

Document Discussion



ENTERED



Return To Library > Records > ERID-95501 through ERID-96000 > ERID-096638 1) TA-21 CLOSURE PROJECT INTERVIEW OF WILBUR MCNEESE EARLY PLUTONIUM RECOVERY OPERATIONS AT DP WEST

Created By: Melissa E. Redman/USERS/LANL
File name: Target-ERID #.pdf
Version: 1.0
Document Type: RPF Record
Description: RECORD SUBMITTED BY MARY JO KEYS

Document Details:

Title: ERID-096638 1) TA-21 CLOSURE PROJECT INTERVIEW OF WILBUR MCNEESE EARLY PLUTONIUM RECOVERY OPERATIONS AT DP WEST
ERID Number.StartPage: ERID-096638
Office of Record: ENV-ERSS
Date Received: 06/26/2007
Official Use Only: N
Page Count: 10
Record Type: Letter
Document Date: 11/06/2006
To:(Addressees - Organization) N/A
From:(Senders - Organization) ERCLE HERBERT
Other Document Number(s): PKG-1727-1789
TA: 21
PRS Number(s): N/A
Record Box Number:

* Denotes Fields that are mandatory.

To download this file, right mouse click on the file and select 'Save to Disk' or 'Save Target as'
Target-ERID #.pdf <-- This link points to this version.

To check-out and/or edit this file, select Edit Document or Check Out Document from the Document menu above.

File Cabinet: Records
Binder Category: ERID-90000 through ERID-99999



34299



096638
LA-UR-11-0554

Interview of Wilbur McNeese

RE: Early Plutonium Recovery operations at DP West

Date: November 6, 2006

Place: off-site in Santa Fe, NM

Interviewer: Erle Herbert

Wilbur is former chemical engineer in support of Chemical and Metallurgy Research (CMR) Division at DP Site, and worked in the plutonium recovery operations starting in 1946. Wilbur was the 1st person hired on with DP West to replace soldiers that were leaving. He was 26 in January 1946 when he started. He was hired as a chemical engineer, but did not quite have a degree (which he received later). His responsibilities included plutonium recovery in 1946 and 1947. He periodically checked health of plumbing and disposal systems – he would crawl the perimeter pipe tunnels to check things and once found that the bldg 3 HF system waste drain pipe had been eaten through and the liquid HF had eaten a hole in the concrete floor and continued down in to tuff so far that he could not hear a stone dropped hit the bottom. Location was center of east side of south wing of bldg 3.

How much plutonium should we expect in MDA B?

“I think what you’ll find there is merely contamination. You have all these old beakers and such and in those days you’d clean it to the extent possible to recover any plutonium you could possible recover. Now, there were high counts. You see a microgram of plutonium gives you 50,000 counts per second. So with a Geiger counter you can scan and know if there’s much plutonium there. You can throw away a microgram and it still pretty hot, but a microgram you’ll never find except for the counter. So if any recoverable amount, especially in those day when it was so valuable, valued at millions of dollars per gram, ... how else can you evaluate it, and so any quantity at all that was recoverable would have been recovered, it would not have gone down there, so what you’re talking is contamination. Not quantities of plutonium.”

Our current upper bound estimate is not more than 100 grams Pu in the entire trench.

“I would guess that that was an awful liberal estimate. I guess there’s not near that much in there. If there was a gram, ... they would have done ... broken their backs to recover it at that time. Do you see, now remember on the bombs that they made, the inventory went to virtually zero. And so any quantity that was recoverable at all was recovered. Nowadays, it might be a different story.”

What can you tell us about the General’s Tanks?

“We dumped chemicals in tank trailer outside, when it was full, they would haul trailer around to tanks and dump contents. Not likely that much in the way of acid was disposed because acid would damage tanks.”

The contents were left be because they were not that high in Plutonium?

“No real reason the contents were never recovered – “it was something that came up every once in a while and we discussed it, talked about it, but nothing ever got done. We had other problems. There may not be all that much in it.” Always had other fish to fry on higher priority basis. The tanks were salted out and weren’t hurtin anything. It was sampled and was not a worry at the time.”

There was a time when Plutonium was so much in demand that we scrounged for every little bit, that you wouldn’t have time to reprocess that stuff. The stuff I told you that we had just concentrated into something we could get into the 5l bottles, that was the stuff we had to get out and get back into solution and processed. With solvent extraction and ion exchange. We lost a man on that job. Kelly.

Got killed on a criticality accident at our place and a .. but that was in that facility were he was working. But we wouldn't have had time to do anything about the General's Tanks."

Was there a point in time when everyone was told to stop using the General's Tanks?

"I imagine so. ... You can see after a while things became more organized, we had chemists working on it right there and before they had taken just little bits of knowledge and expanded into the whole plant and after a lot of this stuff didn't work. Then we had chemists like Larry Mullen and Gus Hendrickson working out processes that eliminated the need for the General's Tanks."

At what point in time do you think the value of plutonium, the scarcity would have been less critical?

"Oh it would have been clear into the ... oh let's see, what would I say, ... I told you about the, getting the orders to recover all the plutonium we could, turning it into metal as quickly as we could,"

Now, that was after the war.

"Oh yes, that was several years after the war, but we were cranking bombs out pretty fast, and there the plutonium went, and they were wanting to build up an inventory. And I would say that it would have been when Rocky Flats was going good. Rocky Flats started in about 53. and by the time they got rolling, they got pretty casual about They took the attitude that if it wasn't economical to recover it went down the drain. I'd say sometime after about 54, 55 there was enough of it around that there was no worry about small quantities of it. I think it was long about there that, ... I can't ... I was trying to think of when we put in the plutonium weapons plant at Hanford. I think that was probably in the mid 50's. We had already ... we had rebuilt our plutonium facility and put it on a semi-remote control purification of metal and parts of that were copied at Hanford, although they thought that they could go to a continuous hydrofluorination process and they ended up with so much dust in the bottom of the box that they had a pulsing reactor "...

So Hanford wasn't producing plutonium in large quantities until the 50's?

"I didn't say that. What I'm saying is that there were sufficient quantities of it that you weren't scrapping for every little half a gram. I know Rocky Flats was ... a lot more liberal in their thinking about what was put down the drain. Of course, they got in all kinds of trouble since then. And I guess that was along about the mid 50's. And Venable and I were real good friends. And I would go to Rocky Flats regularly and we argued over that principle for a long time. He had been working for DuPont where dollars were dollars and he took that same attitude towards plutonium. If it wasn't economical to recover, then don't bother with it. And that would have been along about the mid '50's.

What can you tell me about plutonium?

"It was a long time before they got enough to really make anything out of it. And they did that in old D building. And they essentially worked on table top and with open faced hoods. And so a lot of those fellows got a snoot-full right then."

[After showing Wilbur aerial photos and graphics of MDA B]

"Well let me tell you what I know ... about this. We they started out they were only interested in one thing and that was turning metal into a weapon and that was all that mattered, but they did realize that they had to do something with their waste. The thinking was short term and they didn't think Los Alamos would be there too long. So they built a whole bunch of iron, black iron cans. As I remember they were something like 4x4x8. And they started putting the waste in there, and by waste I mean that's anything you didn't know what else to do with. Old beakers, and equipment, and gloves and trash - anything went in there, and then they put a lid on and welded it shut. I believe the intent was to take those out in the deep Pacific and drop them in a trench."

The C-Cans?! I've seen a memo talking about C-Cans.

"OK, well that was the intent, but it kinda got vetoed somewhere along the line, and so that's what they started putting in this trench was those cans. Now when I came to work, there was still a bunch of those there and there was still a bunch of those open, but you find in there a good many of those were actually buried. And, I didn't see it, but there was a rumor that there was a dump truck they put in there too that got hot when they started cleaning up old D-Building, it was pretty from everything and the dump truck hauling things out of there got contaminated and they had to put the dump truck in there. It was a pretty good size pit. Now I don't remember it being quite that long.

"It seems to me there was an old disposal pit over here for chemicals [pointing just northwest of the branch off road to DP East]. And we used these buildings for various things, one was a training place for new employees that couldn't get in the gate and they were just plain old wooden standard army buildings. They was supposedly no contaminated work done here. Later on this became a plumbing shop. And I worried quite a bit about plumbers carelessly bringing pipe back out. But I had it monitored pretty closely. They were training buildings and places you could talk to people outside the fence. This road cut around and went to DP East. ... and they were across from the laundry.

We understand that folks would bring small amounts of chemicals to room 213 in bldg 2 and store them there until they could figure out what to do with them.

"I was in charge of that. Now here's what we did. When I hired in I said I don't know anything about plutonium processing. They said you don't have to know anything, we have the best people in the country working on this. Everything they've worked out in detail. All you've got to know is if they say open that valve, you open that valve. Nothing could have less true than that. Nothing worked in that place. You couldn't get a solution from one pipe to another. It would run out. They have used a very low quality stainless steel, 204, very low quality. It couldn't stand nitric acid. We'd have to cut line in two with a hacksaw and catch the plutonium nitrate in a bucket. And then take and pour it into another tank. And that tank we put it in was a tank that we had scrounged from Hershey's Chocolate. And it turned out to be monel. It wasn't stainless steel. So they ate right through it. And see I was in charge of it at that time. The process for recovery at that time was, ... you we had two streams – an oxalate and a nitrate process coming from purification. And they came to separate tanks. And then we were supposed to precipitate that out with a peroxide precipitation on it ... and get the plutonium. But there was so much iron in it that it didn't work.

Let me play catch up here, you had two streams from purification – oxalate and ???

"Oxalate and the other was ether extraction. Now years later when I removed those tanks I had a 1000 gallon glass lined, jacketed, augured tank interlaced with thin-walled ??? tube because they were worried about plutonium inhalation. When I took the lid off that to see what was in it, a lot of those thin-walled tubes were half full of plutonium oxalate that had never gotten past that point.

And this was when?

"This was several years later. Anyway, nothing worked and what happened, we ended up with just a red sludge that looked like dissolved brick.

Was this in the oxalate, the ether, or both?

"Both, we blended them together after we got 'em. And anyway, I had a fella come to work for me named Pierre Horthorn, a graduate of MIT and the first thing I did was have him build an evaporator. So we started evaporating this down as far as we could go and put it in 5l glass bottles. And put it in storage until we could get a process worked out, but this was an expediency. We had to keep emptying

these tanks because purification was running and it was working. We kept getting the residue and couldn't handle all that because the processes didn't work at all. We had to replace all the piping with a higher grade of stainless, all the pumps and everything else had to go. We had to rebuild it as an expediency. We had to do something with the discarded solutions. So we evaporated it down til it because, as I said, a solutions of red brick. And we put this in 5 liter bottles while it was still warm, and we closed those up and put them in the vault."

What vault did you put them in?

"Over at the north side we had a big vault for plutonium, and we put them in there.

What building was that in?

That would have been in '46, that we built that evaporator. You know we used to be able to do things. If I needed something, we did it. A little while later, a few years after that, Bill Marrison was in charge of recovery operations, I was in charge of metal fabrication, but we got an order from the Secretary of Defense. We were to start recovering plutonium by February, this was in August that we got the order. There was just a dire shortage and they knew a lot of it was in the recovery stuff. So, Bill Maraman and I worked out a schematic of what we might need. Bill went on the road with the authority to go into anyplace and say I want that and get it. And I started tearing out all the old processes.

And what date was this?

This would have been, ... oh, ... I'm just giving you an example of how you could get things done. They assigned me a full crew of plumbers, and I made a deal with them that they didn't have to work for ??? cuz all he did was upset the plumbers. I had a full crew of plumbers, a full crew of electricians and I had to rip out all of the original stuff, clean the room out, and we had worked out a plan where we had certain piping that we could depend on no-matter what the process. And by February we were processing plutonium.

February of what year?

"I can't remember the year, but it would have probably been about '48, '49. Some where in there. I know we got that order from the Secretary of Defense. We were to be recovering plutonium by February. We didn't even have a process I started gutting the building and getting it ready. That when I pulled out that big 1000 gallon tank. We had to drag it out because we had nothing that we could lift it with. We drug it across the floor to the doors where we could pick it up. In the mean time I had to pull all those tubes out and clean them out. But anyway, in that six month period, we tore the old stuff out and put in all new tanks and whole new processes, and started recovery with that, because we didn't have to go through all the ri-ga-ma-role you do know. They said you do it and we did it. And we had the authority.

How long after you started work there did this happen?

"It would have been at least a couple or three years So it would have been around '48 or around there. But, the idea is, then you could get things done. Now, you can't do anything. Just like the plutonium production. I was in charge of the planning and construction of TA-55.

Do you remember anybody pouring chemicals into the trench over here (pointing to the middle of the east area of MDA B)?

"No I don't remember anyone ever doing that."

How about filling glass bottles with chemicals and putting the glass bottles down in the trench?

"I don't remember – that's why I told you about the glass bottles that I was in charge of recovery and we were putting all of the concentrated solutions into 5 liter bottles and we had to design a special plug to go in the top with a sintered glass filter in it because you're constantly giving off hydrogen due to the constant reactions in the jars. All those went into storage because they had large quantities maybe up to 50 grams plutonium."

But the glass bottles that you are talking about all got processed.

"All got processed. After we rebuilt the place, we brought the bottles back in, re-solutioned them, and we separated them with solvent extraction and ion-exchange. Not with the final peroxide treatment, which didn't work with all the iron in them. But we had real college quality men that designed it, they had it right down, they could show you a full flow diagram, right to the cc how you were using and they you realized nothing worked. Nothing worked. The lines filled in. With the much higher iron that would precipitate out, we'd have to saw the line in two and catch it in buckets. Can you imagine doing that now?"

What we're trying to do is figure out ...

"OK, I can help you to there (pointing to the eastern portion of MDA B on the late 1947 satellite photo), but I can't help you with that (pointing to the western, graded over portion of MDA B on the same photo). And that's what I remember being an open pit, with a big pile of stuff on the end – dirt and all, I don't know what they did with all that dirt. Seem like they had more than they needed to fill up. They may have hauled some off. You were, talking, ... 65 years ago."

Yes, but in terms of presence or absence of things, you don't remember them stashing bottles in here (pointing to the center eastern area of MDA B)?

"No, No. Now, like I told you, I remember talk of a chemical waste place over on this side of the road (pointing to the north side of DP Road). Just up the road a little bit from those two buildings we were talking about."

So we don't know what these are (pointing again to the six small square structures on the North side of the road)?

"No, I have no idea what those are. They had nothing to do with us. I knew pretty well what went on with our place."

So someplace over here people would dump chemicals?

"Now, within the site we had an acid waste disposal ... and it was nothing but a, ... almost like a cement septic tank, in which we could dump acid waste. Now not plutonium contaminated, but just common waste. "

What we found in the literature is discussion of "unworkable solutions" and they when to room 213 bldg 2.

"That's our recovery operation."

And that was you?

"Now when was that literature?"

"I don't know"

"You see, that was me until 47 or so, when I when down, ... well maybe a little later."

“recovery was you until 47?”

“Yeah, I was in charge of that for about a year and a half or so and then I went down to metal fabrication where Doug Ballard, who was in charge of metal fabrication was going away, going back to school, leaving. He went down there and got his doctors degree and went to work for Sandia. He was an awful nice fellow and a very well known artist. And he died about a year and a half ago. I went down there and essentially took over weapon production until we could get someone in who was more of a metallurgist. But I was in charge of metal production then and we worked two shifts we were trying to knock out weapons as fast as we could. And then we started to develop the thin walled later on and I still worked there but by then we had a fella working full time in charge of metal production and I went back to being a plumber. Doing my own research work and stuff like that. Any time a problem came up, that was mine

You know, In summary, when you were working at DP West, when you got done with recovery solutions, and you had recovered all the Pu from them that you could, what did you do with them?

“They went to waste treatment.

“They went to waste treatment?”

“Sure. What else would you do with them?”

“Well, what waste treatment did you have?”

“You’d pour it in the sink, and open the valve, and let it run out. That’s what they did. But later on they developed processes for reprocessing it specifically trying to take out any contamination.

So in the 1946 to 1948 timeframe, the first two years that you were there, everything went to the general’s tanks?

No, no, I told you, when we couldn’t process it, we evaporated it, precipitated it out, put it in 5 liter bottles, then we put it in the vault.”

“So it went in the vault and stayed in the vault until you could do something with it?”

Yeah. And then we brought it back out, re-solutioned it, and treated it with ion exchange and, and reprocessed it.”

“When did you start treating the red concentrates?”

“That was what I told you around the early fifties. We got this letter from the commanding general that we had to have the plutonium. I remember very well, they showed up the telegram, ... we had to have, ... the process running by February without regard to neatness or cheatness... in other words, no bullshit, we’ve got the money, we’ve got the priority. Bill Maraman could go into any manufacturing place and say, ‘I want that thing’ and they’d say ‘oh, that’s so and so’s’ and we said “not now, that’s ours. You ship it to this address. At the time I got the building done, we had a process, we know we need tanks, we settled on 250 gallon stainless steel tanks, and besides, by the time we got the tanks we had a process. Now, we knew how to hook the pipes up. And that was in 213.”

“And you set up those tanks in 213?”

“Pulled out all the old equipment, cleaned the room down, ... by then see, we were working on a remote control, remote processing, purification and metal production. And we were moving out of 313, where we had the reconstruction and upgrades to extraction, now that used to come to us in a trench in the floor, trench, a covered over trench filled with pipe and years ago we pulled that piping out, processed it, got rid of it. I came directly from bldg 3, from 313 to 213 by pipe. And now there

was another one, ether extraction stuff, often came over in bottles, and we poured them into the tank, now we had an order one time to start putting that in special stainless steel drums, and ship that to Berkeley and Seaborg and his crowd were looking for new elements and that's where they found them – in the solutions that I sent them.”

So the solutions left over from ether extraction and purification where what you sent them?”

“They were darned clean. Not a bunch of ‘em we shipped out there, just one or two batches, we shipped out there in special stainless steel drums.”

And when did you do that?

“In 46, late 46, early 47.”

So nothing, came out of 213 and went to MDA B?

“No siree, that stuff came out of old D building.”

So that tells me that 213 did not produce waste that went to MDA B, or not that you're aware of?

“No.”

Now when you threw trash out, these was a dump truck that went around and picked up contaminated trash. You contributed trash to that, yes?

“Yeah. ... Now we had a trench down there between the General's Tanks, that where our trash went.”

Even in '46?”

“Yeah. When you get to thinking about it, what would you have done with your trash in '46?”

Well, I would have put it in whatever the open trench was.

“Now how would you contain it, your trash in the room? We didn't have plastics, that's the point, it went in a cardboard box. Now we needed a method of taking something out of a box and moving it to some other location without spreading contamination, so we reasoned that if we put a 24" extension on the bottom of the box, put a plastic bag around that and a thing to hold it and that in a box, then you could transfer into that, seal off the box so you could carry it over, now the outside ... flips over, you put that in the box. We had to make our own plastic bags. We'd get sheet stock, rolls of sheet and make out own plastic bags. And I got hell once, it was the only time I got a call from the director's office, and I wanted an electric iron with an automatic control on it to seal the plastic. So I ordered one from stock at the hardware store. And he call's up and say's “Neese, what in the hell do want an electric iron for? Is your wife going to iron your shirts?” So I told him what it was for. So we got it. So we had to make our own plastic bags for quite a while until we could get an outside vendor to make them. Think how hard these were to manage – 15 mils, and now they're one and a half, half a mil. These were thick.”

And you put those inside a cardboard box?

“Well those didn't go to the dump. I'm talking about stuff like weapons parts you're moving to another box. At first we would wash it with alcohol, place it on filter paper and carry it on our hand to another box, open the airlock and set it in there. Well, we had to get past that and that when we went to the plastic bag transferred between boxes.”

And now laboratory things like lab coats and all the things that got contaminated, those went in the cardboard boxes?

“And that went to our own little dump, down there, that trench back of the general's tanks.”

So that trench behind the Generals Tanks was used until when?

"I don't know. I'd say it was the early sixties, probably. Maybe a little later. I think all that's been dug up and taken care of."

Interesting, so it (MDA A) was in use in 1946 and continued to be in use until, 1960's did you say?

"Oh yeah, I'd say yeah, you see you couldn't put it in the city dump. Let's see, it seems like we had our own incinerator that burned a lot of our, ... rags and stuff that we used insides of our boxes. We could incinerate that and then recover the oxide. I built two or three of those. No we're taking, ... I'm trying to picture it, ... something like a foot by a couple of feet. And another thing, up until I started rebuilding things, our gloveboxes were just vented into the room. They had a piece of adhesive filter paper on the outlet of the box and it was just vented into the room. And in metal fabrication, where we had lots of heat and stuff, it went into the wall duct that ventilated the room. It wasn't until about 55 that they started rebuilding the metal fabrication operation and I put in special filtering elements to clean up the air. You couldn't get any filters until they started to make chemical filters, high efficiency filters for the army. They developed real efficient high efficiency filters. At first we just used the cartridges off the gas masks that the army developed, we used that just as an in-line filter. And then we got to manufacturers making them for us; 12 x 12 x 6 and then 24 x 24 x 16, they called them HEPA, high efficiency particulate filters."

Now you tore out a lab and started over because of all the rotted piping? When did you do that?

"Well, in the early fifties, that's when we took metal purification and fabrication, making the plutonium button, we built a remote control line for that. In room 501 in the early fifties. And Dupont was coming on-line and Hanford was re-built and they kept men in our plant all the time to test stuff that we were rebuilding."

So the process piping and things that were waste that you were throwing out, the debris, where did that go?

"That trench. That trench back of the General's Tanks."

So it didn't go over to MDA C, over by TA-55...

"Oh no, no, we didn't send anything over there."

And you must have a done a quick lab clean out when you got that order to reprocess all plutonium, that's really what drove it all, right?

"Oh, right. That gave us the authority to do something and man we did it quick."

And all of that stuff you threw out to make room and get ready went into that ..."

"It went into that trench."

Behind the General's Tanks?

"Yes, and remember even one of the thousand gallon steam jacketed tanks, these are things that we picked up on the open market that they had before I got there. All they could get to handle those solutions was a glass lined tank. You see they didn't have stainless steel tanks."

And so they just dropped them in the hole and ...

"You clean them up as best you can, put people in there in pressure suits and wipe them down and clean them, and do the best job decontaminating them that you can. Period. What else can you do?"

And at some point, that's it, they're as clean as you can get. We had people, now really they were janitors, and we trained them for decontamination and they got pretty good at it. You know, they worked carefully and had good monitors. By today's standards, maybe we didn't have, ... well, we did the best we could at the time. What would you do with a 1,000 gallon tank today?"

"We even sandblasted to get a little more off. We got a vacuum blaster. It was a machine that blasted grit and sucked it up into filters so that you could cut the concrete just a little pit."

So you used the sandblasting on what?

"Floors. ... We had one job, ... the original gloveboxes had five inch glove ports. The original gloveboxes were taken from Notre Dame's biological research lab. We built these gloveboxes for biological research on dangerous bacteria and stuff, and they made them so that at the end of the experiment, they could steam clean them. They were made smooth on the inside and they were made by a dairy equipment supply company in Iowa. And we adopted that same box to start with. But they had five inch glove ports. We had machinists that would come out that couldn't put their arm through a five inch hole. So I decided to build a new line of gloves, eight inch, so we got all organized on it. I had all new molds made for gloves, by the rubber companies, and they made us a whole new line of eight inch rubber gloves. In metal fabrication, which is our most dangerous worst place, we lined the whole room, walls and everything, with masking paper, and then we had the Zia company come in with all the old paints they had and spray that so its tacky. Floors, walls, everything. And then we went in and used hydraulic lift table and mounted a milling machine on it, and put that up to a box. We cleaned the box first. And we put a fly cutter on it and we'd bore an eight inch hole out. We worked in pressure suits, two of us working."

So you're retrofitting an existing glovebox?

"Oh yeah. Then we bolted on an eight inch flange that was adaptable to an eight inch glove."

And when did you do that?

"Oh shoot, ... I'd say, the early fifties. I know it was when we were trying to get filters on stuff. I know I went down to Espanola in the morning and gave blood for ... someone. Got back, went to work, and then ... I didn't realize a thing could hit you so, but working in that pressure suit with a lack of oxygen, ... I just didn't hardly make it through the day. And then when we got through with all those, we cleaned up the best we could, then we came in again and sprayed all that paper with gummy paint, then took it down and the room was relatively clean."

And that paper all went in MDA A?

"Yeah."

So you worked in DP West until what year?

"In 68 we said we've got to do something to make these places safer, mainly form a fire standpoint. So I was asked to write up requirements for a plutonium facility, so I put down everything I thought, my boss and I looked it over and that then became the bible for the new plutonium facility. In 68 they gave us money to retrofit the old plant. At that time we did a lot of stuff like putting in sprinklers, which we didn't have before. And we did a lot to make the place more fire safe. Because they had had that fire at Rocky Flats. They said we can't let that happen again. So that was, ... long about '68. By the time we got the job about done, they said we need a head to build a new plant, so starting in '69, early '70 we again started meeting with Washington, deciding what we needed, and setting up and using those old requirements and reworking it, of course Washington, they can do wonders to something, they can tear it up to where its totally unusable. So we had to battle all the time on the

practical things, as well as the desirable. So then started looking for contractors for building new plutonium facilities at Rocky Flats and at our place. That was my job from then on.”

We still have stories of people carrying bottles of chemicals down here, filling up carboys beside a hole and then burying the carboys right in this area (pointing to map of east MDA B).

“I’m not saying they didn’t, but it wasn’t us. Understand, I’m saying we didn’t do it. Now think of D Building, right in the Tech area, uptown – what would you do with all your cleaning solutions? Take them down there in bottles and bury them. But not us.”

So that must be it then, they didn’t have anything else and got license to use that area?

“They built a waste treatment facility for them over across the road from the united church where the swimming pool is now. And they, ah, ... before that they didn’t have any waste treatment.”

When was that built?

“I don’t remember.”

Was it built in the 40’s?

“Latter part of the 40’s.”

So in the early 1940’s, everything is coming here? Early forties until whenever that plant was built?

“I imagine that trench was there before they built DP site. They built DP site from, as I understand it, the spring of ’45 and finished it in the fall. That’s why they these buildings that they could get. They had these brick layers from New York building fire walls and worked them around the clock. And the same with pipefitters and all. And welders, he’d stay on duty, they would sleep on the job until they needed them. It was a phenomenal thing, they built DP site in something like 16 weeks. Wartime urgency. See it was started before Hiroshima. And ended up after.”

“I would have gotten out of school in ’41. I was working my way completely taking chemical engineering, which is the hardest of the courses and ROTC and everything, and they told us in the spring of ’41, don’t worry about a job after graduating, you’re going to be on active duty in 30 days. And boy I went on active duty in June of ’41. I got out, of course, of finals.”

And you were in the Air Force?

“Army Air Corps. There was no Air Force. I went on active duty in the Coast Guard service with an anti-aircraft unit. places like Galveston and those places with the big guns, which was all obsolete, so they made us anti-aircraft. Anyway an opportunity came up. The adjutant at Eligren Field was a real good friend, and he called me one day and said would you like to go through pilot training? I said I sure would, cuz they made 50% extra, that boosted me up to \$225 a month. Anyway, I went through pilot training at Renaughten??? There was one class of us that did that. And then I was army air corps, and it was Army Air corps until ’48, ... as a separate unit.”

And you stayed in as a reserve officer?

“Yeah.”

And you got Lt.Col. as a reserve officer?

“Right”