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IN THE MATTER OF:

SWORN STATEMENT OF ROBERT MESSERLY

- - - -

PRESENT AT THE TAKING OF STATEMENT:

MR. ROBERT MESSERLY, Witness;

MR. E. BROOKS GRIFFIN;

MR. RICHARD K. HERR, Interrogators;

MS. JUANITA ELLIS

MR. DAVID COGBURN, Court Reporter,

SWORN ORAL STATEMENT IN QUESTION AND ANSWER
FORM of ROBERT MESSERLY, taken before David Cogburn,
a Court Reporter in and for the State of Texas at
the United States Federal Courthouse in the City
of Fort Worth, County of Tarrant on the 14th day
of April, 1983 at 2:00 p.m., at which time the
following proceedings were had:

P R O C E E D I N G S

MS. ELLIS: For the record, we should indicate that we have handed the NRC officials an April 13th letter from CASE addressed to Edward Markey regarding this matter, and also a copy of an affidavit of J.R. Dillingham, D-i-l-l-i-n-g-h-a-m. And I believe Mr. Messerly has a copy of some documentation which he will be providing also to the NRC.

MR. GRIFFIN: Anything else, Ms. Ellis?

E X A M I N A T I O N

BY MR. GRIFFIN:

Q Mr. Messerly, this investigation is being taken pursuant to the rules of the Nuclear Regulatory Commission and we are at the U.S. Federal Courthouse, a part of the U.S. Attorney's Office, Room 524 in Fort Worth, Texas. This is Thursday, April the 14th, 1983 and we're commencing this, it look~ like, at 2:01 p.m. Present for the NRC is Richard K. Herr, the director of office of investigations and myself, B. Brooks Griffin.

I understand, Mr. Messerly, that you are a former employee of Brown & Root and were employed at Comanche Peak Steam Electric Station in Glen Rose,

1 Texas. Is that correct?

2 A Yes I was, uh-huh (affirmative).

3 Q And present with you is Ms. Juanita
4 Ellis.

5 MR. GRIFFIN: Ms. Ellis, if I might
6 ask you, what is your role in relation to Mr.
7 Messerly?

8 MS. ELLIS: All right. Mr. Messerly
9 is one of the individuals which we had planned
10 to call in hearings which have been postponed
11 for the time being, at least, in the Comanche
12 Peak operating license proceedings.

13 MR. GRIFFIN: All right. And you are
14 here in his behalf?

15 MS. ELLIS: Well, yes. He asked that
16 I come and join him so that he would have
17 someone here that he felt comfortable with. He
18 felt that he would feel a little more
19 comfortable with someone else here.

20 MR. GRIFFIN: Do you represent him in
21 any way other other than just an associate or
22 in the manner you have already described?

23 MS. ELLIS: In the hearings -- I'm
24 not an attorney first of all. In the hearings,
25 though I am CASE's primary representative and

1 as such do what an attorney, I should say,
2 would do for CASE. And so to that extent I
3 guess sort of a quasi representative status.

4 Q All right. Our purpose here today is to
5 ask Mr. Messerly questions concerning an earlier
6 statement that I believe he made to you in which he
7 identified a number of issues that are of concern to
8 the NRC, and we would like to find out more specific
9 details about these issues. So my questions will be
10 directed to you, Mr. Messerly.

11 A Okay.

12 Q The first issue I would like to go into
13 is the use of a rebar drill or a drill at Comanche
14 Peak that I believe you have indicated was used,
15 that you used in your job and was also used to drill
16 through cement and rebar; is that correct?

17 A That's correct.

18 Q Would you mind telling me in more detail
19 what this drill is?

20 A Well, it's like it says. They call it a
21 rebar eater, it's made by Drilco manufacturer who is
22 out of Miami, Florida and it's a -- well, they have
23 a diamond tip on them or they have a real hard steel
24 tip on them that cuts through other steel, concrete,
25 anything else that gets in its way. And they are

1 operated by anywhere from a half to a three-quarter
2 horse electric motor.

3 Q Okay. And did you use this machine in
4 your capacity as an employee of Brown & Root?

5 A Well, I was foreman over the crew that
6 used this machine.

7 Q All right. Did the use of this machine
8 require documentation from --

9 A It did.

10 Q -- from engineers?

11 A It did.

12 Q And these were Brown & Root engineers?

13 A Right. Not Brown & Root, they were Gibbs
14 and Hill. They are the ones that first started it
15 when they first come on the job.

16 Q All right.

17 A A guy named Dean Fellingner is the one if
18 you want his name.

19 Q He was the one that issued --

20 A He was the one that started out with me
21 on the rebar drilling, and later it changed into
22 fourteen different people if you want to know the
23 truth about it.

24 Q What was his last name?

25 A Fellingner. He is still with Gibbs and

1 Hill and he is out of the Dallas office now.

2 MS. ELLIS: I believe that's
3 F-e-l-l-i-n-g-e-r. I have seen his name.

4 THE WITNESS: Do you know who I'm
5 talking about?

6 Q During the time that members of your crew
7 used rebar eater, did they make sure they had this
8 documentation?

9 A Most of the time yes, but there are times
10 that I was ordered by my superiors, a guy named Mike
11 Sanders, to order or go out the gate, as I stated in
12 my affidavit before.

13 Q Are you saying he asked you or told you
14 or ordered you to drill holes or use this drill in
15 the manner in which it was to be used without
16 documentation as required by procedure?

17 A I am saying that.

18 Q How many instances did this occur?

19 A I wouldn't -- I mean, just to give you a
20 number, I couldn't do it. Many times.

21 Q Okay --

22 A As far as number, you're going to say
23 more than this or less than this, I can't give you a
24 number. I won't give you a number because I don't
25 have that much -- well, how can I say it, I'm just

1 not there. The drill -- I was ordered to loan the
2 drill out at times. I was ordered to loan a guy a
3 drill bit that he would go get a motor, a drill
4 motor out of the tool room and I'd never see these
5 three, four, five, six bits again. Now, how many
6 holes were drilled with it there's no telling how
7 much rebar was cut.

8 A man comes up and says, I want you to
9 give so and so six drills, he's got a pipe hanger
10 that has to go down or a cable tray that has to go
11 down - a cable tray support - and we have got three
12 holes in it and we need the fourth one bad. And I
13 went to my general foreman at that time who was Pete
14 Mason, and I told Pete, I said Pete, Mike keeps
15 giving me these orders to get this drill out, loan
16 it out to drill holes that are not authorized. I
17 haven't got the paperwork from Dean Fellingner. I
18 said, what can I do? He said, man, he's my boss,
19 what do you want me to do?

20 Q Do you know for sure that the people that
21 you loaned this drill to did not acquire the
22 documentation that they needed to stay within
23 procedure and use this drill?

24 A I'm positive they did not get the
25 procedure, because any time the procedure paperwork

1 came through it came directly to me from Dean
2 Fellingner and I handed it to my men and seen that
3 the job was done. Because there were areas out
4 there that there was -- strictly was illegal at all
5 to drill any kind of rebar or cut any kind of rebar,
6 Reactor One was one of them. No rebar of any kind
7 was allowed to be cut in that building anywhere.

8 Q Is this the containment building?

9 A Containment building, Reactor One.

10 Q What the NRC would like to know in this
11 instance is the specific locations where holes were
12 drilled without proper documentation. Is there any
13 way that this information or these locations can be
14 determined, reconstructed or anyplace we can go,
15 anybody we can go talk to to find out specific
16 locations?

17 A Let's see, Danny Brown borrowed it
18 several times to drill holes. He's still working
19 out there. Other than getting ahold of Mike
20 Sanders, Danny Brown is the only one I can think of.
21 And as far as sitting here and telling you
22 locations, evidently you haven't been out to that
23 plant.

24 Q I have, yes.

25 A Well, I had access to every building on

1 that place. I have been in every building. I have
2 cut rebar in every building but containment one,
3 except the dam. Now, does that tell you anything?
4 Now, to go tell you to go to a certain wall and see
5 if the rebar is cut is impossible.

6 Q You understand what we're trying to do
7 with the information. We're trying to find out
8 specific locations --

9 A Right.

10 Q -- so that we can verify what you're
11 saying. Let me ask you, in your statement that you
12 made to Ms. Ellis, you identified a diary that you
13 have kept and in this diary -- it's my understanding
14 in this diary you logged in instances or times when
15 this rebar eater was used to drill holes when you
16 did not have the proper documentation; is that
17 correct?

18 A No. This is --

19 Q Was this just a work --

20 A This goes from 9-7-78 to 10-17-79. This
21 was the period in which I was in charge of the rebar
22 eater. And this documentation, there's some of them
23 most of them have documentation. It also has the
24 CMC number, and like at the beginning it was a DCDDA
25 or something. I got it wrote on there someplace.

1 DCDDA is what they started drilling rebar with.
2 Then they find out this was not the right
3 documentation. Then they changed it to a CMC, but
4 when they first got it they were doing it on
5 three-part memos.

6 Q But --

7 A And this is every hole that I drilled,
8 legal and illegal, and except for the ones where my
9 equipment -- I was ordered to loan my equipment out.

10 Q All right.

11 MS. ELLIS: Just for the record, we
12 probably should mention that Mr. Messerly is
13 referring to a -- looks like a twenty-four page
14 listing which he had prepared of these
15 different items and he will be giving that to
16 you.

17 Q Is this a complete rendering of this
18 diary --

19 A Uh-huh (affirmative).

20 Q So --

21 A It is in complete form.

22 MR. HERR: Is it marked? You said
23 legal and illegal. Have you got the illegal
24 stuff marked on it?

25 THE WITNESS: No, I really haven't

1 but if it doesn't -- it's going to have to be
2 interpreted by me, which I'll try to explain to
3 you or I can tear off a page and y'all can look
4 at a page --

5 MR. HERR: Perhaps take a blue pen or
6 a red pen and we'll mark the illegal stuff.

7 THE WITNESS: No, I won't do that. I
8 can't do that because I didn't keep that much
9 of it. I mean, you can take a look and flip
10 through it to see what it's talking about. I
11 didn't do that -- as far as that, if I had kept
12 that kind of a record, it would have been a
13 separate record or something like that.

14 Q Would any of these entries in this
15 document lead us to the locations of where holes
16 were drilled without authorization?

17 A It's very possible. It is very possible.

18 MS. ELLIS: If I can call your
19 attention to this third column here, it says
20 "rebar cut" -- it's upside down. But in this
21 column, this is where specific rebar was cut
22 apparently and --

23 THE WITNESS: Yeah, what I did was, I
24 marked down -- this was my own deal and my own
25 idea, because there were certain areas that you

1 were supposed to take out a percentage of the
2 rebar. If you cut a hole in the rebar it
3 should have been reported and thus and so
4 forth.

5 Q In those instances, did you report it?

6 A Yes, I'm legal. So is this thing.

7 Q Okay.

8 A But it gives the direction of the rebar,
9 which way it was running, north, south, east, west.
10 It gives the depth that I cut the rebar and it also
11 gives the percentage of rebar, just me looking at a
12 piece of rebar and saying I cut fifty percent, ten
13 percent or if I just nicked it, just whatever after
14 the hole was drilled.

15 Q But on each of those entries, does it
16 tell the location on the site out there?

17 A It tells you the location, what building,
18 what print number it was taken off of or the hanger
19 number itself. So all you got to do is look up that
20 hanger number and it will give you the area and
21 exact location of this particular hanger.

22 Q All right. So any -- which column shows
23 the authorization?

24 A This one here.

25 Q Okay. So if that column is left blank,

1 then that would be an example?

2 A Not necessarily blank. I don't know how
3 in the hell to put that without sounding silly.

4 Q We are going to need to identify -- we're
5 not interested in the ones that were done properly.
6 We're only -- we want to look at the ones that were
7 done without documentation as required by procedure.

8 MS. ELLIS: We're referring to the
9 fifth column now on the far right.

10 A No, there's really not no way of telling,
11 not without looking up the hanger number and find
12 out what was done on the hanger. You will just have
13 to go over each individual hanger and check the CMC
14 and see what was legal to cut and what was not legal
15 to cut.

16 MS. ELLIS: You might mention, too,
17 in this column the ones on the front page all
18 seem to have items by them, but on several of
19 them throughout the listing there were none.
20 So it's not -- each one of these items, in
21 other words, doesn't have rebar cut
22 necessarily. It's just as indicated on there.

23 Q At this point I was just trying to limit
24 it to holes drilled without proper authorization,
25 regardless of whether rebar was cut or just

1 concrete. If the drill was used improperly, we're
2 trying to identify those instances.

3 Can you think of any way with this
4 document or any other documents you may know exist
5 that would lead NRC inspectors to specific locations
6 where holes were drilled without proper
7 authorization? Do you see what we're trying to get?

8 A I see exactly what you're trying to do.
9 You're trying to make your job real easy and there's
10 no easy way way to do it. I'm serious as hell
11 there's just no easy way to go to it because you
12 have so many things out there that's been like this,
13 and for me to pinpoint and give you an exact area by
14 this or any other means -- I might be able to walk
15 out there and show you things if I walk with you and
16 say, this was done here and this was done here. But
17 you're asking me to remember back three, four years,
18 too, and if you have ever been in that area, if you
19 go in there a week later it's all different.

20 Q I understand what you're saying. Can you
21 think of any way that I can transmit this
22 information to an inspector or to a group of
23 inspectors where we might be able to identify these?
24 You're right, we are trying to make it easier in
25 that we can't reinspect all the holes drilled at

1 Comanche Peak since its beginning, since the
2 foundation was poured.

3 A This rebar didn't come in until this date
4 here.

5 Q In other words, we want to address this
6 potential problem.

7 A I can't think of the guy's name. There's
8 one area down in the tunnel what they call the
9 tunnel area, and he was foreman over it when he
10 borrowed that drill. He cut a bunch of rebar down
11 in there and it would be a damn good place to start.

12 Q If we talked to this man, do you think he
13 would be willing to tell us?

14 A I can't think of his name. Yeah, I do.
15 I really do. I'm trying to think of his name; I
16 can't think of it.

17 Q If you cannot remember his name today
18 would you mind giving us that name when you do
19 remember it?

20 A He's still working out there. He got
21 fired and he was -- he went into the pipe department
22 at Green Hat now. He's a welder.

23 Q Do you think you will remember the name
24 eventually?

25 A If I don't I've got it at home I would

1 call you, but he might testify. And if you could
2 get ahold of a Richard Montjar (phonetic), he was a
3 man --

4 MS. ELLIS: Do you know how to spell
5 that?

6 A M-o-n-t, something like that. It's
7 pronounced Montjar, but he's in Germany now, I'll
8 tell you that much.

9 Q Now?

10 A Yes. Well, he married a girl in the
11 service is the only reason -- well, he was a year
12 ago. He might be back over here, now but he's
13 married to a girl in the service.

14 Q Okay.

15 A But he worked and drilled a lot of holes
16 illegally.

17 Q Now, these illegal holes that you are
18 referring to that he drilled, this was when the
19 rebar was, or the rebar eater was on loan?

20 A No, he worked for me. But he was also
21 around and could be a character witness to what I am
22 stating as to when I was ordered to do this. And if
23 you could pin that Danny Grisso (phonetic) down,
24 Danny Grisso used to work for me, too. And if you
25 put him on a stand and square him in, he will either

1 perjure himself or tell you about holes he drilled
2 when he was working for me and now he is in charge
3 of that operation.

4 If you could pin him down, but that
5 company has got him sewed down tight. He's a
6 puppet.

7 Q First of all, let me tell you, I'm not an
8 engineer. I have an engineering or technical
9 background, but let me see if I can phrase this.

10 In the holes that were drilled by your
11 crew members without proper documentation, can you
12 remember any instances or did you witness any
13 instances where damage was done to containment or
14 any of these other areas where the drill was used
15 that would constitute a safety or health hazard or
16 possible weakening of the structure?

17 A Well --

18 Q I know that's detailed.

19 A I'm not an engineer either. I have been
20 in steel, I have been in supervision, I have been
21 out there working. And when an engineer designs
22 something, he designs it for that particular thing,
23 for that particular strength. All right. If
24 somebody comes in there and cuts part of that out
25 without documentation, there's your answer. But I'm

1 not an engineer.

2 Q So you're saying, if I understand you
3 correctly, you're saying that if it's done, then who
4 knows what the effect will be?

5 A Well, the engineer knows, the engineer
6 that designed it. If he puts in fourteen rebars
7 there and you cut out seven of them, then you have
8 weakened half of them, what he designed it to hold.
9 And I have went down walls in that particular tunnel
10 that I was talking about and we were putting up to
11 hold thirty-two inch lines down there. I wasn't,
12 this guy was if I could think of his name. And we
13 had to cut a bunch of rebar down in there.

14 This was, I'm -- well, quote me if you
15 want to, I think, I'm not sure, but I think this was
16 an area that wasn't supposed to have any rebar cut
17 out of it.

18 Q All right. Let me ask you one more time
19 because you have accused me of looking for the easy
20 way. I would like to be able to walk out of this
21 room today and go find examples or instances of
22 holes drilled down there without proper
23 authorization. I hope there's some way we can
24 figure out how that can be done because we would
25 like to follow up on this.

1 A If I could just think of one exact hole
2 that I could remember. I know of three on the
3 turbine deck, but I'll be damned if I can remember
4 what area. There's another deal where I would have
5 to go out and it's completely changed over now, and
6 it would be a spot check between three or four
7 hangers.

8 Q All right.

9 A In fact, out of the three or four, I
10 think you will find a Hilti-bolt welded on the back
11 side because they couldn't get a hole in the ground.

12 Q What would it take to refresh your memory
13 as to a possible location?

14 A I have no idea. The documents you could
15 get is -- now, this would be Turbine One area which
16 would cut it down quite a bit. It's around them
17 tanks that they covered with the aluminum siding and
18 insulation. I don't know what tanks, what they are
19 called, then big long tanks up on the turbine deck.
20 And it was right alongside one of them tanks there
21 that three holes rebar was cut in without
22 documentation.

23 Q Was there anybody else present that might
24 be able to further identify, help us identify this
25 location?

1 A There was Richard Montjar. I should have
2 brought my time books with me. I'm not really sure
3 if Danny Grisso was there or not.

4 Q Is it your personal belief that Grisso
5 could identify locations?

6 A Yeah, I think he could, but I doubt if
7 you will get him to do it.

8 Q Is he still employed by them?

9 A Yes, he's very much employed.

10 Q All right. Well, I'll tell you, let's
11 move on. We have got several other --

12 MS. ELLIS: Perhaps if you had Mr.
13 Grisso appear under these circumstances, you
14 know, sworn with a stenographer and so forth,
15 maybe it might enable him to say things that he
16 might not feel comfortable saying not under
17 oath.

18 A I seriously think Danny would. I have
19 known Danny for quite a few years. I went through a
20 divorce with him and everything else when he was
21 working for me. But right now that company has got
22 him bought and paid for.

23 Q I can assure you the NRC is not bashful
24 about going and asking, so we will --

25 MR. HERR: I have one question I

1 would like to ask. Did you see any of these
2 people using the drill improperly? I know you
3 said you loaned them the drill out, but did you
4 ever see them use it?

5 THE WITNESS: Oh, yeah.

6 MR. HERR: And that was during the
7 time frame --

8 THE WITNESS: That was during this
9 time frame that this covers.

10 MR. HERR: Okay. That's the only
11 question I have.

12 Q Will that document that you are providing
13 us, will examination of this document, say, by an
14 engineer, would it lead to any locations where such
15 holes were drilled? Seems this fifth columns seems
16 to be filled in.

17 A What I would do if I was you, I would go
18 pull these CMC's and DCDDA all through it with an
19 engineer, bump it against the number of the hanger
20 and see what was authorized to cut and what was not
21 authorized to cut, and then come back and bump it
22 against this, like a hundred percent cut out and if
23 that was really legal in that area to cut out a
24 hundred percent.

25 Q Do you think, then, a random sampling

1 done like that is going to reveal instances of holes
2 cut without authorization?

3 A Uh-huh (affirmative). I really do.

4 MS. ELLIS: It would seem to me on
5 that third column there where it shows the
6 amount that was cut out, that it would be
7 prudent at least to check all the ones where it
8 says a hundred percent or maybe as much as
9 fifty percent have been cut out.

10 A Because the way I understand that, on the
11 first part, all this -- these DCDDA's and all that
12 and the three parts were all illegal.

13 Q You mean where it says DCDDA?

14 A Yes.

15 Q Those are illegal cuts?

16 A At the beginning they were, and then they
17 changed it to a CMC. Now, if they went back and
18 covered their butts on that DCDDA I don't know.

19 Q If we checked all the ones that -- the
20 DCDDA and checked that number it might lead us to
21 locations?

22 A I would try that first and find out if
23 this was a legal document, because according to Dean
24 Fellinger the engineer, that was all wrong until he
25 come up with the CMC -- talk Bob -- CMC idea that

1 had to be wrote by a specific engineer.

2 Q As I flip through here, I only see that
3 DCDDA recorded twice. Are some of these other items
4 also that type of number?

5 A All right. Here's one that was wrote on
6 an RFIC. That was illegal, too. And a DCDDA --

7 MS. ELLIS: Are all of these numbers
8 here, are those all --

9 THE WITNESS: They could be CMC's and
10 they could be DCDDA's. I'm not real sure about
11 which they were. God, that's been, '78?

12 Q Right.

13 A I really need to sit down -- I haven't
14 looked at this other than a couple of days ago since
15 I have been out of it, and I could probably sit down
16 with somebody, and be glad to, to try to more or
17 less interpret exactly how it was wrote and what it
18 is.

19 Q Okay. We would greatly appreciate that.

20 A I would. I will; I'll be glad to do it.

21 MR. GRIFFIN: Do you have any more
22 questions, Dick?

23 MR. HERR: No.

24 Q Tell me now, you say, if I understand
25 correctly that this unauthorized use of this rebar

1 eater, is it true you were threatened with
2 termination if you failed to loan it out --

3 A If I failed to do anything that this man
4 said as far as that rebar eater loan-out or drill
5 bits or the whole operation or failed to drill
6 something myself and my crew, I was told that I
7 would be terminated if I didn't do it.

8 Q Tell me what his name is again.

9 A Mike Sanders. You have to understand out
10 there exactly what the deal was. At that time Hal
11 Goodson was the superintendent. Mike Sanders was, I
12 guess, twenty-six, twenty-seven years old and had
13 never done any kind of work like that in his life
14 and he was right underneath Hal Goodson as a
15 three-stripe general foreman. And Hal Goodson had
16 one thing out of his mouth, and that was production.
17 He didn't come out and say it, but he didn't give a
18 damn how you got it --

19 Q Okay.

20 A -- as long as it showed up on paper. He
21 wanted production, he wanted pipe hangers up, he
22 wanted cable tray supports up and he wanted them on
23 the wall and completed and bought off. He didn't
24 give a damn how they were put up, and this is what
25 Mike Sanders did. And in doing so, if they ran into

1 a problem, you've got to to figure some holes were
2 drilled, a hundred and something holes for one
3 hanger to try and find a decent spot to hang it
4 without hitting rebar. This brings on frustration
5 on the men, they go to their foreman, the foreman
6 goes to Mike Sanders, Mike Sanders says go down and
7 see Messerly and drill the damn thing and put it up.

8 Q I understand. Let's move on. You stated
9 in your affidavit to CASE that you observed or
10 witnessed the use of the polar (phonetic) crane to
11 pull up a piece of thirty-two inch pipe; is that
12 correct?

13 A That is absolutely correct.

14 Q I'm not an engineer; I don't understand
15 the significance of this. Could you explain it to
16 me, please?

17 A All right. What it amounts to is the
18 main steam pipe has a condensation joint like for --
19 expansion joint is what it's called. It's a huge
20 horseshoe type shape, and this thing is coming out
21 of the turbine building. All right. This
22 thirty-two inch main steam pipe, it's coming out --
23 it's anchored in concrete all the way around it,
24 it's a fixed object, you can't move it, right? It
25 comes into this expansion joint, makes huge

1 horseshoe shape and it goes down into each one of
2 the steam generators, which there's four of them, in
3 the containment building.

4 It was attached through the wall and it
5 was also attached to the steam generator in the
6 compartment inside the containment building.
7 Somebody come along after these pipes had been in
8 there, because somebody else was hollering,
9 production, production, production, and found out
10 that the main steam line was six inches off of
11 location on the vertical way and four inches on the
12 horizontal way off of location. There is a guy --

13 THE WITNESS: What was that guy's
14 name? Have I got his name down there?

15 MS. ELLIS: I don't think you have
16 got a name in here.

17 A I'm hell on names today, ain't I? But
18 what this gold hat did was ordered his people to
19 raise it up with the polar crane. I can't remember
20 the exact tonnage that was put on this because they
21 had a big gauge on it that showed tonnage when you
22 pull on it. A big round gauge looks like big clock,
23 and whatever tonnage -- seemed like to me it was
24 eighty-five tons, it was ungodly because everybody
25 scattered when they seen that needle going up as the

1 crane was pulling on it. The reason I know this for
2 a fact is because I was pipe hanger foreman at that
3 time between 860 and 905 elevation in the
4 containment building. I had all of main steam and
5 all of fourteen-inch feedwater lines that run all
6 through that area.

7 Q Supports for them?

8 A I had all the pipe supports. And I had
9 to undo my pipe supports, let him pull this up, Rex
10 Broom, which is a guy about -- I don't know, if you
11 seen him you would think he's eight foot tall, but
12 he's only about seven feet tall and four foot wide,
13 I'm serious. Look him up out there, you will --
14 he's got a head on him that big around.

15 He was on three tons come-alongs pulling
16 the horizontal way. And they put it into position
17 and once they got into position, I had to go back
and change my pipe support dimensions and hold that
in position. When they cut the temporary
cup that they had welded to the steam generator
base, it flopped like fourteen inches and echoed
through that whole containment building.

Q So you're saying they put this complete
pipe under tension in this movement?

A (Nods head affirmatively).

1 Q And it was secured into the wall on one
2 end and temporarily unsecured to the steam
3 generators?

4 A It was temporarily secured, welded to the
5 steam generators with temporary pipe. It's a
6 thirty-two inch line that goes into the steam
7 generators.

8 Q So the pipe was attached at both ends and
9 the center portion or some portion in between the
10 two ends --

11 A The expansion chambers is where they
12 moved the pipe at.

13 Q And they were -- this is a complete unit,
14 so it was put under tension; is that what you're
15 saying?

16 A Yeah.

17 Q And then you put in the supports to hold
18 it in that position?

19 A The supports were already there. In
20 fact, several of my supports could not be used no
21 longer, that's how far they moved the pipe because I
22 was allowed so many degrees for my pipe hangers to
23 be off of dead center of that thirty-two inch main
24 steam pipe. And when they moved it with these
25 come-alongs, and the overhead crane -- several of my

1 pipe hangers had to be completely removed and
2 started over again and redesigned to move over to
3 the center of the pipe. They moved it six inches
4 horizontally or six inches -- damn it -- six inches
5 up vertically and four inches horizontally.

6 Q And yet the ends remained in the same
7 place?

8 A (Nods head affirmatively).

9 Q Today would that same -- would it be in
10 the same condition as far as you knew it was when it
11 was -- when your supports were put back in place, or
12 reconnected or --

13 A What do you mean, the same position?

14 Q In other words, is it still under
15 tension?

16 A I would say yeah. Because I know they
17 did -- well, they moved from where it was welded to
18 the steam generator with the temporary pipe. I
19 would imagine now that they have the thirty-two inch
20 pipe going down after they got it on its last
21 location, that they have got permanent pipe in there
22 now, which would still put where it comes through
23 the wall in the same bind that it was originally
24 when they done it.

25 Q When did this occur? Do you remember

1 what year?

2 A Had to be right before I got fired, in
3 that summer I'm pretty sure.

4 Q Summer of what?

5 A '82.

6 Q Summer of '82?

7 A Might have been earlier than that.

8 Q From the way you described it, sounds
9 like everybody knew this was taking place?

10 A Hell, yes, anybody that was in the
11 reactor. My general foreman, Ed Dean told me to get
12 my people and get the hell out of 860 and go
13 someplace and hide until that idiot got done.

14 Q Was there an engineer in charge?

15 A Hell, no, there wasn't no engineer up
16 there. It was just that stupid gold hat that they
17 got up there that they call the pipe fitters. A
18 good friend of mine got fired -- what the hell was
19 his name -- he got fired once because of his --

20 MR. HERR: What's his name, the gold
21 hat?

22 THE WITNESS: Damn, I can't remember
23 his name either. I should brought my paper; I
24 had all that crap wrote down.

25 MR. HERR: Was he the guy in charge

1 of moving this thing, the gold hat?

2 THE WITNESS: Yeah.

3 MR. HERR: Is there any documentation
4 on that?

5 THE WITNESS: To my knowledge, no. I
6 knew the foreman real well. Don't ask me his
7 name. All of a sudden names escape me. I got
8 his name at home, too.

9 Q You may not know the answer to this
10 question, but just for my information, is it
11 possible for all these people to be involved in what
12 sounded like a major operation and management all
13 through the company not know that this event was
14 taking place, including the engineers that would
15 have -- might have an opinion on any kind of
16 movement of such a large piece of material? I'm
17 just asking your opinion.

18 A I want to give my opinion, but I want to
19 try and explain something to you. It's very
20 possible, because you got no communication out there
21 between the crafts. You have a pipe engineer -- say
22 you're a pipe engineer and I am a cable tray
23 engineer and so forth and so on down, just name any
24 branch in there. We're sitting across from each
25 other in the same office, but we don't tell each

1 other a damn thing. We don't talk to each other
2 about coffee and yes, it was possible because your
3 management out there, your upper management controls
4 the place. If they want to do it, all they have to
5 do is say, do it. Well, we haven't got the correct
6 paper works. I don't give a damn, I said do it.

7 Now, what choice have you got? You're out
8 there trying to make a buck and feed a family. You
9 ain't got no choice and most of your upper
10 supervision out there at that particular time, they
11 were all a clique that came up from North Carolina
12 and all buddy-buddies, and most of the upper
13 supervision -- how in the hell I ever got to be a
14 supervisor out there I don't know because I don't
15 know anybody and I ain't got no kin out there, but
16 that's what all your upper supervision was, and
17 ninety percent of your foremen out there are the
18 same way.

19 Q I noticed that at one place in your
20 affidavit here -- moving on to a different subject
21 now -- you talk about the fact that you reinstalled
22 hangers on the feedwater system?

23 A Uh-huh (affirmative).

24 Q This was, I guess, what, a major rework
25 project?

1 A I would call it a major rework. I wish I
2 had them books. I would like to show you how many
3 times I rebuilt hangers out there.

4 Q The same hangers?

5 A Same hangers over and over and over
6 again.

7 Q I've only got one question on this. You
8 say you worked at that for a long time. Was the
9 work done by your crew done properly as far as you
10 know?

11 A Yes, sir. It was done exactly right,
12 bought off by QC and everybody else and somebody
13 came through there and said, hey, they have been
14 redesigned wrong, let's tear them down and redo
15 them. And as far as I know on December 7th, '82
16 when I left there they were still working on
17 feedwater lines and I had them all completed on the
18 big feedwater that floods that whole containment
19 area.

20 Q A different subject again. I notice in
21 your report that you make reference to notice to
22 employees. This is a notice -- I believe it's
23 called a form three NRC document?

24 A Yes.

25 MS. ELLIS: That's a two-folding

1 deal.

2 Q While you were employed at Comanche Peak,
3 did you see any of these documents posted?

4 A Never. In the four and a half, five
5 years I was out there, never did I see one on any of
6 the bulletin boards, and I had access to that whole
7 plant.

8 Q All right. If there had been one, do you
9 think you would have noticed it?

10 A Yeah, because I was always looking for a
11 deal. I read every pamphlet on all the bulletin
12 boards when I ain't got nothing else to do.

13 Q And what time period -- remind me, what
14 time period were you employed out there?

15 A From February of '77 until December the
16 7th of '82 -- or '78, I think. Well, in February of
17 '83 I would have been out there five years.

18 Q All right.

19 A And a foreman four years and -- little
20 over four years, or right at four years. I got
21 foreman in June, I went to work in February. I made
22 foreman and supervisor in June and I was fired in
23 June, so right at four years I was supervisor out
24 there.

25 Q Okay. I want to ask you about the use of

1 a cutting torch on hangers. I don't personally
2 know, is it improper to use a cutting torch to tear
3 down or alter a hanger?

4 A Not to tear down and alter, but it's
5 illegal to use it in the containment building where
6 I was the entire supervision, when I was hanging
7 pipe supports. You drill everything and everything
8 has to go on the wall according to the drill size.
9 I took down a hanger -- took down several hangers
10 that was put up by this general foreman out there
11 that I tried to fire.

12 Q Which one is this?

13 A Oh, boy.

14 Q Was it your general foreman?

15 A No, he wasn't my general foreman. He
16 worked for me. I tried to fire him while he was
17 working for me.

18 Q You were a foreman?

19 A Yeah. They call them supervisors out
20 there. You got a supervisor, a general supervisor,
21 a three-stripe general supervisor and then a
22 superintendent.

23 Q I see. Is a foreman higher than a
24 general foreman?

25 A No. The general foreman's got two

1 stripes on his hat.

2 Q So this guy was your boss?

3 A Huh-uh (negative). He later made general
4 foreman because he went out to Raymond Hebert's
5 house and built him a little sun deck and a little
6 porch and patio and all that, and then he became a
7 general foreman overnight over in pipe hangers. I
8 heard he got fired, which I hope he did.

9 He had taken a torch and cut the back side
10 of a tube out because a lot of bolts are put in like
11 this, the holes in the wall. They are supposed to
12 be straight, ninety degrees off the wall. They're
13 anchored in the wall, poured into the concrete.

14 MS. ELLIS: Richman inserts.

15 A Yes. And you go to hang a pipe hanger on
16 that and they give you a threaded piece of steel and
17 you're supposed to stick it in there and it's
18 supposed to come ninety degrees off the wall. Well,
19 they come off this way and come off that way and
20 come off this way and this way --

21 MS. ELLIS: For the record, could you
22 kind of try to describe those angles that you
23 are talking about? That's kind of hard to do
24 sometimes.

25 Q Let me just ask you, maybe it would be

1 more clear at least to me that -- were these, I
2 think these are called anchor bolts or something
3 like that?

4 A You got Richman inserts is what are in
5 the concrete wall, poured in around the concrete.

6 Q And you say these were installed at
7 improper angles --

8 A Yes.

9 Q -- for the supports that they were to be
10 attached to?

11 A Uh-huh (affirmative).

12 MS. ELLIS: Off the record.

13 (Discussion off the record.)

14 (Brief recess.)

15 Q These bolts that you are discussing, do
16 you know where they were located at the site?

17 A Are you talking about the Richman
18 inserts?

19 Q Yes.

20 A Well, narrow it down between 860 and 905.
21 I had that whole elevation and all of your
22 compartment rooms.

23 Q Well, do you know specific ones that were

24 A The only way I could give you a specific
25 would have -- my record of my hangers that I done

1 and be able to say, well, this hanger or that hanger
2 was done that way.

3 Q Would you have recorded the traveler for
4 the hanger if one of these bolts or these inserts --

5 A No.

6 Q -- were improperly installed?

7 A No, because we drilled holes this way, we
8 drilled holes up, we drilled holes down due to the
9 installation of the insert.

10 Q If you found an insert that was
11 improperly installed or not at the correct angle,
12 did you drill these holes to repair it?

13 A No. You don't drills holes in concrete.
14 Not in the insert.

15 MS. ELLIS: I misunderstood, so
16 explain how that works with these deals. How
17 do they get into the wall to start with?

18 THE WITNESS: They tie in the rebar
19 when they pour the concrete, and they got a
20 piece of foam in ther to plug the hole, and all
21 you do is dig the foam out and stick your
22 threaded rod in there.

23 MS. ELLIS: So rather than drilling a
24 hole to put them in to begin with, they have
25 some kind of a form or something and they are

1 poured -- initially when they pour the concrete
2 they are in there to start with?

3 THE WITNESS: Originally their plans
4 were to put in so many inserts in a wall area
5 or ceiling or whatever. They just put in a
6 bunch of inserts; ever so many feet they put in
7 an insert. And hopefully what they were hoping
8 was they could come back and put a pipe
9 support, a cable support or electrical support,
10 whatever, a conduit and use these inserts that
11 were put in there -- which turned out they
12 didn't use half of them -- and they had to be
13 grouted over the ones that weren't used or had
14 to have a hole drilled in there by a Hilti
15 drill in which they changed the entire
16 operation on unit two and went to a solid steel
17 wall imbedded in the concrete with studs welded
18 right to the steel wall and the concrete poured
19 around them.

20 Q Are you saying that they put this steel
21 in the wall and started welding to that steel?

22 A Started welding direct in unit two. It
23 takes in safeguard two, auxiliary two, containment
24 two.

25 Q Are you saying that the problem then that

1 we're discussing was in containment one?

2 A Yes.

3 Q Where there was no steel wall --

4 A Well, they started on the -- I think on
5 the 905 pour, when they poured 905 floor and beams
6 in there, they started putting steel in them. But
7 from 905, the bottom of 905 down, there wasn't any
8 steel imbedded in the wall, just a few plates and
9 stuff.

10 Q The use of the steel in the wall took the
11 place of these inserts because you could attach
12 directly to the steel?

13 A Well, it had a sheet of steel there you
14 could put whatever hanger you wanted to.

15 Q Okay. When your crew ran into these
16 inserts that were at the wrong angle, placed at the
17 wrong angle, how did you attach the inserts normally
18 or how did you attach your hanger to these?

19 A I drilled the hole in the tubing at an
20 angle, whatever the angle was, because you don't
21 bend inch and a half threaded rod. Normally you
22 don't.

23 Q You drill a hole?

24 A Drill a hole at an angle, and then I have
25 seen them put in documentation on some of the

1 hangers they put a tapered washer on it to allow for
2 the angle that the threaded rod came out.

3 Q And then you say they grouted over the
4 other hole?

5 A Unused ones had to be grouted. You had a
6 dimension from one hole to another that you could
7 drill. There was a dimension in your nine point six
8 documentation out there how close you could drill to
9 a Richman insert, how close you could drill to
10 another Hilti-bolt or how close you could drill to
11 another attachment or steel plate or whatever.
12 There's all kinds in your nine point six.

13 Q Are you saying that these redrillings or
14 these angled drillings into these inserts
15 constituted a procedural violation on unauthorized
16 drilling?

17 A Well, there again, you can go back to
18 being that neither one of us are engineers. These
19 inserts are tied to rebar with wire, all right? To
20 be at a hundred percent, they have to be surrounded
21 by concrete a hundred percent, and they have to be
22 ninety degrees off the wall. When you stick
23 something in it, it should be ninety degrees off the
24 wall. If you have got this thing in there at, say,
25 at a ten-degree angle, you've not got the same

1 pulling capacity or coming out of the wall as you
2 have if it's straight.

3 Q Let me ask you this, then. How many
4 instances do you know of in which there were --
5 many?

6 A How about ten that were right and the
7 rest wrong.

8 Q Is that right?

9 A Now, that's the percentage.

10 Q What did QC said?

11 A QC never seen them. QC didn't see
12 nothing but the finished product.

13 Q So the finished product they saw was a
14 bolt sticking out that was attached to a hanger and
15 it looked to be proper?

16 A (Nods head affirmatively). QC don't get
17 in behind the hanger. You had a one-inch plate that
18 goes in behind, say -- for instance, we used a
19 six-inch tube vertical on the wall and say we had
20 two of these inserts. All right, we drilled
21 completely through the tube, used a one-inch washer
22 in the back of the tube, a one-inch washer in front
23 of the tube, and this one inch or inch and a half
24 threaded rod went through the washer, the tube, the
25 washer and into the wall.

1 Now, if it was at an angle, QC never sees
2 this because there's a nut on top of that.

3 Q Were the engineers aware of this manner
4 of altering these inserts when they were at an
5 improper angle?

6 A Man, I tell you what, I have been around
7 a lot of places in my life but I have never seen
8 anything out there -- if they call themselves
9 engineers -- I don't know what you'd call me, a
10 nigger aviator, I guess. But I'm telling you, they
11 don't communicate, they don't go out in the field.
12 How in the hell can you solve any problem if you sit
13 in this office and you don't go out into the plant?
14 That was their problem.

15 Q Would you mind telling me the original
16 instance of this manner of correcting these, the
17 angle of these inserts?

18 A Only way to correct it is not use it and
19 drill around it and drill a straight hole. You
20 don't put a Richman anchor in after the concrete is
21 poured.

22 Q Who was directing that they do it,
23 though?

24 A The Richman --

25 Q These redrillings.

1 A Your building department.

2 Q Who specifically? Somebody had to decide
3 that it was going to be done this way. Do you know
4 who?

5 A No. I imagine that comes from your
6 original Gibbs and Hill drawings or something.

7 Q I'm talking about the variation, this
8 changing the angle without -- to make it improper,
9 where the angle is wrong.

10 A I'm losing you someplace. I don't know
11 what you're saying.

12 Q You're saying it's supposed to be at
13 ninety degrees angles to the wall?

14 A Yeah.

15 Q And you-all were changing the angles so
16 it would fit --

17 A We weren't touching the Richman now.
18 Only thing we did was take the threaded rod, and
19 whatever angle it is, we would drill it at that
20 angle so that it would come through the tube and
21 when it come out the other side of the tube, it come
22 out as close to center as we could get it.

23 Q When you talk about tube, are you talking
24 about tube steel?

25 A Uh-huh (affirmative).

1 Q On the hanger?

2 A On the hanger. There was no way of
3 changing the insert.

4 Q So the insert remained the same and the
5 angle on the tube steel was changed?

6 A Wel, the holes through the tube steel was
7 changed.

8 Q Okay. So does that mean that the tube
9 steel had at least two holes in it, one of which was
10 used and the other unused?

11 A No. No. I don't know how to describe
12 that to you. Say that's the insert. All right, you
13 know me and my drawing. You got a piece of tube
14 steel here. We're going to run this one
15 horizontally. All right, looking at it, here is the
16 hole in the front like so. All right, this back
17 hole, we'll say that this angle runs this way to our
18 left. The back hole, if you know anything about a
19 print at all, might be drilled like that.

20 Understand what I'm saying, looking straight through
21 the tube?

22 Q I think so.

23 A Then this one here might be drilled like
24 thus. But when it come out the front it was
25 straight, so that means that this tube, if I was

1 sticking it in the wall here, would be at this angle
2 or -- no, this angle, in order to get out, and this
3 here be at this angle and get out. But when you
4 tighten on an inch-and-a-half screw, whatever gives
5 I don't know, but it's flat on the front. And see,
6 you got a big one-inch washer that goes here, the
7 size of the tube and also on the back side of it to
8 space it away from the wall.

9 Q Okay.

10 A So we don't change the insert.

11 Q And you are saying because it's not at
12 the proper angle that it is less than whatever the
13 load factor of its ability to support whatever
14 weight it is supporting?

15 A Well, again, I'm not an engineer but if
16 something is designed to go in a certain way and
17 it's not there, it's not in that way, then it's not
18 designed right. And it is a weaker point.

19 Q Okay.

20 MR. HERR: Did you bring this to
21 anybody else's attention.

22 THE WITNESS: Yeah. It don't do no
23 good.

24 MR. HERR: Do you know who you
25 brought it to?

1 THE WITNESS: Oh, you could just
2 about mention anybody else's name of my
3 superiors from Hal Goodson to Mike Sanders to
4 Mike Robinson to Ed Dean to Jim Starkey.
5 There's a jewel you ought to hang.

6 MR. HERR: What did they say when you
7 brought it to their attention?

8 THE WITNESS: Do you want a quote?
9 "Hang the damn thing". What do you do? And
10 that is all my upper supervisors. You don't
11 know how glad I am to be away from that place.
12 I ain't got no job, but I'm still glad to be
13 away from it. I've never seen anything in my
14 forty-three years on earth run like that place.

15 Q Can you think of any way that we can
16 identify specifics again of hangers that were, where
17 these holes were improperly --

18 A I tell you what. I just about bet you,
19 Mr. Griffin, I'm telling you what I bet you. Just
20 go out there and pull any damn studded rod out of
21 there, pull three of them and two of them is
22 crooked.

23 Q And these were never addressed by QC from
24 that inspection?

25 A There's no way of checking it. No way of

1 knowing what angle that thing is in there unless you
2 pull the hanger off and screw a straight rod in
3 there and look at it. But I would say, I would just
4 damn near bet you that out of three rods you get two
5 of them that's crooked.

6 MS. ELLIS: Just to be sure I
7 understand, when you look at this straight on
8 like QC would come and look at it, ~~everything~~
9 looks all right from the front and all of the
10 part that you are talking about that's at an
11 angle is, in effect, hidden?

12 THE WITNESS: It's inside the
13 concrete. Nobody knows it. It's inside of
14 solid concrete.

15 Q Can you think of any way that we can
16 identify particular areas where this was done? Is
17 this all the areas that don't have steel plate
18 against the wall?

19 A No. Most of the places that had the
20 threaded rod would be in the compartments,
21 compartments one, two, three and four, and then you
22 have a lot of your other buildings, safeguard and
23 auxiliary, they all got the threaded rod imbedded
24 inserts.

25 Q Okay.

1 A But in the containment itself, you would
2 probably find them in the compartments would
3 probably be the major part of them.

4 Q All right. Let's go back to this, the
5 use of the cutting torch. Is that --

6 A That's what I'm saying. This hanger in
7 these compartments, if they didn't have enough
8 intelligence to find out what kind of angle it is
9 and how to drill the hole from the back and make it
10 come out center from the front, what this foreman
11 done out there or general foreman on nights, what he
12 done was take a torch and cut about a three-inch
13 hole. And you can see, if I cut -- if I got this
14 angle here and say we have another one here and the
15 back was at another angle, we just cut that sucker
16 out like that so we can move that thing any way we
17 want to to get it started.

18 Q How do they fill in the hole or is it --

19 A They don't fill it in; it's covered with
20 a washer. The only reason I found it out, the
21 hanger that was particularly put up by this guy was
22 designed wrong. I had to go down there and tear it
23 down. And I went to my superior Ed Dean and I said,
24 what are you going to do about this? I mean, I got
25 my butt tore up yesterday because I put something in

1 wrong or because one of my men had forgot to grout
2 behind a plate. I got called up to the front office
3 about a plate I put up three or four years ago. And
4 it wasn't grouted, the holes wasn't grouted behind
5 the plate. And I was called in and told if they
6 found one more hanger like that that I was going out
7 the gate. I said, Raymond, what the hell are you
8 talking about? I can't stand there and watch
9 fifteen men every five minutes put up every plate,
10 and you're going to fire me for something that
11 happened four years ago, fire me.

12 And then I go down there and I report
13 something like this to my general foreman. He
14 reports to Raymond Hebert -- well, this same guy is
15 the one that built the little sun deck or whatever
16 you want to call it at Raymond Hebert's house.

17 MR. HERR: What's his name?

18 THE WITNESS: Raymond Hebert.

19 MR. HERR: No, the guy that did the
20 building.

21 THE WITNESS: That's the name I can't
22 remember.

23 MR. HERR: The night foreman?

24 THE WITNESS: He was the general
25 foreman. I sold him a car. Hell, he used to

1 be a good friend of mine. I don't have nothing
2 against the guy except he don't know nothing.

3 Q Can you think of anybody else that we can
4 go talk to that can identify some hangers where they
5 specifically remember that this was done, these cuts
6 were made in the tube steel?

7 A Let me go home and I can give you a call
8 and I can give some names. If they are going to
9 talk I don't know. If they are still out there,
10 ninety-nine out of a hundred of them are in the
11 clique and they ain't going to talk unless they are
12 utterly threatened, because their jobs are on the
13 line. Hell, they are making thirty-five, forty
14 thousand dollars a year for doing nothing and they
15 ain't going to come over here and take a chance on
16 losing their job. Several of them are still there.
17 I think about seventy-five percent of my crew is
18 there. But if they would talk, I don't know.

19 Q Okay.

20 MR. GRIFFIN: Off the record.

21 (Discussion off the record.)

22 Q Now, you say the fellow that was drilling
23 the holes with the drill, is that this guy --

24 A The one I was drilling for. He was
25 foreman in that area. I was drilling holes for him.

1 Q And his name is Nathan?

2 A Nathan Hammers or something like that,
3 Hammers.

4 Q And Hammers might know specific holes
5 drilled --

6 A True.

7 Q -- with the rebar eater?

8 A Yeah. If you could corner him, I think
9 he would go.

10 Q All right. Now, the use of the cutting
11 torch on this tube steel, you say this was at the
12 direction of the general foreman?

13 A No. He wasn't a general foreman at that
14 time.

15 Q He became --

16 A He became general foreman later. He was --
17 boy, I tell you what, if you could get in my print
18 shack out there and get my log that I kept on every
19 damn hanger I got in there, I could tell you who
20 worked on it, the name of the person that worked on
21 it and when he done it. I kept a daily log, but I
22 turned that over to the new foreman. When they
23 busted me back, I give him that so he would have a
24 record of all the hangers put up. In that log is
25 all the feedwater hangers that were reworked and why

1 and who the person that worked on them, because if
2 anything ever fell back I went to each of them men
3 and said, why was it done this way. Because when
4 you got two or three guys here and two or three guys
5 here and two or three guys here and so forth and so
6 on, you can't be at every place at one time.

7 But if you could get ahold of that log
8 that was in my print shack, I can narrow them
9 hangers down real close for you.

10 Q How many would there be?

11 A Every hanger between 860 and 905 that I
12 put up. Every CT line, every main steam line,
13 feedwater line. It should still be in my print
14 shack.

15 MR. HERR: Who did you give the log
16 to?

17 THE WITNESS: Here we go again. I'm
18 not very good on names as you found out. I can
19 give you his name, too, because I got it in my
20 time book. He was my lead man for me for about
21 six months. He was an ex-foreman down there;
22 his foreman lasted about a month before they
23 busted him back.

24 MR. HERR: When did you give it to
25 him?

1 THE WITNESS: When I got fired -- no,
2 no, in June of '82 when they busted me back is
3 when I gave him everything in that print shack
4 except that document you got there, which was
5 none of his business that I took with me.

6 MR. HERR: And you weren't fired
7 until when?

8 THE WITNESS: December 7th.

9 MR. HERR: Of '82?

10 THE WITNESS: '82.

11 MR. HERR: He had it six months?

12 THE WITNESS: He had it six months,
13 and everybody liked the way I kept that log
14 because they could go right to that book and
15 open it up and it would tell what percentage of
16 that hanger was done, who worked on it and the
17 rework and CMC's and so forth on it.

18 MR. HERR: Was it a black or green
19 book?

20 THE WITNESS: No, it was a notebook
21 with paper in it, a regular black notebook.

22 MR. HERR: Three ring?

23 THE WITNESS: Yeah. And in there is
24 everything I have done in four years out there.

25 MR. HERR: Was there any printing on

1 it?

2 THE WITNESS: No. Yeah, it would
3 just have -- let's see, I forget what I had on
4 the front of it. I had this whiteout that you
5 use on typing paper. I had something printed
6 on that, main steam or containment one hangers
7 or something like that. I don't remember what
8 it was. You can't miss my shack.

9 MR. HERR: Where was your shack
10 located?

11 THE WITNESS: It was located on 860
12 but now it's outside of the entrance to
13 containment one. It's a bright red shack out
14 there. I painted it bright red because I got
15 in trouble for putting a Christmas tree on it
16 one year. And it's got my name all over it,
17 Bob Messerly, 8895.

18 MR. GRIFFIN: Do you have any more
19 questions?

20 MR. HERR: Is there anything else
21 outside of your affidavit that you wish to go
22 into or describe to us at this time?

23 THE WITNESS: No. Well, I don't
24 really know. If you are going to get into
25 something besides what I have discussed

1 already, I know it's been brought up before,
2 but if you can get ahold of a guy named Red --
3 I gave you his name the other day. I ain't got
4 it with me. I wish I had his address. He was
5 a weld tech out there and he can tell you about
6 a lot of that welding. That's another name
7 I'll have to get for you. I have got it on one
8 of my affidavits or something. And there's a
9 Joe Gray that was a welding foreman out there
0 that done a lot of welding illegally without
1 documentation, such as lugs on pipes without
2 purge, and --

3 MR. HERR: Did he tell you this?

4 THE WITNESS: I seen him do it.

5 MR. HERR: Can you give me the
6 location?

7 THE WITNESS: It was down on the 832
8 elevation. Roy Estes was foreman at the time,
9 and you might get ahold of a guy named Gary
0 Hill who was foreman down on 808 elevation
1 which had some bad lugs welded on by Joe Gray
2 illegally. Ed Dean was general foreman and
3 they done it on the sly, Raymond Hebert knew
4 about it.

5 MR. HERR: Who gave the order?

1 THE WITNESS: Raymond Hebert.

2 MR. BERR: He gave it to Dean, and
3 Dean passed it --

4 THE WITNESS: Dean then passed it to
5 Joe Gray because he was the foreman. He would
6 go down there and do it and didn't want any of
7 the welders to know about it.

8 MS. ELLIS: Was there anybody else
9 maybe on the crew that you know of --

10 THE WITNESS: Joe Gray's crew or my
11 crew?

12 MS. ELLIS: -- that would have known
13 about this particular thing that you are
14 talking about?

15 THE WITNESS: Other than Joe Gray and
16 there's another name I need to find out. I can
17 give you a bunch of names on stuff that was
18 done wrong down there that was seen by them or
19 stuff like that. The only thing you can do is
20 if they are still working down there -- I heard
21 Joe Gray got fired, too.

22 Q Okay. Why don't we wrap this thing up?

23 We discussed three issues outside of just
24 those notices posted, and we have asked you or you
25 have mentioned names or knowledge of names of

1 people, although you cannot recall the names right
2 at the moment regarding the use of this rebar eater,
3 the polar crane, that incident and the use of these
4 torches to cut hangers. And do you agree that you
5 will call me and let me know --

6 A I do.

7 Q -- fill in these names with these
8 situations as you have described them --

9 A Yes.

10 Q -- so we can put a complete package
11 together?

12 A I can give you every name that was in the
13 rebar crew from the time I had it. I have my time
14 books at home. I kept my own time books.

15 Q We are looking for people that know about
16 these instances of illegal or improper or work done
17 out of procedure.

18 A These are all the people that were doing
19 it. My entire crew was.

20 MR. HERR: They were doing that at
21 your direction --

22 THE WITNESS: At my direction, but
23 several of them were there when Mike Sanders
24 came down and ordered me to do so. And when
25 your superiors tell you to do something and

1 your job is on the line, that's what you did.

2 MR. HERR: These improper weldings by
3 Gray and some of these, did they tell you that
4 they had actually done it improperly?

5 THE WITNESS: I have seen them do it.
6 Any time you weld a stainless steel lug on, you
7 have to purge a line after a certain size. If
8 you don't purge it, it causes a sugar coating
9 on the inside and sucks that pipe into the
10 piece of steel that you are welding. So what
11 you have is you have a void area inside of a
12 slick steel piece of pipe, just a sunk-in area.
13 The stainless -- on stainless it just sucks it
14 right into that lug you're welding. We're
15 talking about a little lug like half an inch
16 long and maybe three-eighths of an inch high.
17 What it is, it's a lug that keeps the pipe from
18 doing this motion. You weld like four lugs on
19 this side, four lugs on this side around a
20 pipe, and you put a clamp in between it and
21 struts back to a fixed object on the wall and
22 it stops that pipe from going in this motion or
23 up and down, whichever way the pipe is located.

24 MS. ELLIS: And the purpose of it is
25 to keep the pipe from moving?

1 THE WITNESS: Right.

2 Q Wouldn't that show up on a radiograph?

3 A It should.

4 Q And aren't such things radiographed
5 before they are finally accepted by QC?

6 A No. On a stainless you get a -- hell,
7 they run that dye test on it.

8 MR. HERR: Penetrant test?

9 THE WITNESS: Yeah, penetrant.

10 That's the only thing, as long as the weld is
11 pretty and all that, it will pass penetrant.
12 But that's all on the inside.

13 MR. HERR: Do you know one way or the
14 other whether these are involving
15 safety-related or nonsafety-related, or do you
16 know offhand --

17 THE WITNESS: No, I'm not a nuclear
18 power plant -- it's all put in there for
19 something. Now, what particular thing this
20 did, I don't know -- I couldn't be honest with
21 you and tell what you it did without
22 remembering the line.

23 MR. HERR: The exact location.

24 THE WITNESS: The exact location and
25 line number. If you had the line number I'd

1 tell you what it did.

2 MS. ELLIS: Was it like in the
3 containment?

4 THE WITNESS: Everything I done was
5 in the containment. Everything I have
6 mentioned here, except for the rebar eater,
7 concerns the containment building in Reactor
8 One, which the reactor is inside containment
9 one. But everything I have mentioned in here
10 has happened in here that I have personally
11 seen done.

12 MR. HERR: Do you have anything else
13 you wish to add? —

14 THE WITNESS: No. I'll give you a
15 list of names.

16 MR. HERR: Thank you very much, Mr.
17 Messerly.

18 (End of statement).
19
20
21
22
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25

1 STATE OF TEXAS

2 COUNTY OF DALLAS

3
4 This is to certify that I, David Cogburn,
5 reported in shorthand the proceedings had at the
6 time and place set forth in the caption hereof, and
7 that the above and foregoing 62 pages contain a
8 full, true and correct transcript of said proceed-
9 ings.

10 Given under my hand and seal of office on this
11 the ____ day of _____, 1983.

12
13 David Cogburn, Notary Public
14 in and for the State of Texas
County of Dallas

15 My Commission Expires on December 30, 1985.
16
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25

START OF NEW CREW & NEW OPERATION REBAR CUTTING DETAIL

C-M.C.

9-9-78
9-HOLES REBAR

POINT NO	LOCATION	REBAR CUT A O" DEPTH	DATE + DAY	POSITION
596	SAFEGUARD	2 1/2" RUNNING N. 5	THUR 9-7-78	A 1/2 BIT OVER HEAD
642	SAFEGUARD	2 3/4" HOLE 801 3	FRI - 9-8-78	IRFIC
642	SAFEGUARD	2 3/4" VERT 777 9"	FRI - 9-8-78	11 WALL 1"
643	SAFEGUARD	COLD RAIL 901 3"	FRI - 9-8-78	11 WALL 1"
597	SAFEGUARD	DRILED N. REBAR 799 9"	FRI - 9-8-78	11 WALL 1"
597	SAFEGUARD	806 8" 6" DEPTH HOLE 2" DEPTH	SAT 9-9-78	DCDDA 2489 1"
704	SAFEGUARD	507 8" HOLE 4" DEPTH	SAT 9-9-78	DCDDA 2489 1"
704	SAFEGUARD	797-6 VERT AT 2 1/2"	SAT-9-9-78	00965
704	SAFEGUARD	798-1 VERT AT 2 1/2"	" " " "	00965
704	SAFEGUARD	796-8 VERT AT 2 1/2"	" " " "	00965

PIPE HANGER

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CO-1-033-007-T45	TURBINE B. 1"	SE. HOLE 3" DEPTH ELV. 807 RUNNING E+W S.W. HOLE 3" DEPTH	MON-9-11-78	00958
CO-1-033-007-T45	TURBINE #1	ELV. 807 RUNNING E+W N.W. HOLE 3" DEPTH	MON-9-11-78	FLOOR 1"
CO-1-033-007-T45	TURBINE #1	ELV. 807 RUNNING E+W EAST SIDE 3" DEPTH	MON-9-11-78	FLOOR 1"
HD-1-322-006-T35	TURBINE #1 - 74 ELV	EAST SIDE 3" DEPTH RUNNING N-S SE HOLE EAST SIDE 3" DEPTH	MON-9-11-78	00959
HD-1-322-006-T35	778 ELV.	RUNNING N-S 3" DEPTH EAST SIDE 3" DEPTH	" " " "	" " " "
HD-1-322-006-T35	"	RUNNING N-S 3" DEPTH EAST SIDE 3" DEPTH	" " " "	" " " "
HD-1-322-006-T35	"	RUNNING N-S 3" DEPTH EAST SIDE 3" DEPTH	" " " "	" " " "
HD-1-322-006-T35	"	RUNNING N-S 3" DEPTH EAST SIDE 3" DEPTH	" " " "	" " " "
HD-1-322-006-T35	"	RUNNING N-S 3" DEPTH EAST SIDE 3" DEPTH	" " " "	" " " "
HD-1-322-006-T35	"	RUNNING N-S 3" DEPTH EAST SIDE 3" DEPTH	" " " "	" " " "
HD-1-322-006-T35	"	RUNNING N-S 3" DEPTH EAST SIDE 3" DEPTH	" " " "	" " " "
2323-S-715	CONTROL 807 ELV	RUNNING N-S DEPTH 3" RUNNING S.W. HOLE 3" DEPTH	TUE-9-12-78	FLOOR 1"
2323-S-715	CONTROL 807 ELV	RUNNING N-S DEPTH 3" RUNNING S.W. HOLE 3" DEPTH	TUE-9-12-78	FLOOR 1"

BEAM PLATES
IN FLOOR

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TOP BEAM BAR CMC-00979	CONTROL 807 ELV	REBAR RUNNING E+W 5" DEPTH	WED-9-13-78	FLOOR
81 HOLES	DRILED TO	FULL DEPTH WITH (MILTY GUN)		
26 HOLES	DRILED TO	FULL DEPTH WITH DRILCO + MILT BOLT		
9 UN	DUE TO WIRE MESH			
25 HOLES	DRILED TO	FULL DEPTH WITH FULL CORE REBAR		00979 CMC
REMOVED	ALL REBAR RUNNING E+W			132 TOTAL

300' ELV

300' ELV

300' ELV

300' ELV

300' ELV

300' ELV

300' ELV

300' ELV

300' ELV

300' ELV

MEN PICKED UP	400 1" X 9" + 560 1 1/2" X 12" MILTY	THUR - 9-14-78	
ALL 80' 1" X 2" AROUND DOGS STRAIGHTEN UP LAYDOWN AREA BY CUT OFF SAW			82 HANGER
PUT IN ORDER + MARKED, TOOK 34" ANCHORS TO FAB SHOP 2000 TOTAL			
CLEANED UP AREA IN 80' CONTROL BUILD FOR LAYOUT OF BEAM SUPPMENTS			
2323-S1-0410	TURBINE #1 ELV 803	DEPTH 5" CEILING PLATE	FRI 9-15-78 FLOOR
2323-S1-0410	TURBINE #1 ELV 803	DEPTH 5" CEILING PLATE	FRI 9-15-78 FLOOR
2323-S1-0410	TURBINE #1 ELV 803	DEPTH 5" CEILING PLATE	FRI 9-15-78 FLOOR

300' ELV

300' ELV

300' ELV

300' ELV

300' ELV

300' ELV

NEXT
PAGE

[illegible]

WK - ENDING
9-30-78
24 HOLES
4 HOLES F.S

THUR -
INVENTORY
TUE DAY
FRI - ONE

PRINT NO#	LOCATION ELEV	REBAR CUT DEPTH	Day + DATE	CMCT + POSIT
658	810' 6"	10% REBAR N+S	9-26-78 TUE	009 OVERHEAD
763	S.G.	3" DEPTH	9-27-78 WED	0110.5 over
818	790'	10% REBAR CUT VERT	9-27-78	0110.8 OVERHEAD
	SG	FULL CONCRETE DEPTH		
	790	ARMING HOLES		
<hr/>				
757	790 S.G.	10% Rebar F+V Horiz. 6" Deep	9-26-78 TUE	0110.9 OVERHEAD
757	790 S.G.	"	9-26-78 TUE	0110.9 over head
756	790 S.G.	"	9-26-78 TUE	0110.9 over h
756	790 S.G.	10% REBAR ARMING N+S	9-26-78 TUE	0110.9 over h
1925	831 AUX	NO REBAR AT 3 1/2"	9-27-78 WED	FLEX SHAFT
1925	831 AUX	HIT REBAR	9-27-78	HILTY WALL 11 11

WK
ENDING
10-7-78
60 HOLES

2465	831' S.G.	10% CT 4" ARMING VERT	10-2-78 MON	WALL 1819
EX-1-013-005-TSS	830' TURBIN	N. HOLD ARMING 35% CUT	10-2-78 MON	FLOOR 1819
EX-1-013-005-TSS	830 TURBIN	SHAKE 75 CUT 3 1/2"	10-2-78	FLOOR 1819
SW-1-129-001-S43R	SAFEGUARD 810'	FLEX SHAFT		WALL FLEX SHAFT
SW-1-129-021-S43R				
SW-1-129-013-A43R	810 AUX.	FLEX SHAFT VERT FULL CONCS	10-3-78 TUE	FLEX SHAFT 460
784 + 785	800 S.G.	WALL	10-3-78 TUE	1118
SB-1-069-016-A46R	810 AUX	FLEX SHAFT WALL	10-3-78	FLEX
SD-1-069-014-A46R	810 AUX	FLEX SHAFT WALL	10-3-78	FLEX
SW-1-132-024-S43R	810 S.G.	FLEX SHAFT WALL	10-3-78	FLEX
SB-1-069-011-A35R	790 AUX	FLEX SHAFT OVERHEAD	10-4-78 WED	FLEX
CO-1-042-034-S36R	790 S.G.	OVERHEAD FLEX	10-4-78	FLEX
AF-1-048-056-S33R	790 S.G.	WALL FLEX	10-5-78 TUE	FLEX
2416	831 S.G.	SIDE OF BEAM 50% CUT 8" VERT.	10-5-78	00188 BEAM
1664	807 CONTROLL	SIDE OF BEAM 50% CUT 2" VERT	10-6-78	001947 BEAM OVER HEAD
SB-1-012-001	831 AUX	OVERHEAD FLEX	10-6-78	FLEX

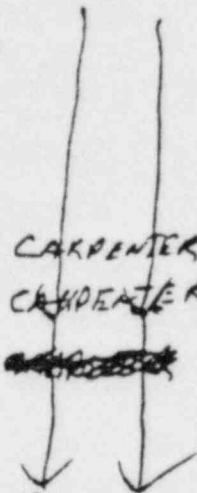
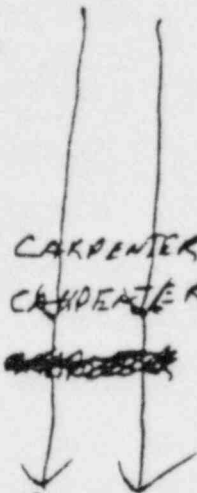
60
4445
WK
ENDING
10-7-78

4860ES

WK
ENDING
10-14-78

PRINT NO. OR HANGER NO.	LOCATION + ELEV.	REINFORCEMENT + DEPTH - which way running	DAY + DATE	C.M.C. + POSITION DRAILED
SB-1-012-001-ASS	831' AUX	RELIEVE SHORT DRAIN + FURNISHED TUBES NONE	10-6-78 2	OVERHEAD FLEX
SB-1-069-011-ASSR	790 AUX	NONE	10-5-78-6	FLEX
1554 SB-1-012-04 ASSR	810 SG	100% CUT 18" DEPTH HORIZ	10-5-78 1	WALL 1934
1084	831' AUX	NONE	10-7-78 2	FLEX WALL
1084	810 SG	3 1/2" VERT VERT 100%	10-7-78 1	1836 WALL
1060	810 SG	2 1/2" HORIZ 100% CUT	10-8-78 1	1855 WALL
1061	810 SG	4" HORIZ	10-8-78 1	1855 WALL
778	790 SG	20" CUT 2" N+S 100% CUT	10-8-78 2	1933
718	790 SG	2" N+S 100% CUT	10-8-78 1	1835
CT-1-004-004-ASSR	778	NONE	10-9-78 4	FLEX WALL
SB-1-069-017-ASSR	810' AUX	NONE	10-9-78 6	FLEX WALL
CREW	WORKED ON HANGERS CREW		10-10-78	I WAS IN COURT
CREW	WORKED ON HANGERS CREW		10-11-78	NO CREW CREW CREW
491	803'	2 1/2" 100% E+W	10-12-78 1	2052 TOP OF ROCK
492	803'	3 1/2" 125% N+S	10-12-78 1	2052 "
492	803'	3 1/2" 125% N+S	10-12-78 1	2052 "
SB-1-069-046-ASSR	810 AUX	NONE	10-12-78 4	FLEX
SB-1-069-046-ASSR	810 AUX	NONE	10-12-78 4	FLEX
00-1-017-002-ASSR	AUX 810	NONE	10-13-78 4	FLEX
SB-1-069-016-ASSR	AUX 810	NONE	10-13-78 4	FLEX
CA-1-005-003-ASSR	FLECT CONTROL CONTROL	NONE	10-13-78 2	FLEX
1176	807 SG	3 1/2" VERT 25% CUT	10-13-78 1	2099 WALL
1176	807 SG	3 1/2" VERT 25% CUT	10-13-78 1	2099 WALL
2487	831' S.G.	2 1/2" HORIZ 25% CUT	10-13-78 1	2087 WALL
SB-1-069-044-ASSR	810 AUX	NONE	10-14-78 2	FLEX
1933	831' AUX	1" HORIZ 100% CUT	10-14-78 1	2012 WALL
1933	831' AUX	2 1/2" VERT 10% CUT	10-14-78 1	2012 WALL
1613	831' AUX	2" E+W 25% CUT	10-14-78 1	2085 OVERHEAD
1618	831' AUX	3" HORIZ 75%	10-14-78 1	2084 WALL
CC-1-009-006-ASSR	778' AUX 1/2"	6" E+W 10% CUT	10-14-78 1	2014 FLOOR
CC-1-009-006-ASSR	778' AUX 3/4"	1" VERT 100%	10-14-78 1	2014 WALL
CC-1-009-006-ASSR	778' AUX 3/4"	1" VERT 100%	10-14-78 1	2014 WALL
CA-1-005-003-ASSR	778' FULL CONTROL	1 1/2" DRAIN USING TUB.	10-16-78 2	

WK ENDIN 10-21-78 114 HOLES

PRINT NO OR HANGER NO	LOCATION ELEV.	REBAR CUT DEPTH WICH POSITION	DAY + DATE	CMC DCODA J POSITION
SB-1-069-017-445	810' AUX	REBAR USING TULSA	10-16-78 4	FLEX - WALL
SB-1-069-016-45A	810' AUX	REBAR USING TULSA	10-16-78 3	FLEX WALL
SB-1-069-013-445	810' AUX	REBAR USING TULSA	10-17-78 1	OVERHEAD FLEX
SB-1-069-001-455A	775' AUX	REBAR USING TULSA	10-17-78 3	OVERHEAD FLEX
SB-1-069-012-438	778' CUNT.	REBAR USING TOL	10-17-78 4	WALL FLEX
SB-1-069-001-455R	831' AUX	REBAR USING TOL	10-17-78 3	WALL FLEX
SW-1-129-024-Y33R	796' 6"	NONE	10-18-78 4	FLOOR - FLEX
SW-1-129-025-Y33R	796' 6"	NONE	10-18-78 4	FLOOR - FLEX
SW-1-129-026-Y33R	796' 6"	NONE	10-18-78 4	FLOOR - FLEX
SW-1-129-027-Y33R	796' 6"	NONE	10-18-78 13	FLOOR - FLEX
SW-1-129-028-Y33R	796' 6"	NONE	10-18-78 6	FLOOR - FLEX
SW-1-129-029-Y33R	796' 6"	NONE	10-18-78 4	FLOOR - FLEX
DO-1-16-030-Y33R	796' 6"	NONE	10-19-78 2	FLOOR - FLEX
SW-1-129-030-Y33R	796' 6"		10-19-78 2	FLOOR - FLEX
SW-1-132-028-Y33R	796' 6"		10-19-78 4	FLOOR - FLEX
SW-1-129-032-Y33R	796' 6"		10-20-78 8	FLOOR - FLEX
CT-1-057-005-535R	794'		10-20-78 8	WALL - FLEX
105-4790-020-021	794'		10-19-78 7	FLOOR - FLEX
105-4790-020-021	798'	CARPENTER	10-19-78 1	FLOOR - FLEX
AF-1-048-011-535R	790'	CARPENTER	10-20-78 8	FLOOR - FLEX
AF-1-048-066-535R	790'		10-20-78 11	WALL FLEX
AF-1-048-064-535R	790'		10-21-78 4	OVERHEAD FLEX
EX-1-029-003-445	TURKIN		10-21-78 1	2154
1459	810' SG		10-21-78 1	2185
1346	810' SG		10-21-78 1	2186
1347	810' AUX	2 3/4" 30% VERT	10-21-78 1	2186
1347	810' AUX	2 3/4" 20% VERT	10-21-78 1	2186
EX-1-029-003-445	TURKIN	1 3/4" 50% R+W	10-21-78 1	2154
SW-1-010-001-A33R	790' ELV	NONE	10-23-78 16	FLOOR - FLEX
SW-1-132-024-443	810'	NONE	10-24-78 1	WALL FLEX
SB-1-069-012-A35G	790'	NONE	10-24-78 2	WALL FLEX
CT-1-066-001-532R	790'	NONE	10-24-78 4	WALL FLEX
CG-1-003-005-443R	810'	NONE	10-24-78 3	WALL FLEX
1-179-017-443R				

WK ENDIN 10-25-78 (1550)

	PRIN. C. HANSXIA NIP	LOCATION + ELEV	REBAR CUT DET + DIRECTION	DAY + DATE	C.M.C OR DCODA + POSITION
W.K. ENONG 10-28-78 65 HOLES	CG-1-042-004-545A	810'	NONE	WED 10-25-78 1	WALL FLEX
	CC-1-158-003-A435	810'	NONE	WED 10-25-78 1	WALL FLEX
	SA-1-059-001-ASSR	832'	NONE	WED 10-25-78 2	WALL FLEX
	CC-1-079-002-408	810	NONE	WED 10-25-78 8	WALL FLEX
	SH-1-025-001-522	780'	NONE	THUR 10-26-78 17	FLOOR FLEX
	3034	790' AUX	5" VERT 100%	THUR 10-26-78 1	2628 FLEX
	CC-1-044-001-A435	810'	NONE	THUR 10-26-78 10	FLOOR FLEX
	3112	790' AUX	5" VERT 50%	THUR 10-26-78 1	2628 FLEX
W.K. ENONG 11-4-78 77 HOLES	3112	780' AUX	2" HORIZ 100%	THUR 10-26-78 1	2628 FLEX
	CC-1-109-003-A43R	810' AUX	NONE	MON 10-30-78 4	OVERHEAD FLEX
	NO C.M.C. OR FLEX WORK				
	BEAM 807 CONCRETE N+S	907 CONT.	4" N+S 100%	TUE 10-31-78 0	ICHASIO DOWN PAINTS + C.M.C.
	DD-1-029-014-ASSR	790'	ALL 4 HOLES 100% N+S BAR CUT	WED 11-1-78 4	2651
	EX-1-011-005-TSS	832'	BOTH HOLES N+S EAST MIDDLE HOLES	WED 11-1-78 2	2647
	EX-1-011-005-TSS	832'	2070 4 3/4" E+W SOUTHEAST HOLES	WED 11-1-78 1	2657
	EX-1-011-005-TSS	832'	5" 50% E+W SOUTH MIDDLE HOLES	WED 11-1-78 1	2657
	EX-1-011-005-TSS	832'	4 1/2" 50% E+W SOUTH WEST HOLES	WED 11-1-78 1	2657
	EX-1-011-005-TSS	832'	5" 20% E+W WEST MIDDLE HOLES	WED 11-1-78 1	2657
	EX-1-011-005-TSS	832'	5" 50% E+W	WED 11-1-78 1	2657
	HD-1-325-001-TSS	778'	NONE	THUR 11-2-78 12	FLEX SHAFT FLOOR
	CONCRETE RAIL FOR MILLRATS	832'	NONE	THUR 11-2-78 5	FLOOR FOR MILLRATS
	HD-1-325-001-TSS	778	BACK AFTER MILLRATS	THUR 11-2-78 4	FLEX SHAFT
	WA-X-485559 SS-27	790' TURNIN	NONE	FRI 11-3-78 2	WALL-FLEX SHAFT
	CT-1-005-003-522	760'	NONE	FRI 11-3-78 29	FLOOR FLEX
	CT-1-017-010-Y3SR	796.6"	NONE	FRI 11-3-78 5	FLEX
	HANSX 2602	790. SG	20%	SAT 11-4-78 1	WALL 2670
	HD-1-009-011-TSS	778 TURNIN	NO CORE	SAT 11-4-78 1	OVERHEAD 2665
	HD-1-009-011-TSS	778 "	"	SAT 11-4-78 1	" 2665
	HD-1-009-011-TSS	778 "	"	SAT 11-4-78 1	" 2665
	HD-1-009-011-TSS	778 "	"	SAT 11-4-78 1	" 2665
	CT-1-004-003-532	790"	NONE	MON 11-6-78 4	FLOOR FLEX
	AF-1-001-010-Y3SR	790"	NONE	MON 11-6-78 7	WALL FLEX
NO C.M.C. OR FLEX WORK					
11-11-8-78 11 11 11 11 11 11 11 11					11-8-78 11 11 11

PRINT NO HANGER NO#	LOCATION + ELV.	REBAR CUT DEPTH + DIRECTION	DAY + DATE	C.F. - D.C. OR F. + OR POSITION
C. REW				
3326	LOANED OUT TO HANGERS		11-9-78	
CS-1-158-010-542	810' AUX	1 1/2" EAST + W - 100%	11-10-78	1 2679
CS-1-158-010-542	810' SG	NE HOLE 3 1/2" 50% N + S	11-10-78	1 2859
CS-1-158-010-542	810' SG	SE HOLE 3" 50% N + S	11-10-78	1 2859
HO-1-309-001-T55D	830 TURBIN	NW HOLE 2 1/2" 10% E + W	11-10-78	1 2681
HO-1-309-001-T55D	830 TURBIN	NE HOLE 2 1/2" 10% E + W	11-10-78	1 2681
SW-1-129-025-137R	796' 6" TUNNEL	SE HOLE 100% 2 1/2" N + S	11-10-78	1 2845
SW-1-129-025-137R	796' 6" TUNNEL	NW HOLE 50% 2 1/2" N + S	11-10-78	1 2845
3325	810'	NE HOLE 100% 1 1/2" E + W	11-13-78	1 2889 OVERHANG
3325	810'	ENE 2 HOLE	11-13-78	1 2889 "
3325	810'	100% 1 1/2" E + W W NO 2 HOLE	11-13-78	1 2889 "
3325	810'	100% 1 1/2" E + W W HOLE	11-13-78	1 2889 "
AF-1-049-071-534	790	NONE	11-13-78	3 FLEX - 976 FLEX
CT-1-012-001-522S	778'	NONE	11-13-78	4 FLEX 1818 FLEX
CT-1-014-001-522S	778'	NONE	11-14-78	4 FLEX 1820 FLEX
CT-1-090-021-535R	790'	NONE	11-14-78	3 FLEX WALL
LC-2-020-007-472R	790'	NONE	11-14-78	6 FLEX WALL
HAND CABLE TRAY HANGER	832'	NONE	11-15-78	6 FLEX WALL
SB-1-053-004-115R	832' AUX	NONE	11-15-78	2 FLEX WALL
SB-1-016-002-465R	832' AUX	NONE	11-15-78	3 FLEX WALL
SB-1-069-018-455R	832' AUX	NONE	11-15-78	4 FLEX WALL
SB-1-005-003-063R	832' AUX	NONE	11-16-78	5 OVERHANG FLEX
SB-1-045-002-455R	832' AUX	NONE	11-16-78	2 WALL FLEX
CL-1-090-040-535R	790' SG	NONE	11-16-78	4 WALL FLEX
CREW HANGING CLIPS			11-17-78	
1370	810' AUX	107% VERT 3 1/2"	11-19-78	1 2910
1370	810' AUX	507% VERT 3 1/2"	11-19-78	1 2910
CREW HANGING CLIPS			11-19-78	
REF-677-2874	807' CONTAIN	8 HAS SUN 50% 100% CUT IN BEAM.	11-20-78	8 3022
CREW - REWORKING CLIPS			11-20-78	
CREW REWORKING CLIPS + CHANGING RICHMONDS			11-21-78	
SI-0601	810' SG	107% VERT 7 1/2" NW	11-22-78	1 3026
P.A. HANGER SS-38	810' TURBIN	507% E + W 1 1/2"	11-22-78	2 3008

3 air days
over season
drilling at all

11-11-78
18 holes

WH ENDING

11-18-78
50 holes

WH ENDING

27 holes

11-22-78

WH ENDING

PRINT OR HANGER NO	LOCATION AND OR ELV	REBAR C- DEPTH & DIRECTION WHAT TO	DATE	CMC OR COORD & POSITION
SB-1-053-004 ASSR	831'	NONE	11-22-78 11	WALL FLEX
SB-1-006-004 ASSR	848'6"	NONE	11-22-78 3	OVERHEAD FLEX
CC-1-050-002-AUX	810'	NONE	11-27-78 14	WALL FLEX
CI-1-090-046-SSR	790'	NONE	11-27-78 4	WALL FLEX
SB-1-005-004 ASSR	820'	NONE	11-27-78 2	FLEX OVERHEAD
CI-1-090-040-SSR	790'	NONE	11-28-78 4	WALL FLEX
SB-X-016-007 ASSR	831'	NONE	11-28-78 4	OVERHEAD FLEX
SB-X-017-006 ASSR	831'	NONE	11-28-78 4	OVERHEAD FLEX
SB-X-017-006 ASSR	831'	NONE	11-28-78 10	OVERHEAD FLEX
SB-1-003-004 ASSR FLEX PLATE CENTRAL ROOM	831'	NONE	11-29-78 3	OVERHEAD FLEX
SB-1-003-004 ASSR FLEX PLATE CENTRAL ROOM	807'	4" 50% E+W	11-30-78 1	3108
SB-1-003-004 ASSR FLEX PLATE CENTRAL ROOM	807'	4" 75% E+W	11-30-78 1	3108
PIPE HANGER	831'	DRILLED 4 MULTIS OUT OF 4 HANGERS	11-30-78 4	WALL HILLY HILLSIDE
SD-1-049-016-SSR	795'6"	NONE	11-30-78 9	FLOOR FLEX
SW-1-132-034 Y3R	796'6"	NONE	11-30-78 2	FLOOR FLEX
SW-1-132-034 Y3R	796'6"	NONE	12-1-78 5	FLOOR FLEX
8 ARE	HANGING CLIPS	2 MEN.	12-1-78	1 HOLE ON ACCOUNT OF
SB-X-016-006 ASSR	832' AUX	NONE	12-4-78 3	FLEX WALL
3306	810' AUX	NONE	12-4-78 5	FLEX WALL
3346	810' AUX	NONE	12-4-78 6	FLEX WALL
SW-1-011-022-F3R	785'6"	5 BAR RUNNING N+S 15' DEPTH ALL 25% N+S E BAR RUNNING N+S	12-5-78 1	3307 FLEX
SW-1-011-022-F3R	785'6"	8-2 2 SHOTS 10% N+S E BAR RUNNING N+S	12-5-78 1	3307 "
SW-1-011-022-F3R	785'6"	10% 2 N HOLE 10% E BAR RUNNING N+S	12-5-78 1	3307 "
SW-1-011-022-F3R	785'6"	10% 1 N HOLE 10% 6 HOLE FROM S-BAR	12-5-78 1	3307 "
SW-1-011-021-F3R	785'6"	10% 1" DEPTH N+S 3 HOLE FROM S-BAR	12-5-78 1	3307 "
SW-1-011-021-F3R	785'6"	10% 1" DEPTH N+S 4 HOLE FROM S-BAR	12-5-78 1	3307 "
SW-1-011-021-F3R	785'6"	75% 1" DEPTH N+S 3 HOLE FROM S-BAR	12-5-78 1	3307 "
SW-1-011-021-F3R	785'6"	10% 1" DEPTH N+S 6 HOLE FROM S-BAR	12-5-78 1	3307 "
SW-1-011-021-F3R	785'6"	10% 1" DEPTH N+S 7 HOLE FROM S-BAR	12-5-78 1	3307 "
SW-1-011-021-F3R	785'6"	10% 1" DEPTH N+S 7 HOLE FROM S-BAR	12-5-78 1	3307 "
SW-1-011-021-F3R	785'6"	75% 1" DEPTH N+S 10 HOLE FROM S-BAR	12-5-78 1	3307 "
SW-1-011-021-F3R	785'6"	75% 1" DEPTH N+S	12-5-78 1	3307 "
3157	831'6"	100% 2" DEPTH N+S	12-6-78 1	3307 OVER HEAD

89 HOLES HILTY
68 REBAR CUT
WK ENDING 12-9-78

PAIR CR HANGER NO#	LOCATION ELV	REBAR CUT TO DEPTH + DIRECTION	DAY DATE	CMC OR DC DOA + POSITION
SPECIAL	785' 6"	CUT 1" TAB	WED 12-6-78	3307
SW-1-011-020-F33R	785' 6"	OUT OF RICHMOND W-BAR 5TH HOLE SOUTH 107% 1" DEPTH N+S W-BAR 4TH HOLE SOUTH 507% 1" DEPTH N+S W-BAR 3RD HOLE SOUTH 1007% 1" DEPTH N+S W-BAR 6TH HOLE SOUTH 107% 1" DEPTH N+S W-BAR 7TH HOLE SOUTH 1007% 1" DEPTH N+S W-BAR 9TH HOLE SOUTH 257% 1" DEPTH N+S W-BAR 8TH HOLE SOUTH 107% 1" DEPTH N+S E-BAR 6TH HOLE SOUTH 507% 1" DEPTH N+S W-BAR 6TH HOLE SOUTH 257% 1" DEPTH E+W W-BAR 4TH HOLE SOUTH 107% 3 1/2" DEPTH N+S E-BAR 6TH HOLE SOUTH 907% 1" DEPTH E+W W-BAR 4TH HOLE SOUTH 257% 3 1/2" E+W E-BAR 4TH HOLE SOUTH 357% 3 1/2" DEPTH E+W E-BAR 4TH HOLE SOUTH 107% 3 1/2" E+W E-BAR 10TH HOLE SOUTH 107% 3 1/2" E+W 2ND HOLE N SIDE 507% 1" DEPTH E+W 3RD HOLE N SIDE 1007% 1" DEPTH E+W 4TH HOLE N SIDE 107% 1" DEPTH E+W 5TH HOLE N SIDE 107% 1" DEPTH E+W 6TH HOLE N SIDE 257% 1" DEPTH E+W 7TH HOLE N SIDE 257% 1" DEPTH E+W 8TH HOLE N SIDE 507% 1" DEPTH E+W 9TH HOLE N SIDE 257% 1" DEPTH E+W 2ND HOLE S SIDE 257% 2 1/2" DEPTH N+S 6TH HOLE S SIDE 107% 2 1/2" DEPTH N+S 2ND HOLE N SIDE 507% 1" DEPTH E+W 3RD HOLE N SIDE 257% 1" DEPTH E+W 4TH HOLE N SIDE 507% 1" DEPTH E+W 5TH HOLE N SIDE 757% 1" DEPTH E+W 6TH HOLE N SIDE 1007% 1" DEPTH E+W 7TH HOLE N SIDE 907% 1" DEPTH E+W 8TH HOLE N SIDE 257% 1" DEPTH E+W	WED 12-6-78 WED 12-6-78	3307
SW-1-011-019-F33R				FLEX
SW-1-011-018-F33R				FLEX
SW-1-011-017-F33R	HOLES GOING E+W		12-7-78 THUR 12-7-78	?
SW-1-011-016-F33R			THUR	3307
				3307
			OVER	

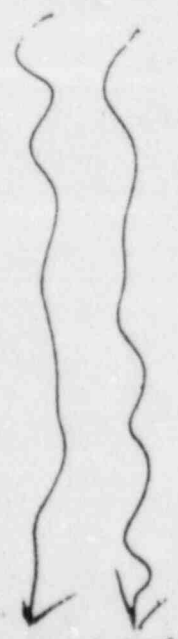
		LOCATION	REBAR C.T.	DAY	CMC
		FLV	TO DIRT & DIRECTION	T DATE	OLDDA & POSITION
189 HLT, 68 REBAR CUT WK ENDING 12-9-78		SWT-011-06-431R	4TH HOLE N SIDE 50% 2 1/2" DEPTH N+S 2ND HOLE S SIDE 75% 2 1/2" DEPTH N+S 9TH HOLE S SIDE 10TH 2 1/2" DEPTH N+S	THUR 12-7-78	1 3307
		3351	TOP HOLE 50% VERT 4" DEPTH BOTTOM HOLE 75% VERT 4" DEPTH	FRI 12-8-78	1 3307
		3352	50% VERT 4" DEPTH BOTTOM HOLE 75% VERT 4" DEPTH	12-8-78	1 3307
		3353	SAME AS ABOVE TOP HOLE 50% VERT 3" DEPTH BOTTOM HOLE	12-8-78	1 3421
		3623	50% VERT 3" DEPTH BOTTOM HOLE	12-8-78	1 3421
		3623	50% VERT 3" DEPTH	12-8-78	1 3420
		3527	NONE	MON 12-11-78	5 FLEX, WALL
		790' SG	NONE	MON 12-11-78	8 FLEX WALL
		790' SG	NONE	MON 12-11-78	13 FLEX FLOOR FLEX WALL
		796' 6	NONE	TUE 12-12-78	3 FLEX OVERHEAD
12-16-78 56 HOLES WK ENDING 12-16-78		CC-1-016-040-53SR	NONE	TUE 12-12-78	3 FLEX OVERHEAD
		SN-1-132-030-731R	NONE	TUE 12-12-78	8 FLEX OVERHEAD
		SO-X-016-001-ASSR	NONE	WED 12-13-78	1 OVERHEAD FLEX
		SO-X-016-006-ASSR	NONE	WED 12-13-78	19 OVERHEAD FLEX
		CC-1-115-001-443R	NONE	THUR 12-14-78	
		SN-1-172-032-731R	NONE	FRI 12-15-78	
		SO-1-009-011-435R	NONE	SAT 12-16-78	
		CC-2-057-002-433R	NONE	MON 12-18-78	
		MEN WORKING HANGING CLIPS	100% VERT 2 1/2"	TUE 12-19-78	1 36-21
		MEN WORKING HANGING CLIPS		TUE 12-19-78	2 FLEX WALL
WK ENDING 12-23-78 17 HOLES		2602	NONE	TUE 12-19-78	6 OVERHEAD FLEX OVERHEAD FLEX
		2801	NONE	TUE 12-19-78	4 OVERHEAD FLEX
		C-5-1-315-040-43R	NONE	TUE 12-19-78	4 OVERHEAD FLEX
		SO-X-016-004-ASSR	NONE	WED 12-20-78	
		SO-X-016-001-ASSR	NONE	THUR 12-21-78	
		2 - MEN DIPPING BOLTS FOR 807-2LV		TUE 12-26-78	3 HAS
		2 - MEN DIPPING BOLTS FOR 807-2LV		TUE 12-26-78	12 3630 FLEX
		2 MEN DIPPING BOLTS FOR 807' FLV		TUE 12-26-78	12 3630 FLEX
		2 MEN DIPPING BOLTS FOR 807' FLV		WED 12-27-78	
		2 MEN DIPPING BOLTS & PACKING NUTTY BOLTS		THUR 12-28-78	
WK ENDING 12-30-78 49 HOLES		ALLS - CHAMBERS ST-501-235-401	3" DEPTH N+S 100% N+S ALL HOLES	TUE 12-26-78	12 3630 FLEX
		ARK-CK1-01118 REV1	3" DEPTH N+S 100% N+S ALL HOLES	TUE 12-26-78	12 3630 FLEX
		2 MEN DIPPING BOLTS FOR 807' FLV		WED 12-27-78	
		2 MEN DIPPING BOLTS & PACKING NUTTY BOLTS		THUR 12-28-78	

WH ENDING
12-30-78
49 HOLES

WH ENDING
1-6-79
32 HOLES

WK ENDING
1-13-79
119 HOLES

PRINT CH HAWK NO#	LOCATION ELV	REBAR CUT % DEPTH DIRECTION	DAY + DATE	C MC OR DC DDA + POSITION
CS-2-019-001-A53R	831 AUY	NONE	FRI 12-29-78 4	FLEX OVERHEAD
CS-1-315-021-A51R	831 A-X	NONE	FRI 12-29-78 8	FLEX OVERHEAD
CS-1-315-022-A51R	831 AUY	NONE	FRI 12-29-78 6	FLEX OVERHEAD
SE-X-049-027-A53R	831 AUY	NONE	FRI 12-29-78 7	FLEX OVERHEAD
SW-1-129-016-S43R	810 SG	NONE	WED 1-3-79 2	FLEX WALL
2 MEN STAMPING MILTY BOLTS WAREHOUSE			WED 1-3-79 545	
2 MEN STAMPING MILTY BOLTS WAREHOUSE A)			THU 1-4-79	ALLSO
GRINDING BOLTS FROM WAREHOUSE A TO MY OFFICE			1-4-79	
7163-57171-026	803' TURBIN	NONE	FRI 1-5-79 2	FLEX WALL
4115 CHANGES				
54-301-235-401	803' TURBIN	R. DALL	FRI 1-5-79 1	FLEX FLOOR
SW-1-124-018-S43R	810' SG	NONE	FRI 1-5-79 21	FLEX FLOOR
4893	SG SG CENTRAL	NONE	FRI 1-5-79 6	FLEX OVERHEAD
2 MEN HANGING CLIPS			SAT 1-6-79	
2 MEN GETTING MILTYS FROM ALPH. WAREHOUSE			1-9-79 170	3 HRS
SW-1-129-018-S43R	810' SG	NONE	FRI 1-8-79 24	FLEX WALL
SW-1-129-019-S43R	810' SG	NONE	THU 1-8-79 8	FLEX WALL
SW-1-129-020-S43R	810' SG	NONE	THU 1-8-79 15	FLEX WALL
CL-1-029-020-S31R	790' SG	NONE	TUE 1-9-79 2	FLEX OVERHEAD
30T 1" X 9" SUPER MILTY FROM PLURAL WAREHOUSE			TUE 1-9-79	
30T GANG BOX FOR RIAK			TUE 1-9-79	
GENERAL CLEAN UP FROM 12:00 TO 5:30 (MAN KILLED)			TUE 1-9-79	
SW-1-011-016-F33R	785-6"	NE HOLE 30%	WED 1-10-79 1	3664
SW-1-011-016-F33R		2" DEPTH E+W	WED 1-10-79 1	3664
SW-1-011-016-F33R		NE HOLE HOLE 100%	WED 1-10-79 1	3664
SW-1-011-016-F33R		2" DEPTH E+W	WED 1-10-79 1	3664
SW-1-011-016-F33R		NE 3RD HOLE 100%	WED 1-10-79 1	3664
SW-1-011-016-F33R		2" DEPTH E+W	WED 1-10-79 1	3664
SW-1-011-016-F33R		NW 2ND HOLE 100%	WED 1-10-79 1	3664
SW-1-011-016-F33R		2" DEPTH E+W	WED 1-10-79 1	3664
SW-1-011-016-F33R		NW 3RD HOLE 100%	WED 1-10-79 1	3664
SW-1-011-017-F33R		2" DEPTH E+W	WED 1-10-79 1	3665
SW-1-011-017-F33R		NE 1ST HOLE 20%	WED 1-10-79 1	3665
SW-1-011-017-F33R		1" DEPTH E+W	WED 1-10-79 1	3665
SW-1-011-017-F33R		NE 2ND HOLE 20%	WED 1-10-79 1	3665
SW-1-011-017-F33R		1" DEPTH E+W	WED 1-10-79 1	3665
SW-1-011-017-F33R		NE 3RD HOLE 20%	WED 1-10-79 1	3665
SW-1-011-017-F33R		1" DEPTH E+W	WED 1-10-79 1	3665
SW-1-011-017-F33R		NW 2ND HOLE 20%	WED 1-10-79 1	3665
SW-1-011-017-F33R		1" DEPTH E+W	WED 1-10-79 1	3665
SW-1-011-017-F33R		NW 3RD HOLE 100%	WED 1-10-79 1	3665
SW-1-011-017-F33R		1" DEPTH E+W	WED 1-10-79 1	3665



HOLES RUNNING FROM E+W

PRINT NO -
OR
HANGER NOT

LOCATION
T
ELV.

REBAR CUT
% DEPT +
DIRECTION

DAY
+
DATE

C M C
OR
DCDDA
+
POSITION

W H ENDING 119 HOLES
1-13-79

SW-1-011-018-F33R	785' 6"	UNKNOWN OBSERVATION AT 3 1/2" DEPTH NR HOLE 100% TO	1-10-78	1	3666
SW-1-011-019-F33R	785' 6"	3" DEPTH E+W NW HOLE 100% TO	1-10-78	1	3667
SW-1-011-019-F33R	785' 6"	3" DEPTH 100% TO	1-10-78	1	3667
SW-1-011-020-F33R	785' 6"	NE HOLE N PLATE 50% 1" DEPTH AT 9	1-10-78	1	3668
SW-1-011-020-F33R	785' 6"	NE HOLE N PLATE 100% 1" DEPTH N+S	1-10-78	1	3668
SW-1-011-021-F33R	785' 6"	9 PLATE MIDDLE HOLE 100% 1" DEPTH AT 5	1-10-78	1	3669
SW-1-011-021-F33R	785' 6"	N PLATE NW HOLE 50% 1" DEPTH N+S E+W	1-10-78	1	3669
SW-1-011-021-F33R	785' 6"	N PLATE NE HOLE 75% 2 1/2" DEPTH E+W	1-10-78	1	3669
CC-1-028-020-S33R	790'	NONE	1-11-78	16	FLEX OVER HEAD
CC-1-028-020-S33R	790'	NONE	1-11-78	15	FLEX WALL
CC-1-028-020-S33R	790'	NONE	1-12-78	2	FLEX WALL
CS-1-063-033-S44R	810-SG	NONE	1-12-78	7	WALL
CS-1-063-026-S32R	790'	NONE	1-12-78	7	WALL
OD-1-003-084-S35R	790'	NONE	1-12-78	3	OVERHEAD

W H ENDING 119 HOLES
1-20-79

OD-1-003-084-S35R	790'	NONE	1-15-79	3	WALL FLEX
CC-1-013-006-A43R	810'	NONE	1-15-79	7	WALL FLEX
2602	790'	HILTY BOLT DRILLED OUT	1-15-79	1	WALL STAND
2602	790'	HILTY BOLT DRILLED OUT	1-16-79	1	WALL STAND
AE-1-048-056-S45R	790'	NONE	1-16-79	10	WALL FLEX
5227	810'	NONE	1-16-79	1	FLEX WALL
RA-1-025-001-S42R	785' 6"	NONE	1-16-79	4	FLEX FLOOR
RA-1-025-001-S42R	785' 6"	NONE	1-17-79	3	FLEX FLOOR
SA-X-016-002-A35R	831'	NONE	1-17-79	4	FLEX WALL OVERHEAD
SA-X-049-026-A35R	831'	NONE	1-17-79	2	FLEX OVERHEAD
SA-X-016-006-A35R	831'	NONE	1-17-79	2	FLEX OVERHEAD
DOY-146-C13-A35R	790'	NONE	1-17-79	11	FLEX WALL
SB-1-084-003-A35R	831'	NONE	1-17-79	4	FLEX WALL
SA-X-049-025-A35R	831'	NONE	1-17-79	2	FLEX OVERHEAD
PICKED UP WASHERS + NUTS WASTEBASK A FOR HILTY 14A					
PUTTING NUTS + WASHERS ON HILTY BOLTS					
INVENTORY OF DRILLING BITS + CLEAN UP OF TOOLS, WORKED 5A FOR KKK					
J W OFF RICHARD NOTHING TO DO BUT CHASE					
J W + RICHARD WORKING BEHIND CABW FOR KKK MON 1-22-79					

Wk Ending 1-27-79
27 Holes

PRINT NO # CR HANGER NO #	LOCATION + ELEV.	RIGID CUT To Depth + DIRECTION	DAY - DATE	CMC DECODE + POSITION
27334 + 2735	843' 6" SG	100% 1" DEPTH HORIZ	TUE 1-23-79 1	3748
27334 + 2735	843' 6" SG	100% 5" DEPTH HORIZ + CHAIR	TUE 1-23-79 1	3748
35344 + 3535	822' 0" A	100% 2" DEPTH HORIZ VERT	TUE 1-23-79 1	4129
35344 + 3535	820' 11" CONTIN	50% 2 1/2" DEPTH HORIZ VERT	TUE 1-23-79 1	4129
NEW STAMPING MILTYS IN WAREHOUSE 4. JUNE 1-23-79				
SW-1-132-029-Y33R	790' TUNNEL	NONE	WED 1-24-79 3	FLOOR FLE
EX-1-010-015-756	831' TUNNEL	75% 4" DEPT E+W	WED 1-24-79 1	4190
CO-1-051-005-743D	803' TUNNEL	100% 3" DEPTH N+S	WED 1-24-79 1	4189
DD-1-003-093-536R	790'	NONE	WED 1-24-79 0	PIPE TO CHUSE NEED SAMPLER
CC-2-019-009-443R	810'	NONE	WED 1-24-79 3	FLEX WALL
DD-1-003-057-435R	790'	NONE	THUR 1-25-79 4	FLEX WALL
2602	794' 4"	100% 3" DEPTH VERT	THUR 1-25-79 2	WALL 4152
2602	777' 5"	75% 3" DEPTH VERT	THUR 1-25-79 1	WALL 4142
CC-2-019-009-443R	812'	NONE	THUR 1-25-79 6	FLEX WALL

Wk Ending
2-3-79
73 Holes

CT-1-017-011-Y33R	800'	100% 2 1/2" DEPTH VERT.	MON 1-29-79 1	4237 W
3630	831' 6"	50% 3" DEPTH E+W	MON 1-29-79 1	4226 F
3630	831' 6"	50% 3" DEPTH E+W	MON 1-29-79 1	4226 F
CC-2-021-010-A33R	790'	NONE	MON 1-29-79 32	WALL FLEX
CC-1-116-016-A43R	810'	NONE	MON 1-29-79 5	FLEX WALL
CC-1-156-003-A63R	862'	NONE	TUE 1-30-79 7	FLEX WALL
7 HAS WORKING WITH INTERFERENCE CREW				
JW OFF FOR DR Richard WORKED INTERFERENCE				
CC-1-126-007-F43S	810' FUEL	NONE	TUE 2-1-79 2	FLEX OVERHEAD
CC-1-158-003-043S	810' AUX	NONE	THUR 2-1-79 3	FLEX WALL
CC-1-116-016-F43R	810' FUEL	NONE	THUR 2-1-79 3	FLEX WALL
CC-1-156-012-A63R	831' AUX	NONE	THUR 2-1-79 10	FLEX WALL
CC-1-126-008-A43S	810' AUX	NONE	THUR 2-1-79 3	FLEX OVERHEAD
LI-1-090-040-536R	795' 6"	100% 3" DEPTH VERT	MON 2-5-79 1	4372
SW-1-011-020-F33R	778' TUNNEL	100% 1" DEPTH N+S	MON 2-5-79 1	3668
SW-1-011-020-F33R	778' "	100% 1" DEPTH N+S	MON 2-5-79 1	3668
SW-1-011-020-F13R	778' "	100% 1" DEPTH N+S	MON 2-5-79 1	3668
SW-1-011-020-F33R	778' "	100% 1" DEPTH N+S	MON 2-5-79 1	3668
SW-1-011-021-F33R	778' "	100% 1" DEPTH N+S	MON 2-5-79 1	4377

PRINT NO²
OR
HANGER NO²

LOCATION
+
ELV -

BAR CUT
+
DEPTH +
DIRECTION

DAY
+
DATE

C MC
DEODG
+
POSITION

CT-1-057-003 531R

790'

NONE

2-5-79 (5)

FLEY OVER

CC-2-021-01-031R

790

NONE

2-5-79 (7)

FLEY WA

CC-1-109-003-A431

810'

NONE

2-6-79 (5)

FLEY OVERHEAD

CC-2-021-011-A431

790'

NONE

2-6-79 (66)

FLEY FL

C-5-1-066-001-A431

810'

EAST HOLE 107% 5" DEPTH
E+W

2-7-79 (1)

4431

C-5-1-066-001-A431

810'

WEST HOLE 107% 5" DEPTH
E+W

2-7-79 (1)

4431

CS-1-075-003 A421

810'

EAST HOLE 100% 3 1/2" DEPTH
E+W

2-7-79 (1)

4430

CS-1-075-003-A421

810

WEST HOLE 100% 3 1/2" DEPTH
E+W

2-7-79 (1)

4430

CC-1-107-004-A431

810

NONE

2-7-79 (4)

FLEY

CC-1-126-004-A431

810'

NONE

2-7-79 (2)

OVERHEAD

CC-1-156-001-A431

831

NONE

2-7-79 (11)

FLEY WA

DO-1-054-009-A431

812

NONE

2-8-79 (2)

FLEY WA

CC-1-157-003-A431

831

NONE

2-8-79 (4)

FLEY WA

CC-1-156-003-A431

831

NONE

2-8-79 (2)

FLEY-WA

CC-1-151-003-A431

810'

NONE

2-8-79 (2)

FLEY FLOOR

DO-1-006-055-515R

790

NONE

2-8-79 (2)

FLEY OVERHEAD

4313

807 CATHAN AREA

NONE

2-9-79 (2)

BEAM

4314

807

NONE

2-9-79 (4)

11

53-58

807

NONE

2-9-79 (2)

11

DO-1-006-114-Y31R

790'

NONE

2-10-79 (2)

OVERHEAD

SW-1-129-072-Y31R

790'

NONE

2-10-79 (4)

FLEY FLOOR

3762

807'

NONE

2-10-79 (2)

FLEY BEAM

3801

807'

NONE

2-10-79 (2)

11

3822

807'

NONE

2-10-79 (2)

11

4314

807'

NONE

2-10-79 (2)

11

C1-1-015-073-035R

790

NONE

2-12-79 (6)

FLEY WALL

3136

790 aux

NONE

2-12-79 (5)

FLEY WALL

DO-1-029-067-A431

810 aux

NONE

2-12-79 (16)

FLEY WALL

DO-1-029-066-A431

810

NONE

2-12-79 (2)

FLEY WALL

DO-1-006-014-031R

790 TUNNEL

NONE

2-13-79 (5)

FLEY WALL

DO-1-029-008-A431

810

NONE

2-13-79 (2)

FLEY WALL

DO-1-029-006-A431

810

NONE

2-13-79 (2)

FLEY WALL

DO-1-029-067-A431

810

NONE

2-13-79 (1)

FLEY WALL

171 HOLES

W HANGING

2-10-79

52 HOLES

W HANGING

2-17-79

PRINT NO# OR HANGER NO#	LOCATION + ELV.	REBAR CUT TO DEPTH & DIRECTION	DAY + DATE	C.M.C OR DOOR + POSITION
SW-1-173-018-YIR	790 INHOLE	HILTY BOLT CUT OUT	2-14-79	6 BOTS OVERHEAD
REMAINDER OF DAY LAYOUT + DRILLING FOR INTER-DRILLING				
TWO RICHARD ON LAYOUT FOR INT.			2-15-79	
TWO CIV LAYOUT RICHARD ASSENT.			2-16-79	
CS-1-019-004-ASR 2689	832	HILTY BOLT CUT OUT	2-19-79	OVERHEAD
CS-1-019-004-ASR	832	HILTY BOLT CUT OUT	2-19-79	WALL
SW-1-013-001-ASR	790	W HOLE 25" DIA. 6 1/2" DEPT RAMP DIA.	2-20-79 ①	WALL
SW-1-013-001-ASR	790	SHOLE 25" 6 1/2" DIA. RAMP DIA.	2-20-79 ①	WALL
CC-1-015-001-ASR	810	3" DEPT NTS 3" DEPT NTS	2-20-79 ③	OVERHEAD 44.37.
CC-1-015-001-ASR	810	SHOLE 10" DIA. E HOLE 10" DIA.	2-20-79 ④	OVERHEAD 4477
?	778	4" DEPT E & W 4" DEPT E & W	2-21-79 ④	4490
?	778	4" DEPT E & W 4" DEPT E & W	2-21-79 ④	4490
BR-1-071-015-ASR	778	SET UP ON BROKE WATERLINE	2-21-79	4491
LOST	ABOUT 4 HOURS	MEN SOAKED	2-21-79	SENT TO FIRST AID
BR-1-071-015-ASR	778	E-BOLT HOLE 75% NO 1" DEPT HOLE	2-22-79 ①	WALL 4491
BR-1-071-015-ASR	778	W-BOLT HOLE 50% 1" DEPT HOLE	2-22-79 ①	WALL 4491
SW-1-173-018-YS	790	HILTY BOLT CUT OUT	2-22-79	OVERHEAD
SW-1-173-018-YS	790	HILTY BOLT CUT OUT	2-22-79	OVERHEAD
2689	832	HILTY BOLT CUT OUT	2-23-79	WALL
NO WATER	3 HRS	HAD MEN CLEAN EQUIPMENT	2-23-79	223
WP-1-061-007-SAR	810' 6"	100% N HOLE 2 1/2" DEPT	2-24-79 ①	4497
WP-1-061-007-SAR	810' 6"	100% S HOLE 2 1/2" DEPT	2-24-79 ①	4497
2689	832' 5G	1 1/4" HILTY BOLT	2-24-79	
DO-1-003-093-SIR	790' 5G	NONE	2-26-79 ①	FLEX WALL
SW-1-010-002-SIR	790 AUF	NONE	2-26-79 ①	FLEX FLEX
SF-X-049-019-ASR	845' 5"	5" HILTY BOLT	2-27-79	STAND OVERHEAD
2689	832'	1 1/4" HILTY BOLT RAMPED	2-27-79	WALL STAND
LAY OUT	2 P.P.R HANGER	FOR INST.	2-27-79	
SAR-019-019-ASR	790'	NONE	2-28-79 ④	FLEX OVERHEAD
SAR-019-017-ASR	790	NONE	2-28-79 ④	FLEX OVERHEAD
DOX-13-072-ASR	790	NONE	2-28-79 ⑥	FLEX WALL
CL-1-090-049-ASR	790	NONE	2-28-79 ⑥	FLEX WALL
CS-1-328-001-ASR	868'	CUT HILTY BOLT 5" FOR P.P.R HANGER	2-1-79	

52 Holes
W.R. RICHARD
2-17-79

10 HOLES
W.R. RICHARD
2-24-79
8 HILTY BOLTS DRILLED OUT

44 HOLES
W.R. RICHARD
2-2-79

PRINT NO# OR HANGER NO#	LOCATION PIPE ELV.	FEEDER CUT % DEPTH DIRECTION	DAY + DATE	C.M.C. OR Q.C.D.O.A.
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LAI D OUT 2 HANGERS FOR EASE ON

3-1-79

SD-1-053-44-ASSR	832	100% CUT VERT AT 3 1/2" DEPTH	3-5-79 ①	WALL 4495
SD-1-053-00V-ASSR	832	100% CUT VERT AT 3 1/2" DEPTH	3-5-79 ①	WALL 4495
DD-1-21-002 Y340	790	NONE	3-5-79 ②	JOVERHEAD
SW-1-010-002-ASSR	790	NONE	3-5-79 ②	FLOOR
SW-1-010-002-A7XR	790	NONE	3-6-79 ④	FLOOR
CA-1-005-03-ELSR	778	NONE	3-6-79 ④	
CC-1-42-032-A4R	832	TOOK DOWN TRENCHING ON OTHER WALL	3-6-79 ④	
STAMPING MILTY BOLTS SHAS		FOR CABLE TRAY SUPPORTS	3-7-79	

LAI D OUT 2 PIPE HANGERS

3-7-79

	810	NONE	3-7-79	OVERHEAD
	778 TUNNEL	100% R+V 4" DEPTH	3-8-79 ②	FLOOR 437
CW-1-032-001-KCS	C.W.1	NONE	3-8-79 ②	STAND
SA-1-019-017-ASSR	790 AUX	NONE	3-9-79 ①	FLEX IN
DD-1-003-080-33R	790 SG	NONE	3-9-79 ③	BLACK OUT
DD-1-029-030-ASSR	790 AUX	NONE	3-9-79 ②	FLEX OVERHEAD
CL-1-116-007-F33R	778 FUEL	NONE	3-9-79 ②	FLEX WALL
CL-1-116-005-F33R	778 FUEL	NONE	3-9-79 ②	FLEX WALL
5339 1190	DALL CUT MILTY BOLTS ASSEMBLY	807' FOR CABLE TRAY SUPPORTS	3-9-79	(2 MILTYS)

DD-1-16-026-Y3R	790 PRO TUNNEL	DRILL OUT 2 1/2" MILTY BOLTS	3-12-79 ②	2 MILTYS
491 + 492.	790 AUX	100% RUNNING E+V	3-12-79 ①	2052
491 + 492	790 AUX	AT 2 1/2" DEPTH	3-12-79 ①	WALL
491 + 492	790 AUX	25% RUNNING N+S AT 3 1/2" DEPTH	3-12-79 ①	2052
491 + 492	790 AUX	25% RUNNING N+S AT 3 1/2" DEPTH	3-12-79 ①	WALL
DD-1-003-006-Y3R	YARD TUNNEL	NONE	3-12-79 ①	2052
3822-3762-4382	807 CONTROLL AM	DRAWING FLEX ON NONE CABLE TRAY SUPPORTS	3-13-79 ①	WALL
Richard	LEFT AT 12:00	JW REMOVED PIPE	3-13-79	OVERHEAD
3822-3762-4382	807 CONTROLL AM	NONE	3-14-79 ⑥	WALL + OVER
51-1-318-004-SSSR	832 SG	NONE	3-14-79 ②	FLEX
CO-1-042-034-33R	SG 790	NONE	3-14-79 ③	WALL
REBAR CREW HANGING		HANGERS	3-15-79	FLEX
11	11	11	3-16-79	OVERHEAD
11	11	11	3-17-79	

WK ENDING 98 HOLES

3-10-79

WK KNOWING

3-17-79 3 DAYS

37 HOLES

PRINT NO # OR HANGER NO #	LOCATION + FLV-	REBAR CUT DEPTH DIRECTION	DAY + DATE	CNC OR DCOCC
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WK ENDING 3-24-79
126 HOLES

2 DAYS HANGING HANGERS
REWORKING

REBAR 11	CREW HANGING HANGERS 11		MON 3-19-79	
SF-X-049-027-ASSR	AUX 832' JUST 5 HRS	WORKED NONE ④	TUE 3-20-79	
SF-X-049-029-ASSR	AUX 832'	NONE ③	WED 3-21-79 ④	OVERHEAD FLEX
CA-X-064-003-A7SR	AUX 892'	NONE ⑧	WED 3-21-79 ③	OVERHEAD FLEX
SF-X-010-016-F4SR	FUEL	NONE	WED 3-21-79 ⑮	OVERHEAD FLEX
CH-X-064-003-A7SR	AUX	NONE	THUR 3-22-79 ⑮	OVERHEAD FLEX
SF-CH-X-064-003-A7SR	AUX 874' 9"	NONE ⑮	THUR 3-22-79 ⑮	WALL + FLOOR FLEX
SF-049-020-ASSR	AUX 848' 5"	NONE ⑥	FRI 3-23-79 ⑮	FLOOR FLEX
CC-1-051-005-A4SR	AUX	NONE	FRI 3-23-79 1.	OVERHEAD FLEX
SB-1-057-003-A5SR	AUX	NONE	SAT 3-24-79 6.	WALL FLEX
SB-1-057-002-ASSR	AUX	NONE	SAT 3-24-79 ⑧	FLOOR FLEX
SF-X-061-013-A5SR	AUX	NONE MULTI HOLES DRAINED 10 BITS	SAT 3-24-79 ②	FLOOR FLEX

WK ENDING 3-31-79
29 HOLES

3 DAYS HANGING FUEL HANGERS
REWORKING

SF-X-079-007-F4SR	FUEL HANGING TUNNEL	NONE	MON 3-26-79 ②	FLEX OVERHEAD
XXXXXXXXXXXX	TURBINE 815'S	100% E+W AT 2" DEPTH	MON 3-26-79 ①	6110 STAND
XXXXXXXXXXXX	TURBINE 815'S	100% E+W AT 2" DEPTH	MON 3-26-79 ①	6110
XXXXXXXXXXXX	TURBINE 815'S	100% E+W AT 2" DEPTH	MON 3-26-79 - ①	6110
XXXXXXXXXXXX	TURBINE 815'S	100% E+W AT 2" DEPTH	MON 3-26-79 - 1	6110
CO-1-029-001-TSS				
WA-X-185569-GMS	TURBINE 803	NONE	MON 3-26-79 FLEX ②	FLEX
CT-1-017-010-YSR	YARD TUNNEL	NONE	MON 3-26-79 FLEX ④	FLEX FLOOR
CT-1-083-012-S2SR	SG	NONE	TUE 3-27-79 ⑮	FLEX WALL
CI-X-131001-F4SR	FUEL	NONE	TUE 3-27-79 ④	MULTI GUN - LAYED OUT
HANGING HANGERS 5 HRS			TUE 3-27-79	
HANGING HANGERS 5 HRS			WED 3-28-79	
6118 TUNNEL	TUNNEL 789' 1"	100% HORIZ. 4" DEPTH ①	WED 3-28-79	6118
REWORK HANGERS 10 HRS			THUR 3-29-79	

WK ENDING 4-7-79
41 HOLES

REWORKING HANGERS 10 HRS		NO TOWER ALL	MON 4-2-79	
REWORKING HANGERS 10 HRS		ALL	TUE 4-3-79	
11	11	11	WED 4-4-79	
		FROM CIVIL VACATION	WED 4-4-79	
		MAKE AN WQTC FREE - MARILYN	THUR 4-5-79 ④	FLEX FLOOR
2-CW-2-074-003-105				

WK ENDING

4-7-79

WK ENDING

4-14-79

135 HOLES

PRINT NO. OR HANGER NO.	LOCATION + ELV	REBAR CUT DEPTH + DIRECTION	DAY + DATE	CMC OR NCADA,
CW-1-030-001-K05	C.W.-I	NONE	THUR 4-5-79 (2)	FLEX FLOOR
CW-1-029-001-K05	C.W.-I	NONE	THUR 4-5-79 (4)	FLEX FLOOR
W2-269-002-K05	C.W.-I	NONE	THUR 4-5-79 (2)	FLEX FLOOR
C1-1-015-050-A5X	A-X	WRONG LOCATION NONE	FRI 4-6-79 (1)	FLEX WALL
AF-1-044-059-S5R	SG	NONE	4-6-79 (3)	FLEX OVERHEAD
GS-1-034-037-A5R	AUX	NONE	4-6-79 (14)	FLEX WALL
DD-1-029-050-A5R	AUX	NONE BUTT ON HALF OF HANGER + DRILLED FINISHED HANGER 100% COMP.	4-6-79 (4)	STAND WALL
DD-1-029-050-A5R	AUX		4-7-79	STAND WALL
CW-1-032-001-K05	C.W.-I	NONE	4-7-79 (2)	FLEX FLOOR
CW-1-002-001-K05	C.W.-I	NONE	4-7-79 (4)	FLEX FLOOR
CW-2-034-001-K05	C.W.-I	NONE	4-7-79 (2)	FLEX FLOOR
CT-1-083-018-S5R	802' 6"	NONE	4-9-79 (4)	FLEX WALL
CC-1-042-010-S5R	802' 9"	NONE	4-9-79 (6)	FLEX WALL
CA-1-016-023-S5R	794' 3" SG	NONE	4-9-79 (2)	FLEX WALL
CT-1-017-038-S5R	800' 0 SG	NONE	4-9-79 (11)	FLEX WALL
CC-1-042-012-S5R	801.4' SG	NONE	4-10-79 (5)	FLEX WALL
CH-1-001-026-S5R	832' SG	NONE	4-10-79 (14)	FLEX OVERHEAD
GG-1-004-017-A5R	790 AUX	NONE	4-10-79 (20)	FLEX WALL
CT-1-083-009-S5R	778 SG	NONE	4-10-79 (5)	FLEX WALL
AC-1-048-068-S5R	790 SG	NONE	4-11-79 (10)	FLEX OVERHEAD
SF-X-010-024-F4R	829' 8"	NONE	4-11-79 - (2)	FLEX OVERHEAD
DD-1-055-022-A5R	824- AUX	NONE	- 4-11-79 - (13)	FLEX WALL
CFA-131-010-F4R	813' 6" FUEL	NONE	4-11-79 - (6)	FLEX OVERHEAD
SF-X-010-04-F4R	813' 6" FUEL	NONE	4-11-79 - (6)	FLEX OVERHEAD
CC-1-043-005-A5R	810 AUX	NONE	4-12-79 (2)	FLEX WALL
CC-X-075-003-A5R	852 AUX	NONE	4-12-79 (2)	FLEX WALL
DD-1-028-040-A5R	790 AUX	NONE	4-12-79 (4)	FLEX WALL
C2-1-015-040-A3R	790 AUX	NONE	4-13-79 (2)	DILTY BOLTS CUT
DD-1-029-047-A5R	810 AUX	NONE	4-13-79 (4)	FLEX WALL
DD-1-029-040-A3R	790 AUX	NONE	4-13-79 (1)	FLEX WALL
CA-X-061-073-A5R	790 AUX	NONE	4-13-79 (2)	DRILL OUT DILTY
SA-X-019-026-A05	790 AUX	NONE	4-14-79 (4)	FLEX OVERHEAD
SS-1-010-005-T350	77A TURB	NONE	4-14-79 (4)	FLEX OVERHEAD

110 HOLES
WK 4-14-79

PRINT NO OR HANGER NO #	LOCATION ↓ ELV	R-BAR CUT DEPTH & DIRECTION	DATE	CMC OR DCDDA
TO-1-005 012-T310	778 TURN	NONE	4-14-79 ③	FLEX OVERHEAD
TO-1-034-001-T310	778 TURN	NONE	4-14-79 ①	FLEX OVERHEAD
TO-1-034-001-T340	778 TURN	NONE	4-16-79 ③	FLEX OVERHEAD
TO-1-010-014-T340	778 TURN	NONE	4-16-79 ④	FLEX OVERHEAD
TO-1-001-005-T340	778 TURN	NONE	4-16-79 ④	FLEX OVERHEAD
REBAR CREW WORKING ON REWORK OF HANGERS				
1597	832 REBAR	NONE	4-18-79 15	FLEX WALL
1594	832 REBAR	NONE	4-18-79 14	FLEX WALL
5800	832 REBAR	NONE	4-18-79 1	FLEX OVERHEAD
SW-1-132-051-A43X	810	NONE	4-19-79-2	FLEX WALL
SW-1-129-079-A43	810	NONE	4-19-79-2	FLEX OVERHEAD
SW-1-129-050-A43X	810	NONE	4-19-79 2	FLEX WALL
SW-1-102-057-A3X	790	NONE	4-19-79 13	FLEX OVERHEAD
AF-1-009-064-53X	790	NONE	4-20-79 4	FLEX OVERHEAD
AF-1-009-059-535X	790	NONE	4-20-79 20	FLEX OVERHEAD
CC-1-158-004-A435	810	NONE	4-20-79 3	FLEX WALL
SW-1-132-041-A43X	810	NONE	4-21-79 19	FLEX WALL
CL-1-066-001-A33	790	NONE	4-21-79 2	FLEX OVERHEAD
SE-X-010-024-A43X	810	NONE	4-21-79 2	FLEX OVERHEAD
WB-1-226-017-505X	778	NONE	4-23-79 ②	FLEX OVERHEAD
WO-1-226-019-505X	778	NONE	4-23-79 ②	FLEX OVERHEAD
1 5 HRS	HANGING HANGERS BAREN		4-22-79	
SE-1-041-001-52X	778	NONE	4-24-79 ②	FLEX FLOOR
SU-1-129-015-505X	810	NONE	4-24-79 ①	FLEX WALL
DO-1-029-019-505X	810	NONE	4-24-79 9	FLEX WALL
DO-1-12-021-Y33X	8026 YARD TUNNEL	NONE	4-25-79 -2	FLEX OVERHEAD
CL-1-066-001-A33	790	NONE	4-25-79 2	FLEX OVERHEAD
CC-1-158-003-A43X	810	NONE	4-25-79 2	FLEX WALL
DO-1-003-055-A33X	790	NONE	4-25-79 15	FLEX WALL
CL-1-042-031-535X	790	NONE	4-26-79 11	OVERHEAD
DO-1-016-005-535X	790	NONE	4-26-79 3	OVERHEAD
SO-1-015-004-A33X	832	NONE	4-26-79 (4)	FLOOR
SO-1-014-001-A33X	832	NONE	4-26-79 14	WALL

110 HOLES
WK 4-28-79

W.A. ENOING
5-5-79

W.A. ENOING
5-12-79

PRINT NO FE CR HANDLING NO FE	L. H. + FLV-	REAR CUT DEPTH + DIRECTION	DATE	CH C OR DC DDA
SW-1-11-021 F33R	790	MULTYHOLE NONE	4-30-79 ①	STAND FLOOR
LS-1-116-011-ASR	790	MULTYHOLE	4-30-79 ②	FLEX OVERHEAD
LS-2-044-007-ASR	832	NONE	5-1-79 ④	FLEX OVERHEAD
AR-1-018-008-SSR	796	NONE	5-1-79 ④	FLEX OVERHEAD
AR-1-018-009-SSR	790	NONE	5-1-79 ④	FLEX OVERHEAD
AD-1-017-013-T33S	178	NONE	5-1-79 ⑤	FLEX OVERHEAD
HP-1-330-008-T55S	832 TURN	100% NPS 3"	5-2-79 ①	6189 FLEX
HP-1-330-008-T55S	632 TURN	100% NPS DEPTH	5-2-79 ①	6189 FLEX
SW-1-016-007-T33R		NONE	5-2-79- ④	FLEX WALL
SI-035-053-516R	790	NONE	5-2-79- ④	FLEX WALL
3 1/2 HAS	EVERY BODY LEFT DUE TO STORM		5-3-79-	
SF-X-010-018-F4SR	FUEL	NONE	5-4-79 ②	FLEX OVERHEAD
CP-X-001-053-R3SR	805'	NONE	5-4-79 ②	FLEX WALL
CI-1-044-042-CH6R	816'	NONE	5-4-79 ①⑨	FLEX OVERHEAD
SD-X-063-009-F5SR	858' 0"	NONE	5-4-79 ①①	FLEX WALL
AR-1-018-008-SSR	804'	NONE	5-5-79 ②	FLEX OVERHEAD
AD-1-12-021-Y33R	802' 6"	NONE	5-7-79 ②	FLEX OVERHEAD
SF-1-013-013-ASR	839' 10"	NONE	5-7-79 ⑥	FLEX OVERHEAD
CC-1-017-005-A43R	810	100% NPS 3" DEPTH	5-8-79 ①	6188 WALL
CC-1-017-005-A43R	810	100% NPS 3" DEPTH	5-8-79 ①	6188
REAR OF DAY HUNG HANGERS 5 HAS			5-8-79	
SFX-062-003-ASR	810	2" DEPTH	5-9-79 ①	FLEX 6197
CT-1-083-009-S2SR	800' 6"	NONE	5-9-79 ①	FLEX
SW-2-001-012-F33A	796' 7"	100% NPS 5" DEPTH	5-10-79 - ①	WALL 6405
SW-2-001-012-F33A	796' 7"	100% NPS 5" DEPTH	5-10-79 - ①	WALL 6405
SW-2-012-012-F13A	786' 2 1/2"	100% NPS 2 1/2" DEPTH	5-10-79 - ①	6606 WALL
SW-1-012-016-F33A (BAHNSON)	791- 6"	100% NPS 7 1/2" DEPTH	5-10-79 - ①	6605
S.W.I. EXHAUST	833- 7 1/2"	100% NPS	5-11-79 ①	6903
"	833' 7 1/2"	100% NPS	5-11-79 ①	6903
AF-1-048-059-SSR	790'	NONE	5-15-79 - 1	FLEX OVERHEAD
AF-1-039-001-SSR	790	NONE	5-15-79 - 9	FLEX WALL
AF-1-039-001-ST				
VO-1-049-012-SSR	290	NONE	5-15-79 - 6	FLEX WALL

	PRINT NO HANDS	LOCATION FLV	FIBER CUT 1-1/2" + DIRECTION	DAY DATE	CMC OR DCD04
5-19	SA-X-619-026-A35 SF-Y-002-003-F35 NO	790 790 REBAR WORK	BROKEN MILTS 2 NONE 5-17-79	5-16-79-① 5-16-79-② HANGING HANGERS	OVERHEAD ARM STANG FLEX WALL
5-26-79	A/C SW-2-132-004-A43R CJ-1-144-026-C46R CT-1-083-011-S35R CC-2-070-002-A33R RH-1-063-004-S22R AF-1-028-001-S53R SW-1-013-005-A33R CH-1-235-002-S43R SW-1-102-065-A41R	REBAR WORK REBAR WORK 810' NO REBAR - FLEX REACTOR - 790 790 778 742 790 810' 810'	I-29-79 I-30-79 5-31-79 NONE NPN NONE NONE NONE NONE NONE NONE	Hanging Hangers 1 1 5-31-79 (2) 6-1-79 6-4-79 6-4-79-25 6-5-79 8 6-5-79 4 6-7-79 3 6-7-79 2 6-7-79 0	FLEX WALL FLEX WALL FLEX WALL FLEX WALL FLEX FLOOR FLEX FLOOR FLEX WALL FLEX WALL NOT ENOUGH ARM FOR FLEX
6-16-79	CW-1-034-010-K05 CW-1-273-001-K05 CW-2-037-011-K05 CW-2-032-100-K05 CW-1-085-001-K05 WP-1-043-006-C46R CS-2-031-002-A53R AF-1-078-001-S33R AF-1-078-001-S33R CC-1-051-001-A43R CC-1-051-001-A43R 3822 CABLE TRAY	C.W.I. " " " " " " CALLED FOR 59-790 807 ELEC.	NONE NONE NONE NONE NONE NONE NONE CALLED HUYBAT NONE AT Q HANGERS 100% N&S 6 1/2" DEPTH 100% N&S 6 1/2" DEPTH 100% E&W 2 3/4" DEPTH 100% E&W 2 3/4" DEPTH NONE	6-11-79 ④ 6-11-79 ② 6-11-79 ④ 6-11-79 ⑥ 6-11-79 ⑥ 6-12-79 5 6-12-79 ① 6-13-79 6-14-79 6-14-79 6-14-77 6-14-77 6-14-77	FLEX FLOOR " " " " " OVERHEAD FLEX CMC 6952 " 6952 " 6953 " 6953 FLEX WALL
WH Kadwig 27-79	SF-X-03-001-F45R CS-2-031-002-A53R CH-1-235-002-S40R	810 FUEL WORKING DRILLING HANGERS 83A A-X 810 SE	NONE MILTY MET MIXED NONE	6-18-79 6-19-79 6-20-79 6-20-79 ⑥	FLEX WALL FLEX WALL FLEX

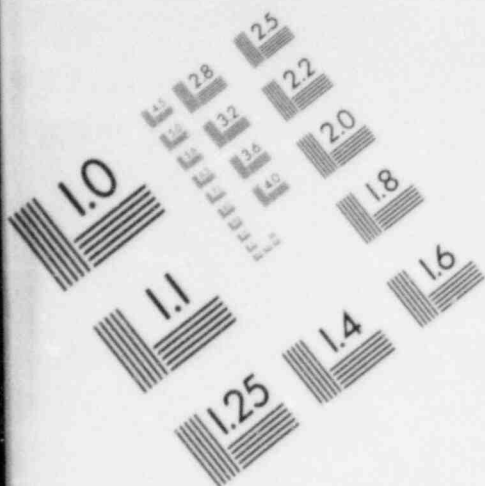
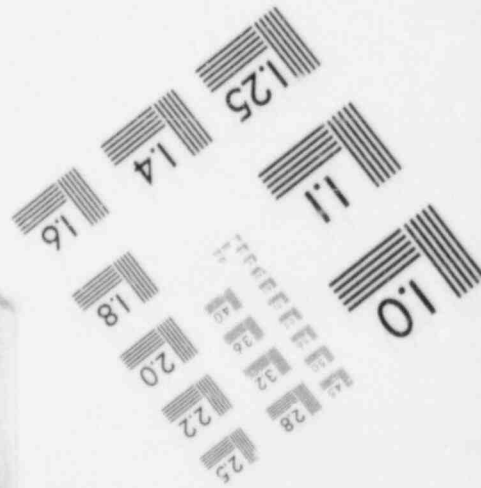
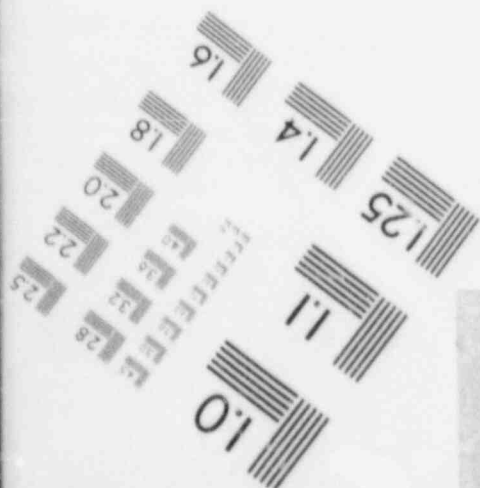
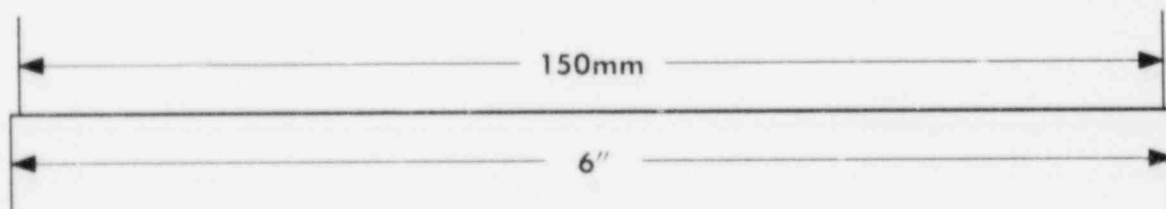
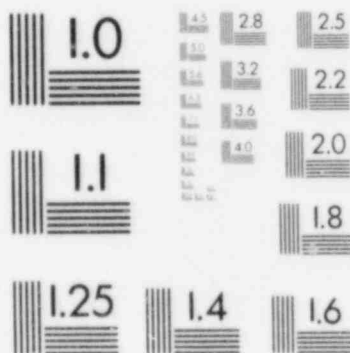
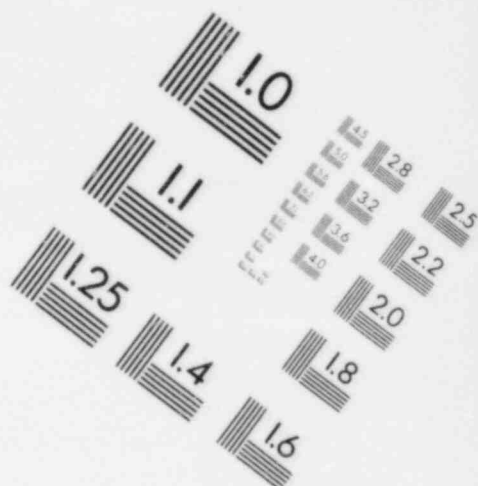


IMAGE EVALUATION TEST TARGET (MT-3)



PRINT NO# OR HANGER NO#		LOCATION + LEV	PICAR LOT DEPTH + DIRECTION	DAY + DATE	CALL OR PCDDO
w/1 ending 6-23-79	SW-1-013 005-A33A	AUX 790	NONE	6-20-79 ⑤	FLEX WALL
	HO-1-350-001-T45	TURBIN	NONE	6-20-79 ⑥	FLEX FLOOR
	SI-1-027-001-S22R	SG 778	NONE	6-20-79 ⑦	FLEX FLOOR
	SB-X-016-001-A55R	AUX 832'	NONE	6-21-79 ①	FLEX OVERHEAD
WORKING HANGERS -				6-25-79	
w/1 ending 6-30-79	CI-1-053-85	TURBIN 2' lower	NONE	6-26-79	WALL FLEX
	CI-1-053-86	" "	NONE	6-26-79	WALL FLEX
	CF-104	" "	NONE	6-26-79	FLOOR FLEX
	CF-103	" "	NONE	6-26-79	FLOOR FLEX
	CL-1-077-010-S33R	790	NONE	6-27-79-45	FLEX FLEX
	AH-1-003-004-S3A5	790	NONE	6-27-79 2	FLEX WALL
	CL-2-021-009-A33A	790	NONE	6-27-79 4	FLEX WALL
	CW-2-047-003-K05	CWI	NONE	6-28-79 2	FLEX FLOOR
	SB-1-060-021-S55R	SG	NONE	6-28-79 1	FLEX OVER HEAD
	54-202-244-858	TURBIN	NONE	6-28-79 2	FLEX WALL
w/1 ending 7-7-79	CV-1-053-152-978	TURBIN		7-3-79 2	WALL FLEX
	↓ 79			7-3-79 2	FLEX WALL
	↓ 80				
	↓ 81				
	↓ 82				
	↓ 83				
	DD-1-029-030-A35R		NONE	7-5-79 1	FLEX WALL
	GS-1-034-040-A45R		NONE	7-5-79 13	FLEX WALL
				7-6-79	
w/1 ending 7-14-79	SW-1-010-01-A33R	AUX	NONE	7-9-79 ④	FLEX FLOOR
	CS-1-063-006-S22R	SG	NONE	7-10-79 ⑥	FLEX FLOOR
	CS-1-063-008-S22R	SG	NONE	7-10-79 ⑧	FLEX FLOOR
	HANGING TEMP HANGERS AS FOR 8-1			7-11-79	
	FOR P.P.S DEPT 32"			7-12-79	
	" "			7-13-79	
	" "			7-16-79	
	" "			7-17-79	
	" "			7-18-79	
	" "				

BABY DAY

PRINT NO# OR
HANGER NO#

LOCATION
+
ELV'

RIBBAR CUT
DEPTH + REGION

DAY
+
DATE

CNC
OR
R.O.D.A

CABLE TRAY 6465

790

NONE

7-19-79 ①

WALL

CABLE TRAY 5338

807 CONTIN

NONE

7-19-79 ⑤

WALL

SW-2-035-004 - J03R

CABLE TO RAIL

BY MIKE SANDERS -

FLOOR

FLOOR

SB-X-017-001 - ASSR

850' 4"

NONE

7-23-79 ⑧

CF 100 GRUNNELL

830' 0"

NONE

7-25-79 ②

FLEX

SB-X-017-005 - ASSR

842'

NONE

7-26-79 ②

OVERHEAD

SB-X-017-004 - ASSR

842

NONE

7-26-79 ②

FLEX

SW-1-026-001 - J03A

806' 3"

NONE

7-27-79 4

OVERHEAD

CC-1-007-039 - A63R

869' 4"

NONE

7-27-79 - 4

WALL

CC-1-007-076 - A63R

868' 10"

NONE

7-27-79 ②

WALL

SB-X-017-002 - ASSR

848' 0"

NONE

7-30-79 ④

FLEX

38.22 CABLE TRAY

807'

NONE

7-30-79 ①

OVERHEAD

NO DRILLING

CLEAN + REPAIR E2V.

7-30-79 ①

FLEX

SI 1-035-054 535R

807'

NONE

8-1-79

WALL

3284

807 ELC CONTIN

NONE

8-2-79 ④

FLEX

5358

807 "

NONE

8-2-79 ①

WALL

H CL -1 - SB0-17-23

778 AUX

NONE

8-2-79 ①

FLEX

CONDUIT HANGER SUPPORT

832 AUX

3" DIA

8-6-79 ②

WALL

" " "

100% NONE

8-8-79 ①

WALL

" " "

100% NONE

8-8-79 ①

WALL

" " "

100% NONE

8-8-79 ①

WALL

CCX-044-003 - F43R

100% NONE

8-8-79 ①

WALL

CCX-038-002 - F43R

100% NONE

8-8-79 ①

WALL

CCX-038-003 F43R

100% NONE

8-8-79 ①

WALL

5658

100% NONE

8-8-79 ①

WALL

H-64-X-20-024 #7

832 BUY

NONE

8-15-79 ①

FLEX

SW-1-732-072 - S43R

811' 3"

NONE

8-16-79 ④

FLEX

CH-1-235-011 - S43R

824' 6"

NONE

8-16-79 ⑦

FLEX

CC-1-028-019 - S33R

806' 56

NONE

8-21-79 ⑦

FLEX

AF-1-001-011 - Y33R

500' 6" Jace

NONE

8-21-79 ⑧

FLEX

AF-1-001-010 - Y33R

800' 6"

NONE

8-23-79 ②

FLEX

CABLE TRAY ELC CONTIN 807.

NONE

8-23-79 ②

FLEX

Plant NOT OK

HANGER NOT

LOCATION
ELEV.

REBAR CUT
DEPTH + DIRECTION

DAY
DATE

C.C.
OR
DCDDA

CC-1-193-004-C525

REACTOR #1

NONE
3"

8-24-79 ②

FLEX WALL
2

DD-1-017-008-A33R

AUX 790

NONE

8-24-79 ①

OCA-5373

DD-1-017-008-A33R

AUX 790

3" DEPTH
N+S-1070

8-24-79 1

OCA-5373

SW-X-007-001-J03R

810-SWZ

NONE

8-27-79 ⑥

FLEX WALL

SF X-068-002-F43R.

790 FULL

NONE

8-27-79-1

FLEX OVERHEAD

8857

835' 4"

100% HORIZ
5" DEPTH

8-28-79 ①

OCA
5410

1957

835' 4"

100% HORIZ
5" DEPTH

8-28-79 ①

5410

1957

835' 4"

75% HORIZ
5" DEPTH

8-28-79 ①

5410

SW-X-012-008-J03R

SWZ

NONE

8-29-79 ①

FLEX
DRILLED OUT MILTY

2650 CABLE TRAY

852 CABLE

NONE

8-30-79 ⑥

FLEX
SIDE OF BEAM

6041 CABLE TRAY

REACTOR 2#

NONE

9-13-79

FLEX BEAM

6042 " TRAY

"

"

"

" "

6043 " "

"

"

"

" "

6043 " "

"

"

9-17-79 1

FLEX BEAM

2412 " "

SG 832'

BROKEN WITH SHT

9-18-79 1

COLUMN

DD-1-013-045-55R

SG 790

NONE

9-19-79 1

FLEX
15" HILT

CL-1-037-10-AUX

AUX 790

NONE

9-20-79 4

FLEX
WALL

CL-1-039-15-A33R

AUX 790

NONE

9-20-79 2

FLEX
WALL

CL-1-040-001-A33R

AUX 790

NONE

9-20-79-1

FLEX
WALL

CL-1-041-002-A33R

AUX 832

NONE

9-21-79 1

FLEX
WALL

CH-X-047-003-A75R

AUX 873

NONE

10-2-79-2

FLEX WALL

CH-X-001-016-A75R

AUX 873

NONE

10-2-79-2

FLEX WALL

CH-X-0093-001-A75R

AUX 873

NONE

10-2-79-2

WALL
FLEX

CC-1-007-031-A33R

AUX 831'6"

NONE

10-3-79-11

FLEX
WALL

CC-1-156-004-A63R

AUX 852'6"

NONE

10-3-79-4

FLEX
WALL

CABLE TRAY 3940

SG 790

NONE

10-3-79-4

FLEX
WALL

GH-H-00-1-09-C33R-3

D-GEN.

NONE

10-4-79-1

FLEX
WALL

SW-1-026-007-J03R

SWZ

NONE

10-4-79-1

FLEX
WALL

3974 CABLE TRAY

854 AUX

NONE

10-5-79

FLEX
WALL

CC-X-039-006-F43R

810

NONE

10-9-79

FLEX
WALL

CC-1-116-013-F43R

810

NONE

10-9-79

FLEX
OVERHEAD

ELECT. DUCT -

807 ELECT. DUCT

100%
3" DEPTH N+S

10-9-79

FLAT
OCA-5854

CA-1-028-016-CUER

808-R#1

DRILLED 15" DEPTH
MILTY OUT

10-17-79

WALL
STAND

INTERVIEWEES

<u>NAME</u>	<u>PRESENT POSITION</u>	<u>PRIOR POSITION</u>	<u>DATE INTERVIEWED</u>	<u>SIGNED SWORN STATEMENT</u>
Gary D. Alford	Electrical termination	Pipe hanger fitter	5/04/83	yes
Heriberto Bermea	Pipe hanger fitter	Pipe hanger helper	5/10/83	yes
Hollis D. Bogart	Pipe hanger foreman		5/04/83	yes
Rex A. Broom	Pipe fitter	Pipe rigger	5/05/83	yes
Daniel K. Brown	TUGCO mechanical helper	Pipe hanger fitter	5/06/83	yes
Thomas M. Commons	Piping Design Services, Inc. engineer		5/06/83	Results of Interview
Edwin S. Dean	Pipe hanger general foreman		5/05/83 & 5/10/83	yes
Roy O. Estes	Pipe hanger fitter	Pipe hanger foreman	5/04/83	yes
Dean A. Fellingner	Dravo Constructors, Inc., construction project manager	Gibbs & Hill engr.	5/09/83	yes
Danny K. Grisso	Cable tray supports fitter	Hanger drill crew foreman	5/03/83	yes
Nathan D. Hammett	Pipe hanger foreman		5/03/83	yes
James D. Hullum	Start-up support	Pipe hanger general foreman	5/03/83	yes
Raymond H. Hebert	Pipe hanger superintendent		5/05/83	yes
Eli Holmes	Pipe hanger welder		5/10/83	yes
Billy R. Jones	Pipe hanger fitter		5/03/83	yes
Ronald D. McBee	Pipe foreman		5/05/83	yes
Donald W. Mason	Pipe hanger general foreman		5/03/83	yes
Charles E. Neagle	Pipe hanger fitter	Pipe hanger foreman	5/04/83	yes
Michael E. Sanders	Lead welder	Pipe hanger lead general foreman	5/03/83	yes
Jimmy R. Starkey	Pipe hanger fitter	Pipe hanger general foreman	5/04/83	yes
Tommy J. Thompson	Pipe welder	Pipe hanger welder	5/03/83	yes

The signed, sworn statements are maintained in the OIFO:RIV, and the testimony of individual witnesses is available to NRC personnel.

ATTACHMENT (2)

TERMINATED IRON & ROOT EMPLOYEES

<u>NAME</u>	<u>DATE TERMINATED</u>	<u>PRIOR POSITION</u>
Richard Asevado	8/15/82	Pipe Hangers
Kenneth H. Evans	1/21/82	Welding Technician
Hal Goodson	11/01/82	Pipe Hangers
Joe Gray	1/27/83	Pipe Welder
Louis Hale	8/10/79	Pipe Hangers
Rusty Hamilton	6/07/82	Structural Iron Worker
Larry Haney	8/02/79	Pipe Hangers
Gary Hill	7/09/82	Structural Iron Worker
Barry Kerfoot	3/22/79	Pipe Hangers
Paul Latham	10/14/82	Pipe Hangers
Richard Montjar	6/02/82	Pipe Hangers
Jackie Moore	8/30/79	Pipe Hangers
Charles R. Phillips	5/21/82	Structural Iron Worker
Mike Robinson	8/27/79	Pipe Welder
Glen Southard	7/09/80	Pipe Hangers
J. W. Strickland	8/22/79	Structural Iron Worker
Joe Williams	4/21/80	Pipe Hangers
Tim DeSpain	termination date unknown	Pipe Hangers