - 7 pH W3 - 10
⑫ 205 Bldg loaned truck & 2 slug carriers

1-7-49 ① 205 returned truck and slug carriers.
12-8 ② Took hourly cuts and recorded data
Russell on Pressley's third level column.
③ "Cut off every body's water" to S.B.!
④ Calibrated waste disposal flask, Ru 106.
⑤ Moved K-25 chemical waste truck to front entrance.
⑥ Held safety meeting.
⑦ Sampled W11 dry well. Analysis 19,919 c/m/ml. Note this dry well was washed out on the 4-12 shift.
⑧ Stood chemicals from east platform.
⑨ Checked P-176 going through valve.
⑩ PH of W5 is ~ 8.0

1-7-49 ① Received metal waste into W4 from 205 bld.
8-4 ② Received waste from K-25 truck into W-5
Binford ③ Received three chicago trucks AE 4224 carrying six sugarman carriers delivered to 105. — AE 4221 with pots 2, 24, 25 and AE 4223 with drums 6, 100, 104 23, 75, 14, 111, 118, 102, 68. Four to twelve please note

drum #14 has either hexone or material for W-5. We aren't sure which – if it smells like hexone dump at W10 otherwise W-5

(4) Electricians finished work on cell fan.

(5) Manometer readings on filter house: 2:45 PM
#1 (AAF) 0.8" #2 (CW5) 0.8" #3 (total) 3.0"

(6) Instrument men ~~were~~ completed PB 2 and PB 3 and started on PB #4

(7) Received three drums of waste from semi works for W4

(8) Air flow through duct with one inch on PB-1-4 (cell A vacuum) is approximately 2500 CFM

(9) The line from 205 to W5 is open receiving waste into W5. ~~When~~ Better check 205 so it can be closed when they are finished – Note W4 & W3 plugs are both closed.

(10) Pot and drum status: – at W5 10 drums #68 MT #118 half MT be careful of it its full of sludge.

(11) At W-4 one semi works truck with three full drums for W-4, Also at ~~gate~~ one full K25 truck for W-5. In front of building, three pots for W-5.

(12) Started I run 643. Oxalic nearly all in.

1-7-49 4-12 Schaich

(1) Received 20.3 Kg of UNH solution into W4 from semi-works.

(2) Received 8.9 Kg of UNH solution into W4 from semi-works.

(3) 205 finished jetting to W5 and valves reset to W3

(4) Received 270 gals of waste from K25 into W5.

(5) Maintenance report all fan motor runs 50° hotter than room temperature so don't worry if it gets hot.

⑥ Emptied drums #6, 100, 104, 23, 75 into W-4.
" " #111, 118, and 68 into W-5.
" Pots #2, 24, 25 into W5.
Drums #14 and 102 at hopper still. One going thru at shift change.
⑦ Finished I-131 Run No 643 and started Run No 644. Adding oxalic at shift change.
⑧ Took hourly cuts and readings on Pressley's column.
⑨ Took up P176 in 300 ml H2O and submitted duplicate samples to Lab. Did not start regeneration.

1/8/49
12-8
Sachs

① Took hourly cuts on Pressley's 3rd level column and recorded data.
② Completed Iodine Run No. 644 and started 645. Adding Oxalic acid at shift change.
③ Picked up two Te samples from Pile Bldg for I-131 run No. 645
④ Make up some Chromic acid solution.
⑤ Put the last hexone drum under the still. All the other drums were scrubbed and smeared. Pots haven't been washed.
⑥ The 3 a.m. W1 [redacted] sample was 39,930 counts/m/ml. Had another sample pulled. Should have result by 8 a.m.
⑦ Maintenance checked the new motor on the cell fan. Seems to be doing O.K.
⑧ The drums are all O.K.
⑨ Started regeneration of column at cell 5. Still going through at shift change.

1/8/48 ① Explained operation of cell fan to all shift personnel.
4-12 ② Ferguson worked for Parker ½ hour.
Bunford ③ Continued cutting and sampling Pressly's columns.
④ Scrubbed up three pots and one drum:- all pots and drums are now OK.
⑤ 205 borrowed our truck to take some material to the burial ground.
⑥ W-1 got warm again - not too bad but more than usual 26,000 c/m/l/m. about 8:00 AM
⑦ Made up 20% $Pb(NO_3)_2$ and 45% K_2CO_3 - ~~this~~ K_2CO_3 not sampled.
⑧ Completed I645 and ~~I645~~ started I646. Adding oxalic at shift change. During the removal of the waste from run 645 the teflon line to the jet came off the air line and some of the solution was spilled on the floor. It has been partially cleaned up, but we will scrub the floor tomorrow. Use paper to prevent getting pot feet.
⑨ The steam lines were shut down at 10:30 AM and are now being started up slowly.
⑩ Changed W-12, W11 set up to SB. - W11 is now draining not overflowing to SB. There is a leak to the dry well from W11 - Sampled dry well it reads 100,000 c/m/m - Please leave
⑪ $Pb(NO_3)_2$ analysis 20.4% Note the carbonate and lead nitrate are in a bottle and a flask respectively.

1/8/48 ① Made housekeeping inspection and took care of all
4-12 items.
Schaich ② Sampled K_2CO_3 solution Analysis - 45.78%
③ Cleaned up cell fan house and put down new paper.

④ Loaned pickup and P. Phillips to Parker for ½ hour.
⑤ Received two unions into W5 from 205 Bldg. Valves reset to W3.
⑥ Attended Pressley's two columns and took hourly cuts on one. A 250 ml distilled water wash is to go thru the small one after solution beaker is empty. H₂O in beaker at shift change
⑦ Turned on large jet W6-5B for 2 hours.
⑧ Found valve A1-A9A on PB#1 cracked open which may be one difficulty on A9 falling up. However valves A9-A8C + A8-A9 on PB#2 and A1-A9A on PB#1 are leaking. 12-8 have maintenance repair.
⑨ Made up 1'6" of caustic in M11 for two dissolvings and tank full of 4%. Lab analysis – 35.3%
⑩ added $Pb(NO_3)_2$ to T1 and K_2CO_3 to T2 and labeled contents.
⑪ 205 Bldg have some stuff in decontamination room. Will pickup later.
⑫ Finished I-131 run No 646 and evaporating product at shift change.
⑬ Jetted all tanks in cell 4+B to A5.
⑭ 12-8 see if you can get some light up at the 205 stack

1/9/49
12-8 Sachs

① Continued taking cuts on Pressley's column and recorded data every hour on half hour. Finished up the other little column that the 4-12 started up.
② Harris has story on the lights at the 205 stack. There are two switches to these lights. One at the stack and another inside 205 Bldg. Someone has been turning them off from 205 Bldg.

③ Evaporated final Iodine product solution to 250 ml, pulled samples and submitted to lab. Analysis: 1090 millicuries S.T.
④ Continued Regeneration of P^{32} column. The H_2O wash has not been added.
⑤ Received washes into W5 from Hot pilot plant. Valves reset to W3.
⑥ Made up tanks of 4% caustic.
⑦ Maintinance repained the following leaking steam valves. A9-A8DA, A8-A9, A1-A9

1/9/48 8-4 4-12 Benford
① Analyses of 45% NaOH 41.2%; 4% caustic 4.96%
② Phosphorous column regenerating – about 50 ml to go. We tried to get some more P32 out of the evaporator, but only picked up 50 mc as discarded.
③ Continued Presley columns
④ Scrubbed N hot lab.
⑤ Brought in overshoes etc from area around W-5

1/9/48 4-12 Schaich
① Checked caustic in M11 and Sp.G. ran 1.37 for 3 samples. Pumped 306 # to T9 and 13" into T6. Lab analysis for caustic in T9 ran 33.3%.
② Finished regenerated column in cell K and took samples
③ Received 80 Kg of metal waste into W4 from 205 Bldg.
④ Took hourly cnt and readings on Presley's columns.
⑤ added NaOH to T9 – analysis 34.6%
T6 is still 33.3%. There is enough NaOH setting on top of T6 to make 306 # of 35% when place in scale tank. In other words 306 # of 33.3% + 8 # NaOH → 35%

1/10/49 12-8 Sachs

① Had electrician replace two burned out bulbs in the Fan house.

② Continued taking cuts on Pressley's column and recorded data.

③ Put new charts on the instruments at P.B. #1

④ Melted down two cans of sulfur as per instructions.

⑤ There's been some sort of spill on oven floor at the W3, W4 plug cock valves. Ground is very hot so take care

1/10/49 8-4 Bunford

① Loaded 38 slugs.

② Unloaded K-25 truck into W-5

③ Unloaded one drum of waste from semi works into W-4

④ Received a slug of hot stuff from semi works into W-12 — Jetted to W-5 and rinsed both line from semi works and the tank

⑤ Maintenance repaired the leaky check valves on the house vacuum pump.

⑥ Drained W1 and W2 alternately at one foot, after sampling — This to safeguard against putting too much waste in W-5 if the W1 or W2 samples should be lost. 205 was leaving trouble up to three o'clock. Should be OK for normal operation now

⑦ Run Status: — Just starting removal to temperature at 3:00 PM

⑧ The steam has been turned off the coils in M11

⑨ Sampled A5. If it counts are under 25,000 c/m[illegible]/m

send to S.B. If over 25,000 hold until W12 is on automatic jet and send to W-5.
⑩ Cleaned up charging machine. It is to be returned to 205 if OK with cutie pie. The hook is being used at 105

1/10/48 ① Charging machine okayed and sent back to 205.
4-12 ② A5 Sample was 4×10^6 c/min/ml or 26 curies.
Schaich Held up until W12 goes on automatic jet.
③ Cleaned up Phoenix carrier and had H.P. smear it. Smears okay.
④ Schaletta column is hot even if he says it isn't. Sample cuts were reading 1 R and the background at open door is 200 mr/hr. When using tongs to change samples, reading on hands is 1 R.
Blaney ⑤ There is a leaking condensate line where it joins
Nob. the main drain at the S.W. corner of cell B 1st level. It is a welding job.
⑥ Took hourly cuts and readings on Cressby's column.
⑦ Finished purification of ether and gave lab final product
⑧ Checked 177 going thru column at cell V
⑨ Took hourly readings on dissolving in "C" Bldg.
⑩ analysis of 1st coating removal gave these results: 1795 gms Al., 0.0 gms U, (4 curies activity). 10 ml sample gave 400 mr/hr.
⑪ Attended Schaletta's column and took cuts according to instructions Verbal instruction to 12-8 shift.
⑫ Run Status:- 2nd coating removal up to temperature at 11 P.M.

1/11/49 ① Continued taking cuts and recording data on
12-8 Pressley's 3rd level column.
Sachs ② Took cuts on Schlant's column in C Bldg and closed it down as per instructions.
③ Ran into trouble on the C Bldg I^{131}. Vacuum started going haywire at about 1:30 a.m. Finally when the vacuum became entirely void, the dissolver was cooled to about 75°C and A16 drained. This also didn't help matters any. Don't know what's wrong. All valves seem to be set.
④ Checked P^{32} going through the column at Cell II.
⑤ Our dissolving got under way at 4:25 a.m. The A4-205 system was drained after the last coating removal wash was jetted to W12. W12 was switched to automatic jet to W5 before adding HNO_3 to A1.
⑥ A visual sample was pulled on the last coating removal water wash. It was perfectly clean
⑦ Sampled second coating removal. Analysis: A1, 372 grams; U .005 milligrams/ml.
⑧ Run Status: A1 dissolving. Sp. G. just beginning to come up.
⑨ A5 is M.T. but zero's at 5".

1/11/49 ① 706C I-131 is on the A4-205 system now.
8-4 ② Turned large jet W6 → 5.8 from hour. 9 AM – 10 AM
Blamer ③ Received truck from K-25, unloaded & sent back to wash rack
④ Phoenix sent back.
⑤ Sent two boroscopes to the optics shop
⑥ Carpenters repaired floor N.E. corner of 706-D 2nd floor

(7) Loaded + sent back all pots + drums on AE 4221 + 4223.
(8) D2 tank reinstalled at Ruthenium tank set-up.
(9) Run #29 still dissolving.
(10) M. Waste truck from semi-works at W-4 to be unloaded. Notify semi-works when it is empty.

1/11/48 4-12 Schaich
(1) Jetted metal waste from semi-works into W4
(2) Received waste from semi-works into W12 + 50 gal wash.
(3) Took up P177 in 350 ml of H_2O and submitted duplicate sample to lab. Started regeneration of column.
(4) Attended Pressleys column.
(5) Attended heel dissolving in "C" Bldg according to instructions.
(6) Sample 1 MA gave 2484 c's S.T. or 27.7 slugs.
Ed King Wolf → (7) Need distilled H_2O in Cell V
(8) Run Status:-
Batch A - Settling hot in A9 till 12:20 AM.
Batch B - Dissolving in A1 - up to temp. at 11 P.M.
A1 Sp.G. recorder isn't working so hot due to low volume in A1.

1/12/49 12-8 Sachs
(1) Finished up the regeneration of the column in Cell V and sampled R1
(2) Attended to Pressley's column and finished it up.
(3) Instrument men evidentally have the Cell B manometer down. At any rate it shows no vacuum.
(4) Checked the dissolving in C Bldg.

(5) Run Status; A1 - Batch B dissolving
A11 - Batch A settling until 11:35 a.m.
A9 - Batch A heel (extraction heel)
A8 - M.T.
A6 - M.T.
A5 - Carbonate

1/12/48
8-4 (1) 205 borrowed the slug carriers and the big truck.
Burford (2) The A-16 line to C building is plugged. They are using A4-205. The valve is closed to A1 on the A4 system behind PB #1
(3) Maintenance repaired leaking steam line in make up room
(4) Ran large jet W6 → SB for one hour.
(5) Run Status
A9 - batch "B" settling til 4:45 hot.
A11 - MT
A8 - MT
A6 - 6WMA sampled (hold til released by H.B.)
A5 - batch carbophosphate
A1 - MT (A4 line cut off!!)

1-12-49 (1) Semi works dropped 30 to 40 liters waste
4-12 containing fission products into W11.
Russell (2) 205 returned slug carriers and truck.
(3) Prepared the HCl ether carrier.
(4) Reran the 1MB. Analysis 723 C's A.T. 660 C's S.T.
The original analysis was 685 " 621 "
(5) Analysis 6WMA 12 C's A.T. 11 C's S.T.
(6) Attended to Rimshaws P^{32} column on

third level. This job was not completed.
⑦ Loaned slug carriers and truck to 205.
⑧ The 8WMB sample read ~ 3R.
Analysis
⑨ Run Status:
A1 MT
A5 CO_3-PO_4
A6 6WMA
A8 MT
A9 The Product SO_4 Cake. Waiting on 8WMB results.
A11 8WMB

1/13/49
12-8 ① Attended to Rimsham. P^{32} column 3rd level.
Sachs ② Run Status:
A1 - M.T.
A5 - Cambo-phosphate
A8 - M.T.
A6 - 6WMB, 6WMA
A11 - Batch "B" heels and 8 WW.
A9 - Product, K_2CO_3, H_2O going in.
③ Analysis: 6WMA + 6WMB 19 C's S.T.

1/13/48 ① Received a drum of waste from semi works into W-4
W-4 ② Sent back the K-25 truck after washing.
Bamford ③ Maintenance borrowed the big truck for hauling to burial ground.
④ Checked the equipment on T.F. all except water line. The bubblers are not working properly.
⑤ Run Status
A-1 MT

A-5 batch carbophosphate
A-8 8WC not sampled.
A6 6WMA, 6WMB
A11 heels and 8WW
A9 – Product – Second metathesis settling 'til 4:45 PM
⑥ Brought product carrier to third level
⑦ Received another drum of waste from semi-works into W-4
⑧ 205 wants slug carriers and truck on 4-12. Carriers are loaded at truck.

1-13-49 ① Repaired the product carrier.
4-12 ② Emptied all Cell B tanks.
Russell ③ Loaned slug carrier and truck to 205.
④ Locked burial ground gate.
⑤ Attended to Kimshaw column.
⑥ Checked Whitneys filtration in N. Hot Lab.
Passed word on to 12-8.
⑦ W-5 overflowed at 11' 10".
⑧ 8WC analysis 481 c's S.T.
A special 8WCW-1 sample taken after the first metathesis wash ran 487 c's S.T.
⑨ Made transfer to Cell B.
The Product solution is electrolyzing at 15 amps until 2:15 Am.
Waste solutions are being jetted into A-9 for an extraction. Consult Blaine for details.
⑩ Flushed T-1 and made up 20% $Pb(NO_3)_2$.
Please sample. It's now agitating.

1/14/48 ① Made up and sampled K_2CO_3.

12-8 ② Analysis: A9 Wash, 14.4 c's S.T.

Saahs ③ Attended to Whitney's filtration in the N. Hot lab.

④ Started an extraction on the A8 and A11 wastes, that is on the 8WC, 8WCW, 8WW, and Batch B heels.

⑤ Will the 8-4 please call the engineers when starting metathesis - H.B (by T.W.S)

⑥ Here is the new procedure on sampling and draining W1 and W2 tanks. This procedure will be followed until further notice. W1 and W2 will be allowed to fill up to 2' alternately and then will be sampled and drained. When one tank is ~~coming~~ receiving waste, the plug cock on the other will be dropped. When the 1st tank reaches 2' level, the plugcock to it will be dropped and the one to the other tank opened. ~~During this time~~ While the second tank is receiving waste to 2', the 1st will be sampled and drained either to W5 on 8.B. It then will be ready to receive waste when the 2nd tank reaches 2' and is cut off, sampled, and drained. H.B. (by T.W.S)

⑦ Started melting two cones of sulfur for P-178.

⑧ Run Status:

A9 - settling cold until 9:05 a.m

A1 - M.T.

A8 - M.T.

A11 - M.T

A6 - 6WMA, 6WMB

A5 - combophosphate

B12 - Product electrolizing until 9:15 a.m. (at 25 amps)

P.6 $(NO_3)_2$ is 20.66% of K_2CO_3. M is 45.4 o/o

1/14/49 ① Received Chicago truck AE-4224 with pots #10, 11, 26
8-4 All three sent to W4. Didn't get time to unload trucks
Schaich ② Helped semi-works obtain a barrel of waste from W6.
③ Notified sampling engineer, H.P. office, and Davis that we were starting B6 evaporation.
④ Took samples 6P and 8WM (Recovery)
⑤ Emptied pots 10, 11, 26 into W4.
⑥ Run Status:
A9 - 2nd H_2O Wash settling until further notice
A1 - MT
A5 - Carbophosphate
A6 - 6WMA, 6WMB
A8 - 8WW Recovery
A11 - Waste recovery 8WM settling till 4:15 PM.
B3 - 20 Liters H_2O
B21R - Product filtering 1st 2500 F. Nitric.
⑦ Received AE 2967 to take out product.
⑧ Cleaned out B19 by placing heater up against the bottom of B19 and turning steam on it. Steam goes in back of valve to air heaters (Large Valve which is turned off.
⑨ Rinsed out line to glassware by adding 500 ml to B11 - Mov. funnel rack - B21R.

1-14-49 ① Locked burial ground gates.
4-12 ② Placed roll blotter paper on rack.
Russell ③ Unloaded the Chicago Pots, D Building.
④ Oiled the steam fan.
⑤ Completed phosphorus run through the glass-

ware. Product solution is going thru the column.

⑥ Attended to Whitney's evaporation in C Bldg. Verbal instructions passed on to 12-8.

⑦ Attended to Rimshaw's third level P^{32} column and sampled.

⑧ Analysis 3WFN 25 C's
" 8WW 10 C's

⑨ B-6 Rinse 285 C's. Resampled B-6.

⑩ Replace one spark plug in pick up truck.

⑪ Note 12-8 Do not start extraction, decantation and cake washes until the product has been evaporated and placed in the cans. Be sure to check with the engineer before you begin operations again in Cell A. They want to run checks on the A16. The A9-205 header valve is turned off behind PB-1.

LST was 8:20 PM 1-14-49

⑫ Completed the glassware operations, Run 29. The Product Solution is evaporating.

⑬ Made up run book for processing waste solutions in Cell A.

1/15/48 12-8 Buford

① Took skyline at 4:20 AM Reading 12R calculates to 1448 C at shifting time by C.P. Baker. (H.P. Readings 10R + 9R R.W.S.)

② Attended to Whitney's ~~column~~ installation in C building, shut off at approximately 200 ml.

③ Scrubbed up the three pots

④ Checked phosphorous through the column at cell V

⑤ Cleaned up the pots. #10 is still hot.
⑥ Run status: ~~waste~~

A-1 MT
A-5 neutralized waste being jetted to A6
A-6 ½ of 6WMA and 6 WMB recovering the other half neutralized.
A-11 Waste to be decanted and neutralized
A-8 Waste recovery 8WW
A-9 First metathesis of waste recovery settling 'til 9:30 AM

⑦ In jetting the partially neutralized waste from 5 to 6 go slow:- the A-16 vacuum won't take it.

1/15/48 ① Checked phosphorus going thru column at Cell V
8-4 ② Neutralized wastes in A6 and jetted solution to W9
Schaich ③ Decanted A11 solution on top of carbophosphate solution in A5. Neutralized solution held in A5.
④ Resampled B6 rinse. H.P. reading 12R. (26 Us.)
⑤ Scrubbed Pot #10. Smeared okay.
⑥ Sampling engineers said they will change the filter once a day from here on out.
⑦ Received instruction on running Schallert column for this evening. Passed on to 4-12.
⑧ Run Status:

A1 - 6" ??
A5 - Neutralized waste recovery
A8 - 1st metathesis waste
A9 - 2nd " settling until 4:10 PM.
A11 - 12" Extraction heel + 8WW
B6 - B6 rinse B3 - 3WFN
B12 - Pd wastes
B24 - HCl Ether

1-15-49
4-12
Russell
Product very clear

① Took another sky-shine reading at 4:20 pm. Probe readings were #1 16 R. #2 21 R. Estimated a 1450 curie product, which checks with the first sky shine.

② Ran a 200 ml. H_2O rinse through the glassware into B19 and evaporated with the product.

③ Took sky shine immediately following the evaporation. Probe readings were 24 R & 31 R. Estimated product 1545 C's. The Product looked like our dummy run, 1 rings of impurities,

④ Discontinued Waste recovery processes in Cell A. Threw all Cell A metal wastes into A-5 neutralized → A-6. Hold this neutralized waste for B Cell wastes in A5 or A6.

⑤ A-1, A8, A-9 and A-11 have been cleaned up. Turned off scrubber.

⑥ Completed operations in C Bldg column. ~~for tonight~~

⑦ Shut down a vacuum pump in C Bldg. which was almost melting down and advised maintenance. Started up the other pump. These pumps run continuously because there is no mercoid switch to kick them out when vacuum reaches maximum.

⑧ Received hot waste from 205 into W-3.

⑨ Note: Take up P^{32} product Cell V in 400 ml. water. Bake the dry product

one hour only. It is almost dry now.

⑩ Procedure to follow on Rimshaw's Column:

Done 4-12

a) Make up 1000 ml. 1 M. formic acid.

b) Run this formic acid thru column taking a sample of each 20 ml. cut on first 300 ml. Then sample every 100 ml cut on the last 700 ml. Code samples P^{32} Ex 5 1R-1, 2, 3, etc. Run for active P^{32}, SO_4, Al.

8-4 4/16/49

c) Follow the formic acid thru column with 300 ml. distilled water and sample. Run analysis for P^{32}, SO_4, Al. Code samples consecutively during this Run Ex. 5. Verbal instructions given 12-8.

d) Regenerate Column:
500 ml. 6 N. (1:1) HCl.
Sample. Run for Al, P^{32}, SO_4 and S^{35}.
200 ml. dist. H_2O.
Sample. Run for Al, P^{32}, SO_4, and S^{35}.

Done 4-12

e) Obtain one liter dist. water that has been boiled to drive off CO_2. To this boiled liter of H_2O, add 4 grams of NaOH to make a 0.1 N. NaOH. Note: Do not add NaOH to boiling water also Weigh NaOH quickly and add to water.

f) Run this liter of 0.1 N. NaOH thru column and sample. Run for Al, P^{32} and SO_4.

g) Rinse column with 300 ml. dist. H_2O and discard effluent.

(11) Resumed C Bldg operations, an evaporation for Schallert. Completed this job.
(12) The Product carrier was covered with Hot dust and a few drops of hot solution when removed from the cell. The bottom of the carrier was reading 10 R. Now reads ~5 R.
All hot papers were disposed of in hot can. However, as a precaution we have roped off the third level until a complete survey can be made to avoid craping up the Bldg. Note the chimney is open.
The Product Carrier is being decontaminated at shift change. We used hot & cold water, HNO_3, HCl and aqua rega. The reading dropped to 5 R which is OK but it still smears.
Hooks for anchoring carrier in truck are on the way from Oak Ridge. The driver has the necessary papers. Steam engine has been shut down.

1/16/48 (1) Sent product to Y after smearing.
12-8 (2) Replaced chimney blocks and stored skyshine
Benford plate over N. hot lab.
(3) Did not proceed with Rimshaw's column due to lack of manpower
(4) Lemon's called in sick

⑤ Scrubbed up third level – and hot spots on 1st level
⑥ Took up phosphorous in 400ml and submitted sample to the lab.
⑦ Sampled and removed HCl – ether waste – Please note – both the rubber stopper and the glass joint are in S-1 blister. It was necessary to boost the removal with pressure on B-24.
⑧ HCl Ether analysis: 205 AT.
⑨ Started lead removal procedure – Third shot in B7 → B3

1/14/48 ① Sample 34 Pb analysis – 17c's ST.
8-4 ② Rinsed 2 liters of H_2O thru B6 → B11 → B21, filtered, Shaich sucked to B24, then to B17 and held up in B3.
③ Added 2 liter of HNO_3 to B6 – B11 – B21 – B24 –
④ Cleaned up all sampling equipment and stored.
⑤ Started Rimshaw's column by adding 300 ml H_2O & then 300 ml 6N HCl. Had to shut down due to contamination.
⑥ Schellenberg column is going in "C" Bldg. Instruction passed on to 4-12.
⑦ Discovered at 11AM. that everybody had "hot" hands + feet (even H.P.). After tracing several false leads, we discovered the 3rd level was hot and all the hand rails on the steps. If hot gloves were discarded immediately this would not have happened. Picked up a couple pieces of paper reading 5R on the 3rd level.
⑧ Scrubbed the 3rd level thoroughly, hand rails, and all other spots found by H.P. Everything okay until smears of the whole building have been taken.
⑨ Had maintenance analog 3rd level drains.
⑩ Started regeneration of column at cell E

(11) The stopcock on R1 sprung a leak during regeneration and solution drained out onto the floor. Took for a leak on the pipe out of the pan. Floor is hot!!
(12) D.B. reading 14,000 at 11 AM. Didn't get a chance to find out the cause.
(13) Hot ran on east platform has something in it reading better than 10 R. Who has keys to burial ground?

1-16-49 4-12 Russell

① Threw away all Cell B wasts into A5. Followed through all Cell B tanks, lines, jets, pipettes, with two water washes except the line from the funnel rack to B20R. (See note ⑥)

② Threw all metal waste solutions from both Cells and sump to W-9. Followed through all Cell A tanks and lines with ~~two~~ one water washes → W12 → W-5.

③ Completely emptied W-12 into W-5 and followed through with small H_2O rinse.

④ Took W-12 off automatic jet and put it on overflow to W11 → S.B. Turned on the W-12 L.L. alarm system.

⑤ Before W12 begins to overflow, please sample W12 and have lab. analyze immediately for c/m/ml. If the count is over 25,000 c/m/ml, jet W12 to W5. If W12 is less than 25,000 c/m/ml, ~~send~~ allow W12 to overflow W11 → S.B.

Either ⑥ B21T to B3 is plugged or almost plugged. B21T to B19 is plugged to the extent that only a very small trickle of water can be pushed from B21T to B19 under 16 pounds pressure. We did not exceed 10 # pressure.

OR B21T has a hole in it!
The most vacuum that can be pulled on B21T is not over 9 inches.
Solution is running from B21T, north side.
B21T apparently has a hole in it or a leaky gasket and enough pressure could not be held to blow solution to B19.

⑦ Cleared and unwapped scopes and stored except for two needed to further check B21T.

⑧ Decontaminated A8 sparge line.

⑨ " blisters as exposure time would permit. Removed all the sample cones.

⑩ Steamed down B11 pipette vacuum line. The filter is now reading about an R.

⑪ Babied C Building Operations 5 hours.

⑫ Mothered Kimshaw's column ~ 6 hours.

⑬ Sent one C.P. to H.P. for repairs.

⑭ Charged both sets of B12 batteries up to par.

⑮ H.P. smeared third level, 150 of 'em.

⑯ Note: the Iodine Product solution stored in our area at entrance near decontamination room is reading as follows:

6 R at 3" from the side of carrier, 220 mr/hr where people walk out to outside door.

45 mr/hr in door way into change house.

⑰ W-1 which was sampled at 3 PM 1-16-49 ran 2,221,000 c/m/ml. 35 mr-hr The solution from appearance, contained uranium.

⑱ W-2 was sampled at 9:40 PM. 1-16-49 and ran 4,204,000 c/m/ml. 68 mr/hr.

⑲ 205 chopped waste into W-3 & W-5 this shift.

⑳ Started a new run P^{32} Ex. 6 as follows:

a) Check normality of the 1 HNO_3 original soln. & sample,

b) Adjust to .1 N. NaOH, 500 ml.

c) Run thru column and call sample of effluent P^{32} Ex 6 1R-W-1. Run this for P^{32}, S^{35}, SO_4 and Al, Done 4-12 going thru

d) Make up 1000 ml. .1 N. NaOH and wash column. Sample Code P^{32} Ex 6 1R W-2 and run for P^{32} Al, SO_4 and S^{35}. Done 4-12 1-17-49

e) Add 300 ml H_2O to column. Discard effluent.

㉑ Obtained all towels we could find.

㉒ Day shift please have electrical maintenance pick up their step ladder at main switch board. It has been okd by HP to leave the building.

1/17/49 12-8 Buford

① Decontaminated on B11 pipette vacuum line. Used steam. The trap and line are coming down slowly.

② Steamed A-8 sparger some.
③ Put Cbld Iodine carrier in decontamination room. It is plenty hot.
④ The big periscope is hot on the end - worked on it for a couple of hours with very little success. It is in the decontamination room.
⑤ Continued work on blisters
⑥ Sampled W12 at 2 feet and got over 10^6 counts jetted to W-5
⑦ The W1 & W2 samples are still hot. We have been using the tanks alternately and sampling at one foot.
⑧ Continued with Rimshaus column on third level.

1/18/49 ① Shut off A4-205 behind PB#1 for 706-C I-131 use.
8-4 Blanco ② Sampled W6 tank from top + from bottom (by running big jet to get the sample)
③ Cut out tygon tube from J-1 blister + decontaminated the blister
④ Moved HCl - Ether waste to garden.
⑤ Moved hot cobalt sample from Decontam. room to fan house vault.
⑥ There is a broken line in Cell I between the transfer vessel + reactor.
⑦ Washed out Cubicle I, sent it to B22 → B10 → B3 and sampled for product.
⑧ Jetted W-12 → W5. Still sampling W-12 at 2 feet until it gets cold.
⑨ Turned on W6 → S.B. small jet. Top of W6 tank is

2100 c/m/ml. Bottom is 211,000 c/m/ml. Shut off the jet when manhole ran > 2,000,000 c/m/ml
(10) Instrument dep't checked instruments at Ru set up.
(11) Decontaminated periscopes, blisters, sample carriers, + probes.
(12) Received Waste to W3, W5 from 205 bldg.
(13) Record Hotwaste to W12 from semi-works.
(14) Loaded AE-4224 with pots 10, 11, 26.

1-17-49 ① Tied tarp on AE 4224.
4-12 ② Obtained case old Dutch from stores.
Russell ③ Scrubbed the floor in the wash room and the first and third levels with Old Dutch. Began scrubbing the second level floor at HP office. Note the entire second level including all the offices is hot.
④ ~~Ran~~ Rumshaws third level column all shift and sampled. Instructions passed on.
⑤ Checked C Bldg dissolving.
⑥ Checked Evaporation in C Bldg. Verbal instructions passed on to 12-8
⑦ Obtained mops for scrubbing floors from stores.
⑧ Disassembled and removed hot glass wool in B11 filter. ~~Refilled~~ Refilled with glass wool and assembled and installed.
⑨ Continued decontamination of A8 sparger line filter.

1-18-49 ① Scrubbed up second level
12-8 ② Continued decontamination of A-8 sparger. Shielded
Burford hot trap with lead. Its too hot to fool with ~17R
③ Shut off Shallert's evaporation at ~1 liter.
④ Kept watch on C building slug dissolving taking readings once per hour.
⑤ Kept close watch on W1 & W2 also W12 - 1 and 2 seem hot! now but W12 is still over ½ million counts - sampled and jetted to W5 at 2½ feet.
⑥ Continued Rimshaws column.

1/18/49 ① Cleaned and drained stack. Ran steam
8-4 engine for 4 hours.
Schaich ② Picked up and decontaminated phoenix crank. Reading ~~[illegible]~~ < 1 mr/hr.
③ Stored acid east of cell B.
④ Cleaned up B17 probe. Reading ~~[illegible]~~ < 10 mr/hr.
⑤ Stored old cell fan motor behind Cell A.
⑥ Carpenters started repair work on East platform stairs.
⑦ Took two cans of CO_3 out to W1 make-up shed.
⑧ Received 15 Kg of UNH solution from semi-works into W4.
⑨ B9 trap reading 375 mr/hr.
⑩ W12 still over 300,000 counts. Jetted to W5 two tank loads.
⑪ Received solution into W3 from Hot Pilot Plant, then into W4, and then into W5. Valves reset to receive into W3.
⑫ Emergency brake on truck is working okay.

1-18-49 ① A new cover is needed over pit man-
4-12 hole, A4-205 off gas, north of Lab. office.
Russell ② Received metal waste from 205 into W-4.
③ Received chemical waste from 205 into W-5.
④ Sampled W1. Analysis 63,900 c/m/ml.
" W2. " 34,550 c/m/ml.
⑤ Cut off steam and removed top on Rimshaw's P32 extractor. Removed and sampled the NaOH solution containing the active P32. Added 40% NaOH to cylinder, capped up reactor and turned on the steam.
12-8 please turn off the steam on this reactor at 6 AM.
⑥ W6 filled up six inches from 3PM to 10PM. 205 was requested to use the least amount of water possible on Cell decont. Stewart said they had not dropped more than 500 gals during the shift.
⑦ Assisted Fairliff with C Bldg Operations. Nothing going on in C Bldg. for 12-8.
⑧ Analysis of W-12, 3,218,000 c/m/ml.

1/19/49 ① Cleaned up remaining hot spots on the third level.
12-8 ② Turned off Rimshaw's reactor at 6:00 AM
Binford ③ Continued close watch on the tank farm. W6 is now 11' 4½". Both W1 and W2 have finally come down but we are still sampling at one foot.
④ W-12 analysis still in Lab.

1/19/48 ① Drained A4-205 for "C" Bldg.
8-4 ② Drained & sampled East Pond. (375 c/min/ml.)
Schaich ③ Added 3 - 2000 ml HNO_3 washes to reactor and 1-500 ml HNO_3. Sparged by B24 draw-off and then removed by B24 drawoff. Probe readings - 4.5R at opening and 14R 8 inches inside opening.
④ Sparged 1.5 liters of HNO_3 in B21T and sent solution to B24 - B3. All B21R solutions sent to B3 and B3 sampled. Analysis 9 C's
⑤ Cleaned up hot spots on 2nd level.
⑥ Carpenters finished installing new steps on East platform.
⑦ Used Newton's & Jones exposure time carrying hot stuff out of Cell 6.
⑧ Large truck at welding shop having plate welded on.
⑨ Engineering put in temporary jet from W6 to East Pond. Jet on at 2:20 P.M.
⑩ Cranemen removed H.P. hose from 706 DA stack.
⑪ Pipefitters worked on jet from W5 ramp to W5.
⑫ Last analysis on W12 (3PM) 529,000 count. W1 down to 5,000

1/19/49
4-12 ① Completed I^{131} product evaporation, Room 10,
Sachs 706C Bldg.
② Checked the P^{32} running through the column at Cell V.
③ Furnished manpower for cleanup work at Cell's ~~[illegible]~~ VI and VII

④ At W12 sample pulled at 4 p.m. read 608,100 c's/min./ml.
⑤ Ran the new W6-E.P. get all shift. L.L of W6 at 10:45 p.m was 10' 4½". See Blauer's note.
⑥ 12-8 maintenance will check the leaks in the South still.

1/20/49
12-8
Binford
① Ran the new W6→EP get all shift W6 Level at 7:00 AM 9'6"
② Started melting up sulfer cans at 4:00 AM
③ The phosphorous recovery is still going through the column - should be down about 8:00 AM
④ W12 still too hot to put on overflow.
⑤ Sent manpower to 205 building.
⑥ Maintenance repaired leaking trap on south still
⑦ The heater on P-1 at cell II isn't working properly on the second sulfer can. It was necessary to use a higher variac setting than 80 to get it heating.

1/20/49
8-4
Schmick
① Opened by-pass valve on the filters on A/C line for 24 hour period
② Sent pickup to garage to repair flat tire.
③ Took two samples of W12. One dip sample & one from sampler
④ Large truck bed metal ring welded on bed for "C" Bldg. slug carrier. Steel plate on bed of truck warped and cracked because of the weld.
⑤ Cleaned up oil spill around vac. pumps.
⑥ Pressure drop across filter: ΔP over #2 - 3.2, ΔP over #1 - .8, ΔP over #2 - 1.0.
⑦ W12 samples show 430,000 + 421,000 counts respectively. Not enough difference to worry about.

(8) Used Newton & Phillips exposure time cleaning up cell 6.
(9) Two periscopes returned from optic's shop in good working condition.
(10) Received wastes into W12 from "C" Bldg.

1/20/49
4-12 Sachs. (1) Furnished manpower and exposure time to 205 Bldg. cleanup work in Cells 6 and 7.
(2) A 6:30 p.m sample of W12 was 1,217,000 c's/min/ml.
(3) Finished filtration of P179-P1 from SR-2. Sampled P1 and pushed to column. Going through at shift change.
(4) Attended to Rimshaw's columns on 3rd level. Verbal instructions to the 12-8.
(5) Attended to P. Schlant's column in C Bldg. Verbal instructions passed along to 12-8.

1/21/49
12-8 Bunford (1) Checked phosphorous through the column at cell V. About 150 ml to go
(2) Continued taking cuts on Shallert's column in C building.
(3) Continued operations on Rimshaws column on 3rd level.
(4) Lent manpower to 205 building.
(5) W12 sampled 1,083,000 at 3:00 AM

1/21/49 8-4 Russell ~~Blanca~~ (1) A16 line put back on the filter instead of bypass
(2) Hot Pilot plant threw acid + caustic down the M.W.

and chemical waste line in an attempt to decontaminate the lines. The by-pass was closed.

(3) Received empty product carrier from Y. Cleaned & stored carrier

(4) Sent one man to Cells 6 & 7 for decontamination work.

(5) Replaced linoleum on newly laid floor, north east Cell B, second level.

(6) Continued decontamination of Cubicle I. Maximum reading at plug is now 9½ R.

(7) Smeared the furniture, thermo jugs, flash-lights, etc which came from Y. Threw away the tapes.

(8) Work was continued uncovering lines in the North Tank Farm Area.

(9) Received two Chicago trucks AE 4221 & 4223 with Pots 1, 3, 4 and 5; 2 5gal. drums 420 and 424; 1 empty isotope carrier; and two (Suggamans) 150# pots. The pots and drums are to be emptied into W-4.

1/21/49

4-12 (1) Dumped Four pots and two five gallon cans Sachs into W4. Unloaded same at 706D Bldg and took trucks with 1 suggamen carrier apiece to 105 Building.

(2) Attended to Rimshaw's column on 3rd level and passed on information to the 12-8 shift.

(3) Took up P179-P3 in 400 ml. H_2O and submitted two samples to lab. Started regeneration of column.

(4) A sample of W12 was 952,100 cs/min./ml.

⑤ Maintinance tone out the hot strainer on the A9-A8 DB jet line. 12-8 crew will put in a new one. A ~~strap~~ band necessary For the installation is being decontaminated in the south tunnel.
⑥ Made housekeeping inspection.
⑦ Furnished manpower to 205 cleanup.
⑧ P179-P3, 1527 millicuries S.T.
⑨ None of the pots has been blown with air or washed.
⑩ Work was continued on the new by-pass to be installed in the north tank Farm area.

1/22/49 ① Maintenance replaced tray (strainer) on the A9-A8 DB
12-8 jet line.
Schaich ② Took care of all items on housekeeping inspection.
③ W2 now up to 1,317,000 c/min/ml.
④ Cleaning E. Platform, shed, and low storage.
⑤ Cleaned all pots & containers and pressure tested. H.P. has smeared them.
⑥ Used all exposure time cleaning up cell VI
⑦ Attended Kimshaw's column on 3rd level.
⑧ Column is regenerating at cell V
⑨ Pot #4 has a hot spot on smear #13. All the rest are okay.

1-22-49 ① Completed Kimshaw's third level column.
8-4 ② W2 analysis 915,200 c/m/ml.
Russell ③ Ran the big W6 to 5B jet for 15 min. at 12:45 to 1 P.M.

④ Maintenance continued work on the by-pass line in North Tank Farm Area. 205 was requested to make sure all drains thru these lines were properly tagged and that no one ~~[illegible]~~ drops solutions into these lines now being cut.
Used up all exposure time in the hole in north tank farm. Gathered up all overshoes available at the launchies and provided hot cans for contaminated clothing at the job site. Pipe fitters are cutting the lines at 4 p.m. Portable lighting equipment is being provided.
⑤ Water wash is going thru Column, Cell II
⑥ The Pots are ready to go.

1/22/49
4-12
Sachs
① A 6 p.m. sample of W12 read 1,431,500 c's/min/ml.
② Helped clean up maintenance men who were working on the new by-pass at North Tank Farm area. Tried to keep them out of change house, but several did get in. In all, seven pairs of shoes and numerous other articles of clothing had to be disposed of.
③ Furnished manpower for 205 Bldg cleanup.
④ Pulled a P179-R1 at cell V.
⑤ The installation of the by-pass at N. Tank Farm area is just about completed. The welders ran out of exposure time. About ten more minutes of work remain.

1/23/49 ① At 1:30 AM sample of W12 read 1,075,000 c/min/ft.
12-8 ② Scrubbed out change house to remove last Straith spot left by maintenance on 4-12.
③ Used exposure time cleaning up all II.
④ Cleaned and stored product cone + plug.
⑤ Bolted lids on pots. Pots #1, 3 are missing valve plugs. They were gone when we cleaned them.
⑥ Did some general housekeeping.
⑦ P179-R1 analysis - 495 mc's.

1-23-49 ① Cleaned up and threw away a mess of shipping
8-4 bottles and pipettes in contaminated clothing
Russell room reading 32 mr-hr.
② Assisted 205 with removal of hot lead to burial ground.
③ Gathered up all contaminated clothing at and around the North Tank Farm Project and placed them in hot cans on East Platform.
④ Obtained soap for the wash room at stores.
⑤ Hosed down the walk way and road above the North Tank Farm Project where hot mud had been tracked by workers. There are still some hot spots in the road & walkway.
⑥ Ran the big W6-SB jet for 30 minutes. ~~When operating the big jet, the small W6 SB jet line should be checked for leaks. The station tests upon~~ Small jet leak has been repaired.

1/23/49 4-12 Sachs
① The pit on the North tank farm was pumped dry to get it ready for work tomorrow. The stuff was pumped into the manhole on the 205 process water drain and went to S.B.
② Sampled the ditch to the North of these Quonset huts across the street and the gutter where it runs under the road. The former was 1624 c's/min/ml and the latter 121 c's/min/ml.
③ Furnished manpower for 205 cleanup.

1/24/49
① Removed reactor from cubicle I. Frame and adaptor are in Decontamination room.
② Sent Phenix slug tongs to 105 building.
③ Loaded Chicago pots 1, 3, 4, 5 and 5 gallon cans 420 and 424 on AE 4446 and sent on its way.
④ Checked 3HP motor and stored in Low Storage.
⑤ Decontaminated large motor with carbon tet. It has not been smeared.
⑥ Maintenance continued work on lines above W15W2.
⑦ Cleaned up chairs and crocks in make up room.
⑧ Sent manpower, Simons and Ferguson, to 205.
⑨ Received hot waste W12 → W5 from semi works.
⑩ The crocks have been smeared and the two chairs which were hot have been washed but not smeared. They are marked with chalk.

1/24/49 4-12 Schaich
① Decontaminated large motor with CCl4 but HF did not leave time to smear.
② Did not get chairs smeared or results on crocks
③ Checked C Bldg dissolving. Off gas is acting up

so watch it pretty close.

④ Run 2 washes into W3 from 205. One via by-pass and the other straight down M.W. line to W3. Discovered leak in waste line above by-pass T. Worked all shift getting hole lined with lead for solder. We got one bad leak but there is still one directly underneath the pipe. About 1/4" from the bottom of the new weld. Another welder is on his way out and should be here about 4 shift change. He will have 5 minutes working time in the hole. Check lines by closing valves to W5 + W3 leaving by-pass open. If that checks okay run solution to W3 thru metal waste line, then to W3 via C.W. line + by pass. Send to W5 via C.W. line and then W5 via M.W. line & by pass. By-pass + W5 are now open.

⑤ Used exposure time of maintenance men, 2 men from ~~706~~ 205, and all 706-D operation men.

⑥ Pickup is stuck in the mud at burial ground with a dead battery. Gillette said they could make it?

⑦ Cleaned up coveralls, boots, + gloves around "hole" and turned over to H.P. at checking station. There's more out there now.

1/25/49
12-8
Sachs

① Rewelded the leak on the metal waste line but a re-test of the line with 205 throwing about 30 gallons of water down showed that the leak is there. However, the stuff does go where its supposed to go. We heard it running into the different tanks. The leak seems

to be directly under the metal waste line at the weld. It's a hell of a place to get at. No other leaks were apparent. The crew spent their exposure time in the pit.

(2) Brought two S cans to Cell V from Pile Bldg. Something is wrong with the heater. Shift electrician got it going and the 1st can was melted. Wouldn't work again on the 2nd can. Couldn't locate electrician this time so can was left unmelted in P1.

(3) Checked dissolving in C Bldg. Their off gas system stinks. Had to watch it all shift. Recorded data every hour.

(4) Took cuts of Schalen's column in C Bldg.

(5) Smeared the motor in the decontamination room.

(6) Have about swinging locks to the old W1 and W2 routine. A look at the latest sample readings justifies this I believe.

(7) Power Failure occurred at 7:24 am and lasted about 20 seconds.

1/25/49 Bamford

(1) Ran large jet W6 → SB for one half hour.

8-4

(2) Unable to wash and drain 205 stack because the vacuum is being used in C building.

(3) Finished cleaning up large motor, furnaces and crocks. All smeared OK.

(4) Worked on cubicle #1. Brought down from 7 to 3½R

(5) Sent the furnaces back to AEC and the eight crocks to stores.

(6) Disposed of acid bottles from E. Platform to Stores.
(7) Ran steam engine four hours.
(8) Electricians reassembled 10 H.P. motor
(9) Started Ru run 72-239. Settling 'til 4:50 PM
(10) Cleaned up instrument bench outside room 11.
(11) Receiving Hot chemical waste to W-3. New by-pass valve open. Old valve closed. These valves to remain this way.
(12) Received swap on pick-up truck. Ours is getting more repairs made. AE 1559 is the truck we got in swap.
(13) By-pass line weld repaired only by pouring a cover of vitrabond around the pipe. Couldn't be repaired by welding. Lines now in operation.
(14) Valves now set to receive waste from 205 to W-5. They will call when they are through.

1/25/49 (1) Received metal waste into W4 from 205 Bldg.
4-12 49.5 Kg HNH.
Schaich (2) 205 Bldg borrowed slug carriers & truck.
(3) Took W12 off of overflow and sent to W5. Analysis of 3 PM sample was 1,000,000 counts. Put W12 on old basis of sampling before jetting.
(4) Ran big jet W6-SB for 1/2 hour. (6 - 6:30 PM.)
(5) Cleaned up all boots, hot papers, gloves, clothing etc on all parts of tank farm.
(6) Ditch sample gave 11 cb/min/ml.
(7) Hot strainer is reading 2R. Did not mess with it.
(8) How about having the inter-com phones fixed. Some of them are in poor shape.

(9) Cleaned up dirty paper in change room.
(10) Metal waste line valve (C) is still hard as h— to open or close.
(11) Received washes into W5 from 205 Bldg. Reset to W3.
(12) 205 Bldg dropped slug carrier off the truck at the corner of "C" Bldg. It slipped off the backend because they couldn't set it any farther forward on the truck. (That's their story) Fellow driving truck said he came up the grade in low. Total damages - 1 crane hook bent out of shape. It is in dec. room. 205 cleaned & stored both carriers.
(13) Cleaned up hot spots on road where carrier fell. The path were they drug it to Bldg is okay. (It wasn't my idea to drag it!)
(14) Regenerated & washed Rimshaw's column. All work on columns finished.
order has been 3 weeks H.B → (15) Blauer: - are you going to get welders to repair leak at the main drain 1st level S.W. corner Cell A?
(16) Checked P32 going thru column. 500ml to go.

1/26/49
12-8
Sachs

(1) Tried to knock the activity out of A8 sparger line strainer by rinsing it with citric, HNO_3 and plenty of hot water. The strainer was reading 3R when we started and is reading 3R now. Shift pipe fitter had a cut on his hand and couldn't work on it.
(2) Furnished manpower and exposure time to 205 Bldg. clean up.
(3) Changed bottles on Schalent's column in "C" Bldg.
(4) Checked P^{32} running through the column.

⑤ Couple of bad steam leaks in N Tank Farm area. One at carbonate make up tank and another at the W3 jet.

⑥ Received washes into W5 From 205 Bldg. Valves reset to W3.

1/26/48
8-4 Benford

① Drained and washed 205 stack.
② Checked all intercom phones. All seem OK except the phone in H Beaver's office.
③ Checked the "B" slug carrier for operation – It is OK.
④ Took 1 quart sample of W-9 for Dra Whitney.
⑤ Manometer readings on cell vent system (1) A cell vacuum .9" (2) Filter 3.3 (3) CB&S (#1) 1.3" (4) AAF (#2) .8"
⑥ Removed cold waste into W5 from 205 building.
⑦ Removed hot slug of waste from semi works W12 → W5
⑧ Brought back pickup from garage and returned borrowed truck
⑨ Worked on A9 and B6 clusters – circulating with water. (see #14)
⑩ Started Run 72-240. Settling til 4:00 PM
⑪ Scrubbed up and smeared bent slug-carrier hook. smears not returned yet.
⑫ Replaced burned out high level light bulbs.
⑬ Sent manpower to 205 building to move lead to burial ground.
⑭ Both B6 and A9 samplers are still circulating with water in an attempt to decontaminate the sample lines at the clusters.
⑮ Used exposure tapes of everyone on shift loading isotopes (Co60)

1/26/48
4-12 Schaich

① Received 19.2 Kg NH_4OH soln. into W4 from Semi works.

② Cleaned up rubbers & clothing on tank farm.
③ Decontaminated Cell I reactor holder & stored behind PB #3.
④ Ran large jet W6-SB from 9 – 9:30 P.M.
⑤ Attended Rimshaw's column on 3rd level.
⑥ Finished Rec 72 240 and stopped operation for the night. Leave W12 on overflow and sample at sampling times.
⑦ There are no safety-bars for the carriers in this bldg. and 205 doesn't have them. Haven't tried the canal yet.
⑧ Both B6 & A9 samples are still circulating
⑨ Pipe fitter used exposure time removing hot sparger strainer. The pipe to the 3rd level is also hot and will have to be removed. Watch for solution dripping out of open ends. If you want to decontaminate strainer, it is in hot can on E. platform. It reads 3 R/hr
⑩ Phosphorous at Cell V had to be re-evaporated because of low pH. Going to dryness at shift change
⑪ One more H_2O wash to be added to Rimshaw's column under the hood.

1/27/49
12-8 Sachs
① B6 and A9 samplers are still ciculating.
② Had troubles with the P32. Couldn't take the stuff up. Started another reevaporation should be getting close to dryness at shift change.
③ Finished up work on Rimshaw's 3rd level column.

④ There is one bent ~~in~~ slug carrier safety bar in the shipping room at 105 Bldg. (courtesy of W. M. Stanley)

1/27/49 ① Transfered jets 10, 11, 26 from AE 4224 to AE 4221
8-4 ② Made new map of the "garden" for H.B.
Bufford ③ Ran large jet W6 → SB for one hour.
④ Started Rec 72-741 - settling til 3:40 PM
⑤ Bent hook has been cleaned OK
⑥ There is a leak in the valve on the D3-D1 jet line on Ru set up.
⑦ Received cold waste from 205 into W-5
⑧ Renewed a dozen locking bars for the slug carriers
⑨ Had the 1½ ton truck serviced.
⑩ Cut off A9 and B6 circulating jets A9 - 80 mr
B6 350 mr
⑪ The clutch on the pickup seems OK
⑫ Due to difficulties in C building a lot of hot stuff is going to W12 - it is on automatic jet as of 3:30 PM.
⑬ Valves from 205 are still set for W-5.

1/27/48 ① Rec'd warm solution from semi-works into W12 plus
4-12 50 gal rinse. W12 was on automatic jet.
Schaich ② Sampled E. Pond - 28, 152 c/s/ml/ml
③ Used King's exposure time cleaning out weir box at S. end of S.B. There is an outlet pipe which is still plugged.
④ Had maintenance check F. Still. Seems to be operating okay. Both still tanks were just about empty

before we discovered open faucet in "C" Bldg. South Lab. Should have spring handles on all faucets.
⑤ Checked P^{32} going thru column at Cell V. Water wash going thru at shift change.
⑥ Shut down Ru^{106} operation until W12 get down to normal. Samples at 6 + 8 PM read better than 2 millions
⑦ Received hot wastes into W3 from 205 Bldg.
⑧ Replaced A8 strainer plus 5 foot of pipe that was hot. The wall around there is reading about 40mm from spills out of A8 line. Didn't have time to clean.
⑨ Attended "C" Bldg heel dissolving
⑩ Attended Rimshaw's columns on 3rd level. One on lab desk still going. Adding 3N HCl at shift change.

1/28/49
12-8
Sachs

① Received Fan seals from 105 Bldg to W1 and W2
② Maintenance checked the stills. They seem to be operating O.K. Just a bit slow.
③ The pH of P180 - P3 was 2.7. Started reevaporation of product.
④ Attended to Rimshaw's column on the 3rd level
⑤ Sampled W12 every two hours. Still running hot.
⑥ Checked heel dissolving in "C" Bldg.
⑦ Tried to unplug the one of the outlet lines at the S.B. No luck. Need about a thirty foot pipe.

1/28/49 ① Truck AE 4446 arrived at D building at approximately 11:00 AM
8-4 The following irregular conditions were recorded.
Benford (1) Drum 106 was punctured and the floor of the truck was awash with its contents reading ~ 125 mr/hr
(2) Pot #9 was not bolted to the truck bed
(3) Isotope carriers #29989 and #28910 were loaded in the truck bed.
(4) Five bags of soiled laundry were included.
As a result of this condition the isotope carriers will probably have to be disposed of and the five bags of laundry were disposed of at the burial ground.
The rest of the cargo including ~~Drums~~ Pots 9, 11; ~~pots~~ drums 106 and sugarmans 19939, 35897, 35896, and 13941 were emptied where necessary and unloaded at D building.
The accident was caused by improper loading of the drums. They were fastened in such a way that they were riding on the cleats located in the rear of the truck and the bouncing recieved during the trip drove one of these cleats through the bottom of drum 106. Drum 5 was damaged but not punctured. It is, however, useless for further service.
The truck was flushed out and sent to the wash rack.
② Lent manpower to Pressley for one hour
③ Scrubbed up both pots and both drums. The pile is going to handle the sugarman carriers.
④ Cleaned up hotspot on W wall of A cell near A-8 sparger
⑤ Continued sampling W-12 every two hours. Its still hot

6431

⑥ Pots and drums have not been smeared.
⑦ Received 2 new cranks for 205 Hanford slug charging machine.

1/28/49 4-12 Schaich
① Received 3 shots of hot waste into W3 and 1 rinse into W5 from 205 Bldg.
② Made housekeeping inspection and took care of all items.
③ Received hot wastes into W3 and then 166 Kg of LWH solution into W4 from 205 Bldg.
④ Regenerated P^{32} column at Cell V and took R1 sample - analysis - 146 mc's.
⑤ H.P. smeared pots + drums. Pots are okay. Both drums were hot on the bottom. Recleaned & resmeared.
⑥ 105 Bldg cleaned up sugarmen and H.P. smeared them. All okay and returned to 105 Bldg.
⑦ W12 reading under 100,000 c's/min/ml. Started Ru^{106} 72-741. After this run hold up until Monday.
⑧ Drums smeared okay but watch for leakage from #106.
⑨ Attended Rimshaw's column. All work finished
⑩ Stills are still empty, can't find leak.

1/29/49 12-8 Sachs
① Finished up Ru^{106} Run and shut down same for weekend.

1-29-49

GE maintenance work on North Still and water [redacted] is cut off from System to Bldg -

1-29-49 H-12.

① All water outlets in the tank farm are cut off and drained except the one at W4 unloading pad. The underground cutoff valve to pad could not be turned so it was necessary to shut off the main header to the north tank farm to prevent freezing. All valves and underground drains to these valves should be checked before the main header is turned back on.

② Valves are set to receive the waste from 205 into W-3 at Shift Change.

1-30-49

Received metal waste from 205 39.5 lbs

Valves are set to go to W-3 [redacted] from 205 at Shift Change.

1-30-49 4-12.

Valves are still set to receive waste from 205 into W-3

1-31-49 12-8

1. Stood Case of empty acid bottles on east platform
2. Shut down A-16 fan at 7 30 AM and draining system for C bldg.

1/31/49 ① Drained A4-205 system for "C" Bldg.
8-4 ② Cleaned & stored tools & lead in decontamination
Schaich room.
③ Ran big jet W6-SB for 1 hr. 9^{10}-10^{10} A.M.
④ Welders repaired leak at main drain 1st level S.W.
⑤ Started Ru^{106} 72-742. Settling until 5^{15} PM.
⑥ Transferred Pots #10, 11, & 26 from AE 4221 to AE 4446.
Also loaded Pot #20 and Drums #106 & 5 on AE 4446.
Sent truck to 105 Bldg to load sugarmen.
⑦ Sprayed Cell I with H_2O for 2 hours. Reading 1.5 R
at center of cell.

1/31/49
4-12 ① Loaded drums 106 and 5 on AE 4446,
Sachs tied down tarp and dispatched truck for
Chicago at 4:40 p.m.
② Received waste into W3 from 205 Bldg. Valves
are set for W3' at shift change.
③ Checked dissolving in "C" Bldg and recorded data
every hour.
④ Continued Ru^{106} T.F. operations. Status at
shift change verbally to the 12-8.
⑤ Hosed down the road in front of 735 B.
Still some hot spots up there.
⑥ If NH_3 cylinder at "C" Bldg I^{131} apparatus runs
out, put the one marked "1" on.
⑦ 12-8, don't bother with hosing in front of 735B
H.B.

2/1/49 ① Continued iodine dissolving in C building all shift.
12-8 Had considerable trouble with off gas despite draining
Bruford A4-205. It was necessary to cut the steam a couple of times when we lost vacuum completely.
② Started melting up sulfer cans at 4:00 AM. The pile pushed three instead of two by the way.
③ Continued Ru 106 operations. Status at 8:00 AM Supernate decants at 8:10 AM.
④ Received metal waste into W4 from 205 bld 27.9 Kg.
⑤ 205 was flushing most of the shift, both to W5 and W3. — Valves set to W3 now —

2/1/49 ① Washed & drained stack and ran steam engine
8-4 for 4 hours.
Schaich ② Ran large jet W6-SB for 1/4 hour
③ Stored acid from east platform.
④ Shut down cell fan and opened both drain valves from filters.
⑤ 205 Bldg sent batch of caustic to W3 and we sent batch of carbonate into W5 to bring up pH.
⑥ Maintenance refilled oil caps on N. Hot Lab sent fans.
⑦ Sent large periscope to Optics Shop for repair.
⑧ Shut down A16 system and opened all drains.
⑨ Closed drain valves for filters on the cell fan line.
⑩ Sent large truck to welding shop to repair crack in metal flooring.
⑪ Riggers picked up old cell fan motor and removed from hose.
⑫ Ran large jet W6-SB for 15 min. more.

(13) Maintenance replaced frozen steam trap between W6 & W8 on tank farm and repaired steam engine
(14) Sprayed cell I with carboy of weak HNO_3. Reading 2R at center of cubicle. Cut off tygon & flourothene connections and removed all debris from cubicle floor.
(15) Large truck returned without welding job.
(16) Ru^{106} 72-243 finished at shift change

2/1/49
4-12
Sachs

(1) Electrician repaired the lights in the A16-cell fan alarm box — however, to stop the damn buzzing which would have put us all in the nut house in two weeks, the alarm box has been shut off at the emergency lighting panel, switch #12.
(2) Started Ru^{106} 72-244. Slurry settling until 1:50 a.m. Made up some $FeSO_4$.
(3) Checked P^{32} going through the column. Running at about 18 drops per minute.
(4) Operated Pressley's 3rd level column. Verbal instructions to the 12-8.
(5) Frank, there's a S can carrier bar by the door at the S loading platform.

2/2/49
12-8
Burford

(1) Ruthenium run #72-244 settling 'til 7:40 AM water wash
(2) Melted out two sulfer cans starting at 4:00 AM
(3) Checked phosphorous through column at cell V
(4) Attended to Presslys column on third level
(5) Shut steam off Rimshaw's reactor and removed insulation at 6:00 AM

⑥ Checked on electrical consumption in D building.

2/2/49 8-4 Schaich

① Ran large jet 106-SB for 1 hour.
② Maintenance repaired leaking oil cap on N Hot Lab hood fan.
③ Loaned truck & two slug carriers to 205 Bldg.
④ Painters refinished product carriers + crane hooks.
⑤ Finished Ru^{106} 72-244 and started 72-245.
⑥ Maintenance checked leaking jet D1-D3 at Ru^{106} setup.
⑦ Replaced tygon and male connection at J-1 Kister
⑧ [redacted] carriers Back from 205 one of them is Hot Said he would send a non down on -4-12 to clean it up.

2/2/49 4-12 Sachs

① Rigger's worked on raising the ~~weir boxes~~ baffles at the S.B.
② The plugged outlet at the S.B. has been repaired
③ Filled up P1, P2, and P3 with about a 20% NaOH solution. Maintenance will work on the cell V P^{32} tanks tomorrow.
④ Finished up Rimshaw's column work on 3rd level. Took samples and submitted to lab.
⑤ Attended to Pressley's column 3rd level. Passed on to 12-8
⑥ Checked P^{32} going through column. Evaporator volumn is coming up a little.
⑦ Continued Ru^{106} operations. D3 draining to D2 at shift change.

⑧ Maintnence repaired a leaking faucet in change house.
⑨ 205 sent a man down to clean up one of our clay carriers. Carrier stored over hot labs.

2/3/49 ① Continued Ru^{106} on tank farm. Run status at 8:00 AM
12-8 Supernate settling till 8:45 AM.
Bufford ② Checked phosphorous through the columns at cell V.
③ Continued taking cuts on Pressly's columns. Sent every 5th one to lab.

2/3/49 ① Sent down A4-205 system so that pipe fitters
8-4 could tie in a line behind 'C' Bldg.
Schaich ② Stored blotter paper & swept isle off of E. platform.
③ Picked up 4 female glass fittings for reactors from glass shop.
④ Received 13.3 Kg of U into 04 from Semi-works.
⑤ Painters refinished Phoenix cranks.
⑥ 205 Bldg borrowed 2 clay carriers & large truck.
⑦ Started up A4-205 system.
⑧ Finished Ru^{106} 72-246 and started 72-247 heating up at shift change.
⑨ Put in fitting for reactor in cell I. Needs one more wire connection and taped.

2/3/49
4-12 ① Chicago truck arrived at 5 p.m. with pots* 5 and 21. H.P. smeared trucks and pots. Waste and washes were gotted into W5. Truck is on the pad. (No driver to get it back here).
Sachs

② Continued Ru^{106} operations. Run 72-247 settling until 12:15 a.m. No decants if W12 goes over 200,000. (H.B)

③ Received waste into W12 from semi-works and jetted it to W5. W12 back on overflow.

④ Brought in a piece of S.S. pipe and valve removed from vicinity of xmas tree. It is steaming in decontamination room.

⑤ Started regeneration of column at cell V Water wash added at 11:10 p.m.

⑥ Operated Pressley's column on the 3rd level. Same as last night.

⑦ Finished up most of the work on Rimshaw's columns. Passed on to 12-8 shift.

⑧ Maintinance put about a gallon and a half of oil in the vacuum pumps.

2/4/49 12-8 Benford

① Continued with rinse through column at cell V and sampled R1

② Continued Ruthenium operations on TF. It was necessary to jet the waste from run 72-247 to W-5 due to high count (½ million) in W 12. Run status at 8:00 AM : W.W. settling til 8:05 AM

③ Continued Presslys columns on third level.

④ Finished washing Rimshaw's column

⑤ Made steam consumption estimate

2/4/49 8-4 Schaich

① Ran large jet W6-SB for ½ hour.

② Unloaded Pot #5 & 21 from AE 4446 and sent truck to wash rack. Scrubbed & smeared pots.

③ Finished wiring & taping transfer line in Cell I.
④ Finished Rec'd 72-247 and started 72-248.
⑤ Put clean papers on N. Hot Lab storage.
⑥ 72-248 settling until 5:00 PM.
⑦ Cleaned all hot spots on 1st & 3rd level.
⑧ Replaced reactor in Cell I and pressure tested. Reactor is okay but when 1 liter of H_2O is put under pressure in transfer vessel, a definite leak of air & water was noted. Can't locate leak but would guess approximately ½ the way up the back side of vessel.
⑨ Replaced plug and cleaned up hot spots around cubicle.
⑩ Emptied all Cell A + B tanks into 416 sump to stop all A sump from rising from overflows.
⑪ Continued decontamination of 6" Bldg air jet & valve. Valve and reads 70 mr/hr at contact. Pipe and other end 5 mr/hr.
⑫ Survey of filter house gave 12 mr/hr at lead brick shielding. <5 mr/hr on all sides of cement blocks.
⑬ Received 20.6 Kg of UNH solution into 416 from semi-works.

2/4/49

4-12 ① Made housekeeping inspection and tools care Sachs off all items.
② Cleaned up true hot spots on 2nd level.
③ Ran the big W6-S.B. jet for thirty minutes.
④ 205 Bldg borrowed an isotope carrier, a 25-½" No. X29956. Wanted for a shipment to Argonne.
⑤ Finished up work on Rimshaw's columns 3rd level.
⑥ Continued Operation of Rhesslay's column 3rd level.

(7) Continued Ru^{106} operations. D3 is draining into D2. Stuff could be left there I suppose. This is the last run for the weekend Frank.
(8) Cleaned up Pots 21 and got a higher smear than we did before. Clamped on the lids and put pots on 1st level.
(9) Pulled a special sample out of W5 for P.B. Onn.
(10) Semi-works dumped some waste into W12. All through at 11 p.m. Sample taken immediately afterward read 805,000 c/s/min/ml so W12 was letted to W5. Back on overflow at shift change.

2/5/49
12-8 (1) Continued Pressley's column - Over the week end Mumford ran this column every hour and send the samples with numbers ending in zero and five to the lab.
(2) Cleaned up pot #51 it OK
(3) W-12 is on overflow - last sample 175,000 counts OK to overflow.

2-5-49 (1) Continued Pressley's Column
8-4 (2) Ran big jet (W6-S13) for one hour
(3) Valves are set to recline waste from 205 into W3

2-5-49 1-CONTINUED PRESSLEY'S COLUMN.
4-12 2-205 RETURNED & CLEANED SLUG CARRIERS.
2-6-49
1 continued Pressleys column.
Valves are set to reline waste from 205 into W3

2-6-49 1- Continued Pressleys Column.
8-4 2- Valves are still set for W3 at ~~4:00PM~~
3- Ran W6 to SB for one hour.

2-6-49
4-12 1 CONTINUED PRESSLEY'S COLUMN.
2- REGENERATED A COLUMN FOR RIMSHAW.

2-7-49 /12-8
continued- Pressleys columns

2/7/49
8-4 ① Ran the big jet from W6-SB for an hour.
Sachs ② Loaded Pots 5, 9, and 21 on Chicago truck. Put the tarp on and sent her on the way at 10:a.m.
③ Started Ru[106] T.F. operations. Run 42, 249 is ready for the water wash.
④ Started Pre-run check. Sheet is on supervisor's desk.
⑤ Received hot waste from semi-works into W12.
⑥ The A9-A8 DA jet is bad. Shift maintinance should be able to handle it.
⑦ Oilers fixed up the oil pump on the cell Fan. Now operating O.K.
⑧ Potted five drums of NaOH into W4. Five more to go.
⑨ Installed(?) a new water line to D3 From line at W10.
⑩ Instrument men worked on A1 ring balance.

2/7/49 ① Dumped the last five drums of caustic in W-4
4-12 ② Continued work on iodine dissolving — the ammonia
Burford cylinder is getting low.
③ Completed work on Rimshaw's column.
④ Continued cutting Pressly's column — Take 100 ml cuts and sample each one until the I.C. goes off the 10^{10} scall then go back to small cuts sampling every fifth one.
⑤ Cleaned up area around garden — There is a pile of junk there to be disposed of.
⑥ W12 went up to 236,000 but dropped back to 147,000 later.
⑦ Completed pre run check except — checking sampler volume and B11 pipette. The PV manometer is full of water.
⑧ Continued Ruthenium Run status at midnight: — Cooling while agitating 'til 12:50 AM.

2/8/49 ① Attended iodine dissolving in "C" Bldg and
12-8 changed NH_3 cylinder.
Schaich ② Instruments repaired B11 manometer
③ Finished pre-run check and added Pb removal solution to B6 & B12 at 4:30 A.M. Both spraying.
④ Charging "B" Bank until 12:30.
⑤ Maintenance de-iced water hose to Ru^{106} setup. If you are going to use a hose, uncouple it and drain when you are finished. It freezes solid.
⑥ Continued taking cuts from Pressly's column.

2/8/49 8-4 Sachs

① Delivered two drums of waste. From W6 to the semi-works.

② Received waste from semi-works into W12. Jetted W12 to W5. W12 now back on over-flow.

③ Washed and drained 205 stacks and ran the steam engine for four hours.

④ Picked up all the ladders on the tank farm and took them to the shops.

⑤ Started small W6-3B jet, still going.

⑥ Brought in two carriers from the garden and started decontamination works. These babies are hot! Glassware rinse carrier now steaming with citric acid solution.

⑦ Instrument men worked on A1 ring balance. Still reading two inches too low on L.h.

⑧ Finished Pye-nun checks. A1 L.h. only thing not attended to. Maintinance men working on the A9-A8 DA and A6-W12 jets at shift change.

⑨ Continued Ru^{106} F.F. operations. Settling until 6:30 p.m.

⑩ Washed and oiled tools in bannel of decont. Room. Stored same.

⑪ Pb removal solution in B6 and B12.

⑫ The A6-W12 jet is now O.K. The A8-A9 DA jet is not. Must be something inside the cell.

2/8/49 ① Cut off small jet to SB at 8:00 PM after getting result from
4-12 7:00 PM sample

Bunford ② Instrument man repaired thermocouple on P1 at cell V

③ Sampled Pb removal solution and started sparging in B7 B8 and B6

④ Checked jet A8-A9DA it seems ok til it gets down to 5" then it slows down. - either this is far as it goes or maybe it has a hole in it.

⑤ Decontaminated one core, two plugs and two carriers and stored. One core still in barrel. (25 mr)

⑥ Pressly's column work continued - cutting on the hour hourly

⑦ Continued Ruthenium run W.W. settling tk 11:45 PM.

⑧ Received waste from 205 into W4 89.9 Kgms.

2/9/49 ① Loaded roll of blotting paper on 1st level.

12-8 ② Lead removal solution analysis on B12 & B6 —

Schaich B12 .032 mg/liter 150 mg

B6 .008 mg/liter 366 mg.

③ Sampled B7 & B8 Pb removal solution.
Solution sparging in B7, B8, & B6

④ Continued taking hourly cuts on Pressly's column.

⑤ Continued Ru 106 operation at T.F. Run 72-252 setting until 7:30 P.M. Check with Blaser before decanting due to high S.B count.

⑥ S.B. jumped to 3800 counts at 11 PM and then 4300 at 3 A.M. A check of tank farm showed operation normal.

⑦ Lead removal solution analysis:

(B12 + B7) - .07 mg/ml 228.2 mg total

B7 - .038 mg/ml 78.2 mg total

B8 - .037 mg/ml 1776 mg total

⑧ Melted down two cans of sulfur for P183 at Cell V.

2/9/49
8-4
Sachs

① Sent all Pb removal solution to A5 and put fresh solution in B6 and B12. B6 is sparging and B7 is blowing air into B12. Jacket H_2O on B12. L.h of B12 by probe is 7.4".

② Readings at the Cell Fan Filters are as follows:
- Δ Pressure across whole Filter = 3.4.
- Δ Pressure across #1 Filter = 1.2
- Δ Pressure across #2 Filter = .8

③ Picked up a load of junk at the South tank farm and disposed of same at the burial ground.

④ Decontaminated product cone and stoned.

⑤ Continued Ru^{106} Ind. operations. Settling until 4:15 p.m.

⑥ Maintenance installed 15# pop valve on the B1 jacket line.

⑦ There is a truck from semi-works with seven drums on it at W4. Only five of these drums are to go into W4 however. The two drums that are tied together with rope are not to go in. Just leave as is. This stuff has been signed for.

2/9/49 ① During the shift an unusually high air count was noted in C building on the N. side. This air count rise occured at approximately 4:40 PM. Since C building supervision was available and conducting some operations at the time they were informed.

Later it appeared that possibly the high

air count was coming from either room 10 or the iodine cell. Room 10 was checked and found OK. and about 4" of vacuum was turned on to the iodine dissolver. As of 9:30 PM the situation seems to have cleared up.

(2) Sampled Pb removal in B6 and B12. Lead removal solution sparging in B7, B8 and B6

(3) The monitron at cell V is cut off

(4) Emptied 5 drums of waste into W4 for semi works

(5) Attended to Schullers' column in C building instructions verbally to 12-8

(6) Attended Rimelmans column on third level instructions verbally to 12-8

(7) Continued cutting Grealy's column loosely and sampling every fifth cut.

(8) Ruthenium Run # 72 253 supernate settling 'til 12:00 MN

(9) Checked phosphorous periodically at cell V.

2/10/44 12-8 Schorich

(1) Turned off vacuum to "C" Bldg FI for 10 minutes and a high air count was noted shortly after. Held 5" vacuum on dissolver rest of shift.

(2) Lead removal solution analysis:

B6	.0115 mg/ml	299 mg total
B12	.015 mg/ml	66 mg. "

(3) Sampled Pb removal solution in B7, B8, + B6

analysis:

B6	.010 mg/ml	264 mg total
B7	.015 mg/ml	638 mg "
B8	.013 mg/ml	598 mg "

Solutions sparging in B6, B7, + B8 at shift change

(4) Attended Rimelmans column 3rd level.

⑤ Took hourly cuts on Pressley's column.
⑥ Attended Schallert's column in "C" Bldg.
⑦ Checked P183 going thru column and melted down two cans of sulfur for P184. How about getting day shift boys to take out loose nuts in the pig. They jam things up when you turn it.
⑧ Continued Ru^{106} operation on T.F. Cooling until 8:50

2/10/49
8-4
Sachs.

① Continued Ru^{106} Temple Farm operations. Water wash is settling until 5:55 p.m
② Discarded old Pb removal solution in B6, B7 and B8. Put fresh solution into B6 and B12. Both sparging.
③ Pressure tested B20T. Everything seems O.K. No leaks.
④ Cleaned up over N Hot lab. Scrubbed floor and had H.P. smear the area.
⑤ Painters painted slug carriers, 2 other carriers and two hooks.

2/10/49
4-12
Bruford

① Sampled B6 and B12. Then filled B7 and B8 with lead removal solution. B7, B8 and B6 sparging with lead removal solution
② Loaded the make up room tanks.
③ Made up 20% $Pb(NO_3)_2$ Analysis 20.3%, 45% K_2CO_3 Analysis 43.7%, and 4% caustic (sample in lab) M11 contains 37.5% caustic.
④ Finished regeneration of P183 and sampled R1 started P184 through the column

⑤ Checked off gas in C building periodically
⑥ Maintained watch on Kimshaw's columns - verbal instructions to 12-8
⑦ Continued Presley's columns as before.
⑧ Ruthenium run 72-254 was left settling with the agitator on thus a four hour delay. Started run 72-255 recirculating and heating.
⑨ Made up a second batch of 35% caustic - The sample is in the lab.

2/11/49 12-8 Schaich
① Maintenance clamped Bldg and replaced valve on safety shower in makeup room.
② Sampled Pb removal solution in B7 + B8
③ Checked off gas in C Bldg periodically.
④ Checked 0184 going thru column at Cell V.
⑤ Pb removal analysis:

B6	.0065 mg/ml	211 mg total
B12	.005 mg/ml	21.3 mg total
B7+B12	.03 mg/ml	127.5 mg "
B7	.025 mg/ml	106.2 mg "
B8	.0125 mg/ml	56.1 mg "

⑥ Cut 90 slugs and started dissolving C^{14} Run No 64.
⑦ Attended Kimshaw's columns on 3rd level.
⑧ Continued taking hourly cuts on Presley's column.
⑨ Diluted M11 to 50 G. of 1.372. Analysis - 34%
⑩ Re operation shut down at 7 A.M. to thaw out water hose. Hose in decontamination room.
⑪ Agitator on C^{14} dissolver in need of repair
⑫ Trailer tractor pulled in at 735-B at 7:40 AM.

2/11/49
8-4
Sachs

① Instrument men finally fixed the A1 ring balance. It's working O.K. now.
② Received four pots (Nos. 1, 4, 25, 20) from Chicago and dumped contents of same into W5. Brought truck back to Bldg and unloaded Pots. Truck at wash rack.
③ Disposed of O.R.I.N.S. solid and liquid wastes. liquid to W5. Solid material to burial ground.
④ All pots were blown out with air and washed. They have not been smeared.
⑤ Obtained a new carrier hook from the shops.
⑥ Rearranged carriers in the area ~~of~~ over the hot labs.
⑦ Received washes from hot pilot plant into W5. Valves reset to W3 at 3 p.m.
⑧ Started up Ru^{106} tank farm operation. Water wash settling until 5:30 p.m.
⑨ Maintinance put South still on ~~automatic~~ continual operation. Condensate is now feed water.
⑩ Instrument men completed instrument checking at P.B #1
⑪ Closed down A16 and cell fans. The fan horn is also OFF.

2/11/49
4-12
~~8-4~~
Binford

① Rescrubbed three of the four pots: All are OK now.
② Took up P 184 in 350 ml of water and sampled. Started regeneration of column. Rinse not added.
③ Removed MT C_{14} slugs at cell V
④ Made housekeeping inspection and cleaned up all

items except east platform.
(5) Received metal waste into W4 from 205. (103 Kg HNH) (No SF form yet)
(6) Butted up 43.7% K_2CO_3 it is now 45.00%.
(7) Ruthenium supernate selling til 1:00 AM.
(8) Continued with Presley's column (the regular one.)
(9) Continued Presley's second column, about 100 ml to go. Verbal instructions to 12:8
(10) Finished purifying one bottle of ether and stored in refrigerator. The other one is still going. Finish it and store with the other one.
(11) The semi works sent about 4 curies to W12. They will have rinsed the line by 12:00 MN so W12 will have to be sampled periodically.

2/12/49 12-8 Schaich
(1) "C" Bldg. distilled H_2O apparatus started overflowing and draining into counting room. Maintenance shut off steam to prevent further overflow over weekend.
(2) Emptied all tanks in cells A+B into A5 & A6. A6 is getting pretty full.
(3) Made up 1st coating removal solutions in scale tanks.
(4) Maintenance closed NH_3 cylinder on 1st level. There is a steady leak out of valve.
(5) Attended Bussey's column and finished ether purification
(6) Cleaned up East platform
(7) Finished regeneration of column at cell I and sampled R/.
(8) Evacuated Bldg at 6:30 AM. due to Parker's hot run. All monitors went off scale but couldn't get in count because it was Kerr-McGee. Have all doors

and windows open at shift change. Do not close until okayed by H.P.

⑨ King discovered a leak in W8. can't find the exact reason for leakage. It seems to be coming from a line in the pit.

⑩ Latest report from Kuna — took air count and couldn't count the oxygen it was so hot. Fans have cooled off now but there will be another hot time about 11 A.M. so watch the air count and get everybody out of bldg!

⑪ Shut water off on the tank farm to see if leak would stop. Leave it off until monday — H.B. Start up #16 to see if that helps "C" Bldg any.

⑫ Completed Rx[116] Run 72-256.

8-4 1- CONTINUED PRESSLEY'S COLUMN.
2- DELIVERED A LEAD PIG TO 106 FOR PARKER 706-C
3- CHECKED PH OF SOLN. GOING INTO W-8 = 8
4- RECEIVED WASTE FROM 205 TO W-5

H-12 2-12-49

1. Steam is on mill coils at shift change. Check and cut off when it warms up.

2-13-49 12-8

Valves are set to W3 at shift change

8-4

1. Cell FAN AND A-16 ARE OFF
2. CONTINUED PRESSLEY'S COLUMN.

2-13-49 4-12

1. CONTINUED PRESSLEY'S COLUMN.

2-14-49 12-8

Turned cell fan on and added the first shot a coating removal solution. to A1 Micromax #12 on PB I is not recording properly - seems to need a new battery.
Cell fan was turned off after soln. in A1 Cooled to 40°.
Valves are at to W3 at shift change.
Continued Pressleys Column.

2-14-49 8-4 Binford

(1) Dispatched AE 4446 to Chicago with pots 20, 25, 1, and 4. Pot #25 was tagged for repair. The cap studs are all shot.
(2) Received 16.5 kg waste into W4 from semiworks. see note (5)
(3) Turned on big jet W6 → 5B for 2 hours.
(4) Loaded 113 X slugs.
(5) Lemons to Paul Schallert for 2½ hours.
(6) The semiworks waste line not yet been fettled into

W4. They will bring it over on 4-12 but we have the SF form
(7) Received a hot slug into W12 from the semi works this afternoon. They have not finished yet and will call when they are (about 4:00 PM) W12 not on automatic
(8) Carpenters replaced rotten boards on E. platform
(9) Ruthenium run 72-257 settling 'til 4:15 AM
(10) The slug charging machine is at 205 bld. They are moving some drums so we can get at it. Probably about 4:00 PM.
(11) Cleaned and stored slug carriers over N hot bath.
(12) Run status 113 x slugs loaded on top of 1st half of coating removal solution in A1
(13) Settled two drums of material from W6 Drums are at W6

2/14/49 4-12 Schaich
(1) Semi-works sent 50 gal wash after hot slug. W12 jetted to 105 and then set on overflow for coating removal.
(2) Received UNH solution from 205 Bldg into W4 plus washes to W5. Valves set back to W3.
(3) Loaded 38 W slugs into A1 and started 1st coating removal. Made up solution for 2nd coating removal.
(4) Clean and smeared Phoenix carrier. Also cleaned charging machine. Sent charging machine & truck to 205 Bldg. If you need a truck borrow them.
(5) Phoenix carrier had some hot spots. It has been ~~cleaned~~ recleaned. Hasn't been resmeared.
(6) Ru 106 72-257 settling until 2 05 AM. Turned off water to tank farm.
(7) Attended Beasley's column and shut off Rinsham's evaporation.

⑧ Maintenance re-oil steam engine.
⑨ Maintenance checked jet at W4 and are trying to find a new one at shift change. Semi-works truck is still there and down is to be jetted when jet is repaired.
H.B. Note → ⑩ B12 probe doesn't seem to be working.
⑪ 1st coating removal solution sampled and getting at shift change.

2/15/99

12-8 Sachs ① Had "Phoenix" smeared. All smears are below tolerance and she's ready to go.
② Continued taking cuts on Pressley's column.
③ Melted down two S cans at cell V for P^{32} run 185
④ There is a bad leak in a welded joint in a water line in cell V. It will have to be welded.
⑤ Dumped two carboys of HNO_3 in M4.
⑥ The B12 probe must be shorted out somewhere. The bulb in it is O.K.
⑦ Maintenance couldn't replace type jet at W4. All that type are locked up, and day shift will have to get it.
⑧ Continued Ru^{106} T.F. operations. Settling till 10:45 a.m.
⑨ Doesn't seem to be any $FeSO_4$ around the Bldg.
⑩ Run Status: 2nd wash of 2nd coating removal sparging in Al.
⑪ 1st coating removal contained 4020 grams of Al.

8-4 ① Ran big jet to SB one hour

2/15/49 ② Finally dumped the semi-works drums at W7 instead of W-4.

③ Checked B12 probe. It is OK

④ The isotope group got "March of Times".

⑤ Took special sample of W12 during jet dissolving.

⑥ Removed pipe from W6 small jet so fitters could connect up E. Pond jet.

⑦ Cleaned up all but six of the S.S. flanges and fittings for J.A. Jones. They are in decont. room.

⑧ Jet W5 → W6 is on. Run to 11'-6" in W6.

⑨ Run status

A1 — 1MB dissolving

A9 — Batch A digesting until 3:50 P.M.

⑩ Ruthenium - water wash settling until 4:07 P.M.

2/15/49 ① 1MA analysis gave 1302 c/s A.T., 1061 c/s S.T. - 57.6 days.

4-12 ② Shut off W5-W6 jet when W6 reached 11'-6".

Schenck ③ Temporary jet W6 - E.P. now has a valve which is closed to prevent syphoning.

④ Checked P185 going thru column at Cell E.

⑤ Attended "C" Bldg dissolving & took hourly readings.

⑥ Took hourly cuts on Arnold's column.

⑦ Continued Ru^{106} operation on T.F. Setting until 1 AM.

⑧ Made up batch of $CO_3^{PO_4}$ in M1.

⑨ Cleaned and smeared pipe in front of S.B. 3. Another batch cooking in dec. room.

⑩ 1MB analysis gave 1344 c/s A.T., 1110 c/s S.T. - 57.2 days.

⑪ Run Status: A1 - 1MC dissolving
A9 - Batch A settling cold till 11:50 PM
A11 - Batch B

(12) Pile Bldg is going to push enough slugs for 3 more dissolvings at 2 A.M. Get the truck + 2 carriers from 205 Bldg and have one loaded in the canal ready for the 8-4 shift to load. — per H.B.

(13) Made up run books for Batches D, E, & F but ran into trouble. Batches E & F are missing page 12. Made up a page 8 for Batch F and added some columns to page 3, Batch D. H.B. — you had better check these books!?! Also we are now missing about 5 pages of the run in the files.

(14)

2/16/49 12-8 Sachs

(1) Analysis: 8WMA - 130 c's L.S.T.

(2) Attended "C" Bldg I^{131} dissolving and took readings every hour.

(3) Took cuts on Pressley's column on 3rd level and submitted every 5th cut to lab.

(4) 205 Bldg delivered our slug carriers to 105 Bldg. Olson said a carrier would be loaded and waiting at 8 a.m.

(5) Dumped three carboys of HNO_3 into M4.

(6) Cleaned up the S.S. Flanges in the decont. room tunnel. They are on blotting paper in front of decontamination room. No smears have been taken.

(7) Made up 62" of 4% NaOH in M10. Not sampled.

(8) Continued Ru^{106} T.F. operations. Slurry now heating up to boiling.

(9) Checked P^{32} going through column at cell E. Water wash added at 5 a.m. and through at

shift change. About 2" in the evaporator at 7 a.m.

(6) Run Status:

A1 – M.T.
A5 – Batch of carbophosphate
A6 – 6WMA
A8 – M.T.
A9 – Batch B settling cold until 10:45 a.m.
A11 – Batch C waiting on B in A9.

2/16/49 (1) Loaded 161 X slugs.
8-4 (2) Sent one load of decontaminated fittings to burial ground.
Bamford (3) Set up periscope and then removed for visitors.
(4) Visitors entered B cell and observed article I.
(5) Received 90 gallons of caustic into W-3 from 205.
(6) Replaced pipe plug on Phoenix
(7) Run Status
A1 Batch D coming up to S.G.
A11 8WMB a lousy decant of 1011 curies settling til 5:05 PM
A9 settling hot ~~to~~ til 4:10 PM Batch C
A8, A6, A5 MT
(8) The A9-A8 DA jet didn't do so well. We got a great deal of surging of the vacuum in A8 during the decant of 8WMB
(9) Ruthenium run 72-260 agitating until 4:00 PM

2/16/49 (1) There is a hot spill at the 205 stack near the electric fan.
4-12 Wear rubber.
Schaich (2) A6 sampler is not working. Jetted 6WMB into A5

and sampled and then jetted back to A6.
(3) Received waste from semi-works into W12.
(4) Made up 80 ℓ of 4% caustic in M10.
(5) Analysis of 1MD gave 369.9 c's S.T. - 53.3 x slugs.
(6) Attended Buskey's column & took hourly cuts.
(7) Attended "C" Bldg FI evaporation.
(8) Received 12.4 Kg HNH sol. into W4 from semi-works.
(9) Analysis of 6WMB - 55.6 c's S.T.
(10) Analysis of W12 (Special Sample 2/14/49) - 1.97 mc's/ml I 131.
(11) Refilled acid tanks in makeup room.
(12) Brought in truck load of flanges and started decontamination.
(13) Run large jet W6-SB for 1 hr. see (15)
(14) Checked regeneration of column at All V - still going
(15) When large jet W6-SB was turned on solution was forced out open line at small jet. H.P. is surveying area which will probably be warm. 12-8 get pipe fitter to put plug over line and then run large jet for 1 hr - H.B.
(16) 8WMC analysis 167 c's S.T.
(17) Spill at 205 stack area was caused by overflowing of flask catching condensate from 205 Bldg. Hot dirt + slag were removed to burial ground.
(18) Small truck is at retention pond with dead battery.
(19) Ru^{106} cooling with agitation until 12 30 AM.
(20) 12-8 jet out W12 and put on overflow with sampling every 2 hours.
(21) Run Status: A1 - Batch E cooling ready to sample.
A5 - Batch CO_3 Ppt
A6 - 6WMB not neutralized

A8 - MT
A9 - Batch D settling hot until 2 30 AM.
A11 - 8WMC settling until 5 20 AM.

2/17/49 12-8 Sachs

① Maintinance put a plug on the small W6-SB line that was disconnected, when the W6-E.P. line was put in.
② Ran the large W6-SB. jet for one hour.
③ Investigated high D.B. flow and discovered that 105 Bldg. has been purging their canal since about 8 p.m. yesterday. At our request, they promised to cut back a little.
④ Got the pick-up truck running again.
⑤ Completed FI evaporation in Room 10, "C" Bldg.
⑥ Continued taking cuts on Pressley's 3rd level column.
⑦ Analysis: IME - 331 c's S.T.
⑧ Removed flanges from decontamination room barrel and placed on floor south of cell A, 1st level. They have not been smeared.
⑨ Maintinance reamed out slug carrier holes with emory paper attached to an electric drill.
⑩ Had high air counts in building from about 1am until 3am. Trouble was evidentally coming from C Bldg (Either Room 10 or I^{131} cell). Boosted the off gas to FI dissolver. Things appear to be back to normal.
⑪ Continued Ru^{106} Tank Farm operations. The water wash is settling until 9:50 am.

Good deal H.B.

(12) Cut 99 $Ca(NO_3)_2$ slugs for C^{14} dissolving. (One slug was badly swollen). The men sheet at cell U had a note to stop operation after 2 liters of H_2O had been added to dissolver and though that doesn't jibe with E.K's instructions in the log, we stopped there.

(13) Finished regeneration of P^{32} column at Cell U and submitted R1 sample to lab.

(14) W12 was put on overflow at 12:15 a.m. At ~ 5:10 a.m it was put back on automatic jet to W5 when cell A transfers got underway. It is still on automatic jet at shift change.

(15) The clocks on the A6 ring balance went out of order (OK now)

(16) Unplugged A6 sampler with steam hose.

(17) The underwater valve at Ru^{106} setup must be broken off. You can turn hell out of it with no results.

(18) A9 L.L. went up 2" during settling. Leaky jacket on A9 or A10?

(19) Run States:

A1 – 1ME diluted and sampled waiting for batch D to clean A11

A6 – 6WMC ready for sampling

A5 – M.T.

A9 – D batch decanting to A8

A8 – Receiving 8WMD

A11 – M.T.

2-17-49 (1) Received a K25 truck from K25 – jetted to W5

8-4 (2) Emptied drum of waste to W4 for semi works

Buford (3) Cleaned and stored one slug carrier.

(4) Unplugged A6 sampler.

(5) Constant air monitor in cell U burned out

a transformer.
(6) The steel fittings S. of cell A on the dolly are hot. Those on the paper have been smeared.
(7) Runs started
A1 - Batch F
A11 - MT
A9 - Batch E
A8 - MT
A6 - ~~6WMD~~ MT
A5 - ~~MT~~ 6WMD
(8) Had to jet 6WMD to A5 to sample. Sampler still plugged on A6

3/17/49 (1) 6WMD Analysis - 38 cs S.T.
4-12 (2) Had maintenance refill oil caps on steam engine Schaich and unplug jet at W5.
(3) Finished jetting 525 truck and parked at front gate.
(4) Tank farm telephone is not working from this end.
(5) Maintenance replaced broken off-gas valve at cell V.
(6) Received 6.9 Kg of HNH solution into W4 from semi-works.
(7) A9 held constant level until jacket H_2O was turned on. It gained about 2" within 2 hrs. Jacket H_2O was shut off for the last 3 hours of settling cold. Temperature remained constant.
(8) Clean & stored one slug carrier. Cleaned up make-up room, and continued decontamination of flanges. Stored chemical from E. Platform.
Note to H.B. (9) Have in 1 Bag PO_4 and 0 of CO_3.
(10) Took hourly cut on Pressley column.

(11) Run Status:
A1 - Batch F dissolving
A5, A6, A8, A11 - MT
A9 - Batch E settling added 12 PM.

(12) Removed empty C^{14} slugs from cell E.

2/16/49 (1) Received metal waste from 205 131dg into W4.
12-8 Valves reset to W3.
Sachs (2) Pulled Flanges out of decontamination room barrel. They are on papers south of cell A. Have not been removed.

(3) Analysis: 8WME 258 c's S.T, 270 c's S.T.

(4) Continued Ru^{106} T.F. operations. The supernatant is settling until 8 a.m.

(5) Cut 100 slugs for C^{14} dissolving. Started dissolving but the temperature recorder (micromax) seems to be out of order. The damn thing seems to be hooked up with the Beckman instrument which measures the radiation level up there. Instrument man was baffled also. Since dissolving temperature is supposed to be kept at 90°C for 1½ hours, we gave up in disgust.

Run States:
A1 - 1 MF diluted and ready to be sampled
A5 - A8 rinse
A6 - 6WME (steaming sample)
A11 - 6·8WME heel
AX - H_2SO_4 and two water washes from A9
A9 - 3rd H_2O wash settling until 8:35 a.m.

⑥ Was notified by hot pilot plant that ——— a small spill had occurred. We caught all the hot stuff, ~ 26,000 c's/min/ml.

2-18-49 ① Prepared carrier # B32210 for product.
8-4 ② Recieved AE 4406 carrying pots 26, 21, 11, and 5. Also
Bunford IBP 37796 and sugarman carriers 35897, 19939, 13941. Sent sugerman carriers to 105. also the IBP
③ Emptied pots 26, 21, 11 and 5 to W5
④ Recieved K25 truck and emptied to W-7
⑤ Prepared carrier # X28399 for glassware rinse
⑥ Run status: —
A9 run 30 2nd metathesis adding H_2O at 4:00 PM
A5 MT
A6 MT
A8 8WCW
A11 8WW and leeb
A1 IMF.
⑦ Obtained 1 liter sample of W5 sludge for Allison in Akld.
⑧ Rodded W6 — height from bottom to top of terra cotta pipe 20'-10"
⑨ Recieved hot material from semi works into W12 (tank on automatic)
⑩ Gave Rumshaw 3 gallons of slurry from Ru^{106} run 262 Completed Ru^{106} run 263. Ready to start run 264 at 4:00 PM

2/18/49 ① Received hot waste into W12 from semi-works.
4-12 ② Made housekeeping inspection and took care of all
Schaich items.
③ Emptied all Cell B tanks.
④ Cleaned and smeared all pots. All are okay.
⑤ Cleaned out empty C^{14} slugs at Cell V
⑥ Attended Rimshaw's column + passed on verbal instruction to 12-8 shift.
⑦ Attended Pressley's two columns, took hourly cuts on one, and passed on verbal instruction on other one.
⑧ Continued Ru^{106} operation settling until 11^{40} PM.
⑨ Run Status:

A1 - IMF
A5 & A6 - MT
A8 - 8WC + 1st 8WCW
A9 - 8WW + heels
A9 - 2nd H_2O wash settling until 1^{05} AM.

2/19/49 ① Put the lids on Chicago pots. They're ready
12-8 to go "over the pink".
Sachs ② Prepare a carrier for HCl-ether waste at
J1 blister.
③ Cleaned out glassware rinse carrier and
put in cone, adapter and sawed off plug.
④ Analysis: 8WCW - 123 c's L.S.T.
A9 Rinse - 25 c's L.S.T.
⑤ Took care of Rimshaw's and Pressley's columns. Had H.P. rope ~~[illegible]~~ R's and P's 3rd level area off. Everything's hot. Don't linger.

⑥ Continued Ru^{106} tank farm operations. Slurry heating up to boiling at shift change.
⑦ Put W12 on overflow at 2 a.m. It's to go back to automatic jet when B6 evaporation starts.
⑧ Run Status:
A1 - IMF
A6 - M.T.
A5 - M.T.
A9 - A9 wash
A8 - SWCW
A11 - Batch E heel and SWCW
B6 - product solution electrolizing at 25 amps until 11:50 a.m.

2/19/49 [8-4]
① Added one liter of H_2O to B20 through movable funnel rack. Got ~950 ml in B20-R. — Filtered sent to B19.
② Run large jet W6 → SB for two hours.
③ Received metal waste from 205 into W4
④ Continued Ru^{106} at T.F. Supernate decant at 3:30 PM
⑤ Made up 20% $Pb(NO_3)_2$ for next extraction
⑥ 205 Bld owes us an SF form for the transfer to W4 They'll have it on 4-12
⑦ 6P 1945 curies ST
⑧ Run status.
A9 Heels extraction digesting 'til 4:00 PM
B6 Some of the run second evaporation (HNO_3 added)
⑨ Continued work on three columns on third level. Verbally to 4-12

2/19/49 ① 205 Bldg will send down S.F. form for 8-4 metal
4-12 waste tomorrow.
Schaich ② Received wastes from 205 into W5. Valves reset to W3.
③ Started heel dissolving & tried to filter product!!
That's all brother?!
④ Run States:
A1 - Heel dissolving
A5 - Batch $Ce_3(PO_4)_4$
A11 + A6 - MT
A8 - 8WM Recovery
A9 - IMF + heels & other ups.
B3 - 20 liter H_2O
B6 - 150 ml. H_2O
B20R - Product filtering (1st F.N.)
⑤ Took special sample A9 Product.

2/20/49
12-8 ① Continued Ru^{106} F.F. work. Settling to 7:35 a.m.
② Attended to 3rd level columns.
③ Run States:
A1 - Dissolved heels
A5 - cambo. ~~phosphate~~ phosphate
A6 - 6WM recovery
A9 - Batch F settling till 9:20 a.m.
B6 - B6 rinse
B3 - 1st half of 3WFN.
A8 - MT
A11 - heel of batch recovery.
④ Received rinses from 205 into W5. Valves reset to W3.

2/20/49
8-4

(1) Ran W6 → S.B. for 2 hours.
(2) ~~Started~~ Recovering wastes in A-9 in an attempt to determine where losses are.
(3) Placed product ? in carrier and ~~started~~ evaporation.
(4) Ran columns on 3rd floor.
(5) Jetted CO_3 PO_4 to A 5.
(6) Cleaned up glass fore board.
(7) Continued Rv 106. Settling till 7 30/pm.
(8) Made up batch of K_2CO_3 and submitted sample to lab. 44.6%.
(9) Sampled 3 W F N. 144 C's A.T. jetted to A-9
(10) Don't forget! There is a paper on the battery of this carrier as well as the top and sides.
(11) Removed scope from behind P.B. 6
(12) Take cuts on Prisly's column on the hour

2-20-49
4-12
Russell

① Ran columns on third level.
② Received waste from 205 into W-4 twice.
③ Flushed T-2 and made up fresh K_2CO_3.
④ Transfered HCl Ether to B17 and sampled. Analysis 95 C's. HCl ether now in B17.
⑤ Sampled B-6. Analysis 742 C's.
⑥ Removed Pb in B12 and sampled in B-3.
⑦ After four hours evaporation, there remained ~10 ml. solution in B-19. Evaporated to dryness and took sky shine. Readings were ~ 500 to 700 mr-hr.
⑧ A-6 Sampler is plugged.

⑨ A5 contains CO_3PO_4.
A9 Extraction water wash settling.
Phillips has instructions for 12-8.

2/21/49

12-8 1- Completed The K_2CO_3 Cycles IN A9, B.6, + B20 AS Per INSTRUCTIONS, Except SampleING B-3. (B20M sample) used All Exposier time.

2- Tank status
A-1 - Dissolved Heels.
A-5 - Neutralized Batch F.
A-9 - K_2CO_3 + HNO_3 (A9M)
A11 - 8WW-1
B-3 K_2CO_3 + HNO_3 (B20M) Did Not Sample
B-6 K_2CO_3 + HNO_3 (B6M)
B-17 HCl Ether

2/21/49 ① Loaded AE-44 with Pots # 26, 21, 11, and 3 and
8-4 sent truck to 105 Bldg.
Schaich ② Received wastes from semi-works into N12.
③ Unplugged A9 sampler and took two samples. Discarded 1st and labeled 2nd A9M. (added 4 bottles 35% HNO_3 before sampling)
④ Made up 2 batches of CO_3PO_4. Jetted out A5 neutralized wastes and then neutralized A1 heel dissolving. ~~and sent solution to W9.~~ See ⑭
⑤ Removed HCl Ether from Run No 30 and stored in garden.
⑥ Received K25 truck and emptied into W5.
⑦ Maintenance repaired W5 jet and discarded hot hose.

⑧ Received metal waste into W4 from semi-works.
⑨ Turned on W5-W6 jet to blow steam thru the line for 2 hours. Started at 3:30 P.M. The suction line has been cut off.
⑩ Added 1500 ml HNO_3 and then 1500 ml H_2O to B20R. Filtered both and sent to B3.
⑪ Tried to unplug B3 sampler with no success. Steam on sampler at shift change.
⑫ Emptied all all B tanks into A9. Started a series of H_2O washes into B12. Verbal instruction to 4-12. A9 evaporating to dryness.
⑬ Instrument working on B6 manometer.
⑭ Neutralized heel dissolving in A6. Ready to go to W9.

2/21/49 4-12 Sachs
① Turned off steam to W5 jet at 5:30 p.m.
② Made up men sheet for batch B. About half of the ~~~~ sheets are missing. No typist on the shift.
③ Continued the A9 evaporation. Going awfully slow.
④ Ratliff took care of Pressley's 3rd level column the whole shift. 12-8 might check Stewart to see if he is going to do the same.
⑤ Wiped off isotope canniers on 1st level and had H.P. resmear them. They are all O.K. to go.
⑥ Loaded 311 slugs into A1. The slug canniers are in the decontamination room. Both were checked to see if they were O.K.

⑦ Passed on all the dope on the A9 evaporation to Binford.

⑧ Continued Ru^{106} Tank Farm operations. Status verbally to the 12-8.

⑨ Run Status:

A1 – Run 30A coating removal. Ends at 11:45 p.m.

A9 – Whats left of Run 30

A6 – 6WW1

A5 – M.T

A8 – M.T.

A11 – 8WW1 heel

⑩ Made up 49% NaOH in M10 – dilut get to the K_2CO_3 and $Pb(NO_3)_2$. H.S. wants fresh stuff Frank.

2/23/49 12-8 Binford

① A9 evaporation was not completed very successfully. Whenever the volume gets down to about 3" it plugs the manometer and the sparger, making it impossible to tell the level. Therefore evaporated until we thought it should be dry and down to one liter and proceeded with the 30A extraction.

② After unplugging A9 sampler took A9 sample according to Sachs instructions by circulating in one cone and taking the sample in another. About 1 mb read 13½R

③ Made up $Pb(NO_3)_2$ analysis 20.18% Also K_2CO_3 not sampled

④ Started melting up sulfex cans at 4:00 AM. 2nd can in at 6:15

⑤ Continued Ru^{106} on T.F. letting 'til 7:30 AM

⑥ Run status

A1 Heel of batch A ready to start Batch B ← adding acid

A9 Batch A and heels sampled – digesting 'til 8:15

A5 MT
A6 6WWI
A8 MT
A11 MT

(7) Had steam engine governor oiled.
(8) A9 sample had some white precipitate in bottom of cone.
(9) The K_2CO_3 needs 354 gms anhydrous K_2CO_3 to bring it up to 45%.

2/22/49 (1) Maintenance repaired blown manometers.
8-4 (2) Clean and stored carriers. Also clean up
Schaich assorted junk in decontamination room.
(3) There are two jets and an adapter in barrel sparging in decontamination room. P.B. wants the jets and adapter goes on product carrier.
(4) Boosted K_2CO_3 up, then down, and then up again. Latest sample is in Lab.
(5) 205 Bldg borrowed truck and 1 carrier. They returned carrier when we weren't looking. Didn't get a chance to check it. If hot, get them to clean it.
(6) Small truck in garage for busted Spring. We have AE-2675.
(7) ~~The~~ Took product carrier for Run #30 out of cell and stored in garden. Wrapped another carrier.
(8) Pipe fitters put a new Y connection to W6 on the Ru^{106} line. Check P.B. whether this is finished.
(9) Run Status #30A
A1 - Batch C diluted
A6 - 6WW1
A9 - Batch A Settling cold till 4:30 PM.
A11 - Batch B Waiting on A9

⑩ Starting washes thru B8 pipette. See Ken Isadel.
⑪ Borrowed Isadd most of the day.
⑫ Instrument did not register A9 Sp. G. manometer.

2/22/49

4-12 Sachs ① Started changing batteries. "A" bank now charging until 12:30 a.m.

② Analysis: Ks_2CO_3 - 44.7%

③ Analysis: A9PB #1 - 5117 c's S.T.
A9PB #2 - 13,921 c's S.T. } same men!

④ Analysis: 8WMA - 192 c's S.T.

⑤ Dumped HNO_3 into M4

⑥ Make up 4% NaOH in M10.

⑦ Added 80 lbs H_2O to B3 and jetted to B10. This is the H_2O to be used as dilution H_2O on Batch C extraction.

⑧ Run 30A states:
A1 - Batch C, diluted and sampled ready to go to A11
A9 - Batch B settling cold until 3:30 a.m.
A8 - M.T.
A11 - M.T.
A6 - 6WMA not sampled.
A5 - Neutralized 8WW1 (Run 30) + an excess of Carbophosphate. (Probably enough to neutralize 6WMA.

⑨ Continued Re^{186} Tank Farm operations. Water wash settling until 2:45 a.m.

⑩ Furnished coverage for FI dissolving in "C" 13 lbs. Readings every hour on the hour.

⑪ Page 12 is missing for batch D notebook.

⑫ Continued work on Pressley's two columns

and Rimsham's Ru^{106} filtration. Used up exposure time and then some on Pressley's Cerium column. Verbal instructions to the 12-8 shift.

(13) Worked on decontamination of stuff in the decont. room banned. Pretty hot business. Throwing the steam to it raises the air count on south side of building way up.

(14) Checked P^{32} going through the column at Cell V. Going nicely at shift change.

2/23/49 (1) Turned over operation of third level columns to Stewart
12-8 (2) We got another rise in air count during the dissolving of
Binford batch D. although we did not get any pressure on R1 during the dissolving — D was a rough baby came up in 2 hours and 10 minutes !!!

(3) Removed hot sampler unpluggers from decontamination room and put in hot can on E. Platform. Every time we tried to decontaminate it it sent the air count up. Its reading about 7R — ~~500~~ 200 mr over top of the can and should be interred in the burial ground this AM

(4) Had maintenance make up a new long handled blister unplugger and finally got A6 unplugged and sampled.

(5) Checked Phosphorous at cell V. 50 ml to go.

(6) Watched iodine dissolving in C bubbling, but missed one reading 4:00 AM.

(7) Continued Ru^{106} operations on T.F. — letting til 10:45 AM

(8) Sent both slug carriers and the big truck to 205.

(9) Drew off a carboy of slurry for Remshaw from Ru. It is at the tank farm still.

(10) The A9 samples seemed to be clear this time.
(11) At shift change:- I question whether there is enough room in A5 to take all of the waste in A6 so jetted all but two inches of A6 to A5 therefore when you go back from 5 to 6 take it easy. - A5 agitating now.
(12) Run Status:—
A1 Batch D diluted and sampled
A9 Batch C settling hot 'til 9:45 AM
A11 Batch B settling 'til 9:55 AM
A8 MT
A5 Neutralized 8WW1 and all but two inches of 8WM[redacted]A
A6 .2" heel of 8WM[redacted]A.
(13) Bank B batteries charging 'til 12:30 PM.

2/23/49 (1) 6WMA analysis - 27 c's S.T. - 6WMB - 30 c's S.T.
8-4 (2) Turned off B bank at 12:30 P.M.
Schaich (3) 205 Bldg returned slug carriers & truck. Cleaned & Stored.
(4) Cleaned up adapter and 1 jet in decontamination room.
(5) Jetted 6WMA + 8WW1 from A6-W9.
(6) Filled acid tanks + made batch Cl_3PO_4.
(7) Received waste into W5 from 205. Valves reset to W3.
(8) Rinsed out N. Hot Lab I^{131} setup for 1 can run.
(9) Small truck returned from garage.
(10) Continued Ru^{106} operation.
(11) Engineers took sample during Batch E dissolving.
(12) Run Status: A1 - Batch E diluted
A6 - Batch B Neutralized
A8 - Batch C Sampled 8WMC
A9 - Batch D ready to sample

2/23/49 ① Run Status:
4-12 A1 – Batch E, diluted and sampled. Hold until batch D cleans All
Sachs A5 – carbo-phosphate
A6 – 6WMC sampled.
A11 – M.T.
A8 – M.T.
A9 – Batch D settling until 12:08 a.m.
② [redacted] Continued Ru^{106} T.F. operation. Slurry settling until 11:45 p.m.
③ Analysis: 1ME – 219 c's S.T, 53.7 slugs, 5.14 c's/slug.
8WMC – 233 c's S.T.
A9PD – 3014 and 3781 c's S.T.
④ Made a special Te Iodine Run for P.B. One in the N. Hot lab. Submitted samples to lab. Product is in the North vault.
⑤ High air count trouble this evening. Undoubtedly came from the FT evaporation in room 10. A good N.W. breeze spreads it all over "D" Bldg.
⑥ Completed FT evaporation in room 10, "C" Bldg.
⑦ Checked Pressley 3rd level column. It seems to be running at about 10 drops per hour.
⑧ Made up Run book for heel dissolving. It's at P.B.#1 There is 62" of 4% NaOH which should be enough for the heel dissolving. 390#s of HNO_3 weighed up.
⑨ Something very interesting – on decanting ~ 90 gallons from A11-A6, we wound up with 63 gallons in A6. Also the air count went flying off scale. Must be a hole in the jet or line. Washed out the Cell A sump and jetted to W12. On looking back, there was about a 35 gallon

Difference of volume from A11 to A6 on batch B

2/24/49

-12-8 (1) 6WMC 24.1 C ST.

Bufford (2) Replaced ammonia cylinder on ht level.

(3) Batch of carbosphosphate in M1 needs 1½ bags of phosphate to complete it.

(4) Cleaned up HCl-Ether carries

(5) Attempted to track down volume loss on A11 → A6 transfer. Use of scope in A cell did not reveal the presence of a leak. Also we gained ~ 41 gallons when we neutralized 6 in 5 which would indicate that the A6 weigh balance is off.

(6) Rem States

A1 - Heel ready for dissolving.

A9 - Batch E adding H_2SO_4

A8 - MT

A6 - 6WMD sampled, A5 MT

A11 - MT

(7) Watched Beasleys columns

(8) Contenued Ru^{106} operations on tank farm Cooling down til 9:05 PM.

(9) The volume used for the 6WMD sample was that in A11 rather than A6 due to the fact that A6 weigh balance isn't right.

2/24/49 8-4 Schmich ① Unplugged B6 sampler and submitted B6 waste sample to Lab.
② APPE - 5/56 to S.T.
③ Overflowed A cell sump to put a layer of H_2O on floor.
④ Started #16 suction H_2O to 50 to see effect on air count.
⑤ Called instrument to repair A6 L.L. & Sp. G. recorder. Still working on it at shift change.
⑥ Cell Status: A1 - Heel Dissolving
A5 - Neutralized M. Waste (60 MD)
A9 - Batch E settling cold till 5:20 P.M.
B6 - Sampled Rinse.
⑦ Submitted 2nd B6 rinse to Lab.
⑧ Ru^{106} wash settling till 6:30 PM.

2/24/49 4-12 Sachs ① Analysis: B6 Rinse #2 - 211 c's S.T.
② Jetted B6 rinse #2 to B3, added 4000 ml H_2O to B6, steam sparged and pulled sample. This is B6 rinse #3.
③ Ramsey completed some work in Room 10, 'C' Bldg
④ Emptied I^{131} dissolver in the N. hot lab.
⑤ Attended to Pressley's 3rd level column
⑥ Continued Ru^{106} Tank Farm operations. The slurry is settling in

⑦ Analysis:

B6 waste #3 - 11 c's S.T.

8WME - 26 c's S.T and 61 c's S.T.

A1 Heel dissolving - 37 c's S.T. 9.3 slugs

⑧ All three B6 rinses are in B3. Hold there.

⑨ The A6 mixing balance is not working. Should be working by tomorrow.

⑩ Run Status:

A1 - Heels sampled - hold in A1

A8 - 25% H_2SO_4 extraction wash.

A9 - 1.t H_2O extraction wash settling until 12:30 a.m.

A11 - 8WME settling until 11:45 p.m.

A6 - M.T.

A5 - carbophosphate.

2/25/49 ① Checked 13 pipette to make sure it wasn't plugged,
12-8 by cutting vacuum in A9 to 1" and putting slight pressure
Binford 13. We got a decrease in pressure indicating the
pipette was not plugged

② Watched ~~Whitney~~ Pressley's column on third level

③ Continued Ru^{106} decanting water wash at 8:00 AM

④ Run status

A1 - heel of run 30A

A9 - wt metallusis settling til 9:50 AM

A8 - 4 liters 70% HNO_3 to recover met. waste

A11 - 8WW

A5 - 8WME neutralized

A6 - MT

2/25/44 ① Ran large jet W6-SB for 1 hour.

8-4 ② Cleaned & stored scope in Cell A

Schmich ③ Received waste from semi-works into W12.

④ Received 12.3 Kg U into W4 from semi-works.

⑤ Cleaned & stored Parker's carrier and also cleaned out decontamination room.

⑥ Cleaned up dust spots behind Cell B, 2nd level.

⑦ Large truck is being rejuvenated with new side boards & steel plate.

⑧ Carpenters put plexiglass windows on IB #1 & 2 decks.

⑨ Run Status: A1 - Heel of Run 30A

A5 - Neutralized waste

A8 - 8WC Sampled

A9 - 1st H_2O wash settling till 5:50 PM

A11 - 8WW & Heels of Batch E

⑩ Instruments still working on A6 recorder.

⑪ Received 9.4 Kg WNH solution into W4 from semi-works.

Jack - you may have the honor & privilege of starting a new book.

The End

CWS.