

09.08-07/26/94-0132a

PUBLIC HEARING

ON THE

PROPOSED CLEANUP PLAN

CAMP GEIGER AREA FUEL FARM  
MARINE CORPS BASE CAMP LEJEUNE  
SITE 35 - OPERABLE UNIT NO. 10  
JACKSONVILLE, NORTH CAROLINA

---

JULY 26, 1994

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HELD AT  
TARAWA TERRACE ELEMENTARY SCHOOL  
CORBIN STREET  
JACKSONVILLE, NORTH CAROLINA

---

REPORTED BY: JAMES A. PALMER, CCR

CAPE FEAR COURT REPORTING  
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WILMINGTON, NORTH CAROLINA 28402

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COPY

APPEARANCES

DANIEL E. BONK, P.E., PROJECT MANAGER

RAYMOND WATTRAS

BAKER ENVIRONMENTAL, INC.  
AIRPORT OFFICE PARK, BUILDING 3  
420 ROUSER ROAD  
CARAOPOLS, PENNSYLVANIA 15108  
(412) 269-6000

T A B L E O F C O N T E N T S

| <u>SPEAKERS</u>  | <u>PAGE</u> |
|------------------|-------------|
| NEAL PAUL:       | 4           |
| RAYMOND WATTRAS: | 5           |

P R O C E E D I N G S

7:24 P.M.

1  
2 MR. BONK: GOOD EVENING. I WOULD LIKE  
3 TO--CAN YOU HEAR ME? I WOULD LIKE TO WELCOME EVERYONE TO THE  
4 PUBLIC MEETING FOR OUR PROPOSED REMEDIAL ACTION PLAN FOR  
5 OPERABLE UNIT 10, OR SITE 35, CAMP GEIGER FUEL FARM.

6 I WOULD LIKE TO MAKE SOME INTRODUCTIONS. MY NAME IS  
7 NEAL PAUL AND I'M EMPLOYED HERE BY THE BASE. I'M DIRECTOR OF  
8 THE INSTALLATION-RESTORATION DIVISION. MR. WALT HAVEN, WHO IS  
9 THE GEOLOGIST WHO WORKS FOR ME IS ALSO HERE. MR. RAY WATTRAS,  
10 WHO IS THE PROGRAM MANAGER FOR BAKER ENVIRONMENTAL, OUR  
11 CONSULTANT, IS ALSO HERE; MS. KATE LANDMAN, WHO IS THE REMEDIAL  
12 PROJECT MANAGER FROM THE ATLANTA DIVISION OF NAFEC IS HERE; MR.  
13 DAN BONK FROM BAKER, MR. TOM BIKSEY, ALSO FROM BAKER; AND OUR  
14 OTHER REMEDIAL PROJECT MANAGER, LINDA BERRY; AND LAST BUT NOT  
15 LEAST, OUR REGULATORS MR. PATRICK WATERS FROM THE STATE OF  
16 NORTH CAROLINA; MS. GEENA TOWNSEND FROM EPA REGION 4.

17 THE PURPOSE OF THIS MEETING IS REALLY JUST TO  
18 DISSEMINATE SOME INFORMATION ON WHAT OUR PLANS ARE IN CLEANING  
19 UP THIS SITE. JUST TO LET EVERYONE KNOW, THE HIGHWAY 17 BYPASS  
20 THAT HAS BEEN MUCH TALKED ABOUT IN EASTERN NORTH CAROLINA IN THE  
21 LAST YEAR IS GOING TO COME DIRECTLY OVER TOP OF THIS SITE. THIS  
22 IS GOING TO BE AN INTERIM REMEDIAL ACTION AND NOT THE FINAL  
23 REMEDIAL ACTION OF THIS SITE TO FACILITATE THAT HIGHWAY AND  
24 PRECLUDE ANY DELAYS THAT MAY--THAT WOULD HAVE PROBABLY  
25 ACCOMPANIED IT HAD WE NOT TAKEN THIS REMEDIAL ACTION.

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1 MR. RAY WATTRAS FROM BAKER WILL BE PRESENTING THE SITE  
2 SPECIFICS ON THE REMEDIAL ACTION PLAN. RAY?

3 MR. WATTRAS: THANK YOU, NEAL.

4 MR. PAUL: I FORGOT TO SAY ONE OTHER  
5 THING. THE PUBLIC COMMENT PERIOD WILL BEGIN TODAY AND END  
6 AUGUST 26 OF 1994. THE PROPOSED REMEDIAL ACTION PLAN IS IN WALT  
7 AND MYSELF'S OFFICE, WHICH IS BUILDING 67 ABOARD THE BASE. TO  
8 ACCESS IT, IT WOULD PROBABLY BE GOOD TO GIVE US A CALL AT  
9 451-5068, OR THE ONSLOW COUNTY LIBRARY SHOULD HAVE THE COMPLETE  
10 ADMINISTRATIVE RECORD. SO, MR. WATTRAS WILL NOW PRESENT THE  
11 PROPOSED PLAN.

12 MR. WATTRAS: THANK YOU VERY MUCH AND THANK  
13 YOU FOR COMING TONIGHT. WE ARE GLAD TO HAVE YOU HERE. DURING  
14 MY DISCUSSION, AS NEAL MENTIONED, WE ARE GOING TO TALK ABOUT  
15 SITE 35 AT CAMP LEJEUNE. IT'S CALLED THE CAMP GEIGER FUEL DUMP.

16 DURING MY DISCUSSION FEEL FREE TO INTERRUPT ME IF YOU  
17 HAVE ANY QUESTIONS. IF I SAY SOMETHING YOU DON'T QUITE  
18 UNDERSTAND, DON'T HESITATE. WE WOULD ASK, IF YOU DO HAVE A  
19 QUESTION, FOR PURPOSES OF RECORDING IT, STATE YOUR NAME AND THEN  
20 PROVIDE YOUR QUESTION.

21 IF YOU DON'T FEEL LIKE ASKING A QUESTION DURING THE  
22 MEETING HERE, AFTERWARDS COME UP TO US. ASK US ANY QUESTIONS  
23 THAT YOU WOULD LIKE; WRITE QUESTIONS ON A SLIP OF PAPER AND WE  
24 WILL SEE THAT YOU GET AN ANSWER.

25 SITE 35, AS I MENTIONED, IS CALLED THE CAMP GEIGER

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1 FUEL FARM. THIS SITE HAS BEEN STUDIED FOR A NUMBER OF YEARS.  
2 PREVIOUS INVESTIGATIONS HAVE IDENTIFIED SOIL CONTAMINATED WITH  
3 PETROLEUM PRODUCTS. IT HAS BEEN DETERMINED THAT THE SOIL  
4 CONTAMINATION DOES NOT PRESENT A SIGNIFICANT HEALTH RISK OR  
5 ENVIRONMENTAL RISK, PRIMARILY BECAUSE MOST OF THE CONTAMINATION  
6 IS BELOW THE SUBSURFACE, WHICH WE WILL GET INTO LATER ON. THIS  
7 CLEANUP ACTION, THOUGH, IS GOING TO FOCUS ON THIS PETROLEUM  
8 CONTAMINATION.

9           ALTHOUGH THE CONTAMINANT LEVELS DON'T POSE ANY REAL OR  
10 SIGNIFICANT RISK TO THE PEOPLE THAT WORK OUT THERE OR TO THE  
11 ENVIRONMENT IN THE AREA, THERE ARE LEVELS OF PETROLEUM  
12 HYDROCARBONS WHICH EXCEED STATE STANDARDS. AND AS NEAL  
13 MENTIONED, THE HIGHWAY THAT IS TO BE BUILT IN THE AREA WILL BE  
14 COMING RIGHT THROUGH THAT AREA. BEFORE THEY CAN BUILD THAT, WE  
15 NEED TO GO IN THERE AND REMEDIATE THAT SOIL, OR CLEAN THAT SOIL  
16 UP.

17           AND SITE 35 IS LOCATED UP AT CAMP GEIGER. CAMP  
18 GEIGER, IF YOU DON'T KNOW WHERE IT IS, IT'S LOCATED RIGHT ALONG  
19 ROUTE 17, SOUTH OF JACKSONVILLE. THE SITE, ITSELF, REFERS TO  
20 FIVE 15,000 GALLON ABOVE-GROUND STORAGE TANKS WHICH HAVE BEEN IN  
21 OPERATION SINCE BACK IN 1945 WHEN THE FUEL FACILITY WAS FIRST  
22 BUILT. AND THESE ABOVE-GROUND STORAGE TANKS HOLD PETROLEUM  
23 PRODUCTS SUCH AS HEATING FUEL, DIESEL FUEL AND GASOLINE.

24           AS I MENTIONED BEFORE, THE SITE IS LOCATED JUST SOUTH  
25 OF JACKSONVILLE, RIGHT UP HERE. THESE ARE THE FIVE ABOVE-GROUND

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1 STORAGE TANKS. BENEATH THIS AREA, THERE IS PIPING THROUGHOUT.  
2 PIPING GOING TO VARIOUS DISPENSING BUILDINGS. THERE ARE SOME  
3 UNDERGROUND STORAGE TANKS IN THE AREA THAT PIPING LEADS TO.

4 THERE HAVE BEEN VARIOUS REPORTS OF SPILLS DATING BACK  
5 TO 1950. SPILLS OCCUR IN A VARIETY OF WAYS. SOMETIMES BY  
6 FILLING UP THE TANKS AND OVERFLOWS. YOU CAN HAVE SPILLAGE THAT  
7 WAY. OTHER TIMES YOU HAVE PIPES THAT MAY LEAK AND YOU CAN HAVE  
8 REPORTED LOSS OF PETROLEUM PRODUCT IN THAT MANNER.

9 IN SOME CASES DUE TO THE AMOUNT OF FUEL LEAKING OR  
10 SPILLING FROM THE FACILITY, THEY ACTUALLY HAD TO EXCAVATE  
11 TRENCHES TO COLLECT THE FUEL, AND THEY WOULD ALSO REMOVE ANY OF  
12 THE CONTAMINATED SOIL FROM THE TRENCH AREA.

13 I MENTIONED BEFORE THERE HAVE BEEN QUITE A NUMBER OF  
14 INVESTIGATIONS CONDUCTED, DATING BACK TO 1983. MOST OF THESE  
15 INVESTIGATIONS HAVE BEEN INVOLVED WITH THIS FUEL FACILITY.

16 THE HIGHWAY IS PROPOSED TO BE BUILT IN THE SUMMER OF  
17 1995. AND BEFORE THAT HIGHWAY CAN BE PUT IN, A NUMBER OF  
18 BUILDINGS HAVE TO BE TAKEN DOWN; AND, ALSO, THE FUEL FARM,  
19 ITSELF. AND THAT IS BEING SCHEDULED FOR DECEMBER OF THIS YEAR.

20 THE STUDIES CONDUCTED TO DATE HAVE IDENTIFIED A FEW  
21 AREAS OF SOIL CONTAMINATION WITH PETROLEUM PRODUCT. IN  
22 ADDITION, BY PUTTING IN MONITORING WELLS, THEY HAVE IDENTIFIED  
23 PLUMES OF PETROLEUM SOLVENTS, OR PETROLEUM PRODUCTS IN  
24 GROUNDWATER AS WELL AS SOLVENTS IN GROUNDWATER. THE SOLVENTS  
25 WERE NOT EXPECTED. TYPICALLY FROM A FUEL FACILITY, YOU EXPECT

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1 TO FIND CONTAMINANTS ASSOCIATED WITH GASOLINE AND DIESEL. BUT  
2 IN THE INVESTIGATIONS, THEY ALSO HAD CONTAMINANTS IN GROUNDWATER  
3 SUCH AS TRICHLOROETHANE WHICH IS A SOLVENT.

4 ALSO MENTIONED, TO DATE, THE PREVIOUS INVESTIGATIONS  
5 THAT WERE CONDUCTED REALLY DIDN'T ANALYZE FOR SOLVENTS IN SOIL.  
6 BECAUSE OF THE FACT THAT THEY ARE DEALING WITH A FUEL FACILITY,  
7 THE LOGICAL APPROACH IS TO LOOK FOR THINGS THAT YOU WOULD  
8 ASSOCIATE WITH FUEL SUCH AS PETROLEUM HYDROCARBONS, BENZINE,  
9 XYLENES AND OTHER CONTAMINANTS LIKE THAT.

10 TO POINT OUT A COUPLE OF THINGS ON THIS FIGURE HERE.  
11 THESE ARE THE GROUNDWATER PLUMES THAT I'VE JUST MENTIONED.  
12 RIGHT HERE IN THIS GRAY AREA ARE THE FIVE ABOVE-GROUND STORAGE  
13 TANKS. THE AREA OUTLINED IN GREEN IS A GROUNDWATER PROBLEM,  
14 SHALLOW GROUNDWATER PROBLEM, WHICH IS CONTAMINATED WITH  
15 PETROLEUM HYDROCARBONS. WE HAVE ONE FROM THIS FUEL FACILITY AND  
16 ONE FROM ANOTHER AREA UP IN THIS AREA. NOW, THERE IS A SMALL  
17 FUEL OIL TANK RIGHT HERE THAT WE'RE LOOKING AT.

18 THE OTHER BOUNDARY THAT YOU WILL SEE ON HERE IS THE  
19 SOLVENTS THAT SHOWED UP IN GROUNDWATER. THERE WAS A SMALL  
20 PLUME IDENTIFIED DOWN IN THIS AREA, A LARGER ONE COMING FROM  
21 THIS AREA, AND A THIRD ONE SOUTH OF THE SITE.

22 LET ME BACK UP ONE SLIDE. BRINSON CREEK IS LOCATED  
23 JUST TO THE EAST OF THIS SITE. AND AS YOU KNOW, BRINSON CREEK  
24 GOES ALL THE WAY UP TO ROUTE 17 AND THE HEADWATERS ARE ACTUALLY  
25 JUST BEYOND ROUTE 17. AND THIS IS A PICTURE OF BRINSON CREEK.

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1 ONE OTHER THING THAT I WOULD LIKE TO MENTION. WE'RE  
2 TALKING TONIGHT ABOUT SOIL CONTAMINATION AND WHAT WE'RE GOING TO  
3 DO TO CLEAN IT UP. WE ARE ALSO INVOLVED WITH ANOTHER STUDY. WE  
4 ARE LOOKING AT THE GROUNDWATER JUST NOW. IT'S JUST THAT WE'RE  
5 FAST-TRACKING THE SOIL TO, NUMBER ONE, DO SOMETHING ABOUT IT;  
6 AND NUMBER 2, TO DO SOMETHING ABOUT IT IN TIME FOR THE HIGHWAY  
7 TO COME THROUGH. SO, WE ARE LOOKING AT THE GROUNDWATER. WE  
8 JUST COMPLETED OUR FIELD INVESTIGATION BACK IN JUNE.

9 IS THAT RIGHT, DAN?

10 MR. BONK: YES.

11 MR. WATTRAS: AND WE ALSO LOOKED AT THE  
12 SURFACE DOWN IN BRINSON CREEK. WE LOOKED AT SURFACE WATER AND  
13 SEDIMENTS, AS WELL AS THE AQUATIC WILD LIFE.

14 THE STUDY THAT I WAS JUST TALKING ABOUT, WE BEGAN IN  
15 1993, AND WE JUST GOT OUT OF THE FIELD IN JUNE OF 1994. PART OF  
16 THIS STUDY FOCUSED JUST ON CONTAMINATED SOIL. NOW, THERE ARE A  
17 LOT OF STUDIES DONE TO DATE. WE LOOKED AT THAT INFORMATION.  
18 IT'S GOOD INFORMATION, BUT WE FELT IN ORDER TO DO AN ENGINEERING  
19 STUDY, THERE WERE STILL A FEW PIECES OF INFORMATION THAT WE  
20 WOULD LIKE TO HAVE; SO, WE CONDUCTED A LIMITED INVESTIGATION.  
21 WE ONLY NEEDED ABOUT SEVEN SHALLOW SOIL BORINGS, AND WE  
22 COLLECTED ABOUT 13 SURFACE SOIL SAMPLES. WE WANTED TO TAKE A  
23 LOOK AT WHAT IS ON THE SURFACE BECAUSE ONE OF THE THINGS WE HAVE  
24 TO LOOK AT ARE IMPACTS TO HUMAN HEALTH. AND WE DID A SMALL  
25 TRENCH EXCAVATION.

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1 THE RESULTS PRETTY MUCH CONFIRMED THE PREVIOUS  
2 INVESTIGATIONS. THEY DID SUPPLEMENT THE INVESTIGATIONS FROM THE  
3 STANDPOINT OF WHAT WE WERE REALLY TRYING TO DO, IS GET A BETTER  
4 HANDLE ON THE EXTENT OF CONTAMINATION. THAT'S IMPORTANT,  
5 OBVIOUSLY, IN THE ENGINEERING SIDE OF THINGS. WHEN YOU GO TO  
6 CLEAN IT UP, YOU WANT TO HAVE A PRETTY GOOD IDEA OF HOW MUCH  
7 SOIL WAS CONTAMINATED AND SO FORTH.

8 SO, WE DID IDENTIFY THE FOUR AREAS AND WE HAVE A  
9 PRETTY GOOD FEEL FOR THE EXTENT OF THAT SOIL CONTAMINATION. I  
10 WOULD LIKE TO POINT OUT, TOO, THAT MOST OF THE SOIL  
11 CONTAMINATION IS BELOW THE SURFACE AT ABOUT THREE TO SIX FEET.

12 BASED ON OUR RESULTS--AND WE LOOK AT IT FROM THE  
13 STANDPOINT OF THE PEOPLE THAT WORK THERE. WE ALSO LOOK AT IT  
14 FROM THE STANDPOINT THE CONSTRUCTION WORKERS WILL BE DIGGING  
15 THIS SOIL UP. BASED ON THE LEVELS OF CONTAMINATION, WE LOOKED  
16 AT THOSE EXPOSURE SCENARIOS AND DETERMINED THAT THERE WOULD BE  
17 NO REAL SIGNIFICANT HUMAN HEALTH RISK.

18 THE THING THAT IS CLEANING UP THIS ACTION, AS I  
19 MENTIONED BEFORE, IS PRIMARILY RELATED TO THE STATE GUIDELINES  
20 FOR TPH. ONCE THE CONTRACTOR COMES IN TO PUT THE HIGHWAY IN, IF  
21 THAT CONTRACTOR WOULD RUN INTO SOIL CONTAMINATED WITH PETROLEUM  
22 PRODUCTS, THEY WOULD HAVE TO DISPOSE OF IT PROPERLY AND THEY  
23 WOULD HAVE TO CLEAN UP TO A LEVEL THAT WOULD MEET THE STATE  
24 GUIDELINES. THAT'S WHY WE'RE DOING THIS, TO GET RID OF THAT SO  
25 THAT THEY DON'T RUN INTO ANY OBSTACLES PUTTING THAT HIGHWAY IN.

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1           THIS IS JUST A PICTURE OF THE TRENCH THAT WE DUG  
2 THROUGH THERE. THE PURPOSE OF THAT TRENCH WAS REALLY TO GET A  
3 FEEL FOR--IF THEY START DIGGING, MEANING EXCAVATION OF THE  
4 HIGHWAY, WE DIDN'T WANT ANY SURPRISES SUCH AS PRODUCT FLOWING  
5 INTO AN EXCAVATION. SO, WE DECIDED TO PUT A TRENCH ABOUT, I  
6 GUESS--DAN, HOW LONG WAS THAT TRENCH, ABOUT 100 YARDS OR SO, OR  
7 LONGER?

8           MR. BONK:                                 NO, IT WAS LONGER. MAYBE SIX  
9 OR SEVEN-HUNDRED FEET.

10          MR. WATTRAS:                            AND IT WENT DOWN ABOUT WHAT,  
11 A FOOT AND A HALF, TWO FEET?

12          MR. BONK:                                 ABOUT TWO FEET. AND IT WAS  
13 PURPOSELY PUT INTO A LOW AREA WITH THE THINKING THAT ANY  
14 CONTAMINATION WOULD HAVE FLOWED FROM THE HIGHER ELEVATIONS TO  
15 THE LOWER ELEVATIONS. SO, IT WAS IN THE MOST LIKELY POSITION.  
16 IT WAS VERY CLOSE TO THE GROUNDWATER. WE JUST WANTED TO GET A  
17 LONG LOOK AT THE AREA.

18          MR. WATTRAS:                            AGAIN, BASED ON OUR  
19 EXPERIENCE AT OTHER SIMILAR SITES--WE RAN INTO A SITUATION ONE  
20 TIME WHERE A CONTRACTOR STARTED TO DIG A TRENCH, OR STARTED TO  
21 EXCAVATE, AND CAME BACK THE NEXT MORNING AND IT WAS FILLED UP  
22 WITH PRODUCT. SO, WE SAID AHEAD OF TIME, LET'S SEE WHAT HAPPENS  
23 WITH DIGGING A TRENCH. AND THAT'S THE SOLE PURPOSE OF PUTTING  
24 THIS TRENCH IN, IS TO ELIMINATE ANY SURPRISES DOWN THE ROAD.

25          MS. WOOD:                                 WHERE IS THE WATER TABLE

1 THERE?

2 MR. WATTRAS: PARDON ME?

3 MS. WOOD: WHERE IS THE WATER TABLE  
4 THERE?

5 MR. WATTRAS: THE WATER TABLE IS ABOUT SIX  
6 TO SEVEN FEET, DAN?

7 MR. BONK: OVER MOST OF THE SITE THE  
8 WATER TABLE IS ABOUT SIX TO SEVEN FEET BELOW THE GROUND SURFACE.  
9 BUT THERE ARE TWO--BASICALLY TWO LAYERS TO OUR SITE WITH THE  
10 FLAT PORTION WHERE THE TANKS ARE LOCATED, THE GROUNDWATER IS  
11 ABOUT SIX OR SEVEN FEET DOWN, AND THEN IT DROPS OFF TOWARDS THE  
12 CREEK. SO, BASICALLY, THE GROUND WATER MEETS THE CREEK AT THAT  
13 POINT. SO, IN BETWEEN, YOU MAY BE THREE FEET, OR TWO FEET, OR  
14 WHATEVER.

15 MR. WATTRAS: OKAY. THE CLEANUP GOALS THAT  
16 WE ESTABLISHED WERE BASED ON A SITE SENSITIVITY EVALUATION. IT  
17 IS A CHECK LIST, IT IS A FORM THAT YOU FILL OUT, IT IS A NORTH  
18 CAROLINA ACTION LEVEL. AND IT TAKES INTO CONSIDERATION SUCH  
19 THINGS AS THE DEPTH OF THE GROUNDWATER, LOCAL POPULATION. AND  
20 YOU FILL OUT INFORMATION ON THIS FORM AND IT CALCULATES AN  
21 ACTION LEVEL THAT THEY WOULD LIKE YOU TO CLEAN UP TO.

22 IN OUR CASE, WE'RE LOOKING AT TPH, WE LOOKED AT TWO  
23 ACTION LEVELS: ONE THAT WOULD BE ASSOCIATED WITH THE LIGHTER  
24 COMPOUND SUCH AS GASOLINE. AND THAT'S GOING TO BE 40 PARTS PER  
25 MILLION. THE OTHER ACTION LEVEL INVOLVES A TPH ANALYSIS THAT

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1 LOOKS AT DIESEL, AND THAT'S A LITTLE BIT MORE OF A HEAVIER FUEL.  
2 AND THAT ACTION LEVEL IS ROUGHLY 150 PARTS PER MILLION.

3 I BELIEVE THIS FIGURE THAT'S HERE THAT'S UP ON THIS  
4 SLIDE IS THE SAME ONE THAT'S PRINTED UP ON THE POSTERS. SO, IF  
5 YOU CAN'T READ IT, MAYBE LATER ON YOU WOULD LIKE TO TAKE A LOOK  
6 AT THAT POSTER AND WE CAN DISCUSS IT.

7 THERE ARE FOUR AREAS THAT WILL BE EXCAVATED. THE ONE  
8 OBVIOUS AREA IS RIGHT BELOW THE ABOVE-GROUND STORAGE TANKS.  
9 ALTHOUGH NO SAMPLES WERE TAKEN RIGHT BELOW THESE TANKS, RIGHT  
10 NOW THERE IS A CONCRETE LAYER THAT YOU REALLY WOULD HAVE TO BUST  
11 UP TO GET TO, WE ASSUME WITH PIPING, THAT ONCE THEY REMOVE THOSE  
12 TANKS, THERE IS PROBABLY GOING TO BE STAINED SOILS AND PETROLEUM  
13 CONTAMINATED SOILS. THAT'S BASED ON EXPERIENCE. ON A LOT OF  
14 TANK SITES, THAT'S WHAT YOU FIND WHEN YOU PULL THEM. SO, WE  
15 ASSUME RIGHT NOW THERE WILL BE SOME SOIL THAT WILL NEED TO BE  
16 TAKEN OUT WHEN THEY DISMANTLE THIS FACILITY.

17 TWO OTHER AREAS ARE LOCATED NORTH OF HERE. ONE IS UP  
18 JUST NORTH OF THIS SITE, AND ANOTHER ONE TO THE NORTHWEST OF  
19 THIS SITE. AND THEN THERE IS THE THIRD AREA. I MENTIONED  
20 BRIEFLY BEFORE THAT THERE WAS AN UNDERGROUND STORAGE TANK THAT  
21 CONTAINED FUEL OIL. BASED ON OUR SOIL RESULTS, THERE IS SOME  
22 SOIL CONTAMINATION HERE.

23 YOU MIGHT BE ABLE TO SEE IT ON HERE. THIS IS THE  
24 LOCATION OF THE FOUR-LANE HIGHWAY GOING THROUGH. SO, IT IS  
25 COMING RIGHT THROUGH THE CENTER OF THE SITE.

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1           AGAIN, THE SOIL, WE ARE GOING TO HAVE TO EXCAVATE  
2 ABOUT TWO TO THREE FEET OF CLEAN SOIL, STOCKPILE IT IN A CERTAIN  
3 AREA, THEN GET THE CONTAMINATED SOIL. WE WILL EXCAVATE DOWN  
4 PROBABLY JUST TO THE TOP OF THE WATER TABLE, AND THEN IT WOULD  
5 BE BACKFILLED WITH CLEAN SOIL AGAIN.

6           WE LOOKED AT SIX ALTERNATIVES IN DEALING WITH THIS  
7 PROBLEM. ONE ALTERNATIVE THAT WE ALWAYS CONSIDER IS THE  
8 NO-ACTION ALTERNATIVE. THAT MEANS DO NOTHING. THAT'S ALWAYS AN  
9 ALTERNATIVE. SOMETIMES YOU END UP NOT DOING ANYTHING AT A SITE  
10 BECAUSE AFTER STUDYING IT, YOU FIND OUT THAT THERE IS REALLY NO  
11 IMPACT OF THE PROBLEM. BUT NO ACTION IS ALSO USED AS A BASELINE  
12 TO MEASURE THE OTHER ALTERNATIVES.

13           THE SECOND ALTERNATIVE WOULD INVOLVE THE REMOVAL OF  
14 THE CONTAMINATED SOIL AND WE WOULD TAKE IT TO AN OFF-SITE  
15 LANDFILL THAT WOULD BE PERMITTED TO ACCEPT PETROLEUM WASTE.

16           THE THIRD ALTERNATIVE INVOLVES EXCAVATION OF THE SOIL  
17 IN TAKING IT OFF SITE TO A BIOTREATMENT FACILITY. HERE THAT  
18 FACILITY WOULD TAKE IT. IT PROBABLY WOULD INVOLVE LAND FARMING  
19 WHERE OVER TIME THOSE PETROLEUM LEVELS WOULD DEGRADE.

20           THE FOURTH ALTERNATIVE INVOLVES EXCAVATION OF THE  
21 SOILS IN WHAT'S CALLED SOIL AERATION. SOIL AERATION IS SIMPLY  
22 WHEN YOU EXCAVATE OR YOU LIFT THE SOIL UP AND YOU AERATE IT.  
23 YOU DROP IT, YOU PICK IT UP AGAIN, YOU MOVE IT AROUND AND IT  
24 VOLATILIZES OUT OF THE SOIL. IT COULD EITHER VOLATILIZE  
25 DIRECTLY TO THE ATMOSPHERE, OR IT COULD BE COLLECTED IN HOODS

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1 THAT CAPTURE THESE CONTAMINANTS.

2 THE FIFTH ALTERNATIVE INVOLVES SOURCE REMOVAL AND  
3 OFF-SITE SOIL RECYCLING. THERE ARE A NUMBER OF FACILITIES IN  
4 THIS GENERAL AREA THAT WOULD RECYCLE THIS TYPE OF MATERIAL.  
5 THEY COULD MAKE IT INTO ASPHALT OR INTO BRICKS.

6 AND THE SIXTH ALTERNATIVE INVOLVES EXCAVATION AND  
7 ON-SITE THERMAL DESORPTION, WHICH IS ESSENTIALLY LIKE BAKING THE  
8 SOIL. IT BAKES IT TO A TEMPERATURE WHERE IT WOULD NOT TURN INTO  
9 ASH, BUT IT VOLATILIZES OUT THE CONTAMINANTS. AND THEN THAT  
10 SOIL WOULD BE USED AS BACKFILL.

11 THESE ALTERNATIVES RANGED ANYWHERE FROM ZERO, IF WE DO  
12 NOTHING, ALL THE WAY TO ABOUT SIX-HUNDRED-THOUSAND DOLLARS. YOU  
13 NOTICE, OTHER THAN THE NO ACTION ALTERNATIVE, THE LEAST  
14 EXPENSIVE IS ALTERNATIVE NUMBER FOUR, WHICH I MENTIONED IS THE  
15 SOIL AERATION ALTERNATIVE. THAT ONE ALSO HAS THE HIGHEST RISK  
16 INVOLVED. BECAUSE OF THE TIME FRAME INVOLVED HERE, WE DID NOT  
17 PERFORM ANY TREATABILITY STUDIES TO SEE BY AERATING THE SOIL CAN  
18 WE GET DOWN TO THE ACTION LEVELS THAT THE STATE WOULD LIKE US TO  
19 GET DOWN TO. IF WE DON'T GET DOWN TO THE ACTION LEVELS, THAT  
20 MEANS ONE THING. YOU KEEP AERATING IT, WHICH MEANS TIME, AND  
21 TIME MEANS MONEY; SO, THERE IS A LOT OF RISK IN THAT  
22 ALTERNATIVE.

23 THE SECOND LEAST EXPENSIVE ALTERNATIVE IS ALTERNATIVE  
24 NUMBER TWO WHERE WE WOULD SIMPLY EXCAVATE IT AND TAKE IT OFF TO  
25 A LANDFILL. THAT ALTERNATIVE IS NOT MUCH CHEAPER OR EXPENSIVE

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1 AS SOME OF THE OTHERS. AND WITHOUT TREATING IT, IT'S NOT--IT'S  
2 ACCEPTABLE BUT IT'S NOT THE PREFERRED ALTERNATIVE, ESPECIALLY  
3 WHEN THERE ARE OTHER ALTERNATIVES WITHIN A CLOSE RANGE OF MONEY  
4 HERE THAT WOULD ACTUALLY TREAT THE SOIL.

5 THE OTHER TWO ALTERNATIVES, TAKING IT TO AN OFF-SITE  
6 BIOREMEDIATION FIRM, AND ALTERNATIVE NUMBER FIVE, RECYCLING,  
7 WERE PRETTY MUCH THE SAME COST. AND FINALLY, THE LAST AND THE  
8 MOST EXPENSIVE ALTERNATIVE ENDED UP BEING THE THERMAL DESORPTION  
9 ALTERNATIVE.

10 THE ALTERNATIVE BEING PROPOSED BY THE NAVY MARINE  
11 CORPS IS ALTERNATIVE NUMBER FIVE. THIS WOULD INVOLVE EXCAVATION  
12 OF THE SOIL AND TAKING IT TO AN OFF-SITE SOIL RECYCLING  
13 FACILITY. BECAUSE THERE ARE A NUMBER OF FACILITIES IN THIS  
14 AREA, WE FELT WE WOULD BE ABLE TO GET COMPETITIVE BIDS WHICH  
15 COULD POSSIBLY EVEN DECREASE THE COST OF THIS ALTERNATIVE. BUT  
16 SOIL RECYCLING IS AN ACCEPTABLE ALTERNATIVE. PETROLEUM  
17 CONTAMINATED SOILS ARE USED A LOT IN ASPHALT PRODUCTION AND  
18 BRICK BAKING.

19 I BELIEVE THAT'S OUR PRESENTATION. I WOULD LIKE TO  
20 ENTERTAIN ANY QUESTIONS RIGHT NOW.

21 MS. WOOD: WHERE DO YOU BELIEVE THE  
22 CONTAMINATION CAME FROM?

23 MR. WATTRAS: WE ALL BELIEVE IT CAME FROM  
24 AN UNDERGROUND STORAGE TANK. OUR RECORDS INDICATE THAT ALL THE  
25 UNDERGROUND STORAGE TANKS IN THE AREA ARE RELATED TO PETROLEUM

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1 FUELS AND SO FORTH. THERE ARE A NUMBER OF MAINTENANCE  
2 FACILITIES IN THE AREA. AND WITH ANY MAINTENANCE FACILITY, YOU  
3 HAVE DEGREASING OPERATIONS. AND IT IS LIKELY THAT OVER THE  
4 YEARS SMALL SPILLS HAVE OCCURRED. THAT'S WHAT WE'RE LOOKING AT  
5 RIGHT NOW. AND AS PART OF THE COMPREHENSIVE STUDY, WE ARE  
6 LOOKING AT GROUND WATER IN BRINSON CREEK. WE'VE TAKEN A NUMBER  
7 OF SOIL SAMPLES FROM DIFFERENT AREAS AND ANALYZED THEM FROM  
8 SOLVENT CONSTITUENTS TO FIND OUT WHERE THE SOURCE MIGHT BE.

9 NOW, I KNOW FROM EXPERIENCE DOWN HERE AT CAMP LEJEUNE,  
10 A LOT OF THESE SPILLS OCCURRED SUCH A LONG TIME AGO THROUGHOUT  
11 THE YEARS, I WOULD NOT BE SURPRISED--BECAUSE WE'VE SEEN THIS AT  
12 OTHER SITES--THAT IT MIGHT NOT BE IN THE SOIL MATRIX ANY MORE.  
13 THROUGH THIRTY-FORTY YEARS OF OPERATIONS AND INFILTRATION OF  
14 RAIN AND SO FORTH, IN THOSE TYPES OF SOLVENTS ARE VERY--THEY  
15 MIGRATE VERY RAPIDLY IN THE ENVIRONMENT. THEY COULD HAVE BEEN  
16 WASHED RIGHT DOWN TO THE WATER TABLE. SO, THEY MAY NO LONGER BE  
17 IN THE SOIL, BUT THEY ARE JUST SITTING IN THE GROUND WATER.

18 MS. WOOD: WELL, WHAT IS THE LAND  
19 STRUCTURE DOWN HERE? ARE YOU NOT WORRIED ABOUT YOUR AQUIFER?

20 MR. WATTRAS: WE HAVE A PRETTY GOOD PICTURE  
21 OF IT. AT ABOUT 35 TO 40 FEET THERE IS A SEMI-CONFINING CLAY  
22 LAYER, DAN, WOULD YOU SAY?

23 MR. BONK: IN GENERAL WE SEE THE TYPICAL  
24 SAND MATERIAL THAT YOU WOULD PICK UP EVEN OUTSIDE HERE FOR ABOUT  
25 35 TO 40 FEET. THEN WE HAVE--BETWEEN 40 AND 45 FEET, WE HAVE

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1 HIT A MORE CLAY ZONE. WHETHER IT'S CONTINUOUS ENOUGH TO BE  
2 CONSIDERED SOMETHING THAT WOULD HOLD THE CONTAMINATION ABOVE IT  
3 IS PART OF WHAT OUR STUDY WAS SUPPOSED TO DETERMINE BECAUSE WE  
4 DID SET WELLS ABOVE AND BELOW THAT ZONE, AND WE SHOULD BE ABLE  
5 TO ANSWER THAT QUESTION. BUT THERE IS A LENS AT ABOUT 40 FEET  
6 WHICH WE HOPE IS A CONFINING LAYER AND WE WILL DETERMINE THAT.

7 MS. WOOD: WELL, ONE OTHER QUESTION.  
8 WOULD YOU DIFFERENTIATE BETWEEN YOUR INTERIM ACTION AND THEN  
9 YOUR LONG TERM? AS I UNDERSTAND, YOU WANTED TO GET THE DIRT  
10 OUT--

11 MR. WATTRAS: YES.

12 MS. WOOD: --SO THAT THE HIGHWAY CAN GO  
13 THROUGH. BUT THEN, WHERE IS THE LONGER TERM--

14 MR. WATTRAS: SIMPLY PUT, THE INTERIM  
15 ACTION FOCUSES ON THE SOIL; THE LONG TERM WILL FOCUS ON THE  
16 GROUND WATER, POSSIBLY MORE SOIL, IF WE CAN ASSOCIATE IT WITH  
17 THIS GROUNDWATER PROBLEM, AND ALSO IF WE FIND ANY PROBLEMS WITH  
18 BRINSON CREEK, ITSELF. SO, THAT'S A MORE COMPREHENSIVE PICTURE.  
19 BUT IT'S PRIMARILY GOING--IT LOOKS LIKE IT WOULD BE MAINLY  
20 FOCUSED ON GROUNDWATER.

21 MS. WOOD: WELL, NOW ON THE BIDS, WHO  
22 TAKES THE BIDS?

23 MR. WATTRAS: WELL, I TALKED ABOUT BIDDING  
24 BEFORE. THERE IS A CONTRACTOR. BAKER ENVIRONMENTAL IS INVOLVED  
25 FROM THE INVESTIGATION STAGE. WE DO THE RISK ASSESSMENTS AND

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1 THEN WE DO THE DESIGN OF THE ALTERNATIVE. THE DEPARTMENT OF THE  
2 NAVY HAS ANOTHER CONTRACTING MECHANISM, AND THERE IS ANOTHER  
3 COMPANY--IT'S CALLED OHM--IT DOESN'T STAND FOR ANYTHING. BUT  
4 THEY ARE FROM FINDLAY, OHIO. THEY HAVE OFFICES--IN FACT, THE  
5 OFFICE THAT NEAL IS DEALING WITH IS OUT OF NORCROSS, GEORGIA.  
6 BUT THAT COMPANY HAS THE CONTRACT TO DO THE REMEDIATION HERE AT  
7 CAMP LEJEUNE.

8 THAT COMPANY WOULD DO THIS WORK. OHM DOES NOT OWN  
9 RECYCLING FACILITIES. THEY WOULD TAKE THAT SOIL. AND IT IS UP  
10 TO THEM. THEY WOULD GO OUT FOR COMPETITIVE BIDS TO THE LOCAL  
11 RECYCLING CENTERS HERE AND TRY TO GET THE LOWEST COST.

12 MS. WOOD: SO, NORFOLK IS NOT GOING TO  
13 BE INVOLVED IN THE BIDDING?

14 MR. WATTRAS: NO.

15 MR. PAUL: DID YOU SAY NORFOLK? THAT  
16 WOULD ADMINISTER THE CONTRACT, BUT THAT--WHEN YOU SAY INVOLVED--

17 MS. WOOD: I MEAN, THEY ARE NOT  
18 ACCEPTING THE BIDS? IT'S OHM.

19 MR. PAUL: IT'S OHM, THAT'S RIGHT.

20 MR. WATTRAS: OKAY.

21 ANY OTHER QUESTIONS? FEEL FREE TO STICK AROUND AND IF  
22 YOU HAVE ANYTHING YOU WANT TO TALK ABOUT ON THE POSTER BOARDS,  
23 FEEL FREE TO DO SO.

24 MS. WOOD: WAS THIS THE ONE? I THINK I  
25 GET CONFUSED ON THIS. WAS THIS THE ONE WHERE THEY HAD THE BIG

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1 SPILL AND THEY HAD THE FIRE AND THEN THE RECORDS WERE DESTROYED.

2 MR. WATTRAS: YES.

3 MS. WOOD: BUT THOSE RECORDS WERE  
4 REALLY--

5 MR. WATTRAS: WE CANNOT FIND--DOCUMENTATION  
6 THROUGHOUT THE BASE OF PAST EVENTS IS POOR, TO PUT IT BLUNTLY.  
7 WE DID HEAR THAT THERE WAS A FUEL SPILL. AND THIS WAS THE EVENT  
8 WHERE YOU TALKED ABOUT THAT THEY ACTUALLY LIT IT ON FIRE AND  
9 THAT'S HOW THEY GOT RID OF IT. AND IT IS PROBABLY ASSOCIATED  
10 WITH ONE OF OUR AREAS THAT WE HAD CIRCLED UP THERE THAT HAS SOIL  
11 CONTAMINATION. WE THINK, ANYWAY. YOU KNOW, WE ARE NOT EVEN  
12 QUITE SURE WHERE THE EXACT SPILL WAS, BUT WE THINK IT MIGHT BE  
13 IN THIS ONE AREA, AND IT HAPPENS TO BE ONE OF THE AREAS THAT  
14 WILL BE REMEDIATED. SO, THE DOCUMENTATION IS VERY POOR.

15 OKAY. NEAL, WOULD YOU LIKE TO SAY ANYTHING ELSE?

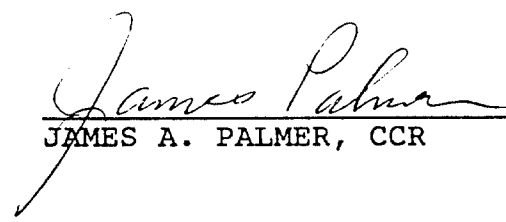
16 MR. PAUL: I DON'T HAVE ANYTHING ELSE.  
17 WE PROBABLY WILL BE HERE FOR ANOTHER FIFTEEN OR TWENTY MINUTES.  
18 SO, IF FOR SOME REASON YOU DIDN'T ASK A QUESTION IN THIS FORM,  
19 FEEL FREE TO, AS WE BREAK UP AND IT'S GOING TO BE INFORMAL. WE  
20 WILL PROBABLY JUST BE AROUND HERE FOR FIFTEEN OR TWENTY MINUTES.  
21 SO, FEEL FREE, IF YOU HAVE ANY QUESTIONS, TO ASK US. WE WOULD  
22 LOVE TO ANSWER THEM FOR YOU. AND TOMORROW NIGHT, THERE WILL  
23 ALSO BE ANOTHER PUBLIC MEETING TOMORROW NIGHT FOR UNITS ONE AND  
24 FIVE TO DISCUSS OUR REMEDIAL ACTION PLANS FOR THOSE AS WELL.

25 AND AGAIN, THANK YOU FOR COMING TONIGHT.

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1 (WHEREUPON, THE PUBLIC HEARING IN THE CAMP GEIGER FUEL  
2 FARM PROPOSED CLEAN UP WAS CLOSED AT 8:05 P.M.)

I CERTIFY THAT THE FOREGOING IS A CORRECT TRANSCRIPT  
FROM THE RECORD OF PROCEEDINGS IN THE ABOVE-ENTITLED MATTER.

  
\_\_\_\_\_  
JAMES A. PALMER, CCR

\_\_\_\_\_  
8-1-94  
DATE

FORM LASER BOND A PENGAD/INDY 1-800-631-6989