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SUMMARY OF RCRA FACILITY INVESTIGATION ACTIVITIES AT THE TEST AREA NORTH

J. R. Zimmerle JRZ

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SUMMARY OF RCRA FACILITY INVESTIGATION ACTIVITIES AT TEST AREA NORTH

In September of 1987, trichloroethylene at concentrations of 6 to 8 part per billion (ppb) was discovered in the water supply at the Test Area North. These levels exceeded the drinking water standards of 5 ppb for trichloroethylene, so arrangements were made to supply Test Area North personnel with bottled water for drinking. The Technical Support Facility (administration/maintenance area for the Test Area North) injection well was suspected as the primary source of the contamination. The injection well is still believed to be the major source of contamination.

In November of 1987, subsequent sampling of the water supply and other nearby wells confirmed that the groundwater aquifer under the Test Area North was contaminated with trichloroethylene. Low levels (less than 2 ppb) of tetrachloroethylene were also detected. As a result of the discovery of this contamination, a Resource Conservation and Recovery Act (RCRA) Corrective Action Program was started. Plans for this program included two corrective actions and the facility investigation.

The first corrective action implemented is the installation of an air sparger to the water supply system in April of 1989. This air sparger successfully reduced the levels of trichloroethylene below drinking water standards. Monthly samples taken from the water supply since April 1989 have shown that the air sparger is producing quality water for Test Area North personnel.

The second corrective action implemented under RCRA included removal of 55 linear ft of sludge from inside the casing of the Technical Support Facility injection well from January to February 1990. Samples of the sludge were collected and analyzed (data given in Appendix B and in Appendix E as sample number TSF0589003). Trichloroethylene and tetrachloroethylene

were identified as the major contaminants of concern with concentrations up to 20,000 parts per million. Low levels of metals were found in the sludge, but at concentrations below RCRA hazardous waste criteria. The sludge also contained radionuclides such as cesium-137 and cobalt-60.

In May of 1988, the investigation of contamination at the Test Area North began with a soil gas survey. Trichloroethylene and related organics were detected in the soil gases around the Test Area North disposal pond, and within the general boundaries of the Technical Support Facility. Based on the results of this survey, these surface sites were very small and were not the source of the groundwater contamination.

After the soil gas survey, a work plan for the RCRA Facility Investigation was approved by the Department of Energy and the Environmental Protection Agency in November of 1988. The plan included procedures for well installation and sampling to find the source of the contamination and the size of the contaminated plume.

Field work under the RCRA Facility Investigation was started in March of 1989. Groundwater samples were collected from the Technical Support Facility injection well and four other nearby wells. Radionuclides in the water from these wells included tritium and cesium-137. Organics included trichloroethylene, 1,2-dichloroethene, acetone, and methylene chloride. The analytical data are given in Appendix E.

From July of 1989 through September of 1989, the groundwater investigation continued as other possible contamination sources were investigated. Split-spoon sampling of seven boreholes was conducted in areas where the previous soil gas survey showed elevated trichloroethylene levels. Five boreholes were placed in the Test Area North disposal pond, and two boreholes were placed near a paint shop leach field (Technical Support Facility-27). Samples of surface soils, deeper sediments (down to 64 ft), and perched water (7 ft below the surface) were collected and analyzed (see Appendix A). The soil contamination levels found were typically near background levels. Barium was the only contaminant that exceeded primary drinking water standards in the perched water below the Test Area North

disposal pond. Acetone and toluene were found in the soils and perched water from several boreholes, but at less than 100 ppb. As a result of this sampling effort, it has been determined that these three sites do not represent sources of the groundwater contamination found.

Also beginning in July of 1989, eight groundwater monitoring wells and one corehole were drilled and installed as part of the RCRA Facility Investigation (see Phase I map in Appendix F for locations). The wells were located in an attempt to determine the boundaries of the contaminated plume. From August through December of 1989, tests were run on the new wells to gather information on the aquifer. Straddle packer slug testing of the corehole and pneumatic slug testing of monitoring wells (see table in Appendix F) were done.

Groundwater sampling of the eight new wells and 11 existing monitoring and observation wells was conducted between October 1989 and January 1990. Data from this sampling effort are given in Appendix C. Results from this sampling confirmed that trichloroethylene was the major contaminant of concern. Acetone and 1,2-dichloroethene were identified as minor contaminants, and methylene chloride was not detected. Tetrachloroethylene was found at levels above drinking water standards. Metals that exceeded secondary drinking water standards were aluminum, iron, and manganese. As a result of the efforts in 1989 and 1990, the boundaries of the contaminant plume were partially defined and areas where additional information was needed were identified.

To help gather additional information about the boundaries of the contaminant plume, nine more groundwater monitoring wells and one corehole were drilled and installed between July and December of 1990 (see Phase II map in Appendix F). During November and December of 1990, straddle packer slug tests were run on the corehole (see table in Appendix F) to gather information on hydraulic characteristics in the surrounding aquifer.

From October through December 1990, groundwater sampling was performed on the 29 new and existing monitoring and observation wells. Data for these sampling efforts are given in Appendix D. The results showed that most of the contaminants near the injection well were dropping in concentration possibly as a result of removing the sludge from the injection well. The results confirmed the presence of trichloroethylene and tetrachloroethylene as the major organic contaminants. The other organics were all found at levels below drinking water standards. Two additional contaminants, lead and strontium, were detected at levels above drinking water standards. Lead and strontium were found in wells located within one-quarter mile of the injection well. In July of 1991, pneumatic slug testing of 1990 monitoring wells was completed (see table in Appendix F).

In August of 1991, the RCRA Facility Investigation was transitioned to a Remedial Investigation/Feasibility Study under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The schedule for conducting this Remedial Investigation/Feasibility Study has been negotiated between the Department of Energy, the Environmental Protection Agency, and the State of Idaho under the Federal Facility Agreement/Consent Order. As a result of the RCRA Facility Investigation, the horizontal extent of the contaminant plume has been fairly well defined and the injection well has been confirmed as a major contaminant source. The Remedial Investigation/Feasibility Study will pick up where the RCRA Facility Investigation left off by trying to further define the nature and extent of groundwater contamination and by evaluating risks posed by the contamination. This information will be used to identify and select alternatives for a final remedial action.

APPENDIX A

VALIDATED ANALYTICAL RESULTS FOR THE TSF DISPOSAL POND SURFICIAL SEDIMENT SAMPLES

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - VOLATILE ORGANIC DATA

AREA	TSF	TSF	TSF	TSF	TSF	TSF	TSF
LOCATION	So OF BLDG 65	So OF BLDG 65	So OF BLDG 65	So OF BLDG 65	So OF BLDG 65	So OF BLDG 65	So OF BLDG 65
TYPE OF LOCATION	AUGER HOLE #1	AUGER HOLE #1	AUGER HOLE #1	AUGER HOLE #1	AUGER HOLE #1	AUGER HOLE #1	AUGER HOLE #1
SAMPLE NUMBER	TAG0189A01A	TAG0189B01A	TAG0189B02A	TAG0189C01A	TAG0189C02A	TAG0189D01A	TAG0189E01A
MEDIA	SOIL	WATER	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	ug/kg	ug/L	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
SDG NUMBER	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002
FIELD MEASUREMENTS							
Depth (ft)	0-2	5-7	5-7	10-12	10-12	15-17	20-22
TARGET COMPOUNDS							
Methylene Chloride	---	9 J	---	---	2 J	---	---
Acetone	10 J	---	10 J	24 J	68 J	---	---
Carbon Disulfide	---	---	---	---	---	---	---
1,1-Dichloroethene	---	---	---	---	---	---	---
1,1-Dichloroethane	---	---	---	---	---	---	---
1,2-Dichloroethene_(total)	---	---	---	---	---	---	---
Chloroform	---	---	---	---	---	---	---
1,2-Dichloroethane	---	---	---	---	---	---	---
2-Butanone	---	---	---	---	---	---	---
1,1,1-Trichloroethane	---	---	---	---	---	---	---
Carbon Tetrachloride	---	---	---	---	---	---	---
Vinyl Acetate	---	---	---	---	---	---	---
Bromodichloromethane	---	---	---	---	---	---	---
1,2-Dichloropropane	---	---	---	---	---	---	---
cis-1,3-Dichloropropene	---	---	---	---	---	---	---
Trichloroethene	---	---	---	---	---	---	---
Dibromochloromethane	---	---	---	---	---	---	---
1,1,2-Trichloroethane	---	---	---	---	---	---	---
Benzene	---	---	---	---	---	---	---
Trans-1,3-Dichloropropene	---	---	---	---	---	---	---
Bromoform	---	---	---	---	---	---	---
4-Methyl-2-Pentanone	---	---	---	---	---	---	---
2-Hexanone	---	---	---	---	---	---	---
Tetrachloroethene	---	---	---	---	---	---	---
1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	---
Toluene	---	31	---	---	---	---	---
Isobutanol							
Total (Allowed) Hold Time	9(14)d	10(14)d	9(14)d	9(14)d	9(14)d	9(14)d	9(14)d
Dilution Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - VOLATILE ORGANIC DATA (Continued)

AREA	TSF	TSF	TSF	TSF	TSF	TSF	TSF
LOCATION	So OF BLDG 65	So OF BLDG 65	So OF BLDG 60	So OF BLDG 60	So OF BLDG 60	So OF BLDG 60	So OF BLDG 60
TYPE OF LOCATION	AUGER HOLE #1	AUGER HOLE #1	AUGER HOLE #2	AUGER HOLE #2	AUGER HOLE #2	AUGER HOLE #2	AUGER HOLE #2
SAMPLE NUMBER	TAG0189H01A	TAG0189K01A	TAG0289A01A	TAG0289B01B	TAG0289B02A	TAG0289C01A	TAG0289D01A
MEDIA	SOIL	SOIL	SOIL	WATER	WATER	SOIL	SOIL
UNITS	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/kg	ug/kg
SDG NUMBER	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002
FIELD MEASUREMENTS							
Depth (ft)	35-37	50-52	0-2	5-7	5-7	10-12	15-17
TARGET COMPOUNDS							
Methylene Chloride	1 J	---	---	16 J	---	---	---
Acetone	43 J	18	18 J	---	---	19 J	16 J
Carbon Disulfide	---	---	---	---	---	---	---
1,1-Dichloroethene	---	---	---	---	---	---	---
1,1-Dichloroethane	---	---	---	---	---	---	---
1,2-Dichloroethene_(total)	---	---	---	---	---	---	---
Chloroform	---	---	---	---	---	---	---
1,2-Dichloroethane	---	---	---	---	---	---	---
2-Butanone	---	---	---	---	---	---	---
1,1,1-Trichloroethane	---	---	---	---	---	---	---
Carbon Tetrachloride	---	---	---	---	---	---	---
Vinyl Acetate	---	---	---	---	---	---	---
Bromodichloromethane	---	---	---	---	---	---	---
1,2-Dichloropropane	---	---	---	---	---	---	---
cis-1,3-Dichloropropene	---	---	---	---	---	---	---
Trichloroethene	---	---	---	---	---	---	---
Dibromochloromethane	---	---	---	---	---	---	---
1,1,2-Trichloroethane	---	---	---	---	---	---	---
Benzene	---	---	---	---	---	---	---
Trans-1,3-Dichloropropene	---	---	---	---	---	---	---
Bromoform	---	---	---	---	---	---	---
4-Methyl-2-Pentanone	---	---	---	---	---	---	---
2-Hexanone	---	---	---	---	---	---	---
Tetrachloroethene	---	---	---	---	---	---	---
1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	---
Toluene	1 J	---	1 J	32	31	---	---
Isobutanol							
Total (Allowed) Hold Time	9(14)d	9(14)d	8(14)d	10(14)d	10(14)d	8(14)d	8(14)d
Dilution Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - VOLATILE ORGANIC DATA (Continued)

AREA	TSF	TSF	TSF	TSF	TSF	TSF	TSF
LOCATION	So OF BLDG 60	So OF BLDG 60	So OF BLDG 60	So OF BLDG 60	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND
TYPE OF LOCATION	AUGER HOLE #2	AUGER HOLE #2	AUGER HOLE #2	AUGER HOLE #2	AUGER HOLE #3	AUGER HOLE #3	AUGER HOLE #3
SAMPLE NUMBER	TAG0289D02A	TAG0289E01A	TAG0289F01A	TAG0289H01A	TAG0389A01A	TAG0389B01A	TAG0389B01B
MEDIA	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER
UNITS	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/L
SDG NUMBER	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89001	TAGEQ89001	TAGEQ89001
FIELD MEASUREMENTS							
Depth (ft)	15-17	20-22	25-27	35-37	0-2	5-7	5-7
TARGET COMPOUNDS							
Methylene Chloride	---	---	---	---	---	6 J	5 J
Acetone	68 J	24 J	---	24 J	---	42 J	120 J
Carbon Disulfide	---	---	---	---	---	---	---
1,1-Dichloroethene	---	---	---	---	---	---	---
1,1-Dichloroethane	---	---	---	---	---	---	---
1,2-Dichloroethene_(total)	---	---	---	---	---	---	---
Chloroform	---	---	---	---	---	---	---
1,2-Dichloroethane	---	---	---	---	---	---	---
2-Butanone	---	---	---	---	---	---	---
1,1,1-Trichloroethane	---	---	---	---	---	---	---
Carbon Tetrachloride	---	---	---	---	---	---	---
Vinyl Acetate	---	---	---	---	---	---	---
Bromodichloromethane	---	---	---	---	---	---	---
1,2-Dichloropropane	---	---	---	---	---	---	---
cis-1,3-Dichloropropene	---	---	---	---	---	---	---
Trichloroethene	---	---	---	5	---	---	---
Dibromochloromethane	---	---	---	---	---	---	---
1,1,2-Trichloroethane	---	---	---	---	---	---	---
Benzene	---	---	---	---	---	---	---
Trans-1,3-Dichloropropene	---	---	---	---	---	---	---
Bromoform	---	---	---	---	---	---	---
4-Methyl-2-Pentanone	---	---	---	---	---	---	---
2-Hexanone	---	---	---	---	---	---	---
Tetrachloroethene	---	---	---	---	---	---	---
1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	---
Toluene	---	1 J	---	---	15	3 J	2 J
Isobutanol							
Total (Allowed) Hold Time	8(14)d	8(14)d	8(14)d	8(14)d	11(14)d	22(14)d*	22(14)d*
Dilution Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - VOLATILE ORGANIC DATA (Continued)

AREA	TSF	TSF	TSF	TSF	TSF	TSF	TSF
LOCATION	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND
TYPE OF LOCATION	AUGER HOLE #3	AUGER HOLE #3	AUGER HOLE #3	AUGER HOLE #3	AUGER HOLE #3	AUGER HOLE #3	AUGER HOLE #3
SAMPLE NUMBER	TAG0389B02A	TAG0389B02ADL	TAG0389B02B	TAG0389C01A	TAG0389C02A	TAG0389D01A	TAG0389E01A
MEDIA	WATER	WATER	WATER	SOIL	SOIL	SOIL	SOIL
UNITS	ug/L	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg
SDG NUMBER	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001
FIELD MEASUREMENTS							
Depth (ft)	5-7	5-7	5-7	10-12	10-12	15-17	20-22
TARGET COMPOUNDS							
Methylene Chloride	5 J	5 JD	5 J	---	---	---	---
Acetone	210 J	190 DJ	27 J	---	27	10 J	6 J
Carbon Disulfide	---	---	---	---	---	---	---
1,1-Dichloroethene	---	---	---	---	---	---	---
1,1-Dichloroethane	---	---	---	---	---	---	---
1,2-Dichloroethene_(total)	---	---	---	---	---	---	---
Chloroform	---	---	---	---	---	---	---
1,2-Dichloroethane	---	---	---	---	---	---	---
2-Butanone	---	---	---	---	---	---	---
1,1,1-Trichloroethane	---	---	---	---	---	---	---
Carbon Tetrachloride	---	---	---	---	---	---	---
Vinyl Acetate	---	---	---	---	---	---	---
Bromodichloromethane	---	---	---	---	---	---	---
1,2-Dichloropropane	---	---	---	---	---	---	---
cis-1,3-Dichloropropene	---	---	---	---	---	---	---
Trichloroethene	---	---	---	---	---	---	---
Dibromochloromethane	---	---	---	---	---	---	---
1,1,2-Trichloroethane	---	---	---	---	---	---	---
Benzene	---	---	---	---	---	---	---
Trans-1,3-Dichloropropene	---	---	---	---	---	---	---
Bromoform	---	---	---	---	---	---	---
4-Methyl-2-Pentanone	---	---	---	---	---	---	---
2-Hexanone	---	---	---	---	---	---	---
Tetrachloroethene	---	---	---	---	---	---	---
1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	---
Toluene	2 J	2 JD	2 J	5	---	1 J	---
Isobutanol							
Total (Allowed) Hold Time	22(14)d*	23(14)d*	23(14)d*	11(14)d	11(14)d	11(14)d	11(14)d
Dilution Factor	1.000	2.000	1.000	1.000	1.000	1.000	1.000

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - VOLATILE ORGANIC DATA (Continued)

AREA	TSF	TSF	TSF	TSF	TSF	TSF	TSF
LOCATION	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND
TYPE OF LOCATION	AUGER HOLE #3	AUGER HOLE #4	AUGER HOLE #4	AUGER HOLE #4	AUGER HOLE #4	AUGER HOLE #4	AUGER HOLE #4
SAMPLE NUMBER	TAG0389F01A	TAG0489A01A	TAG0489B01A	TAG0489B02A	TAG0489C01A	TAG0489D01A	TAG0489D02A
MEDIA	SOIL	SOIL	WATER	SOIL	SOIL	SOIL	SOIL
UNITS	ug/kg	ug/kg	ug/L	ug/kg	ug/kg	ug/kg	ug/kg
SDG NUMBER	TAGEQ89001	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002
FIELD MEASUREMENTS							
Depth (ft)	25-27	0-2	5-7	5-7	10-12	15-17	15-17
TARGET COMPOUNDS							
Methylene Chloride	---	---	57 J	---	---	---	---
Acetone	---	---	95	---	---	---	---
Carbon Disulfide	---	---	---	---	---	---	---
1,1-Dichloroethene	---	---	---	---	---	---	---
1,1-Dichloroethane	---	---	---	---	---	---	---
1,2-Dichloroethene_(total)	---	---	---	---	---	---	---
Chloroform	---	---	---	---	---	---	---
1,2-Dichloroethane	---	---	---	---	---	---	---
2-Butanone	---	---	---	---	---	---	---
1,1,1-Trichloroethane	---	---	---	---	---	---	---
Carbon Tetrachloride	---	---	---	---	---	---	---
Vinyl Acetate	---	---	---	---	---	---	---
Bromodichloromethane	---	---	---	---	---	---	---
1,2-Dichloropropane	---	---	---	---	---	---	---
cis-1,3-Dichloropropene	---	---	---	---	---	---	---
Trichloroethene	---	---	---	---	---	---	---
Dibromochloromethane	---	---	---	---	---	---	---
1,1,2-Trichloroethane	---	---	---	---	---	---	---
Benzene	---	---	---	---	---	---	---
Trans-1,3-Dichloropropene	---	---	---	---	---	---	---
Bromoform	---	---	---	---	---	---	---
4-Methyl-2-Pentanone	---	---	---	---	---	---	---
2-Hexanone	---	---	---	---	---	---	---
Tetrachloroethene	---	---	---	---	---	---	---
1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	---
Toluene	2 J	13	24	3 J	2 J	3 J	---
Isobutanol							
Total (Allowed) Hold Time	11(14)d	7(14)d	11(14)d	7(14)d	2(14)d	6(14)d	6(14)d
Dilution Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - VOLATILE ORGANIC DATA (Continued)

AREA	TSF	TSF	TSF	TSF	TSF	TSF	TSF
LOCATION	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND
TYPE OF LOCATION	AUGER HOLE #4	AUGER HOLE #4	AUGER HOLE #4	AUGER HOLE #5	AUGER HOLE #5	AUGER HOLE #5	AUGER HOLE #5
SAMPLE NUMBER	TAG0489E01A	TAG0489F01A	TAG0489J01A	TAG0589A01A	TAG0589B01A	TAG0589B01ADL	TAG0589C01A
MEDIA	SOIL	SOIL	SOIL	SOIL	WATER	WATER	SOIL
UNITS	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/kg
SDG NUMBER	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001
FIELD MEASUREMENTS							
Depth (ft)	20-22	25-27	45-47	0-2	5-7	5-7	10-12
TARGET COMPOUNDS							
Methylene Chloride	2 J	---	---	1 J	78 J	41 DJ	4 J
Acetone	---	8 J	---	---	280 J	180 DJ	---
Carbon Disulfide	---	---	---	---	5 J	---	---
1,1-Dichloroethene	---	---	---	---	5 J	---	---
1,1-Dichloroethane	---	---	---	---	5 J	---	---
1,2-Dichloroethene_(total)	---	---	---	---	5 J	---	---
Chloroform	---	---	---	---	5 J	---	---
1,2-Dichloroethane	---	---	---	---	5 J	---	---
2-Butanone	---	---	---	---	10 J	---	---
1,1,1-Trichloroethane	---	---	---	---	5 J	---	---
Carbon Tetrachloride	---	---	---	---	5 J	---	---
Vinyl Acetate	---	---	---	---	10 J	---	---
Bromodichloromethane	---	---	---	---	5 J	---	---
1,2-Dichloropropane	---	---	---	---	5 J	---	---
cis-1,3-Dichloropropene	---	---	---	---	5 J	---	---
Trichloroethene	---	---	---	---	5 J	---	---
Dibromochloromethane	---	---	---	---	5 J	---	---
1,1,2-Trichloroethane	---	---	---	---	5 J	---	---
Benzene	---	---	---	---	5 J	---	---
Trans-1,3-Dichloropropene	---	---	---	---	5 J	---	---
Bromoform	---	---	---	---	5 J	---	---
4-Methyl-2-Pentanone	---	---	---	---	10 J	---	---
2-Hexanone	---	---	---	---	10 J	---	---
Tetrachloroethene	---	---	---	---	5 J	---	---
1,1,2,2-Tetrachloroethane	---	---	---	---	5 J	---	---
Toluene	---	---	---	17	33 J	27 DJ	---
Isobutanol							
Total (Allowed) Hold Time	6(14)d	7(14)d	6(14)d	9(14)d	18(14)d*	18(14)d*	10(14)d
Dilution Factor	1.000	1.000	1.000	1.000	1.000	2.000	1.000

TABLE _.-.- 1989 TAN HYDROGEOLOGIC INVESTIGATION - VOLATILE ORGANIC DATA (Continued)

AREA	TSF	TSF	TSF	TSF	TSF	TSF	TSF
LOCATION	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND
TYPE OF LOCATION	AUGER HOLE #5	AUGER HOLE #5	AUGER HOLE #5	AUGER HOLE #5	AUGER HOLE #6	AUGER HOLE #6	AUGER HOLE #6
SAMPLE NUMBER	TAG0589C02A	TAG0589D01A	TAG0589E01A	TAG0589K01A	TAG0689A01A	TAG0689B01A	TAG0689B02A
MEDIA	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	SOIL
UNITS	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/kg
SDG NUMBER	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001
FIELD MEASUREMENTS							
Depth (ft)	10-12	15-17	20-22	50-52	0-2	5-7	5-7
TARGET COMPOUNDS							
Methylene Chloride	1 J	2 J	2 J	---	---	19 J	---
Acetone	---	---	---	---	---	33 J	---
Carbon Disulfide	---	---	---	---	---	---	---
1,1-Dichloroethene	---	---	---	---	---	---	---
1,1-Dichloroethane	---	---	---	---	---	---	---
1,2-Dichloroethene_(total)	---	---	---	---	---	---	---
Chloroform	---	---	---	---	---	---	---
1,2-Dichloroethane	---	---	---	---	---	---	---
2-Butanone	---	---	---	---	---	---	---
1,1,1-Trichloroethane	---	---	---	---	---	---	---
Carbon Tetrachloride	---	---	---	---	---	---	---
Vinyl Acetate	---	---	---	---	---	---	---
Bromodichloromethane	---	---	---	---	---	---	---
1,2-Dichloropropane	---	---	---	---	---	---	---
cis-1,3-Dichloropropene	---	---	---	---	---	---	---
Trichloroethene	---	---	---	---	---	---	---
Dibromochloromethane	---	---	---	---	---	---	---
1,1,2-Trichloroethane	---	---	---	---	---	---	---
Benzene	---	---	---	---	---	---	---
Trans-1,3-Dichloropropene	---	---	---	---	---	---	---
Bromoform	---	---	---	---	---	---	---
4-Methyl-2-Pentanone	---	---	---	---	---	---	---
2-Hexanone	---	---	---	---	---	---	---
Tetrachloroethene	---	---	---	---	---	---	---
1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	---
Toluene	2 J	---	3 J	---	---	4 J	---
Isobutanol							
Total (Allowed) Hold Time	9(14)d	10(14)d	9(14)d	8(14)d	9(14)d	18(14)d*	9(14)d
Dilution Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - VOLATILE ORGANIC DATA (Continued)

AREA	TSF	TSF	TSF	TSF	TSF	TSF
LOCATION	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND
TYPE OF LOCATION	AUGER HOLE #6	AUGER HOLE #6	AUGER HOLE #6	AUGER HOLE #6	AUGER HOLE #6	AUGER HOLE #7
SAMPLE NUMBER	TAG0689C01A	TAG0689D01A	TAG0689D02A	TAG0689E01A	TAG0689F01A	TAG0789N01A
MEDIA	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
SDG NUMBER	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001
FIELD MEASUREMENTS						
Depth (ft)	10-12	15-17	15-17	20-22	25-27	63-64
TARGET COMPOUNDS						
Methylene Chloride	---	---	---	---	---	---
Acetone	---	---	74 J	120 J	---	---
Carbon Disulfide	---	---	---	---	---	---
1,1-Dichloroethene	---	---	---	---	---	---
1,1-Dichloroethane	---	---	---	---	---	---
1,2-Dichloroethene_(total)	---	---	---	---	---	---
Chloroform	---	---	---	---	---	---
1,2-Dichloroethane	---	---	---	---	---	---
2-Butanone	---	---	---	---	---	---
1,1,1-Trichloroethane	---	---	---	---	---	---
Carbon Tetrachloride	---	---	---	---	---	---
Vinyl Acetate	---	---	---	---	---	---
Bromodichloromethane	---	---	---	---	---	---
1,2-Dichloropropane	6 R	---	---	---	---	---
cis-1,3-Dichloropropene	---	---	---	---	---	---
Trichloroethene	---	---	---	---	---	---
Dibromochloromethane	---	---	---	---	---	---
1,1,2-Trichloroethane	---	---	---	---	---	---
Benzene	---	---	---	---	---	---
Trans-1,3-Dichloropropene	---	---	---	---	---	---
Bromoform	---	---	---	---	---	---
4-Methyl-2-Pentanone	---	---	---	---	---	---
2-Hexanone	---	---	---	---	---	---
Tetrachloroethene	---	---	---	---	---	---
1,1,2,2-Tetrachloroethane	---	---	---	---	---	---
Toluene	---	---	---	---	---	2 J
Isobutanol	620 R					
Total (Allowed) Hold Time	10(14)d	9(14)d	9(14)d	9(14)d	11(14)d	10(14)d
Dilution Factor	1.000	1.000	1.000	1.000	1.000	1.000

TABLE _-_-_ 1989 TAN HYDROGEOLOGIC INVESTIGATION - SEMIVOLATILE ORGANIC DATA

AREA	TSF	TSF	TSF	TSF	TSF	TSF	TSF
LOCATION	So OF BLDG 65	So OF BLDG 60	So OF BLDG 60	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND
TYPE OF LOCATION	AUGER HOLE #1	AUGER HOLE #2	AUGER HOLE #2	AUGER HOLE #3	AUGER HOLE #3	AUGER HOLE #4	AUGER HOLE #4
SAMPLE NUMBER	TAG0189B01C	TAG0289B01C	TAG0289B02C	TAG0389B01CRE	TAG0389B02CRE	TAG0489B01C	TAG0489C01C
MEDIA	WATER	WATER	WATER	WATER	WATER	WATER	SOIL
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/kg
SDG NUMBER	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89001	TAGEQ89001	TAGEQ89002	TAGEQ89002
FIELD MEASUREMENTS							
Depth (ft)	5-7	5-7	5-7	5-7	5-7	5-7	10-12
TARGET COMPOUNDS							
Phenol	---	---	---	---	---	10 R	---
2-Chlorophenol	---	---	---	---	---	10 R	---
Benzyl alcohol	---	---	---	---	---	10 R	---
2-Methylphenol	---	---	---	---	---	10 R	---
4-Methylphenol	---	---	---	---	---	10 R	---
2-Nitrophenol	---	---	---	---	---	10 R	---
2,4-Dimethylphenol	---	---	---	---	---	10 R	---
Benzoic acid	---	50 R	50 R	---	---	50 R	---
2,4-Dichlorophenol	---	---	---	---	---	10 R	---
4-Chloro-3-methylphenol	---	---	---	---	---	10 R	---
2,4,6-Trichlorophenol	---	---	---	---	---	10 R	---
2,4,5-Trichlorophenol	---	---	---	---	---	50 R	---
2,4-Dinitrophenol	---	---	---	---	---	50 R	---
4-Nitrophenol	---	---	---	---	---	50 R	---
4,6-Dinitro-2-methylphenol	---	---	---	---	---	50 R	---
Pentachlorophenol	---	---	---	---	---	50 R	---
Di-n-butylphthalate	3 J	2 J	3 J	2 J	2 J	---	---
bis(2-Ethylhexyl)phthalate	2 J	---	---	---	---	3 J	---
4-Nitroquinoline-1-oxide							1600 R
Kepone							400 R
Total (Allowed) Hold Time	7(7)d	7(7)d	7(7)d	27(7)d*	27(7)d*	12(7)d*	4(14)d
Dilution Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000

TABLE _-_-_ 1989 TAN HYDROGEOLOGIC INVESTIGATION - SEMIVOLATILE ORGANIC DATA

AREA	TSF	TSF	TSF	TSF	TSF
LOCATION	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND
TYPE OF LOCATION	AUGER HOLE #4	AUGER HOLE #5	AUGER HOLE #6	AUGER HOLE #6	AUGER HOLE #6
SAMPLE NUMBER	TAG0489C01CR	TAG0589B01C	TAG0689B01CR	TAG0689C01C	TAG0689C01CRE
MEDIA	SOIL	WATER	WATER	SOIL	SOIL
UNITS	ug/kg	ug/L	ug/L	ug/kg	ug/kg
SDG NUMBER	TAGEQ89002	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001
FIELD MEASUREMENTS					
Depth (ft)	10-12	5-7	5-7	10-12	10-12
TARGET COMPOUNDS					
Phenol	---	---	---	---	---
2-Chlorophenol	---	---	---	---	---
Benzyl alcohol	---	---	---	---	---
2-Methylphenol	---	---	---	---	---
4-Methylphenol	---	---	---	---	---
2-Nitrophenol	---	---	---	---	---
2,4-Dimethylphenol	---	---	---	---	---
Benzoic acid	2000 R	---	---	---	---
2,4-Dichlorophenol	---	---	---	---	---
4-Chloro-3-methylphenol	---	---	---	---	---
2,4,6-Trichlorophenol	---	---	---	---	---
2,4,5-Trichlorophenol	---	---	---	---	---
2,4-Dinitrophenol	---	---	---	---	---
4-Nitrophenol	---	---	---	---	---
4,6-Dinitro-2-methylphenol	---	---	---	---	---
Pentachlorophenol	---	---	---	---	---
Di-n-butylphthalate	---	---	1 J	---	---
bis(2-Ethylhexyl)phthalate	---	---	---	---	---
4-Nitroquinoline-1-oxide					1600 R
Kepone					400 R
Total (Allowed) Hold Time	4(14)d	10(7)d*	22(7)d*	12(14)d	12(14)d
Dilution Factor	1.000	1.000	1.000	1.000	1.000

TABLE _.-._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - INORGANIC DATA

AREA	TSF	TSF	TSF	TSF	TSF	TSF
LOCATION	SO OF BLDG 654	SO OF BLDG 654	SO OF BLDG 654	SO OF BLDG 654	SO OF BLDG 654	SO OF BLDG 654
TYPE OF LOCATION	AUGER HOLE #1	AUGER HOLE #1	AUGER HOLE #1	AUGER HOLE #1	AUGER HOLE #1	AUGER HOLE #1
SAMPLE NUMBER	TAG0189A01B	TAG0189B01B	TAG0189B02B	TAG0189C01B	TAG0189C02B	TAG0189D01B
MEDIA	SOIL	WATER	SOIL	SOIL	SOIL	SOIL
UNITS	mg/kg	ug/L	mg/kg	mg/kg	mg/kg	mg/kg
SDG NUMBER	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002
FIELD MEASUREMENTS						
Depth (ft)	0-2	5-7	5-7	10-12	10-12	15-17
TARGET COMPOUNDS						
Aluminum	12900	---	15500	8590	8990	14600
Antimony	---	---	---	---	---	---
Arsenic	8.1 N+	6.4 B	7.5 NS	3.1 BNS	4.5 NS	10.7 N+
Barium	217	815	249	151	161	170
Beryllium	2.1	---	2.5	1.6	1.7	---
Cadmium	1.1	2.0 B	1.4	0.60 B	0.97	1.1
Calcium	87300	728000	93200	73900	76400	109000
Chromium	34.5	---	31.4	21.4	22.3	34.3
Cobalt	9.0 B	---	10.0	5.4 B	5.6 B	8.5 B
Copper	23.0	---	24.5	11.8	13.8	23.8
Cyanide						
Iron	18700	49.0 B	19200	12200	13100	19600
Lead	25.5 S	2.1 B	28.6 S	17.7 S	16.9 S	44.3 S
Magnesium	14000	27200 B	15100	12300	12500	15400
Manganese	413	122	390	196	227	345
Mercury	0.26	---	---	---	---	---
Nickel	37.1	---	38.6	21.9	25.2	35.2
Potassium	3020 B	460 B	3180 B	2200 B	2960	2980
Selenium	0.26 BW	---	---	---	---	---
Silver	---	---	---	---	---	---
Sodium	562 B	16600	822 B	506 B	612 B	728 B
Sulfide						
Thallium	0.26 B	---	0.20 BW	---	---	0.27 B
Tin						
Vanadium	46.8	18.0 B	47.5	33.0	35.3	49.8
Zinc	135	41.0	129	78.4	92.3	108
% Solids	88.4		87.9	92.7	91.3	84.0
Total (Allowed) Hold Time[a]	28(180)d	11(180)d	28(180)d	28(180)d	28(180)d	28(180)d
Total (Allowed) Hold Time[b]	28(180)d	11(180)d	28(180)d	28(180)d	28(180)d	28(180)d
Total (Allowed) Hold Time[c]	25(26)d	23(26)d	25(26)d	25(26)d	25(26)d	25(26)d
Total (Allowed) Hold Time[d]	28(180)d	11(180)d	28(180)d	28(180)d	28(180)d	28(180)d
Total (Allowed) Hold Time[e]						

a. ICP
b. FAAS
c. CVAAS
d. GFAAS
e. AS

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - INORGANIC DATA

AREA	TSF	TSF	TSF	TSF	TSF	TSF
LOCATION	SO OF BLDG 654	SO OF BLDG 654	SO OF BLDG 654	SO OF BLDG 607	SO OF BLDG 607	SO OF BLDG 607
TYPE OF LOCATION	AUGER HOLE #1	AUGER HOLE #1	AUGER HOLE #1	AUGER HOLE #2	AUGER HOLE #2	AUGER HOLE #2
SAMPLE NUMBER	TAG0189E01B	TAG0189H01B	TAG0189K01B	TAG0289A01B	TAG0289B01B	TAG0289B02B
MEDIA	SOIL	SOIL	SOIL	SOIL	WATER	WATER
UNITS	mg/kg	mg/kg	mg/kg	mg/kg	ug/L	ug/L
SDG NUMBER	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002
FIELD MEASUREMENTS						
Depth (ft)	20-22	35-37	50-52	0-2	5-7	5-7
TARGET COMPOUNDS						
Aluminum	1900	12400	16100	17000	137 B	---
Antimony	---	---	---	---	---	---
Arsenic	15.8 N+	10.6 NS	5.3 N+	10.7 NS	4.3 B	4.8 B
Barium	339	230	254	248	885	862
Beryllium	---	---	---	---	---	---
Cadmium	0.92	0.88 B	0.67 B	1.3	---	---
Calcium	74200	84200	13400	77600	728000	742000
Chromium	44.8	36.6	42.7	39.8	---	---
Cobalt	12.0	10.5 B	11.9	10.5	---	---
Copper	31.5	23.5	25.4	154	---	---
Cyanide						
Iron	25300	19300	29000	21800	91.0 B	78.0 B
Lead	28.4 S	15.3 S	27.6 S	27.3 S	---	---
Magnesium	14200	12500	8240 B	13800	26800 B	26200 B
Manganese	539	605	979	398	41.0	49.0
Mercury	0.10 B	---	---	---	---	---
Nickel	40.4	34.0	33.5	37.6	---	---
Potassium	354 B	2510	3250	6800	550 B	440 B
Selenium	0.35 BW	---	---	---	---	---
Silver	---	---	---	---	---	---
Sodium	611 B	576 B	358 B	734 B	5950	5700
Sulfide						
Thallium	0.33 B	---	0.19 B	0.15 BW	---	---
Tin						
Vanadium	68.3	48.9	57.0	53.5	14.0 B	14.0 B
Zinc	118	80.0	97.5	123	60.0	41.0
% Solids	84.7	86.9	87.3	93.4		
Total (Allowed) Hold Time[a]	28(180)d	28(180)d	27(180)d	28(180)d	11(180)d	11(180)d
Total (Allowed) Hold Time[b]	28(180)d	28(180)d	27(180)d	28(180)d	11(180)d	11(180)d
Total (Allowed) Hold Time[c]	25(26)d	25(26)d	24(26)d	25(26)d	23(26)d	23(26)d
Total (Allowed) Hold Time[d]	28(180)d	28(180)d	27(180)d	28(180)d	11(180)d	11(180)d
Total (Allowed) Hold Time[e]						

a. ICP
b. FAAS
c. CVAAS
d. GFAAS
e. AS

TABLE _-_-_ 1989 TAN HYDROGEOLOGIC INVESTIGATION - INORGANIC DATA

AREA	TSF	TSF	TSF	TSF	TSF	TSF
LOCATION	SO OF BLDG 607	SO OF BLDG 607	SO OF BLDG 607	SO OF BLDG 607	SO OF BLDG 607	SO OF BLDG 607
TYPE OF LOCATION	AUGER HOLE #2	AUGER HOLE #2	AUGER HOLE #2	AUGER HOLE #2	AUGER HOLE #2	AUGER HOLE #2
SAMPLE NUMBER	TAG0289C01B	TAG0289D01B	TAG0289D02B	TAG0289E01B	TAG0289F01B	TAG0289H01B
MEDIA	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SDG NUMBER	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002
FIELD MEASUREMENTS						
Depth (ft)	10-12	15-17	15-17	20-22	25-27	35-37
TARGET COMPOUNDS						
Aluminum	15100	18100	21100	15300	16200	18400
Antimony	---	---	---	---	---	---
Arsenic	12.6 NS	19.2 N+	12.9	14.0 NS	13.8 NS	11.3 NS
Barium	241	313	264	290	227	336
Beryllium	---	---	1.0	1.6	1.7	2.2
Cadmium	1.2	1.2	1.6	1.0	1.0	1.8
Calcium	81900	69300	95500	64500	51200	20300
Chromium	34.7	42.3	38.4	37.1	36.1	56.3
Cobalt	10.6	12.8	11.0	12.9	13.2	13.3
Copper	27.3	32.6	32.2	30.8	31.0	43.5
Cyanide						
Iron	21300	23900	27000	22800	22900	25600
Lead	28.4 S	34.3 S	37.9 S	26.6 S	21.3 S	22.7 S
Magnesium	13400 B	13400	16600 B	14000	9230 B	8910 B
Manganese	427	470	414	487	734	1560
Mercury	0.11 B	---	---	0.13	---	---
Nickel	36.1	38.5	37.8	40.9	44.0	57.6
Potassium	4260	4400	3240 B	3880	3020	3590
Selenium	---	0.39 BW	---	---	0.32 BW	---
Silver	---	---	---	---	---	---
Sodium	516 B	548 B	516 B	451 B	432 B	393 B
Sulfide						
Thallium	0.29 BW	0.29 B	0.21 BW	0.29 BW	0.27 BW	0.37 B
Tin						
Vanadium	53.6	67.2	59.3	57.8	52.8	58.1
Zinc	114	116	117	126	109	129
% Solids	92.3	93.3	92.8	92.8	92.6	91.1
Total (Allowed) Hold Time[a]	28(180)d	28(180)d	28(180)d	28(180)d	28(180)d	28(180)d
Total (Allowed) Hold Time[b]	28(180)d	28(180)d	28(180)d	28(180)d	28(180)d	28(180)d
Total (Allowed) Hold Time[c]	25(26)d	25(26)d	25(26)d	25(26)d	25(26)d	25(26)d
Total (Allowed) Hold Time[d]	28(180)d	28(180)d	28(180)d	28(180)d	28(180)d	28(180)d
Total (Allowed) Hold Time[e]						

a. ICP
b. FAAS
c. CVAAS
d. GFAAS
e. AS

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - INORGANIC DATA

AREA	TSF	TSF	TSF	TSF	TSF	TSF
LOCATION	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND
TYPE OF LOCATION	AUGER HOLE #3	AUGER HOLE #3	AUGER HOLE #3	AUGER HOLE #3	AUGER HOLE #3	AUGER HOLE #3
SAMPLE NUMBER	TAG0389A01B	TAG0389B01B	TAG0389B02B	TAG0389C01B	TAG0389C02B	TAG0389D10B
MEDIA	SOIL	WATER	WATER	SOIL	SOIL	SOIL
UNITS	mg/kg	ug/L	ug/L	mg/kg	mg/kg	mg/kg
SDG NUMBER	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001
FIELD MEASUREMENTS						
Depth (ft)	0-2	5-7	5-7	10-12	10-12	15-17
TARGET COMPOUNDS						
Aluminum	21000	211	---	18500	16200	17500
Antimony	---	24.0 B	24.0 B	---	---	---
Arsenic	8.7 S	6.3 B	6.7 B	14.2 S	14.3 +	17.4 S
Barium	291	1350	1470	249	254	306
Beryllium	3.0	---	---	3.4	3.1	3.2
Cadmium	1.8	3.0 B	5.0	1.0	1.0	1.1
Calcium	59300 E	1020000	1090000	62000 E	61000 E	72900 E
Chromium	45.7	---	---	41.1	35.3	37.3
Cobalt	13.2	---	---	12.0	11.1	11.5
Copper	29.0	27.0	---	26.3	25.4	24.5
Cyanide						
Iron	28000	134	68.0 B	24900	23300	24300
Lead	30.5 S	---	---	26.4 S	26.7 S	26.0 S
Magnesium	14500	22000	24800 B	13600	13200	14500
Manganese	445	369	433	457	426	473
Mercury	0.09 B	0.24	---	---	0.05 B	0.11 B
Nickel	49.7	20.0 B	---	40.7	39.3	40.3
Potassium	4810 B	---	---	3430 B	2880 B	2860 B
Selenium	---	---	---	---	---	0.26 BW
Silver	---	---	---	---	---	---
Sodium	516 B	3980 B	4290 B	453 B	504 B	603 B
Sulfide						
Thallium	1.1 BN	---	---	0.36 BN	0.22 BN	0.30 BN
Tin						
Vanadium	50.3	15.0 B	17.0 B	59.0	50.4	56.2
Zinc	892	51.0	49.0	138	126	123
% Solids	91.9			93.2	93.6	87.0
Total (Allowed) Hold Time[a]	25(180)d	28(180)d	28(180)d	25(180)d	25(180)d	25(180)d
Total (Allowed) Hold Time[b]	25(180)d	40(180)d	40(180)d	25(180)d	25(180)d	25(180)d
Total (Allowed) Hold Time[c]	11(26)d	20(26)d	20(26)d	11(26)d	11(26)d	11(26)d
Total (Allowed) Hold Time[d]	25(180)d	28(180)d	28(180)d	25(180)d	25(180)d	25(180)d
Total (Allowed) Hold Time[e]						

a. ICP
b. FAAS
c. CVAAS
d. GFAAS
e. AS

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - INORGANIC DATA

AREA	TSF	TSF	TSF	TSF	TSF	TSF
LOCATION	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND
TYPE OF LOCATION	AUGER HOLE #3	AUGER HOLE #3	AUGER HOLE #4	AUGER HOLE #4	AUGER HOLE #4	AUGER HOLE #4
SAMPLE NUMBER	TAG0389E01B	TAG0389F01B	TAG0489A01B	TAG0489B01B	TAG0489B02B	TAG0489C01B
MEDIA	SOIL	SOIL	SOIL	WATER	SOIL	SOIL
UNITS	mg/kg	mg/kg	mg/kg	ug/L	mg/kg	mg/kg
SDG NUMBER	TAGEQ89001	TAGEQ89001	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002
FIELD MEASUREMENTS						
Depth (ft)	20-22	25-27	0-2	5-7	5-7	10-12
TARGET COMPOUNDS						
Aluminum	1400	16700	23400	954	16100	
Antimony	---	---	---	---	---	---
Arsenic	13.7 S	11.4 +	5.1 +	4.1 B	17.3 S	18.2
Barium	253	283	293	983	260	356
Beryllium	2.8	3.6	4.6	---	3.6	---
Cadmium	1.2	0.69 B	1.7	3.0 B	1.0 B	0.97 B
Calcium	70700 E	19600 E	50500	725000	83200	
Chromium	33.4	36.9	45.6	---	33.8	44.4
Cobalt	10.8	11.7	12.4	---	11.7	13.8
Copper	21.9	22.3	27.3	---	26.2	39.5
Cyanide						---
Iron	20700	25200	28400	685	24000	
Lead	21.4 S	26.2 S	30.4 S	2.3 B	29.2 S	23.6
Magnesium	13000	9230	14400	25800 B	14600	
Manganese	495	482	345	129	501	
Mercury	0.08 B	0.21	0.05 B	---	---	0.10 B
Nickel	34.7	36.9	48.8	---	39.1	44.6
Potassium	3010 B	2660 B	6010	1820 B	3160 B	
Selenium	---	---	0.26 BW	---	0.63 BW	---
Silver	---	---	---	---	---	---
Sodium	500 B	412 B	723 B	4030 B	570 B	
Sulfide						---
Thallium	0.21 BN	0.21 BN	0.21 BN	---	---	---
Tin						---
Vanadium	49.3	44.9	54.7	15.0 B	56.8	51.9
Zinc	96.0	105	201	49.0	118	126
% Solids	88.2	85.1	90.6		90.3	81.7
Total (Allowed) Hold Time[a]	25(180)d	25(180)d	13(180)d	16(180)d	13(180)d	38(180)d
Total (Allowed) Hold Time[b]	25(180)d	25(180)d	13(180)d	16(180)d	13(180)d	
Total (Allowed) Hold Time[c]	11(26)d	11(26)d	27(26)d	28(26)d	27(26)d	36(26)d*
Total (Allowed) Hold Time[d]	25(180)d	25(180)d	13(180)d	16(180)d	13(180)d	38(180)d
Total (Allowed) Hold Time[e]						26(12)d*

a. ICP
b. FAAS
c. CVAAS
d. GFAAS
e. AS

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - INORGANIC DATA

AREA	TSF	TSF	TSF	TSF	TSF	TSF
LOCATION	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND
TYPE OF LOCATION	AUGER HOLE #4	AUGER HOLE #4	AUGER HOLE #4	AUGER HOLE #4	AUGER HOLE #4	AUGER HOLE #5
SAMPLE NUMBER	TAG0489D01B	TAG0489D02B	TAG0489E01B	TAG0489F01B	TAG0489J01B	TAG0589A01B
MEDIA	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SDG NUMBER	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89002	TAGEQ89001
FIELD MEASUREMENTS						
Depth (ft)	15-17	15-17	20-22	25-27	45-47	0-2
TARGET COMPOUNDS						
Aluminum	15900	19500	25700	31400	20700	16000
Antimony	---	---	---	---	---	0.89 BNW
Arsenic	13.4 S	16.4 S	11.6 S	6.6 S	8.8 +	8.5
Barium	256	241	275	338	370	230
Beryllium	3.2	4.5	5.4	6.2	4.9	1.4
Cadmium	1.1 B	0.93	1.5	0.86 B	0.94 B	0.82 B
Calcium	72000	61800	88900	9440 B	6720 B	64200 E
Chromium	32.6	38.2	53.2	63.0	41.2	39.0
Cobalt	10.2 B	13.2	15.5	16.6	14.3	10.5
Copper	19.6	26.5	30.9	29.7	45.0	23.4
Cyanide						
Iron	23700	27500	34000	36800	28800	21300
Lead	21.9 S	28.8 S	18.5	25.9 S	18.0 S	20.2 N
Magnesium	15400	15300	16900	11800	8990 B	12500
Manganese	488	620	776	620	696	388
Mercury	0.09 B	0.11	---	0.05 B	0.14	0.14
Nickel	35.6	43.1	53.4	47.5	56.5	37.5
Potassium	3870	3280	4140	3080 B	2710	3510
Selenium	0.35 BW	0.36	0.22	---	---	---
Silver	---	---	---	---	---	0.48 B
Sodium	597 B	562 B	545 B	611 B	340 B	520 B
Sulfide						
Thallium	0.17 BN	0.56 BN	0.37 BNW	0.40 BN	0.31 BN	0.42 BW
Tin						
Vanadium	52.6	58.1	76.7	70.8	56.7	55.6
Zinc	100	112	145	139	87.4	114
% Solids	86.9	84.2	85.0	83.0	82.1	92.0
Total (Allowed) Hold Time[a]	12(180)d	12(180)d	12(180)d	12(180)d	12(180)d	8(180)d
Total (Allowed) Hold Time[b]	12(180)d	12(180)d	12(180)d	12(180)d	12(180)d	8(180)d
Total (Allowed) Hold Time[c]	26(26)d	26(26)d	26(26)d	26(26)d	26(26)d	7(26)d
Total (Allowed) Hold Time[d]	12(180)d	12(180)d	12(180)d	12(180)d	12(180)d	8(180)d
Total (Allowed) Hold Time[e]						

a. ICP
b. FAAS
c. CVAAS
d. GFAAS
e. AS

TABLE _-_-_ 1989 TAN HYDROGEOLOGIC INVESTIGATION - INORGANIC DATA

AREA	TSF DISPOSAL POND	TSF DISPOSAL POND	TSF DISPOSAL POND	TSF DISPOSAL POND	TSF DISPOSAL POND	TSF DISPOSAL POND
LOCATION	AUGER HOLE #5	AUGER HOLE #5	AUGER HOLE #5	AUGER HOLE #5	AUGER HOLE #5	AUGER HOLE #5
TYPE OF LOCATION	TAG0589B01B	TAG0589C01B	TAG0589C02B	TAG0589D01B	TAG0589E01B	TAG0589K01B
SAMPLE NUMBER	WATER	SOIL	SOIL	SOIL	SOIL	SOIL
MEDIA	ug/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
UNITS	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001
SDG NUMBER						
FIELD MEASUREMENTS						
Depth (ft)	5-7	10-12	10-12	15-17	20-22	50-52
TARGET COMPOUNDS						
Aluminum	265	13900	9980	14200	12700	8530
Antimony	---	1.1 BN	0.60 BN	---	---	0.33 WN
Arsenic	8.2 B	11.5	10.2	8.5	7.2	4.8 +
Barium	1480	259	220	243	218	231
Beryllium	---	1.2	0.90 B	1.4	1.0	1.8
Cadmium	4.0 B	0.78 B	---	0.93 B	0.83 B	0.91 B
Calcium	1110000	51100 E	46400 E	75800 E	66200 E	213000 E
Chromium	---	33.9	27.8	38.5	35.4	21.3
Cobalt	---	10.1	8.7 B	10.5 B	8.7 B	6.8 B
Copper	---	21.3	16.4	19.8	15.8	21.6
Cyanide						
Iron	180	20700	16800	20400	18200	13700
Lead	---	17.6	13.8 N	16.6 N	14.0 N	11.1
Magnesium	24700 B	11600	10600 B	14100	10600	7850 B
Manganese	455	411	352	457	451	1060
Mercury	---	0.14	0.12	0.32	0.11	0.08 B
Nickel	---	30.6	27.1	36.6	31.6	25.6
Potassium	---	2880	2190	3150	2450	1510
Selenium	---	0.43 BNW	0.56 BNW	0.43 BNW	---	---
Silver	---	---	0.26 B	0.33 B	0.34 B	---
Sodium	4590 B	469 B	446 B	594 B	443 B	624 B
Sulfide						
Thallium	---	---	---	---	---	---
Tin						
Vanadium	17.0 B	50.9	42.4	55.0	47.2	30.4
Zinc	53.0	83.1	70.2	99.4	75.7	20.0
% Solids		83.4	86.6	84.9	88.2	78.7
Total (Allowed) Hold Time[a]	24(180)d	8(180)d	7(180)d	8(180)d	8(180)d	14(180)d
Total (Allowed) Hold Time[b]	36(180)d	8(180)d	7(180)d	8(180)d	8(180)d	14(180)d
Total (Allowed) Hold Time[c]	16(26)d	7(26)d	6(26)d	7(26)d	7(26)d	28(26)d*
Total (Allowed) Hold Time[d]	24(180)d	8(180)d	7(180)d	8(180)d	8(180)d	14(180)d
Total (Allowed) Hold Time[e]						

a. ICP
b. FAAS
c. CVAAS
d. GFAAS
e. AS

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - INORGANIC DATA

AREA	TSF	TSF	TSF	TSF	TSF	TSF
LOCATION	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND
TYPE OF LOCATION	AUGER HOLE #6	AUGER HOLE #6	AUGER HOLE #6	AUGER HOLE #6	AUGER HOLE #6	AUGER HOLE #6
SAMPLE NUMBER	TAG0689A01B	TAG0689B01B	TAG0689B02B	TAG0689C01B	TAG0689D01B	TAG0689D02B
MEDIA	SOIL	WATER	SOIL	SOIL	SOIL	SOIL
UNITS	mg/kg	ug/L	mg/kg	mg/kg	mg/kg	mg/kg
SDG NUMBER	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001	TAGEQ89001
FIELD MEASUREMENTS						
Depth (ft)	0-2	5-7	5-7	10-12	15-17	15-17
TARGET COMPOUNDS						
Aluminum	22200	---	22800		15300	14000
Antimony	0.49 BN	---	1.1 BNW	---	0.48 BNW	---
Arsenic	8.5	4.1 B	6.7	7.2	11.6	10.5
Barium	278	1520	318	1900	278	242
Beryllium	1.6	---	1.7	8.6	1.4	1.1 B
Cadmium	1.3	4.0 B	1.5	6.2 B	0.97	0.91 B
Calcium	66000 E	1180000	61300 E		56700 E	71800 E
Chromium	51.9	---	51.0	257	41.4	37.5
Cobalt	12.1	---	12.8	69.1	10.1	11.7
Copper	27.6	---	27.5	148	25.3	23.3
Cyanide				---		
Iron	26900	58.0 B	27500		21700	21100
Lead	25.5	---	22.2 N	21.0	19.5 N	20.8 N
Magnesium	15100	27800 B	14100		11800	13600
Manganese	2260	567	660		472	546
Mercury	0.11	---	0.08 B	0.12 B	---	---
Nickel	46.7	---	47.2	240	37.5	39.5
Potassium	3790 B	---	3780 B		3360	2870
Selenium	0.60 BNW	---	---	---	0.36 BNW	0.39 BNW
Silver	0.53 B	---	0.38 BW	---	0.37 B	0.82 B
Sodium	668 B	11100	757 B		493 B	482 B
Sulfide						
Thallium	0.19 BW	---	---	---	---	---
Tin						
Vanadium	64.2	15.0 B	63.6	333	59.6	56.0
Zinc	158	65.0	151	649	103	104
% Solids	88.2		83.1	81.0	80.8	81.8
Total (Allowed) Hold Time[a]	7(180)d	23(180)d	7(180)d	7(180)d	7(180)d	7(180)d
Total (Allowed) Hold Time[b]	7(180)d	35(180)d	7(180)d		7(180)d	7(180)d
Total (Allowed) Hold Time[c]	6(26)d	15(26)d	6(26)d	7(26)d	6(26)d	6(26)d
Total (Allowed) Hold Time[d]	7(180)d	23(180)d	7(180)d	7(180)d	7(180)d	7(180)d
Total (Allowed) Hold Time[e]				40(12)d*		

a. ICP
b. FAAS
c. CVAAS
d. GFAAS
e. AS

TABLE _-_-_ 1989 TAN HYDROGEOLOGIC INVESTIGATION - INORGANIC DATA

AREA	TSF	TSF	TSF
LOCATION	DISPOSAL POND	DISPOSAL POND	DISPOSAL POND
TYPE OF LOCATION	AUGUER HOLE #6	AUGER HOLE #6	AUGER HOLE #7
SAMPLE NUMBER	TAG0689E01B	TAG0689F01B	TAG0789N01B
MEDIA	SOIL	SOIL	SOIL
UNITS	mg/kg	mg/kg	mg/kg
SDG NUMBER	TAGEQ89001	TAGEQ89001	TAGEQ89001
FIELD MEASUREMENTS			
Depth (ft)	20-22	25-27	63-64
TARGET COMPOUNDS			
Aluminum	14600	21600	14000
Antimony	0.68 BN	0.50 BN	0.51 BN
Arsenic	8.3	9.4	5.6
Barium	216	272	199
Beryllium	1.0	1.6	0.81 B
Cadmium	1.0	1.0	1.0
Calcium	78200 E	56700 E	119000 E
Chromium	39.7	49.2	29.8
Cobalt	11.5	14.7	9.3 B
Copper	21.1	29.7	24.7
Cyanide			
Iron	19800	27000	16600
Lead	20.2 N	22.0 N	13.2 N
Magnesium	14400	13800	10200 B
Manganese	447	725	1110
Mercury	---	---	0.09 B
Nickel	36.6	47.8	29.1
Potassium	3070	3660	2350
Selenium	---	0.31 BN	---
Silver	0.30 B	0.40 B	---
Sodium	493 B	543 B	523 B
Sulfide			
Thallium	---	---	---
Vanadium	55.0	65.4	36.4
Zinc	97.1	120	47.8
% Solids	85.1	81.9	77.8
Total (Allowed) Hold Time[a]	7(180)d	7(180)d	6(180)d
Total (Allowed) Hold Time[b]	7(180)d	7(180)d	6(180)d
Total (Allowed) Hold Time[c]	6(26)d	6(26)d	5(26)d
Total (Allowed) Hold Time[d]	7(180)d	7(180)d	6(180)d
Total (Allowed) Hold Time[e]			

a. ICP
b. FAAS
c. CVAAS
d. GFAAS
e. AS

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - ORGANOCHLORINE/ORGANOPHOSPHORUS PESTICIDE DATA

AREA	TSF	TSF
LOCATION	DISPOSAL POND	DISPOSAL POND
TYPE OF LOCATION	AUGER HOLE #4	AUGER HOLE #6
SAMPLE NUMBER	TAG0489C01C	TAG0689C01C
MEDIA	SOIL	SOIL
UNITS	ug/kg	ug/kg
SDG NUMBER	TAGEQ89002	TAGEQ89001
FIELD MEASUREMENTS		
Depth (ft)	10-12	10-12
TARGET COMPOUNDS		
None Detected.		
Total (Allowed) Hold Time	5(14)d	12(14)d
Dilution Factor	1.0	1.0

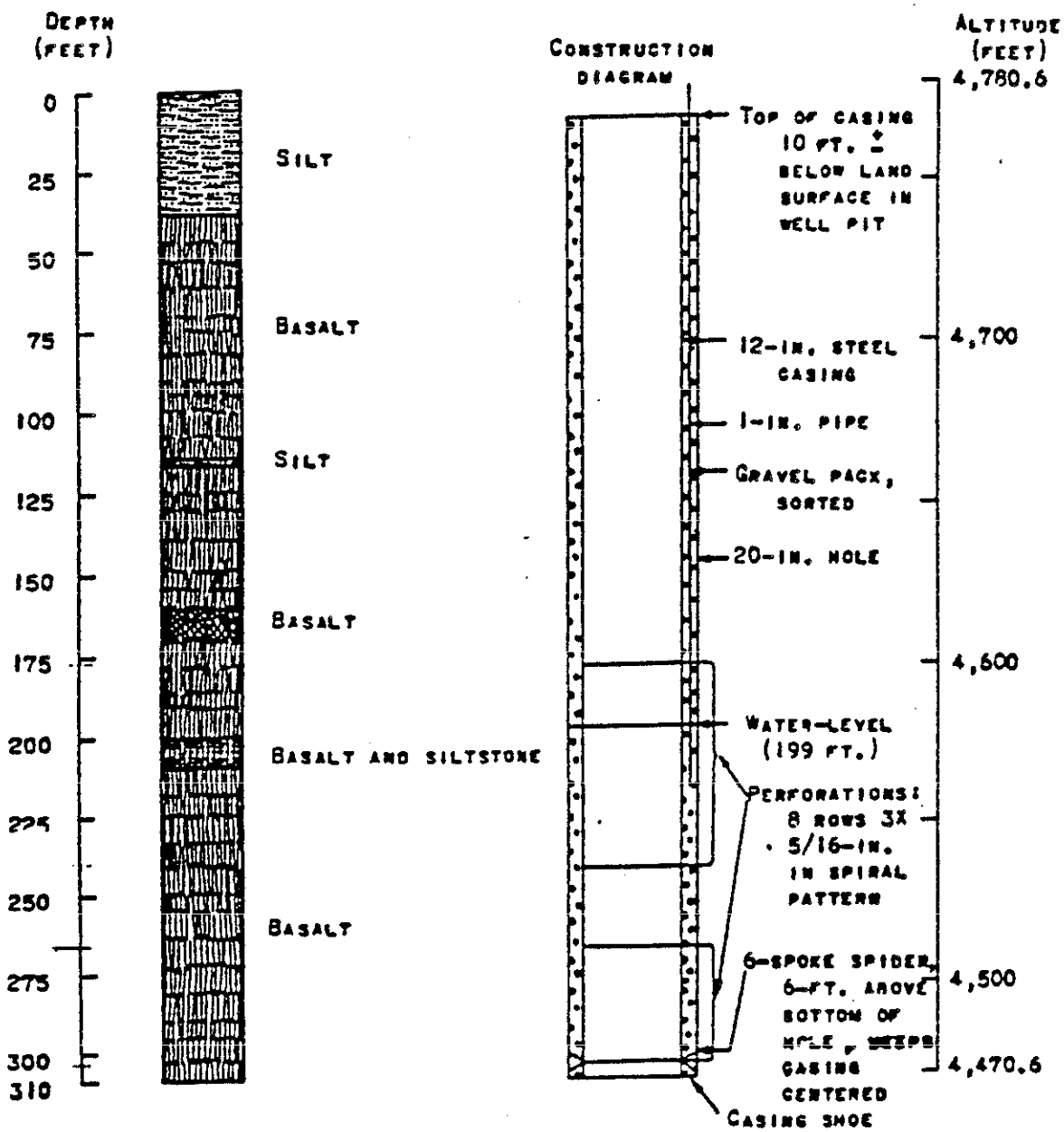
TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - HERBICIDE DATA

AREA	TSF	TSF
LOCATION	DISPOSAL POND	DISPOSAL POND
TYPE OF LOCATION	AUGER HOLE #6	AUGER HOLE #6
SAMPLE NUMBER	TAG0489C01C	TAG0689C01C
MEDIA	SOIL	SOIL
UNITS	ug/kg	ug/kg
SDG NUMBER	TAGEQ89002	TAGEQ89001
FIELD MEASUREMENTS		
Depth (ft)	10-12	10-12
ANALYTES		
None detected		
Total (Allowed) Hold Time	9(14)d	10(14)d
Dilution Factor	1.000	1.000

APPENDIX B

UNVALIDATED ANALYTICAL DATA FOR THE TSF-05 INJECTION WELL GROUNDWATER AND SEDIMENT/SLUDGE

GENERALIZED GRAPHIC LOGS OF WELLS



6N-31E-13cal (field no. ANP-3)

JULY 18, 1990

TEF0501 SLUDGE for L. FRITZ

NUCLIDE	ANALYSIS DATE	ACTIVITY ± 1 STANDARD DEVIATION
GROSS ALPHA	JULY 17, 1990	(6 ± 4)E+0 pCi/mL
GROSS BETA	JULY 17, 1990	(4.9 ± 0.5)E+3 pCi/mL
TRITIUM	JULY 17, 1990	(1.03 ± 0.03)E+3 pCi/mL
Sr-TOTAL	JULY 17, 1990	(3.1 ± 0.3)E+2 pCi/mL

NOTE: CARBON-14 RESULTS WILL BE SENT UNDER SEPARATE COVER.

ANALYSIS BY: _____

APPROVED BY: _____

J 990
TCA 0
Attachment

TABLE 1
TAN SLUDGE SAMPLE TSF-0501R

COLLECTION DATES
071090 TO 071090

16-JUL-90

SAMPLE ID	ESP ID	RADIONUCLIDE (GAMMA)	ACTIVITY(S) (pCi/gm)	UNCERTAINTIES(%) STATISTICAL	GEOMETRY	EFFICIENCY	ACTIVITY(T) (pCi/gm)
A10711290031	TSF-0501R	CO 60	(+8.12 +/- .03)E+02	0.4	50.0	5.0	(+8.12 +/- 4.1)E+02
		CS 137	(+2.34 +/- .01)E+03	0.3	50.0	5.0	(+2.34 +/- 1.1)E+03
		EU 154	(+6.62 +/- 1.1)E+00	16.6	50.0	5.0	(+6.62 +/- 3.5)E+00
		AM 241	(+2.36 +/- .53)E+01	22.3	50.0	5.0	(+2.36 +/- 1.1)E+01

NOTE: (1)ACTIVITY(S) Includes the statistical uncertainty, from counting statistics and photopeak fitting--expressed as 1 std. dev.
(2)ACTIVITY(T) Includes the total uncertainty resulting from the statistical, sample/detector geometry and efficiency. These uncertainties have been propogated in quadrature--expressed as 1 std. dev.

SAMPLES SUBMITTED BY: Lori Fritz

DATE 7-20-1990

PLE NUMBER	SAMPLE DESCRIPTION	NUCLIDE	ACTIVITY
117	TSF0501R	Pu-239	1.22 +/- 0.03 E 1 pCi/g
		***	4.12 +/- 0.15 E 0 pCi/g

***-Am-241 and/or Pu-238

ANALYZED BY: David S. Lee

Uncertainties are ONE SIGMA.

Controls for Environmental
Pollution, Inc.
P.O. Box 5351
Santa Fe, NM 87502
Attn: James J. Mueller
Phone: (505) 982-9841

EG and G Idaho, Inc.
1955 Fremont Avenue
Idaho Falls, ID 83415

Attn: Dan R. James

Purchase Order: C-90-132804
Invoice Number:

Order #: 90-08-104
Date: 08/25/90 08:56
Work ID: Organics
Date Received: 08/06/90
Date Completed: 08/25/90

SAMPLE IDENTIFICATION

Sample Number	Sample Description	Sample Number	Sample Description
01	TSF0502V	02	TSF0503V
03	TSF0504V	04	TSF0505V
05	TSF0506V	06	TSF0507V
07	TSF0508V	08	TSF0509V
09	TSF0510V	10	TSF0513V
11	TSF0514V	12	TSF0515V
13	TSF0516V	14	TSF0502V
15	88196060-TB		

Remainder of sample(s) for routine analysis will be disposed of three weeks from final report date. Sample(s) for bacteria analysis only, will be disposed of immediately after analysis. This is not applicable if other arrangements have been made.

Certified By

TEST RESULTS BY SAMPLE

Sample: 01A TSF0502V Collected: 07/10/90 10:42

Test Description	Result	Limit	Units	Analyzed	By
EPA - method 8240					
Chloromethane	<0.30	0.30	mg/gram		
Bromomethane	<0.30	0.30	mg/gram		
Vinyl Chloride	<0.06	0.06	mg/gram		
Chloroethane	<0.30	0.30	mg/gram		
Methylene Chloride	<0.08	0.08	mg/gram		
Acetone	<0.30	0.30	mg/gram		
Carbon Disulfide	<0.15	0.15	mg/gram		
1,1-Dichloroethene	<0.08	0.08	mg/gram		
1,1-Dichloroethane	<0.14	0.14	mg/gram		
trans-1,2-Dichloroethane	<0.05	0.05	mg/gram		
Chloroform	<0.05	0.05	mg/gram		
1,2-Dichloroethane	<0.08	0.08	mg/gram		
2-Butanone	<0.30	0.30	mg/gram		
1,1,1-Trichloroethane	<0.11	0.11	mg/gram		
Carbon Tetrachloride	<0.08	0.08	mg/gram		
Vinyl Acetate	<0.30	0.30	mg/gram		
Bromodichloromethane	<0.07	0.07	mg/gram		
1,1,2,2-Tetrachloroethane	<0.21	0.21	mg/gram		
1,2-Dichloropropane	<0.18	0.18	mg/gram		
trans-1,3-Dichloropropene	<0.15	0.15	mg/gram		
Trichloroethene	30.0	0.06	mg/gram		
Dibromochloromethane	<0.09	0.09	mg/gram		
1,1,2-Trichloroethane	<0.15	0.15	mg/gram		
Benzene	<0.13	0.13	mg/gram		
cis-1,3-Dichloropropene	<0.15	0.15	mg/gram		
2-Chloroethyl Vinyl Ether	<0.30	0.30	mg/gram		
Bromoform	<0.14	0.14	mg/gram		
2-Hexanone	<0.30	0.30	mg/gram		

Test Description	Result	Limit	Units	Analyzed	By
4-Methyl-2-Pentanone	<0.30	0.30	mg/gram		
Tetrachloroethene	0.56	0.12	mg/gram		
Toluene	<0.18	0.18	mg/gram		
Chlorobenzene	<0.18	0.18	mg/gram		
Ethyl Benzene	<0.22	0.22	mg/gram		
Styrene	<0.15	0.15	mg/gram		
Total Xylenes	<0.15	0.15	mg/gram		

Sample: 02A TSF0503V Collected: 07/10/90 10:48

Test Description	Result	Limit	Units	Analyzed	By
EPA - method 8240					
Chloromethane	<0.30	0.30	mg/gram		
Bromomethane	<0.30	0.30	mg/gram		
Vinyl Chloride	<0.06	0.06	mg/gram		
Chloroethane	<0.30	0.30	mg/gram		
Methylene Chloride	<0.08	0.08	mg/gram		
Acetone	<0.30	0.30	mg/gram		
Carbon Disulfide	<0.15	0.15	mg/gram		
1,1-Dichloroethene	<0.08	0.08	mg/gram		
1,1-Dichloroethane	<0.30	0.30	mg/gram		
trans-1,2-Dichloroethane	<0.15	0.15	mg/gram		
Chloroform	<0.08	0.08	mg/gram		
1,2-Dichloroethane	<0.14	0.14	mg/gram		
2-Butanone	<0.30	0.30	mg/gram		
1,1,1-Trichloroethane	<0.11	0.11	mg/gram		
Carbon Tetrachloride	<0.08	0.08	mg/gram		
Vinyl Acetate	<0.30	0.30	mg/gram		
Bromodichloromethane	<0.07	0.07	mg/gram		
1,1,2,2-Tetrachloroethane	<0.21	0.21	mg/gram		
1,2-Dichloropropane	<0.18	0.18	mg/gram		
trans-1,3-Dichloropropene	<0.15	0.15	mg/gram		

Test Description	Result	Limit	Units	Analyzed	By
Trichloroethene	30.0	0.06	mg/gram		
Dibromochloromethane	<0.09	0.09	mg/gram		
1,1,2-Trichloroethane	<0.15	0.15	mg/gram		
Benzene	<0.13	0.13	mg/gram		
cis-1,3-Dichloropropene	<0.15	0.15	mg/gram		
2-Chloroethyl Vinyl Ether	<0.30	0.30	mg/gram		
Bromoform	<0.14	0.14	mg/gram		
2-Hexanone	<0.30	0.30	mg/gram		
4-Methyl-2-Pentanone	<0.30	0.30	mg/gram		
Tetrachloroethene	0.4	0.12	mg/gram		
Toluene	<0.18	0.18	mg/gram		
Chlorobenzene	<0.18	0.18	mg/gram		
Ethyl Benzene	<0.22	0.22	mg/gram		
Styrene	<0.15	0.15	mg/gram		
Total Xylenes	<0.15	0.15	mg/gram		

Sample: 03A TSF0504V Collected: 07/10/90 11:23

Test Description	Result	Limit	Units	Analyzed	By
EPA - method 8240					
Chloromethane	<0.30	0.30	mg/gram		
Bromomethane	<0.30	0.30	mg/gram		
Vinyl Chloride	<0.06	0.06	mg/gram		
Chloroethane	<0.30	0.30	mg/gram		
Methylene Chloride	<0.08	0.08	mg/gram		
Acetone	<0.30	0.30	mg/gram		
Carbon Disulfide	<0.15	0.15	mg/gram		
1,1-Dichloroethene	<0.08	0.08	mg/gram		
1,1-Dichloroethane	<0.14	0.14	mg/gram		
trans-1,2-Dichloroethane	<0.05	0.05	mg/gram		
Chloroform	<0.05	0.05	mg/gram		
1,2-Dichloroethane	<0.08	0.08	mg/gram		

Test Description	Result	Limit	Units	Analyzed	By
2-Butanone	<0.30	0.30	mg/gram		
1,1,1-Trichloroethane	<0.11	0.11	mg/gram		
Carbon Tetrachloride	<0.08	0.08	mg/gram		
Vinyl Acetate	<0.30	0.30	mg/gram		
Bromodichloromethane	<0.07	0.07	mg/gram		
1,1,2,2-Tetrachloroethane	<0.21	0.21	mg/gram		
1,2-Dichloropropane	<0.18	0.18	mg/gram		
trans-1,3-Dichloropropene	<0.15	0.15	mg/gram		
Trichloroethene	23.6	0.06	mg/gram		
Dibromochloromethane	<0.09	0.09	mg/gram		
1,1,2-Trichloroethane	<0.15	0.15	mg/gram		
Benzene	<0.13	0.13	mg/gram		
cis-1,3-Dichloropropene	<0.15	0.15	mg/gram		
2-Chloroethyl Vinyl Ether	<0.30	0.30	mg/gram		
Bromoform	<0.14	0.14	mg/gram		
2-Hexanone	<0.30	0.30	mg/gram		
4-Methyl-2-Pentanone	<0.30	0.30	mg/gram		
Tetrachloroethene	0.24	0.12	mg/gram		
Toluene	<0.18	0.18	mg/gram		
Chlorobenzene	<0.18	0.18	mg/gram		
Ethyl Benzene	<0.22	0.22	mg/gram		
Styrene	<0.15	0.15	mg/gram		
Total Xylenes	<0.15	0.15	mg/gram		

Sample: 04A TSF0505V Collected: 07/10/90 11:29

Test Description	Result	Limit	Units	Analyzed	By
EPA - method 8240					
Chloromethane	<0.30	0.30	mg/gram		
Bromomethane	<0.30	0.30	mg/gram		
Vinyl Chloride	<0.06	0.06	mg/gram		
Chloroethane	<0.30	0.30	mg/gram		

Test Description	Result	Limit	Units	Analyzed	By
Methylene Chloride	<0.08	0.08	mg/gram		
Acetone	<0.30	0.30	mg/gram		
Carbon Disulfide	<0.15	0.15	mg/gram		
1,1-Dichloroethene	<0.08	0.08	mg/gram		
1,1-Dichloroethane	<0.14	0.14	mg/gram		
trans-1,2-Dichloroethane	<0.05	0.05	mg/gram		
Chloroform	<0.05	0.05	mg/gram		
1,2-Dichloroethane	<0.08	0.08	mg/gram		
2-Butanone	<0.30	0.30	mg/gram		
1,1,1-Trichloroethane	<0.11	0.11	mg/gram		
Carbon Tetrachloride	<0.08	0.08	mg/gram		
Vinyl Acetate	<0.30	0.30	mg/gram		
Bromodichloromethane	<0.07	0.07	mg/gram		
1,1,2,2-Tetrachloroethane	<0.21	0.21	mg/gram		
1,2-Dichloropropane	<0.18	0.18	mg/gram		
trans-1,3-Dichloropropene	<0.15	0.15	mg/gram		
Trichloroethene	16.3	0.06	mg/gram		
Dibromochloromethane	<0.09	0.09	mg/gram		
1,1,2-Trichloroethane	<0.15	0.15	mg/gram		
Benzene	<0.13	0.13	mg/gram		
cis-1,3-Dichloropropene	<0.15	0.15	mg/gram		
2-Chloroethyl Vinyl Ether	<0.30	0.30	mg/gram		
Bromoform	<0.14	0.14	mg/gram		
2-Hexanone	<0.30	0.30	mg/gram		
4-Methyl-2-Pentanone	<0.30	0.30	mg/gram		
Tetrachloroethene	0.17	0.12	mg/gram		
Toluene	<0.18	0.18	mg/gram		
Chlorobenzene	<0.18	0.18	mg/gram		
Ethyl Benzene	<0.22	0.22	mg/gram		
Styrene	<0.15	0.15	mg/gram		
Total Xylenes	<0.15	0.15	mg/gram		

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Sample: 05A TSF0506V Collected: 07/10/90 11:37

Test Description	Result	Limit	Units	Analyzed	By
EPA - method 8240					
Chloromethane	<0.30	0.30	mg/gram		
Bromomethane	<0.30	0.30	mg/gram		
Vinyl Chloride	<0.06	0.06	mg/gram		
Chloroethane	<0.30	0.30	mg/gram		
Methylene Chloride	<0.08	0.08	mg/gram		
Acetone	<0.30	0.30	mg/gram		
Carbon Disulfide	<0.15	0.15	mg/gram		
1,1-Dichloroethene	<0.08	0.08	mg/gram		
1,1-Dichloroethane	<0.14	0.14	mg/gram		
trans-1,2-Dichloroethane	<0.05	0.05	mg/gram		
Chloroform	<0.05	0.05	mg/gram		
1,2-Dichloroethane	<0.08	0.08	mg/gram		
2-Butanone	<0.30	0.30	mg/gram		
1,1,1-Trichloroethane	<0.11	0.11	mg/gram		
Carbon Tetrachloride	<0.08	0.08	mg/gram		
Vinyl Acetate	<0.30	0.30	mg/gram		
Bromodichloromethane	<0.07	0.07	mg/gram		
1,1,2,2-Tetrachloroethane	<0.21	0.21	mg/gram		
1,2-Dichloropropane	<0.18	0.18	mg/gram		
trans-1,3-Dichloropropene	<0.15	0.15	mg/gram		
Trichloroethene	6.9	0.06	mg/gram		
Dibromochloromethane	<0.09	0.09	mg/gram		
1,1,2-Trichloroethane	<0.15	0.15	mg/gram		
Benzene	<0.13	0.13	mg/gram		
cis-1,3-Dichloropropene	<0.15	0.15	mg/gram		
2-Chloroethyl Vinyl Ether	<0.30	0.30	mg/gram		
Bromoform	<0.14	0.14	mg/gram		
2-Hexanone	<0.30	0.30	mg/gram		
4-Methyl-2-Pentanone	<0.30	0.30	mg/gram		
Tetrachloroethene	<0.12	0.12	mg/gram		

Test Description	Result	Limit	Units	Analyzed	By
Toluene	<0.18	0.18	mg/gram		
Chlorobenzene	<0.18	0.18	mg/gram		
Ethyl Benzene	<0.22	0.22	mg/gram		
Styrene	<0.15	0.15	mg/gram		
Total Xylenes	<0.15	0.15	mg/gram		

Sample: 06A TSF0507V Collected: 07/10/90 13:45

Test Description	Result	Limit	Units	Analyzed	By
EPA - method 8240					
Chloromethane	<0.30	0.30	mg/gram		
Bromomethane	<0.30	0.30	mg/gram		
Vinyl Chloride	<0.06	0.06	mg/gram		
Chloroethane	<0.30	0.30	mg/gram		
Methylene Chloride	<0.08	0.08	mg/gram		
Acetone	<0.30	0.30	mg/gram		
Carbon Disulfide	<0.15	0.15	mg/gram		
1,1-Dichloroethene	<0.08	0.08	mg/gram		
1,1-Dichloroethane	<0.14	0.14	mg/gram		
trans-1,2-Dichloroethane	<0.05	0.05	mg/gram		
Chloroform	<0.05	0.05	mg/gram		
1,2-Dichloroethane	<0.08	0.08	mg/gram		
2-Butanone	<0.30	0.30	mg/gram		
1,1,1-Trichloroethane	<0.11	0.11	mg/gram		
Carbon Tetrachloride	<0.08	0.08	mg/gram		
Vinyl Acetate	<0.30	0.30	mg/gram		
Bromodichloromethane	<0.07	0.07	mg/gram		
1,1,2,2-Tetrachloroethane	<0.21	0.21	mg/gram		
1,2-Dichloropropane	<0.18	0.18	mg/gram		
trans-1,3-Dichloropropene	<0.15	0.15	mg/gram		
Trichloroethene	1.6	0.06	mg/gram		
Dibromochloromethane	<0.07	0.07	mg/gram		

Test Description	Result	Limit	Units	Analyzed	By
1,1,2-Trichloroethane	<0.15	0.15	mg/gram		
Benzene	<0.13	0.13	mg/gram		
cis-1,3-Dichloropropene	<0.15	0.15	mg/gram		
2-Chloroethyl Vinyl Ether	<0.30	0.30	mg/gram		
Bromoform	<0.14	0.14	mg/gram		
2-Hexanone	<0.30	0.30	mg/gram		
4-Methyl-2-Pentanone	<0.30	0.30	mg/gram		
Tetrachloroethene	<0.12	0.12	mg/gram		
Toluene	<0.18	0.18	mg/gram		
Chlorobenzene	<0.18	0.18	mg/gram		
Ethyl Benzene	<0.22	0.22	mg/gram		
Styrene	<0.15	0.15	mg/gram		
Total Xylenes	<0.15	0.15	mg/gram		

Sample: 07A TSF0508V Collected: 07/10/90 13:51

Test Description	Result	Limit	Units	Analyzed	By
EPA - method 8240					
Chloromethane	<0.30	0.30	mg/gram		
Bromomethane	<0.30	0.30	mg/gram		
Vinyl Chloride	<0.06	0.06	mg/gram		
Chloroethane	<0.30	0.30	mg/gram		
Methylene Chloride	<0.08	0.08	mg/gram		
Acetone	<0.30	0.30	mg/gram		
Carbon Disulfide	<0.15	0.15	mg/gram		
1,1-Dichloroethene	<0.08	0.08	mg/gram		
1,1-Dichloroethane	<0.14	0.14	mg/gram		
trans-1,2-Dichloroethane	<0.05	0.05	mg/gram		
Chloroform	<0.05	0.05	mg/gram		
1,2-Dichloroethane	<0.08	0.08	mg/gram		
2-Butanone	<0.30	0.30	mg/gram		
1,1,1-Trichloroethane	<0.11	0.11	mg/gram		

Test Description	Result	Limit	Units	Analyzed	By
Carbon Tetrachloride	<0.08	0.08	mg/gram		
Vinyl Acetate	<0.30	0.30	mg/gram		
Bromodichloromethane	<0.07	0.07	mg/gram		
1,1,2,2-Tetrachloroethane	<0.21	0.21	mg/gram		
1,2-Dichloropropane	<0.18	0.18	mg/gram		
trans-1,3-Dichloropropene	<0.15	0.15	mg/gram		
Trichloroethene	0.18	0.06	mg/gram		
Dibromochloromethane	<0.09	0.09	mg/gram		
1,1,2-Trichloroethane	<0.15	0.15	mg/gram		
Benzene	<0.13	0.13	mg/gram		
cis-1,3-Dichloropropene	<0.15	0.15	mg/gram		
2-Chloroethyl Vinyl Ether	<0.30	0.30	mg/gram		
Bromoform	<0.14	0.14	mg/gram		
2-Hexanone	<0.30	0.30	mg/gram		
4-Methyl-2-Pentanone	<0.30	0.30	mg/gram		
Tetrachloroethene	<0.12	0.12	mg/gram		
Toluene	<0.18	0.18	mg/gram		
Chlorobenzene	<0.18	0.18	mg/gram		
Ethyl Benzene	<0.22	0.22	mg/gram		
Styrene	<0.15	0.15	mg/gram		
Total Xylenes	<0.15	0.15	mg/gram		

Sample: 08A TSF0509V Collected: 07/10/90 14:26

Test Description	Result	Limit	Units	Analyzed	By
EPA - method 8240					
Chloromethane	<0.30	0.30	mg/gram		
Bromomethane	<0.30	0.30	mg/gram		
Vinyl Chloride	<0.06	0.06	mg/gram		
Chloroethane	<0.30	0.30	mg/gram		
Methylene Chloride	<0.08	0.08	mg/gram		
Acetone	<0.30	0.30	mg/gram		

Test Description	Result	Limit	Units	Analyzed	By
Carbon Disulfide	<0.15	0.15	mg/gram		
1,1-Dichloroethene	<0.08	0.08	mg/gram		
1,1-Dichloroethane	<0.14	0.14	mg/gram		
trans-1,2-Dichloroethane	<0.05	0.05	mg/gram		
Chloroform	<0.05	0.05	mg/gram		
1,2-Dichloroethane	<0.08	0.08	mg/gram		
2-Butanone	<0.30	0.30	mg/gram		
1,1,1-Trichloroethane	<0.11	0.11	mg/gram		
Carbon Tetrachloride	<0.08	0.08	mg/gram		
Vinyl Acetate	<0.30	0.30	mg/gram		
Bromodichloromethane	<0.07	0.07	mg/gram		
1,1,2,2-Tetrachloroethane	<0.21	0.21	mg/gram		
1,2-Dichloropropane	<0.18	0.18	mg/gram		
trans-1,3-Dichloropropene	<0.15	0.15	mg/gram		
Trichloroethene	7.4	0.06	mg/gram		
Dibromochloromethane	<0.09	0.09	mg/gram		
1,1,2-Trichloroethane	<0.15	0.15	mg/gram		
Benzene	<0.13	0.13	mg/gram		
cis-1,3-Dichloropropene	<0.15	0.15	mg/gram		
2-Chloroethyl Vinyl Ether	<0.30	0.30	mg/gram		
Bromoform	<0.14	0.14	mg/gram		
2-Hexanone	<0.30	0.30	mg/gram		
4-Methyl-2-Pentanone	<0.30	0.30	mg/gram		
Tetrachloroethene	<0.12	0.12	mg/gram		
Toluene	<0.18	0.18	mg/gram		
Chlorobenzene	<0.18	0.18	mg/gram		
Ethyl Benzene	<0.22	0.22	mg/gram		
Styrene	<0.15	0.15	mg/gram		
Total Xylenes	<0.15	0.15	mg/gram		

Sample: 09A TSF0510V Collected: 07/10/90 14:36

Test Description	Result	Limit	Units	Analyzed	By
EPA - method 8240					
Chloromethane	<0.30	0.30	mg/gram		
Bromomethane	<0.30	0.30	mg/gram		
Vinyl Chloride	<0.06	0.06	mg/gram		
Chloroethane	<0.30	0.30	mg/gram		
Methylene Chloride	<0.08	0.08	mg/gram		
Acetone	<0.30	0.30	mg/gram		
Carbon Disulfide	<0.15	0.15	mg/gram		
1,1-Dichloroethene	<0.08	0.08	mg/gram		
1,1-Dichloroethane	<0.14	0.14	mg/gram		
trans-1,2-Dichloroethane	<0.05	0.05	mg/gram		
Chloroform	<0.05	0.05	mg/gram		
1,2-Dichloroethane	<0.08	0.08	mg/gram		
2-Butanone	<0.30	0.30	mg/gram		
1,1,1-Trichloroethane	<0.11	0.11	mg/gram		
Carbon Tetrachloride	<0.08	0.08	mg/gram		
Vinyl Acetate	<0.30	0.30	mg/gram		
Bromodichloromethane	<0.07	0.07	mg/gram		
1,1,2,2-Tetrachloroethane	<0.21	0.21	mg/gram		
1,2-Dichloropropane	<0.18	0.18	mg/gram		
trans-1,3-Dichloropropene	<0.15	0.15	mg/gram		
Trichloroethene	7.5	0.19	mg/gram		
Dibromochloromethane	<0.09	0.09	mg/gram		
1,1,2-Trichloroethane	<0.15	0.15	mg/gram		
Benzene	<0.13	0.13	mg/gram		
cis-1,3-Dichloropropene	<0.15	0.15	mg/gram		
2-Chloroethyl Vinyl Ether	<0.30	0.30	mg/gram		
Bromoform	<0.14	0.14	mg/gram		
2-Hexanone	<0.30	0.30	mg/gram		
4-Methyl-2-Pentanone	<0.30	0.30	mg/gram		
Tetrachloroethene	<0.12	0.12	mg/gram		

Test Description	Result	Limit	Units	Analyzed	By
Toluene	<0.18	0.18	mg/gram		
Chlorobenzene	<0.18	0.18	mg/gram		
Ethyl Benzene	<0.22	0.22	mg/gram		
Styrene	<0.15	0.15	mg/gram		
Total Xylenes	<0.15	0.15	mg/gram		

Sample: 10A TSF0513V Collected: 07/10/90 14:58

Test Description	Result	Limit	Units	Analyzed	By
EPA - method 8240					
Chloromethane	<0.30	0.30	mg/gram		
Bromomethane	<0.30	0.30	mg/gram		
Vinyl Chloride	<0.06	0.06	mg/gram		
Chloroethane	<0.30	0.30	mg/gram		
Methylene Chloride	<0.08	0.08	mg/gram		
Acetone	<0.30	0.30	mg/gram		
Carbon Disulfide	<0.15	0.15	mg/gram		
1,1-Dichloroethene	<0.08	0.08	mg/gram		
1,1-Dichloroethane	<0.14	0.14	mg/gram		
trans-1,2-Dichloroethane	<0.05	0.05	mg/gram		
Chloroform	<0.05	0.05	mg/gram		
1,2-Dichloroethane	<0.08	0.08	mg/gram		
2-Butanone	<0.30	0.30	mg/gram		
1,1,1-Trichloroethane	<0.11	0.11	mg/gram		
Carbon Tetrachloride	<0.08	0.08	mg/gram		
Vinyl Acetate	<0.30	0.30	mg/gram		
Bromodichloromethane	<0.07	0.07	mg/gram		
1,1,2,2-Tetrachloroethane	<0.21	0.21	mg/gram		
1,2-Dichloropropane	<0.18	0.18	mg/gram		
trans-1,3-Dichloropropene	<0.15	0.15	mg/gram		
Trichloroethene	1.6	0.17	mg/gram		
Dibromochloromethane	<0.09	0.09	mg/gram		

Test Description	Result	Limit	Units	Analyzed	By
1,1,2-Trichloroethane	<0.15	0.15	mg/gram		
Benzene	<0.13	0.13	mg/gram		
cis-1,3-Dichloropropene	<0.15	0.15	mg/gram		
2-Chloroethyl Vinyl Ether	<0.30	0.30	mg/gram		
Bromoform	<0.14	0.14	mg/gram		
2-Hexanone	<0.30	0.30	mg/gram		
4-Methyl-2-Pentanone	<0.30	0.30	mg/gram		
Tetrachloroethene	1.3	0.12	mg/gram		
Toluene	<0.18	0.18	mg/gram		
Chlorobenzene	<0.18	0.18	mg/gram		
Ethyl Benzene	<0.22	0.22	mg/gram		
Styrene	<0.15	0.15	mg/gram		
Total Xylenes	<0.15	0.15	mg/gram		

Sample: 11A TSF0514V Collected: 07/10/90 15:22

Test Description	Result	Limit	Units	Analyzed	By
EPA - method 8240					
Chloromethane	<0.30	0.30	mg/gram		
Bromomethane	<0.30	0.30	mg/gram		
Vinyl Chloride	<0.06	0.06	mg/gram		
Chloroethane	<0.30	0.30	mg/gram		
Methylene Chloride	<0.08	0.08	mg/gram		
Acetone	<0.30	0.30	mg/gram		
Carbon Disulfide	<0.15	0.15	mg/gram		
1,1-Dichloroethene	<0.08	0.08	mg/gram		
1,1-Dichloroethane	<0.14	0.14	mg/gram		
trans-1,2-Dichloroethane	0.41	0.05	mg/gram		
Chloroform	<0.05	0.05	mg/gram		
1,2-Dichloroethane	<0.08	0.08	mg/gram		
2-Butanone	<0.30	0.30	mg/gram		
1,1,1-Trichloroethane	<0.11	0.11	mg/gram		

Test Description	Result	Limit	Units	Analyzed	By
Carbon Tetrachloride	<0.08	0.08	mg/gram		
Vinyl Acetate	<0.30	0.30	mg/gram		
Bromodichloromethane	<0.07	0.07	mg/gram		
1,1,2,2-Tetrachloroethane	<0.21	0.21	mg/gram		
1,2-Dichloropropane	<0.18	0.18	mg/gram		
trans-1,3-Dichloropropene	<0.15	0.15	mg/gram		
Trichloroethene	0.92	0.19	mg/gram		
Dibromochloromethane	<0.09	0.09	mg/gram		
1,1,2-Trichloroethane	<0.15	0.15	mg/gram		
Benzene	<0.13	0.13	mg/gram		
cis-1,3-Dichloropropene	<0.15	0.15	mg/gram		
2-Chloroethyl Vinyl Ether	<0.30	0.30	mg/gram		
Bromoform	<0.14	0.14	mg/gram		
2-Hexanone	<0.30	0.30	mg/gram		
4-Methyl-2-Pentanone	<0.30	0.30	mg/gram		
Tetrachloroethene	<0.12	0.12	mg/gram		
Toluene	<0.18	0.18	mg/gram		
Chlorobenzene	<0.18	0.18	mg/gram		
Ethyl Benzene	<0.22	0.22	mg/gram		
Styrene	<0.15	0.15	mg/gram		
Total Xylenes	<0.15	0.15	mg/gram		

Sample: 12A TSF0515V Collected: 07/10/90 15:27

Test Description	Result	Limit	Units	Analyzed	By
EPA - method 8240					
Chloromethane	<0.30	0.30	mg/gram		
Bromomethane	<0.30	0.30	mg/gram		
Vinyl Chloride	<0.06	0.06	mg/gram		
Chloroethane	<0.30	0.30	mg/gram		
Methylene Chloride	<0.08	0.08	mg/gram		
Acetone	<0.30	0.30	mg/gram		

Test Description	Result	Limit	Units	Analyzed	By
Carbon Disulfide	<0.15	0.15	mg/gram		
1,1-Dichloroethene	<0.08	0.08	mg/gram		
1,1-Dichloroethane	<0.14	0.14	mg/gram		
trans-1,2-Dichloroethane	0.05	0.05	mg/gram		
Chloroform	<0.05	0.05	mg/gram		
1,2-Dichloroethane	<0.08	0.08	mg/gram		
2-Butanone	<0.30	0.30	mg/gram		
1,1,1-Trichloroethane	<0.11	0.11	mg/gram		
Carbon Tetrachloride	<0.08	0.08	mg/gram		
Vinyl Acetate	<0.30	0.30	mg/gram		
Bromodichloromethane	<0.07	0.07	mg/gram		
1,1,2,2-Tetrachloroethane	<0.21	0.21	mg/gram		
1,2-Dichloropropane	<0.18	0.18	mg/gram		
trans-1,3-Dichloropropene	<0.15	0.15	mg/gram		
Trichloroethene	1.0	0.19	mg/gram		
Dibromochloromethane	<0.09	0.09	mg/gram		
1,1,2-Trichloroethane	<0.15	0.15	mg/gram		
Benzene	<0.13	0.13	mg/gram		
cis-1,3-Dichloropropene	<0.15	0.15	mg/gram		
2-Chloroethyl Vinyl Ether	<0.30	0.30	mg/gram		
Bromoform	<0.14	0.14	mg/gram		
2-Hexanone	<0.30	0.30	mg/gram		
4-Methyl-2-Pentanone	<0.30	<0.30	mg/gram		
Tetrachloroethene	1.1	0.12	mg/gram		
Toluene	<0.18	0.18	mg/gram		
Chlorobenzene	<0.18	0.18	mg/gram		
Ethyl Benzene	<0.22	0.22	mg/gram		
Styrene	<0.15	0.15	mg/gram		
Total Xylenes	<0.15	<0.15	mg/gram		

Sample: 13A TSF0516V Collected: 07/10/90 15:02

Test Description	Result	Limit	Units	Analyzed	By
EPA - method 8240					
Chloromethane	<0.30	0.30	mg/gram		
Bromomethane	<0.30	0.30	mg/gram		
Vinyl Chloride	<0.06	0.06	mg/gram		
Chloroethane	<0.30	0.30	mg/gram		
Methylene Chloride	<0.08	0.08	mg/gram		
Acetone	<0.30	0.30	mg/gram		
Carbon Disulfide	<0.15	0.15	mg/gram		
1,1-Dichloroethene	<0.08	0.08	mg/gram		
1,1-Dichloroethane	<0.14	0.14	mg/gram		
trans-1,2-Dichloroethane	<0.05	0.05	mg/gram		
Chloroform	<0.05	0.05	mg/gram		
1,2-Dichloroethane	<0.08	0.08	mg/gram		
2-Butanone	<0.30	0330	mg/gram		
1,1,1-Trichloroethane	<0.11	0.11	mg/gram		
Carbon Tetrachloride	<0.08	0.08	mg/gram		
Vinyl Acetate	<0.30	0.30	mg/gram		
Bromodichloromethane	<0.07	0.07	mg/gram		
1,1,2,2-Tetrachloroethane	<0.21	0.21	mg/gram		
1,2-Dichloropropane	<0.18	0.18	mg/gram		
trans-1,3-Dichloropropene	<0.15	0.15	mg/gram		
Trichloroethene	0.3	0.19	mg/gram		
Dibromochloromethane	<0.09	0.09	mg/gram		
1,1,2-Trichloroethane	<0.15	0.15	mg/gram		
Benzene	<0.13	0.13	mg/gram		
cis-1,3-Dichloropropene	<0.15	0.15	mg/gram		
2-Chloroethyl Vinyl Ether	<0.30	0.30	mg/gram		
Bromoform	<0.14	0.14	mg/gram		
2-Hexanone	<0.30	0.30	mg/gram		
4-Methyl-2-Pentanone	<0.30	0.30	mg/gram		
Tetrachloroethene	0.3	0.12	mg/gram		

Test Description	Result	Limit	Units	Analyzed	By
Toluene	<0.18	0.18	mg/gram		
Chlorobenzene	<0.18	0.18	mg/gram		
Ethyl Benzene	<0.22	0.22	mg/gram		
Styrene	<0.15	0.15	mg/gram		
Total Xylenes	<0.15	0.15	mg/gram		

Sample: 14A TSF0502V Collected: 07/10/90 10:33

Test Description	Result	Limit	Units	Analyzed	By
EPA - method 8240					
Chloromethane	<0.30	0.30	mg/gram		
Bromomethane	<0.30	0.30	mg/gram		
Vinyl Chloride	<0.06	0.06	mg/gram		
Chloroethane	<0.30	0.30	mg/gram		
Methylene Chloride	<0.08	0.08	mg/gram		
Acetone	<0.30	0.30	mg/gram		
Carbon Disulfide	<0.15	0.15	mg/gram		
1,1-Dichloroethene	<0.08	0.08	mg/gram		
1,1-Dichloroethane	<0.14	0.14	mg/gram		
trans-1,2-Dichloroethane	0.09	0.05	mg/gram		
Chloroform	<0.05	0.05	mg/gram		
1,2-Dichloroethane	<0.08	0.08	mg/gram		
2-Butanone	<0.30	0.30	mg/gram		
1,1,1-Trichloroethane	<0.11	0.11	mg/gram		
Carbon Tetrachloride	<0.08	0.08	mg/gram		
Vinyl Acetate	<0.30	0.30	mg/gram		
Bromodichloromethane	<0.07	0.07	mg/gram		
1,1,2,2-Tetrachloroethane	<0.21	0.21	mg/gram		
1,2-Dichloropropane	<0.18	0.18	mg/gram		
trans-1,3-Dichloropropene	<0.15	0.15	mg/gram		
Trichloroethene	2.7	0.19	mg/gram		
Dibromochloromethane	<0.09	0.09	mg/gram		

Test Description	Result	Limit	Units	Analyzed	By
1,1,2-Trichloroethane	<0.15	0.15	mg/gram		
Benzene	<0.13	0.13	mg/gram		
cis-1,3-Dichloropropene	<0.15	0.15	mg/gram		
2-Chloroethyl Vinyl Ether	<0.30	0.30	mg/gram		
Bromoform	<0.14	0.14	mg/gram		
2-Hexanone	<0.30	0.30	mg/gram		
4-Methyl-2-Pentanone	<0.30	0.30	mg/gram		
Tetrachloroethene	2.8	0.12	mg/gram		
Toluene	<0.18	0.18	mg/gram		
Chlorobenzene	<0.18	0.18	mg/gram		
Ethyl Benzene	<0.22	0.22	mg/gram		
Styrene	<0.15	0.15	mg/gram		
Total Xylenes	<0.15	0.15	mg/gram		

Sample: 15A 08196060-TB Collected:

Test Description	Result	Limit	Units	Analyzed	By
EPA - method 8240					
Chloromethane	<10.0	10.0	ug/liter		
Bromomethane	<10.0	10.0	ug/liter		
Vinyl Chloride	<2.0	2.00	ug/liter		
Chloroethane	<10.0	10.0	ug/liter		
Methylene Chloride	<2.8	2.80	ug/liter		
Acetone	<10.0	10.0	ug/liter		
Carbon Disulfide	<5.0	5.00	ug/liter		
1,1-Dichloroethene	<2.8	2.00	ug/liter		
1,1-Dichloroethane	<4.7	4.70	ug/liter		
trans-1,2-Dichloroethane	<1.6	1.60	ug/liter		
Chloroform	<1.6	1.60	ug/liter		
1,2-Dichloroethane	<2.8	2.80	ug/liter		
2-Butanone	<10.0	10.0	ug/liter		
1,1,1-Trichloroethane	<3.8	3.80	ug/liter		

Test Description	Result	Limit	Units	Analyzed	By
Carbon Tetrachloride	<2.8	2.80	ug/liter		
Vinyl Acetate	<10.0	10.0	ug/liter		
Bromodichloromethane	<2.2	2.20	ug/liter		
1,1,2,2-Tetrachloroethane	<6.9	6.90	ug/liter		
1,2-Dichloropropane	<6.0	6.00	ug/liter		
trans-1,3-Dichloropropene	<5.0	5.00	ug/liter		
Trichloroethene	<1.9	1.90	ug/liter		
Dibromochloromethane	<3.1	3.10	ug/liter		
1,1,2-Trichloroethane	<5.0	5.00	ug/liter		
Benzene	<4.4	4.40	ug/liter		
cis-1,3-Dichloropropene	<5.0	5.00	ug/liter		
2-Chloroethyl Vinyl Ether	<10.0	10.0	ug/liter		
Bromoform	<4.7	4.70	ug/liter		
2-Hexanone	<10.0	10.0	ug/liter		
4-Methyl-2-Pentanone	<10.0	10.0	ug/liter		
Tetrachloroethene	<4.1	4.10	ug/liter		
Toluene	<6.0	6.00	ug/liter		
Chlorobenzene	<6.0	6.00	ug/liter		
Ethyl Benzene	<7.2	7.20	ug/liter		
Styrene	<5.0	5.00	ug/liter		
Total Xylenes	<5.0	5.00	ug/liter		

Controls for Environmental P n, Inc.
[illegible]
OUT OF STATE 800/546-2180 • FAX 505-902

EG and G Idaho, Inc.
1955 Fremont Avenue
Idaho Falls, ID 83415

Attn: Dan R. James

Work ID: Water Quality & Organics
P O # : C-90-132804

Date Received: 08/06/90
Date Reported: 08/25/90
Work Order: 90-08-103
Category: RUSH_TCLP

Test	Units	TSF0501C 07/10/90 10:53	TSF0504C 07/10/90 11:56	TSF0507C 07/10/90 14:07	TSF0509C 07/10/90 14:50
BTU	BTU/lb	*	*	*	*
Corrosivity (pH)	units	8.11	8.05	8.31	8.11
Total Halogen Sulfur	ug/gram	2410	2000	4340	1330
Mercury (total)	ug/gram	17.0	101.1	23.4	12.8
Ignitability	Degrees C	>90	>90	>90	>90
Lead (total)	ug/gram	160	130	180	100
Reactivity (Cyanide)	mg/kg	<3.1	<3.1	<31.3	<3.1
Reactivity (Sulfide)	mg/kg	<2.5	<2.5	<2.5	<2.5

Controls for Environmental P[illegible]tion, Inc.
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Page 2 CEP, Inc. REPORT Work Order # 90-08-103
Received: 08/06/90 08/25/90 09:11:18 Continued From Above

Test	Units	TSF0501C	TSF0504C	TSF0507C	TSF0509C
		07/10/90 10:53	07/10/90 11:56	07/10/90 14:07	07/10/90 14:50
Reactivity	mg/kg	**	**	**	**

Test	Units	TSF0513C	TSF0514C
		07/10/90 15:13	07/10/90 15:34
BTU	BTU/lb	*	*
Corrosivity (pH)	units	8.11	8.00
Total Halogen Sulfur	ug/gram	2230	1960
Mercury (total)	ug/gram	14.9	25.5
Ignitability	Degrees C	>90	>90
Lead (total)	ug/gram	110	110

Controls for Environmental P[illegible]ion, Inc.
[illegible]
OUT OF STATE 800/545-2188 • FAX · 505-982[illegible]

Page 3 CEP, Inc. REPORT Work Order # 90-08-103
Received: 08/06/90 08/25/90 09:11:18 Continued From Above

Test	Units	TSF0513C	TSF0514C
		07/10/90 15:13	07/10/90 15:34
Reactivity (Cyanide)	mg/kg	<3.1	<31.3
Reactivity (Sulfide)	mg/kg	<2.5	<2.5
Reactivity	mg/kg	**	**

* Didn't Ignite
** Non Reactive

Certified By:

Page 4 CEP, Inc. REPORT Work Order # 90-08-103
Received: 08/06/90

Results by Sample

SAMPLE ID T5F0501C FRACTION 01C TEST CODE TCLP NAME TCLP Metals
Date & Time Collected 07/10/90 10:53:00 Category SLUDGE

TCLP Metals	Detection Limit mg/L	RESULT
Arsenic	0.01	0.01
Barium	0.1	1.6
Cadmium	0.001	0.1
Chromium	0.01	0.20
Lead	0.01	0.2
Mercury	0.0004	<0.0004
Selenium	0.01	<0.01
Silver	0.01	0.03

All results reported in:

UNITS mg/liter

Page 5 CEP, Inc. REPORT Work Order # 90-08-103
Received: 08/06/90 Results by Sample

SAMPLE ID TSF0501C FRACTION 01B TEST CODE TCLP O NAME TCLP Organics
Date & Time Collected 07/10/90 10:53:00 Category SLUDGE

PARAMETER	RESULT	LIMIT
Bis(2-chloroethyl)ether	<0.015	0.015
O-cresol	<0.025	0.025
M-cresol	<0.025	0.025
P-cresol	<0.025	0.025
Pentachlorophenol	<0.010	0.010
Phenol	<0.005	0.005
2,3,4,6-Tetrachlorophenol	<0.005	0.005
2,4,5-Trichlorophenol	<0.013	0.013
2,4,6-Trichlorophenol	<0.008	0.008
2,4-Dinitrotoluene	<0.015	0.015
Hexachlorobenzene	<0.005	0.005
Hexachlorobutadiene	<0.003	0.003
Hexachloroethane	<0.005	0.005
Nitrobenzene	<0.005	0.005
Chlordane	<0.004	0.004
Endrin	<0.001	0.001
Heptachlor	<0.001	0.001
Lindane	<0.001	0.001
Methoxychlor	<0.001	0.001
Toxaphene	<0.004	0.004
2,4-D	<0.003	0.003
Silvex	<0.003	0.003
1,2-Dichlorobenzene	<0.05	0.05
1,4-Dichlorobenzene	<0.01	0.01

Notes and Definitions for this Report:

UNITS mg/liter

Controls for Environmental P... ion, Inc.
OUT OF STATE 800/545-2180 • FAX 505-902

Page 6 CEP, Inc. REPORT Work Order # 90-08-103
Received: 08/06/90 Results by Sample

SAMPLE ID TSF0501C FRACTION 01A TEST CODE ZHE NAME Zero Head Space Extracti
Date & Time Collected 07/10/90 10:53:00 Category SLUDGE

PARAMETER	RESULT	LIMIT
Acrlonitrile	<100	100
Benzene	<44	44
Carbon Disulfide	<100	100
Carbon Tetrachloride	<28	28
Chlorobenzene	<60	60
Chloroform	<16	16
1,2-Dichloroethane	<28	28
1,1-Dichloroethylene	20.8	16
Isobutanol	<100	100
Methylene Chloride	46.9	28
Methylethyl Ketone	<100	100
Pyridine	<100	100
1,1,1,2-Tetrachloroethane	<100	100
1,1,2,2-Tetrachloroethane	<69	69
Tetrachloroethylene	860.0	41
Toluene	<60	60
1,1,1-Trichloroethane	21.3	38
1,1,2-Trichloroethane	<50	50
Trichloroethylene	12000.0	19
Vinyl Chloride	<20	20

Notes and Definitions for this Report:

UNITS ug/liter

Page 7 CEP, Inc. REPORT Work Order # 90-08-103
Received: 08/06/90 Results by Sample

SAMPLE ID TSF0504C FRACTION 02C TEST CODE TCLP NAME TCLP Metals
Date & Time Collected 07/10/90 11:56:00 Category SLUDGE

TCLP Metals	Detection Limit mg/L	RESULT
Arsenic	0.01	0.03
Barium	0.1	0.6
Cadmium	0.001	<0.1
Chromium	0.01	0.10
Lead	0.01	0.2
Mercury	0.0004	<0.0004
Selenium	0.01	<0.01
Silver	0.01	0.03

All results reported in:

UNITS mg/liter

Controls for Environmental P[illegible]tion, Inc.
OUT OF STATE 800/545-2188 • FAX 505-90[illegible]

Page 8 CEP, Inc. REPORT Work Order # 90-08-103
Received: 08/06/90 Results by Sample

SAMPLE ID TSF0504C FRACTION 02B TEST CODE TCLP 0 NAME TCLP Organics
Date & Time Collected 07/10/90 11:56:00 Category SLUDGE

PARAMETER	RESULT	LIMIT
Bis(2-chloroethyl)ether	<0.03	0.03
O-cresol	<0.06	0.06
M-cresol	<0.06	0.06
P-cresol	<0.06	0.06
Pentachlorophenol	<0.02	0.02
Phenol	<0.01	0.01
2,3,4,6-Tetrachlorophenol	<0.01	0.01
2,4,5-Trichlorophenol	<0.03	0.03
2,4,6-Trichlorophenol	<0.02	0.02
2,4-Dinitrotoluene	<0.03	0.03
Hexachlorobenzene	<0.01	0.01
Hexachlorobutadiene	<0.005	0.005
Hexachloroethane	<0.01	0.01
Nitrobenzene	<0.01	0.01
Chlordane	<0.004	0.004
Endrin	<0.001	0.001
Heptachlor	<0.001	0.001
Lindane	<0.001	0.001
Methoxychlor	<0.001	0.001
Toxaphene	<0.004	0.004
2,4-D	<0.006	0.006
Silvex	<0.006	0.006
1,2-Dichlorobenzene	<0.11	0.11
1,4-Dichlorobenzene	<0.02	0.02

Notes and Definitions for this Report:

UNITS mg/liter

Controls for Environmental P ion, Inc.
OUT OF STATE 800/645-2180 • FAX · 505 00

 CEP, Inc. REPORT Work Order # 90-08-103

Received: 08/06/90

Results by Sample

SAMPLE ID TSF0504C FRACTION 02A TEST CODE ZHE NAME Zero Head Space Extracti

Date & Time Collected 07/10/90 11:56:00 Category SLUDGE

PARAMETER	RESULT	LIMIT
Acrlonitrile	<100	100
Benzene	<44	44
Carbon Disulfide	<100	100
Carbon Tetrachloride	<28	28
Chlorobenzene	<60	60
Chloroform	36.8	16
1,2-Dichloroethane	<28	28
1,1-Dichloroethylene	<16	16
Isobutanol	<100	100
Methylene Chloride	200.0	28
Methylethyl Ketone	<100	100
Pyridine	<100	100
1,1,1,2-Tetrachloroethane	<100	100
1,1,2,2-Tetrachloroethane	<69	69
Tetrachloroethylene	460.0	41
Toluene	<60	60
1,1,1-Trichloroethane	<38	38
1,1,2-Trichloroethane	<50	50
Trichloroethylene	11000.0	19
Vinyl Chloride	<20	20

Notes and Definitions for this Report:

UNITS ug/liter

Controls for Environmental P[illegible] Elon, Inc.
OUT OF STATE 800/645-2188 • FAX · 505-982

Page 10 CEP, Inc. REPORT Work Order # 90-08-103
Received: 08/06/90 Results by Sample

SAMPLE ID TSF0507C FRACTION 03C TEST CODE TCLP NAME TCLP Metals
Date & Time Collected 07/10/90 14:07:00 Category SLUDGE

TCLP Metals	Detection Limit mg/L	RESULT
Arsenic	0.01	***
Barium	0.1	***
Cadmium	0.001	***
Chromium	0.01	***
Lead	0.01	***
Mercury	0.0004	***
Selenium	0.01	***
Silver	0.01	***

All results reported in:

UNITS mg/liter

Controls for Environmental [illegible], Inc.
[illegible] OUT OF STATE 800/645-2180 • FAX: 505-[illegible]

Page 11 CEP, Inc. REPORT Work Order # 90-08-103

Received: 08/06/90

Results by Sample

SAMPLE ID TSF0507C FRACTION 03B TEST CODE TCLP O NAME TCLP Organics

Date & Time Collected 07/10/90 14:07:00 Category SLUDGE

PARAMETER	RESULT	LIMIT
Bis(2-chloroethyl)ether	<0.04	0.04
O-cresol	<0.07	0.07
M-cresol	<0.07	0.07
P-cresol	<0.07	0.07
Pentachlorophenol	<0.03	0.03
Phenol	<0.01	0.01
2,3,4,6-Tetrachlorophenol	<0.01	0.01
2,4,5-Trichlorophenol	<0.03	0.03
2,4,6-Trichlorophenol	<0.02	0.02
2,4-Dinitrotoluene	<0.04	0.04
Hexachlorobenzene	<0.01	0.01
Hexachlorobutadiene	<0.005	0.005
Hexachloroethane	<0.01	0.01
Nitrobenzene	<0.01	0.01
Chlordane	<0.004	0.004
Endrin	<0.001	0.001
Heptachlor	<0.001	0.001
Lindane	<0.001	0.001
Methoxychlor	<0.001	0.001
Toxaphene	<0.004	0.004
2,4-D	<0.007	0.007
Silvex	<0.007	0.007
1,2-Dichlorobenzene	<0.13	0.13
1,4-Dichlorobenzene	<0.03	0.03

Notes and Definitions for this Report:

UNITS mg/liter

Page 12 CEP, Inc. REPORT Work Order # 90-08-103
Received: 08/06/90 Results by Sample

SAMPLE ID TSF0507C FRACTION 03A TEST CODE ZHE NAME Zero Head Space Extracti
Date & Time Collected 07/10/90 14:07:00 Category SLUDGE

PARAMETER	RESULT	LIMIT
Acrlonitrile	<100	100
Benzene	<44	44
Carbon Disulfide	<100	100
Carbon Tetrachloride	<28	28
Chlorobenzene	<60	60
Chloroform	<16	16
1,2-Dichloroethane	<28	28
1,1-Dichloroethylene	<16	16
Isobutanol	<100	100
Methylene Chloride	150.0	28
Methylethyl Ketone	<100	100
Pyridine	<100	100
1,1,1,2-Tetrachloroethane	<100	100
1,1,2,2-Tetrachloroethane	<67	67
Tetrachloroethylene	170.0	41
Toluene	<60	60
1,1,1-Trichloroethane	<38	38
1,1,2-Trichloroethane	<50	50
Trichloroethylene	11000.0	19
Vinyl Chloride	<20	20

Notes and Definitions for this Report:

UNITS ug/liter

Page 13 CEP, Inc. REPORT Work Order # 90-08-103
Received: 08/06/90 Results by Sample

SAMPLE ID TSF0509C FRACTION 04C TEST CODE TCLP NAME TCLP Metals
Date & Time Collected 07/10/90 14:50:00 Category SLUDGE

TCLP Metals	Detection Limit mg/L	RESULT
Arsenic	0.01	0.02
Barium	0.1	1.1
Cadmium	0.001	0.1
Chromium	0.01	0.15
Lead	0.01	0.2
Mercury	0.0004	<0.0004
Selenium	0.01	<0.01
Silver	0.01	0.01

All results reported in:

UNITS mg/liter

Page 14 CEP, Inc. REPORT Work Order # 90-08-103
Received: 08/06/90 Results by Sample

SAMPLE ID TSF0509C FRACTION 04B TEST CODE TCLP O NAME TCLP Organics
Date & Time Collected 07/10/90 14:50:00 Category SLUDGE

PARAMETER	RESULT	LIMIT
Bis(2-chloroethyl)ether	<0.02	0.02
O-cresol	<0.03	0.03
M-cresol	<0.03	0.03
P-cresol	<0.03	0.03
Pentachlorophenol	<0.01	0.01
Phenol	<0.005	0.005
2,3,4,6-Tetrachlorophenol	<0.005	0.005
2,4,5-Trichlorophenol	<0.005	0.005
2,4,6-Trichlorophenol	<0.008	0.008
2,4-Dinitrotoluene	<0.016	0.016
Hexachlorobenzene	<0.005	0.005
Hexachlorobutadiene	<0.003	0.003
Hexachloroethane	<0.005	0.005
Nitrobenzene	<0.005	0.005
Chlordane	<0.004	0.004
Endrin	<0.001	0.001
Heptachlor	<0.001	0.001
Lindane	<0.001	0.001
Methoxychlor	<0.001	0.001
Toxaphene	<0.004	0.004
2,4-D	<0.003	0.003
Silvex	<0.003	0.003
1,2-Dichlorobenzene	<0.05	0.05
1,4-Dichlorobenzene	<0.01	0.01

Notes and Definitions for this Report:

UNITS mg/liter

Controls for Environmental [illegible]tion, Inc.
[illegible] OUT OF STATE 800/545-2100 • FAX 505-98[illegible]

Page 15 CEP, Inc. REPORT Work Order # 90-08-103
Received: 08/06/90 Results by Sample

SAMPLE ID TSF0509C FRACTION 04A TEST CODE ZHE NAME Zero Head Space Extracti
Date & Time Collected 07/10/90 14:50:00 Category SLUDGE

PARAMETER	RESULT	LIMIT
Acrlonitrile	<100	100
Benzene	<44	44
Carbon Disulfide	<100	100
Carbon Tetrachloride	<28	28
Chlorobenzene	<60	60
Chloroform	<16	16
1,2-Dichloroethane	<28	28
1,1-Dichloroethylene	<16	16
Isobutanol	<100	100
Methylene Chloride	<28	28
Methylethyl Ketone	<100	100
Pyridine	<100	100
1,1,1,2-Tetrachloroethane	<100	100
1,1,2,2-Tetrachloroethane	<69	69
Tetrachloroethylene	830.0	41
Toluene	<60	60
1,1,1-Trichloroethane	<38	38
1,1,2-Trichloroethane	<50	50
Trichloroethylene	9100.0	19
Vinyl Chloride	<20	20

Notes and Definitions for this Report:

UNITS ug/liter

Controls for Environmental P tion, Inc.
OUT OF STATE 800/545-2180 • FAX: 505-98

 CEP, Inc. REPORT Work Order # 90-08-103

Received: 08/06/90

Results by Sample

SAMPLE ID TSF0513C FRACTION 05C TEST CODE TCLP NAME TCLP Metals

Date & Time Collected 07/10/90 15:13:00 Category SLUDGE

TCLP Metals	Detection Limit mg/L	RESULT
Arsenic	0.01	***
Barium	0.1	***
Cadmium	0.001	***
Chromium	0.01	***
Lead	0.01	***
Mercury	0.0004	***
Selenium	0.01	***
Silver	0.01	***

All results reported in:

UNITS mg/liter

Controls for Environmental Protection, Inc.
OUT OF STATE 800/545-2188 • FAX 505-982

Page 17 CEP, Inc. REPORT Work Order # 90-08-103
Received: 08/06/90 Results by Sample

SAMPLE ID TSF0513C FRACTION 05B TEST CODE TCLP O NAME TCLP Organics
Date & Time Collected 07/10/90 15:13:00 Category SLUDGE

PARAMETER	RESULT	LIMIT
Bis(2-chloroethyl)ether	<0.04	0.04
O-cresol	<0.06	0.06
M-cresol	<0.06	0.06
P-cresol	<0.06	0.06
Pentachlorophenol	<0.02	0.02
Phenol	<0.01	0.01
2,3,4,6-Tetrachlorophenol	<0.01	0.01
2,4,5-Trichlorophenol	<0.03	0.03
2,4,6-Trichlorophenol	<0.02	0.02
2,4-Dinitrotoluene	<0.04	0.04
Hexachlorobenzene	<0.01	0.01
Hexachlorobutadiene	<0.005	0.005
Hexachloroethane	<0.01	0.01
Nitrobenzene	<0.01	0.01
Chlordane	<0.004	0.004
Endrin	<0.001	0.001
Heptachlor	<0.001	0.001
Lindane	<0.001	0.001
Methoxychlor	<0.001	0.001
Toxaphene	<0.004	0.004
2,4-D	<0.006	0.006
Silvex	<0.006	0.006
1,2-Dichlorobenzene	<0.12	0.12
1,4-Dichlorobenzene	<0.02	0.02

Notes and Definitions for this Report:

UNITS mg/liter

Page 18 CEP, Inc. REPORT Work Order # 90-08-103
Received: 08/06/90 Results by Sample

SAMPLE ID TSF0513C FRACTION 05A TEST CODE ZHE NAME Zero Head Space Extract
Date & Time Collected 07/10/90 15:13:00 Category SLUDGE

PARAMETER	RESULT	LIMIT
Acrlonitrile	<100	100
Benzene	<44	44
Carbon Disulfide	<100	100
Carbon Tetrachloride	<20	20
Chlorobenzene	<60	60
Chloroform	<16	16
1,2-Dichloroethane	<28	28
1,1-Dichloroethylene	23.6	16
Isobutanol	<100	100
Methylene Chloride	290.0	28
Methylethyl Ketone	<100	100
Pyridine	<100	100
1,1,1,2-Tetrachloroethane	<100	100
1,1,2,2-Tetrachloroethane	<69	69
Tetrachloroethylene	1990.0	41
Toluene	<60	60
1,1,1-Trichloroethane	<38	38
1,1,2-Trichloroethane	<50	50
Trichloroethylene	11000.0	19
Vinyl Chloride	<20	20

Notes and Definitions for this Report:

UNITS ug/liter

Controls for Environmental P[illegible]tion, Inc.
OUT OF STATE 800/545-2188 • FAX 505-98[illegible]

Page 19 CEP, Inc. REPORT Work Order # 90-08-103
Received: 08/06/90 Results by Sample

SAMPLE ID TSF0514C FRACTION 06C TEST CODE TCLP NAME TCLP Metals
Date & Time Collected 07/10/90 15:34:00 Category SLUDGE

TCLP Metals	Detection Limit mg/L	RESULT
Arsenic	0.01	***
Barium	0.1	***
Cadmium	0.001	***
Chromium	0.01	***
Lead	0.01	***
Mercury	0.0004	***
Selenium	0.01	***
Silver	0.01	***

All results reported in:

UNITS mg/liter

Received: 08/06/90

CEP, Inc. REPORT
Results by Sample

Work Order # 90-08-103

SAMPLE ID TSF0514C

FRACTION 06B TEST CODE TCLP O NAME TCLP Organics
Date & Time Collected 07/10/90 15:34:00 Category SLUDGE

PARAMETER	RESULT	LIMIT
Bis(2-chloroethyl)ether	<0.02	0.02
O-cresol	<0.03	0.03
M-cresol	<0.03	0.03
P-cresol	<0.03	0.03
Pentachlorophenol	<0.01	0.01
Phenol	<0.06	0.06
2,3,4,6-Tetrachlorophenol	<0.06	0.06
2,4,5-Trichlorophenol	<0.01	0.01
2,4,6-Trichlorophenol	<0.008	0.008
2,4-Dinitrotoluene	<0.02	0.02
Hexachlorobenzene	<0.06	0.06
Hexachlorobutadiene	<0.03	0.03
Hexachloroethane	<0.06	0.06
Nitrobenzene	<0.06	0.06
Chlordane	<0.004	0.004
Endrin	<0.001	0.001
Heptachlor	<0.001	0.001
Lindane	<0.001	0.001
Methoxychlor	<0.001	0.001
Toxaphene	<0.004	0.004
2,4-D	<0.003	0.003
Silvex	<0.003	0.003
1,2-Dichlorobenzene	<0.06	0.06
1,4-Dichlorobenzene	<0.01	0.01

Notes and Definitions for this Report:

UNITS mg/liter

Page 21 CEP, Inc. REPORT Work Order # 90-08-103
Received: 08/06/90 Results by Sample

SAMPLE ID TSF0514C FRACTION 06A TEST CODE ZHE NAME Zero Head Space Extracti
Date & Time Collected 07/10/90 15:34:00 Category SLUDGE

PARAMETER	RESULT	LIMIT
Acrlonitrile	<100	100
Benzene	<44	44
Carbon Disulfide	<100	100
Carbon Tetrachloride	<28	28
Chlorobenzene	<60	60
Chloroform	<16	16
1,2-Dichloroethane	<28	28
1,1-Dichloroethylene	17.8	16
Isobutanol	<100	100
Methylene Chloride	84.5	28
Methylethyl Ketone	<100	100
Pyridine	<100	100
1,1,1,2-Tetrachloroethane	<100	100
1,1,2,2-Tetrachloroethane	<69	69
Tetrachloroethylene	3000.0	41
Toluene	<60	60
1,1,1-Trichloroethane	<38	38
1,1,2-Trichloroethane	<50	50
Trichloroethylene	10000.0	19
Vinyl Chloride	<20	20

Notes and Definitions for this Report:

UNITS ug/liter

APPENDIX C

VALIDATED FY-89 GROUNDWATER ANALYTICAL RESULTS

TABLE _-_-_ 1989 TAN HYDROGEOLOGIC INVESTIGATION - VOLATILE ORGANIC DATA

AREA	TAN	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	ANP06	ANP08	ANP09	FET02	IET06	TAN01	TAN01
TYPE OF LOCATION	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL
SAMPLE NUMBER	ANP0689001A	ANP0889001A	ANP0989001A	FET0289001A	IET0689002A	TAN0189001A	TAN0189002A
MEDIA	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0689001	ANP0689001	ANP0689001	ANP0689001	ANP0689001	ANP0689001	ANP0689001
FIELD MEASUREMENTS							
Depth (ft)	230-250	232-304	240-260	215-230	220-240	200-350	200-350
TARGET COMPOUNDS							
Acetone	---	---	---	---	---	---	---
1,1-Dichloroethene	---	---	---	---	---	---	---
1,1-Dichloroethane	---	---	---	---	---	---	---
1,2-Dichloroethene_(total)	---	---	---	---	---	---	---
Chloroform	---	---	---	---	---	---	---
1,2-Dichloroethane	5	---	---	---	---	---	---
2-Butanone	---	---	---	---	---	---	---
1,1,1-Trichloroethane	---	---	---	---	---	---	---
Carbon Tetrachloride	---	---	---	---	---	---	---
Trichloroethene	---	6	---	---	---	7	7
Dibromochloromethane	---	---	---	---	---	---	---
Tetrachloroethene	---	2 J	---	---	---	2 J	2 J
Toluene	---	---	---	---	---	---	---
Dilution Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total (Allowed) Hold Time	10(14)d	10(14)d	7(14)d	11(14)d	10(14)d	10(14)d	10(14)d

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - VOLATILE ORGANIC DATA (Continued)

AREA	TAN	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN02	TAN03	TAN03	TAN04	TAN05	TAN08	TAN09
TYPE OF LOCATION	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL
SAMPLE NUMBER	TAN0289001A	TAN0389001A	TAN0389002A	TAN0489001A	TAN0589001A	TAN0889001A	TAN0989001A
MEDIA	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0689001	TAND389001	TAND389001	ANP0689001	ANP0689001	ANP0689001	ANP0689001
FIELD MEASUREMENTS							
Depth (ft)	235-335	230-235	230-235	235-240	280-285	232-304	290-295
TARGET COMPOUNDS							
Acetone	---	---	---	---	72	61	---
1,1-Dichloroethene	---	---	---	---	---	---	---
1,1-Dichloroethane	---	---	---	---	---	---	---
1,2-Dichloroethene_(total)	---	---	---	---	---	---	---
Chloroform	---	---	---	---	---	---	---
1,2-Dichloroethane	---	---	---	---	---	---	---
2-Butanone	---	---	---	---	6 J	10 R	---
1,1,1-Trichloroethane	---	---	---	3 J	---	---	---
Carbon Tetrachloride	---	---	---	---	---	---	---
Trichloroethene	3 J	---	---	70	71	---	86
Dibromochloromethane	---	---	---	---	---	---	---
Tetrachloroethene	---	---	---	20	16	---	17
Toluene	---	---	---	---	---	1 J	---
Dilution Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total (Allowed) Hold Time	10(14)d	3(14)d	3(14)d	6(14)d	5(14)d	5(14)d	8(14)d

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - VOLATILE ORGANIC DATA (Continued)

AREA	TAN	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN10	TAN10	TAN10A	TAN11	TAN11	TAND1	TAND2
TYPE OF LOCATION	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL
SAMPLE NUMBER	TAN1089001A	TAN1089002A	TAN10A9001A	TAN1189001A	TAN1189002A	TAND189002A	TAND289002A
MEDIA	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	TANFB89023	TANFB89023	TANEQ90001A	TAND389001	TAND389001	ANP0689001	ANP0689001
FIELD MEASUREMENTS							
Depth (ft)	220-225	220-225	-	260-265	215-230	230-235	230-235
TARGET COMPOUNDS							
Acetone	---	---	---	---	---	---	---
1,1-Dichloroethene	---	---	---	---	---	---	---
1,1-Dichloroethane	---	---	---	---	---	---	---
1,2-Dichloroethene_(total)	---	---	---	---	---	2 J	85
Chloroform	---	---	---	---	---	---	---
1,2-Dichloroethane	---	---	---	---	---	---	---
2-Butanone	---	---	---	---	---	---	---
1,1,1-Trichloroethane	1 J	1 J	---	---	---	---	---
Carbon Tetrachloride	6	6	---	---	---	---	---
Trichloroethene	28	25	26	89	---	150	820 E
Dibromochloromethane	---	---	---	---	---	---	5
Tetrachloroethene	11	11	7	24	27	23	11
Toluene	---	1 J	---	---	---	---	---
Dilution Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total (Allowed) Hold Time	5(14)d	5(14)d	8(14)d	5(14)d	7(14)d	6(14)d	7(14)d

TABLE _-_-_ 1989 TAN HYDROGEOLOGIC INVESTIGATION - VOLATILE ORGANIC DATA (Continued)

AREA	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	TAND2	TAND3	TAND3	USG24	USG26	USG26
TYPE OF LOCATION	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL
SAMPLE NUMBER	TAND289002ADL	TAND389001A	TAND389002A	USG2489002A	USG2489002ADL	USG2689001A
MEDIA	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0689001	TAND389001	TAND389001	TAND389001	ANP0689001	ANP0689001
FIELD MEASUREMENTS						
Depth (ft)	230-235	220-225	220-225	240-245	240-245	205-260
TARGET COMPOUNDS						
Acetone	---	---	---	---	---	---
1,1-Dichloroethene	---	---	---	9	---	---
1,1-Dichloroethane	---	---	---	2 J	---	---
1,2-Dichloroethene_(total)	---	---	---	44	11 JD	---
Chloroform	---	---	---	1 J	---	---
1,2-Dichloroethane	---	---	---	---	---	---
2-Butanone	---	---	---	---	---	---
1,1,1-Trichloroethane	---	---	---	12	---	---
Carbon Tetrachloride	---	---	---	---	---	---
Trichloroethene	660 D	---	---	1400 E	1300 D	---
Dibromochloromethane	---	---	---	---	---	---
Tetrachloroethene	---	---	---	71	64 D	---
Toluene	---	---	---	---	---	6
Dilution Factor	10.000	1.000	1.000	1.000	1.000	1.000
Total (Allowed) Hold Time	8(14)d	5(14)d	6(14)d	4(14)d	6(14)d	4(14)d

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - INORGANIC DATA

AREA	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	ANP06	ANP08	ANP09	FET02	IET06	TAN01
TYPE OF LOCATION	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL
SAMPLE NUMBER	ANP0689001B	ANP0889001B	ANP0989001B	FET0289001B	IET0689002B	TAN0189001B
MEDIA	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0689001	ANP0689001	ANP0689001	ANP0689001	ANP0689001	ANP0689001
FIELD MEASUREMENTS						
Depth (ft)	230-250	232-304	240-260	215-230	220-240	200-350
ANALYTES						
Aluminum	---	---	---	---	255	---
Antimony	---	---	---	---	---	---
Arsenic	2.9 B	2.7 B	3.5 B	3.0 B	2.7 B	2.6 B
Barium	71.0 B	103 B	98.0 B	94.0 B	136 B	119 B
Beryllium	---	---	---	---	---	---
Cadmium	---	---	---	---	---	---
Calcium	44500	48100	38400	51500	52000	56500
Chromium	---	11.0	---	---	---	---
Cobalt	---	---	---	---	---	---
Copper	---	---	---	---	---	27.0
Iron	333	31.0 B	31.0 B	37.0 B	673	36.0 B
Lead	---	---	2.9 B	---	---	---
Magnesium	16400	15600	15800	15500	14700	16600
Manganese	9.0 B	5.0 B	6.0 B	5.0 B	175	6.0 B
Mercury	---	---	---	---	---	---
Nickel	---	---	---	---	---	---
Potassium	2420 B	3880 B	3380 B	2590 B	4380 B	2450 B
Selenium	1.0 B	1.4 B	1.3 B	---	---	1.0 B
Silver	---	---	---	---	1.0 B	---
Sodium	10600	10000	16000	9180	22900	8930
Thallium	---	---	1.0 B	---	---	---
Vanadium	---	---	---	---	---	---
Zinc	67.0	---	---	---	87.0	---
Cyanide	NR	NR	NR	NR	NR	NR
Total (Allowed) Hold Time[a]	9(182)d	10(182)d	4(182)d	8(182)d	9(182)d	10(182)d
Total (Allowed) Hold Time[b]	7(28)d	8(28)d	15(28)d	6(28)d	7(28)d	6(28)d
Total (Allowed) Hold Time[c]	9(182)d	10(182)d	4(182)d	8(182)d	9(182)d	10(182)d

a. ICP/FAAS
b. CVAAS
c. GFAAS

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - INORGANIC DATA

AREA	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN01	TAN02	TAN03	TAN03	TAN04	TAN05
TYPE OF LOCATION	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL
SAMPLE NUMBER	TAN0189002B	TAN0289001B	TAN0389001B	TAN0389002B	TAN0489001B	TAN0589001B
MEDIA	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0689001	ANP0689001	TAND389001	TAND389001	ANP0689001	ANP0689001
FIELD MEASUREMENTS						
Depth (ft)	200-350	235-335	230-235	230-235	235-240	280-285
ANALYTES						
Aluminum	---	---	---	---	---	---
Antimony	---	---	---	---	---	---
Arsenic	2.6 B	2.7 B	---	---	---	---
Barium	119 B	106 B	99.0 B	99.0 BE	173 B	127 B
Beryllium	---	---	---	---	---	---
Cadmium	---	---	---	---	---	---
Calcium	54500	53500	53000 *	52000 *	59500	61500
Chromium	---	---	---	---	10.0	---
Cobalt	---	---	---	---	---	---
Copper	---	28.0	---	---	156	---
Iron	35.0 B	73.0 B	87.0 B	101	244	456
Lead	---	2.1 B	4.4	80.3	20.7	---
Magnesium	16800	14500	14100	14100	15900	15900
Manganese	6.0 B	6.0 B	13.0 B	13.0 B	284	11.0 B
Mercury	---	---	2.0	5.0	---	---
Nickel	---	---	---	---	---	---
Potassium	2490 B	3200 B	4700 B	4760 B	3630 B	2770 B
Selenium	1.4 B	---	1.6 B	2.1 B	1.4 B	---
Silver	---	---	---	---	---	---
Sodium	8630	7970	8450 *	8350 E	10700	10000
Thallium	---	---	---	---	---	---
Vanadium	---	---	---	---	---	---
Zinc	---	45.0	608	610	935	587
Cyanide	NR	NR	NR	NR	NR	NR
Total (Allowed) Hold Time[a]	10(182)d	10(182)d	9(182)d	9(182)d	3(182)d	2(182)d
Total (Allowed) Hold Time[b]	8(28)d	8(28)d	21(28)d	21(28)d	14(28)d	13(28)d
Total (Allowed) Hold Time[c]	10(182)d	10(182)d	1(182)d	1(182)d	3(182)d	2(182)d

a. ICP/FAAS
b. CVAAS
c. GFAAS

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - INORGANIC DATA

AREA	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN08	TAN09	TAN10	TAN10	TAN11	TAN11
TYPE OF LOCATION	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL
SAMPLE NUMBER	TAN0889001B	TAN0989001B	TAN1089001B	TAN1089002B	TAN1189001B	TAN1189002B
MEDIA	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0689001	ANP0689001	TANFB89023	TANFB89023	TAND389001	TAND389001
FIELD MEASUREMENTS						
Depth (ft)	230-252	290-295	220-225	220-225	260-265	260-265
ANALYTES						
Aluminum	---	---	---	---	---	---
Antimony	---	---	---	---	---	---
Arsenic	2.4 B	---	---	---	---	---
Barium	111 B	270	206	238	104 BE	105 B
Beryllium	---	---	---	---	---	---
Cadmium	---	---	---	---	---	---
Calcium	54000	94600	8390	103000	55000 *	54500 *
Chromium	---	---	---	---	---	---
Cobalt	---	---	---	---	---	---
Copper	---	---	---	---	---	---
Iron	177	278	262	250	801	646
Lead	---	3.7	8.1	2.6 B	2.7 B	4.7
Magnesium	13600	25600	20400 B	25000 B	19800	19600
Manganese	14.0 B	15.0	67.0	80.0	39.0	41.0
Mercury	---	---	---	---	---	---
Nickel	---	---	---	---	---	---
Potassium	5440	5100	3590 B	4180 B	4420 B	4530 B
Selenium	---	---	---	---	---	---
Silver	---	---	---	---	---	---
Sodium	8070	44000	28400	33500	16400 E	16700 E
Thallium	---	---	---	---	---	---
Vanadium	---	---	---	---	---	---
Zinc	423	724	123	144	580	560
Cyanide	NR	NR	NR	NR	NR	NR
Total (Allowed) Hold Time[a]	2(182)d	3(182)d	22(182)d	22(182)d	13(182)d	13(182)d
Total (Allowed) Hold Time[b]	13(28)d	8(28)d	4(28)d	4(28)d	5(28)d	5(28)d
Total (Allowed) Hold Time[c]	2(182)d		8(182)d	8(182)d	5(182)d	5(182)d

a. ICP/FAAS
b. CVAAS
c. GFAAS

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - INORGANIC DATA

AREA	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	TAND1	TAND2	TAND3	TAND3	USG24	USG26
TYPE OF LOCATION	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL
SAMPLE NUMBER	TAND189002B	TAND289002B	TAND389001B	TAND389002B	USG2489002B	USG2689001B
MEDIA	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0689001	ANP0689001	TAND389001	TAND389001	TAND389001	ANP0689001
FIELD MEASUREMENTS						
Depth (ft)	215-230	230-235	220-225	220-225	240-245	205-260
ANALYTES						
Aluminum	---	243	---	---	---	---
Antimony	---	---	---	---	---	---
Arsenic	---	2.5 B	---	---	---	2.8 B
Barium	85.0 B	312	88.0 BE	86.0 BE	204 E	47.0 B
Beryllium	---	---	---	---	---	---
Cadmium	---	---	---	---	---	---
Calcium	5800 B	90900	53900 *	54500 *	47400 *	42700
Chromium	---	---	---	---	---	---
Cobalt	---	---	---	---	---	---
Copper	---	25.0	---	---	---	---
Iron	356	808	347	343	243	183
Lead	---	8.4	6.8	4.5	13.5	---
Magnesium	19800	23300	15800	15500	19100	15400
Manganese	23.0	64.0	---	---	---	6.0 B
Mercury	---	---	---	---	---	---
Nickel	---	---	---	---	---	---
Potassium	4720 B	4870 B	3660 B	3700 B	3700 B	3630 B
Selenium	2.2 BW	---	1.3 BW	1.1 BW	1.2 BW	---
Silver	---	---	---	---	---	---
Sodium	14000	72900	7490 E	7430 E	27100 E	15800
Thallium	---	---	---	---	---	---
Vanadium	---	---	---	---	---	---
Zinc	20.0	44.0	40.0	40.0	159	---
Cyanide	NR	NR	NR	NR	NR	NR
Total (Allowed) Hold Time[a]	7(182)d	3(182)d	14(182)d	14(182)d	15(182)d	3(182)d
Total (Allowed) Hold Time[b]	12(28)d	8(28)d	6(28)d	6(28)d	7(28)d	14(28)d
Total (Allowed) Hold Time[c]	7(182)d	3(182)d	6(182)d	6(182)d	7(182)d	3(182)d

a. ICP/FAAS
b. CVAAS
c. GFAAS

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - NON-METAL INORGANIC DATA

AREA	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	ANP06	ANP08	ANP09	FET02	IET06	TAND1
TYPE OF LOCATION	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL
SAMPLE NUMBER	ANP0689001C	ANP0889001C	ANP0989001C	FET0289001C	IET0689002C	TAND189002C
MEDIA	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0689001	ANP0689001	ANP0689001	ANP0689001	ANP0689001	ANP0689001
TARGET COMPOUNDS						
Alkalinity	140000	140000	132000	140000	158000	124000
Chloride	10900	11800	11800	14700	22700	49500
Fluoride	280	240	430	230	200	140
Nitrate	869	1037	881	956	817	744
Sulfate	32600	30000	31000	34400	33600	33900
Total (Allowed) Hold Time						
Alkalinity	9(14)d	9(14)d	3(14)d	8(14)d	9(14)d	8(14)d
Chloride	13(28)d	13(28)d	7(28)d	12(28)d	13(28)d	4(28)d
Fluoride	15(28)d	15(28)d	9(28)d	14(28)d	15(28)d	6(28)d
Nitrate	28(28)d	28(28)d	2(28)d	27(28)d	28(28)d	19(28)d
Sulfate	13(28)d	13(28)d	7(28)d	12(28)d	13(28)d	4(28)d

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - NON-METAL INORGANIC DATA

AREA	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	TAND2	TAND3	TAND3	TAN01	TAN01	TAN02
TYPE OF LOCATION	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL
SAMPLE NUMBER	TAND289002C	TAND389001C	TAND389002C	TAN0189001C	TAN0189002C	TAN0289001C
MEDIA	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0689001	TAND389001	TAND389001	ANP0689001	ANP0689001	ANP0689001
TARGET COMPOUNDS						
Alkalinity	212000	142000	146000	146000	146000	146000
Chloride	81000	12300	12400	22900	22400	11500
Fluoride	130	240	240	210	190	230
Nitrate	3188	1130	1110	1660	1664	2113
Sulfate	43200	33800	34000	35900	34100	31600
Total (Allowed) Hold Time						
Alkalinity	4(14)d	6(14)d	6(14)d	9(14)d	9(14)d	9(14)d
Chloride	34(28)d*	31(28)d*	31(28)d*	13(28)d	13(28)d	13(28)d
Fluoride	34(28)d*	34(28)d*	34(28)d*	15(28)d	15(28)d	15(28)d
Nitrate	33(28)d*	13(28)d	13(28)d	28(28)d	28(28)d	28(28)d
Sulfate	2(28)d	31(28)d*	31(28)d*	23(28)d	13(28)d	13(28)d

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - NON-METAL INORGANIC DATA

AREA	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN03	TAN03	TAN04	TAN05	TAN08	TAN09
TYPE OF LOCATION	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL
SAMPLE NUMBER	TAN0389001C	TAN0389002C	TAN0489001C	TAN0589001C	TAN0889001C	TAN0989001C
MEDIA	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	TAND389001	TAND389001	ANP0689001	ANP0689001	ANP0689001	ANP0689001
TARGET COMPOUNDS						
Alkalinity	138000	138000	156000	147000	117000	186000
Chloride	13400	13400	23800	28200	37200	79000
Fluoride	260	240	240	220	200	180
Nitrate	1010	1010	1437	1177	1105	2347
Sulfate	33800	33700	28200	31200	26000	45200
Total (Allowed) Hold Time						
Alkalinity	11(14)d	11(14)d	2(14)d	2(14)d	2(14)d	4(14)d
Chloride	26(28)d	26(28)d	6(28)d	5(28)d	5(28)d	34(28)d*
Fluoride	29(28)d*	29(28)d*	8(28)d	7(28)d	7(28)d	34(28)d*
Nitrate	8(28)d	8(28)d	21(28)d	20(28)d	20(28)d	33(28)d*
Sulfate	26(28)d	26(28)d	6(28)d	5(28)d	5(28)d	2(28)d

TABLE _._._ 1989 TAN HYDROGEOLOGIC INVESTIGATION - NON-METAL INORGANIC DATA

AREA	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN10	TAN10	TAN11	TAN11	USG24	USG26
TYPE OF LOCATION	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL	MONITORING WELL
SAMPLE NUMBER	TAN1089001C	TAN1089002C	TAN1189001C	TAN1189002C	USG2489002C	USG2689001C
MEDIA	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	TANFB89023	TANFB89023	TAND389001	TAND389001	TAND389001	ANP0689001
TARGET COMPOUNDS						
Alkalinity	174000	182000	141000	142000	160000	142000
Chloride	1131000	107000	47800	47800	71200	12600
Fluoride	160	210	230	240	210	460
Nitrate	614	497	870	928	2020	982
Sulfate	375000	37400	28800	28800	36600	29000
Total (Allowed) Hold Time						
Alkalinity	12(14)d	12(14)d	5(14)d	5(14)d	3(14)d	2(14)d
Chloride	28(28)d	28(28)d	30(28)d*	30(28)d*	32(28)d*	6(28)d
Fluoride	27(28)d	27(28)d	33(28)d*	33(28)d*	35(28)d*	8(28)d
Nitrate	29(28)d*	29(28)d*	12(28)d	12(28)d	14(28)d	21(28)d
Sulfate	28(28)d	28(28)d	30(28)d*	30(28)d*	32(28)d*	6(28)d

APPENDIX D

VALIDATED FY-90 GROUNDWATER ANALYTICAL RESULTS

TABLE _._._ 1990 TAN HYDROGEOLOGIC INVESTIGATION - VOLATILE ORGANIC DATA

AREA	TAN	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	ANP-06	ANP-08	ANP-09	FET-02	IET-06	IET-06	TAN-01
TYPE OF LOCATION	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER
SAMPLE NUMBER	ANP0690001A	ANP0890001A	ANP0990001A	FET0290001A	IET0690001A	IET0690002A	TAN0190001A
MEDIA	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	9011L778	9010L225	9012L818	9010L225	9011L778	9011L778	9010L225
TARGET COMPOUNDS							
Chloromethane	---	---	---	---	---	---	---
Methylene Chloride	---	---	---	---	---	---	---
Acetone	---	---	---	---	---	---	---
Carbon Disulfide	---	---	---	---	---	---	---
1,1-Dichloroethene	---	---	---	---	---	---	---
1,1-Dichloroethane	---	---	---	---	---	---	---
1,2-Dichloroethene_(total)	---	---	---	---	---	---	---
2-Butanone	---	---	---	---	---	---	---
1,1,1-Trichloroethane	---	---	---	---	---	---	---
Trichloroethene	---	7	---	---	---	---	8
Tetrachloroethene	---	3 J	---	---	---	---	3 J
Toluene	---	---	---	---	---	---	---
Dilution Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total (Allowed) Hold Time	7(14)d	7(14)d	9(14)d	7(14)d	8(14)d	8(14)d	4(14)d

TABLE _._._ 1990 TAN HYDROGEOLOGIC INVESTIGATION - VOLATILE ORGANIC DATA (Continued)

AREA	TAN	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN-02	TAN-03	TAN-04	TAN-05	TAN-06	TAN	TAN-07
TYPE OF LOCATION	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	DRILL CUTTINGS	REGIONAL AQUIFER
SAMPLE NUMBER	TAN0290001A	TAN0390001A	TAN0490001A	TAN0590001A	TAN0690001A	TAN06C9101A	TAN0790001A
MEDIA	WATER	WATER	WATER	WATER	WATER	SOIL	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/kg	ug/L
SDG NUMBER	9010L225	9011L778	9010L225	9010L225	9011L778	9101L125	9011L778
TARGET COMPOUNDS							
Chloromethane	---	---	---	---	---	---	---
Methylene Chloride	---	---	---	---	26 B	---	---
Acetone	---	---	---	---	9 JB	---	---
Carbon Disulfide	---	---	---	---	---	---	---
1,1-Dichloroethene	---	---	---	---	---	---	---
1,1-Dichloroethane	---	---	---	---	---	---	---
1,2-Dichloroethene_(total)	---	---	---	---	---	---	---
2-Butanone	---	---	---	---	---	---	---
1,1,1-Trichloroethane	---	---	3 J	2 J	---	---	---
Trichloroethene	2 J	---	73	100	---	---	---
Tetrachloroethene	---	---	24	28	---	---	---
Toluene	---	---	---	---	---	---	---
Dilution Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total (Allowed) Hold Time	7(14)d	7(14)d	3(14)d	11(14)d	8(14)d	7(14)d	7(14)d

TABLE _._._ 1990 TAN HYDROGEOLOGIC INVESTIGATION - VOLATILE ORGANIC DATA (Continued)

AREA	TAN	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN-07	TAN	TAN-08	TAN-09	TAN-09	TAN-10A	TAN-11
TYPE OF LOCATION	REGIONAL AQUIFER	DRILL CUTTINGS	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER
SAMPLE NUMBER	TAN0790002A	TAN07C9101A	TAN0890001A	TAN0990001A	TAN0990002A	TAN10A9002A	TAN1190001A
MEDIA	WATER	SOIL	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	9011L778	9101L125	9012L038	9011L778	9011L778	9010L225	9010L225
TARGET COMPOUNDS							
Chloromethane	---	---	---	---	---	---	---
Methylene Chloride	---	---	---	---	---	---	---
Acetone	---	---	---	---	---	---	---
Carbon Disulfide	---	---	---	---	---	---	---
1,1-Dichloroethene	---	---	---	---	---	---	---
1,1-Dichloroethane	---	---	---	---	---	---	---
1,2-Dichloroethene (total)	---	---	---	2 J	2 J	---	---
2-Butanone	---	---	---	---	---	---	---
1,1,1-Trichloroethane	---	---	---	---	---	---	---
Trichloroethene	---	---	---	90	90	18	75
Tetrachloroethene	---	---	---	20	19	6	21
Toluene	---	---	---	---	---	---	---
Dilution Factor	1.000	0.980	1.000	1.000	1.000	1.000	1.000
Total (Allowed) Hold Time	7(14)d	7(14)d	8(14)d	7(14)d	7(14)d	8(14)d	8(14)d

TABLE _._._ 1990 TAN HYDROGEOLOGIC INVESTIGATION - VOLATILE ORGANIC DATA (Continued)

AREA	TAN	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN-12	TAN	TAN-13A	TAN-13A	TAN	TAN	TAN-14
TYPE OF LOCATION	REGIONAL AQUIFER	COMPOSITE	REGIONAL AQUIFER	REGIONAL AQUIFER	COMPOSITE	DRILL CUTTINGS	REGIONAL AQUIFER
SAMPLE NUMBER	TAN1290001A	TAN12C9101A	TAN13A9001A	TAN13A9002A	TAN13AC911A	TAN13C9101A	TAN1490001A
MEDIA	WATER	SOIL	WATER	WATER	SOIL	SOIL	WATER
UNITS	ug/L	ug/kg	ug/L	ug/L	ug/kg	ug/kg	ug/L
SDG NUMBER	9010L225	9101L125	9011L778	9011L778	9101L125	9101L125	9010L225
TARGET COMPOUNDS							
Chloromethane	1 J	---	---	---	---	---	---
Methylene Chloride	---	16 B	---	---	29 B	27 B	---
Acetone	---	7 JB	---	---	13 B	9 JB	---
Carbon Disulfide	---	---	---	---	---	---	---
1,1-Dichloroethene	---	---	---	---	---	---	---
1,1-Dichloroethane	---	---	---	---	---	---	---
1,2-Dichloroethene_(total)	---	---	---	---	---	---	---
2-Butanone	---	---	10 UR	10 UR	4 J	---	---
1,1,1-Trichloroethane	---	---	---	---	---	---	---
Trichloroethene	39	---	---	---	2 J	---	---
Tetrachloroethene	13	---	---	---	---	---	---
Toluene	---	---	---	1 J	2 J	---	---
Dilution Factor	1.000	1.020	1.000	1.000	0.980	0.980	1.000
Total (Allowed) Hold Time	3(14)d	7(14)d	9(14)d	9(14)d	7(14)d	7(14)d	4(14)d

TABLE _._._ 1990 TAN HYDROGEOLOGIC INVESTIGATION - VOLATILE ORGANIC DATA (Continued)

AREA	TAN	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN-14	TAN	TAN	TAN	TAN-15	TAN-16	TAN-16
TYPE OF LOCATION	REGIONAL AQUIFER	DRILL CUTTINGS	DRILL CUTTINGS	COMPOSITE	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER
SAMPLE NUMBER	TAN1490002A	TAN14C9101A	TAN14C9102A	TAN1516911A	TAN1590001A	TAN1690001A	TAN1690002A
MEDIA	WATER	SOIL	SOIL	SOIL	WATER	WATER	WATER
UNITS	ug/L	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/L
SDG NUMBER	9010L225	9101L125	9101L125	9101L125	9010L225	9010L225	9010L225
TARGET COMPOUNDS							
Chloromethane	---	---	---	---	---	---	---
Methylene Chloride	---	27 B	29 B	26 B	---	---	---
Acetone	---	9 JB	7 JB	6 JB	---	---	---
Carbon Disulfide	---	---	---	---	---	---	---
1,1-Dichloroethene	---	---	---	---	---	---	---
1,1-Dichloroethane	---	---	---	---	---	---	---
1,2-Dichloroethene_(total)	---	---	---	---	---	---	---
2-Butanone	---	---	---	---	---	---	---
1,1,1-Trichloroethane	---	---	---	---	---	---	---
Trichloroethene	---	3 J	4 J	1 J	32	41	40
Tetrachloroethene	---	---	---	---	8	9	9
Toluene	---	2 J	1 J	---	---	---	---
Dilution Factor	1.000	1.020	1.000	1.000	1.000	1.000	1.000
Total (Allowed) Hold Time	4(14)d	7(14)d	7(14)d	7(14)d	11(14)d	8(14)d	8(14)d

TABLE _._._ 1990 TAN HYDROGEOLOGIC INVESTIGATION - VOLATILE ORGANIC DATA (Continued)

AREA	TAN	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN-17	TAN	TAN DISP 1	TAN DISP 2	TAN DISP 3	GIN-2	GIN-4
TYPE OF LOCATION	REGIONAL AQUIFER	COMPOSITE	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER
SAMPLE NUMBER	TAN1790001A	TAN17C9101A	TAND190001A	TAND290001A	TAND390001A	TANG290001A	TANG490001A
MEDIA	WATER	SOIL	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/kg	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	9012L818	9101L125	9011L778	9010L225	9011L778	9012L818	9011L778
TARGET COMPOUNDS							
Chloromethane	---	---	---	---	---	---	---
Methylene Chloride	---	29 B	---	---	---	---	---
Acetone	---	6 JB	---	---	---	---	---
Carbon Disulfide	---	---	---	---	---	---	---
1,1-Dichloroethene	---	---	---	---	---	---	---
1,1-Dichloroethane	---	---	---	---	---	---	---
1,2-Dichloroethene_(total)	---	---	2 J	14	---	---	---
2-Butanone	---	---	---	10 UR	---	10 UR	10 UR
1,1,1-Trichloroethane	---	---	---	---	---	---	---
Trichloroethene	---	4 J	140	240	---	3 J	2 J
Tetrachloroethene	---	---	19	8	---	2 J	1 J
Toluene	---	2 J	---	---	---	---	---
Dilution Factor	1.000	0.980	1.000	1.000	1.000	1.000	1.000
Total (Allowed) Hold Time	9(14)d	7(14)d	9(14)d	6(14)d	13(14)d	9(14)d	8(14)d

TABLE _._._ 1990 TAN HYDROGEOLOGIC INVESTIGATION - VOLATILE ORGANIC DATA (Continued)

AREA	TAN	TAN	TAN
LOCATION	USGS-24	USGS-24	USGS-26
TYPE OF LOCATION	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER
SAMPLE NUMBER	TANGS24911A	TANGS24911ADL	USG2690001A
MEDIA	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L
SDG NUMBER	9101L125	9101L125	9011L778
TARGET COMPOUNDS			
Chloromethane	---	---	---
Methylene Chloride	---	---	---
Acetone	---	---	---
Carbon Disulfide	---	---	---
1,1-Dichloroethene	7	---	---
1,1-Dichloroethane	1 J	---	---
1,2-Dichloroethene_(total)	47	---	---
2-Butanone	---	---	---
1,1,1-Trichloroethane	11	---	---
Trichloroethene	0 E	720	---
Tetrachloroethene	51	---	---
Toluene	---	---	---
Dilution Factor	1.000	5.000	1.000
Total (Allowed) Hold Time	7(14)d	8(14)d	8(14)d

TABLE _._._ 1990 TAN HYDROGEOLOGIC INVESTIGATION - INORGANIC DATA

AREA	TAN	TAN	TAN	TAN	TAN
LOCATION	ANP-06	ANP-08	ANP-09	FET-02	IET-06
TYPE OF LOCATION	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER
SAMPLE NUMBER	ANP0690001B	ANP0890001B	ANP0990001B	FET0290001B	IET0690001B
MEDIA	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0690001B	ANP0890001B	ANP0990001B	ANP0890001B	ANP0690001B
ANALYTES					
Aluminum	67.0 B	112 B	---	124 B	75.0 B
Antimony	8.0 BWJ	---	4.0 UNWJJ	---	5.3 BWJ
Arsenic	2.4 B	---	---	---	---
Barium	80.0 B	109 BEJ	105 B	99.0 BEJ	136 B
Beryllium	---	---	---	---	---
Cadmium	---	---	---	---	---
Calcium	46400	48200 EJ	38800	45400 EJ	56800
Chromium	---	17.0	---	---	---
Cobalt	---	---	---	---	---
Copper	17.0 B	82.0	---	19.0 B	---
Iron	177	374 U	300 NUJ	---	298
Lead	7.1	14.7	6.1 U	2.2 BU	9.1
Magnesium	17300	15700	15900	16000	15400
Manganese	---	---	10.0 BU	---	206
Mercury	0.10 BU	---	---	0.11 B	0.12 BU
Nickel	---	---	---	---	---
Potassium	1980 B	2680 B	3120 B	2100 B	3430 B
Selenium	2.0 UWJJ	---	---	2.0 UWJJ	2.0 UWJJ
Silver	---	---	---	---	---
Sodium	11600	9100	16500	8900	23200
Thallium	---	---	---	---	---
Vanadium	12.0 UJJ	---	7.0 UJ	12.0 B	13.0 BJ
Zinc	---	228	---	22.0	118
Total (Allowed) Hold Time[a]	29(180)d	40(180)d	9(180)d	40(180)d	30(180)d
Total (Allowed) Hold Time[b]	7(26)d	20(26)d	10(26)d	20(26)d	8(26)d
Total (Allowed) Hold Time[c]	29(180)d	40(180)d	9(180)d	40(180)d	30(180)d

a. ICP/FAAS
b. CVAAS
c. GFAAS

TABLE _._._ 1990 TAN HYDROGEOLOGIC INVESTIGATION - INORGANIC DATA (Continued)

AREA	TAN	TAN	TAN	TAN	TAN
LOCATION	IET-06	TAN-01	TAN-02	TAN-03	TAN-04
TYPE OF LOCATION	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER
SAMPLE NUMBER	IET0690002B	TAN0190001B	TAN0290001B	TAN0390001B	TAN0490001B
MEDIA	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0690001B	ANP0890001B	ANP0890001B	ANP0690001B	ANP0890001B
ANALYTES					
Aluminum	---	138 B	106 B	---	90.0 B
Antimony	6.2 BWU	---	---	7.2 BWU	---
Arsenic	2.0 UW	---	2.0 UW	2.7 B	---
Barium	133 B	121 BEJ	111 BEJ	119 B	181 BEJ
Beryllium	---	---	---	---	---
Cadmium	---	---	---	---	---
Calcium	55600	51600 EJ	45600 EJ	59800	53600 EJ
Chromium	---	---	---	---	---
Cobalt	---	---	---	---	---
Copper	---	236	---	25.0	27.0
Iron	295	85.0 BU	302 U	450	483
Lead	10.0	3.2 WU	1.1 BU	4.8	3.2 U
Magnesium	15000	16900	14700	14600	16000
Manganese	200	---	33.0	11.0 B	81.0
Mercury	0.13 BU	0.12 B	0.10 B	0.19 BU	0.32
Nickel	---	---	---	---	---
Potassium	3330 B	2090 B	1880 B	2100 B	2640 B
Selenium	2.0 UWJJ	2.0 UW	---	2.0 UWJJ	2.0 UW
Silver	---	---	---	---	---
Sodium	22600	8570	7680	8400	10200
Thallium	---	---	---	---	---
Vanadium	12.0 UJJ	---	---	12.0 UJJ	---
Zinc	116	25.0	64.0	449	560
Total (Allowed) Hold Time[a]	30(180)d	40(180)d	40(180)d	27(180)d	41(180)d
Total (Allowed) Hold Time[b]	8(26)d	20(26)d	20(26)d	5(26)d	21(26)d
Total (Allowed) Hold Time[c]	30(180)d	40(180)d	40(180)d	27(180)d	41(180)d

a. ICP/FAAS
b. CVAAS
c. GFAAS

TABLE _-_-_ 1990 TAN HYDROGEOLOGIC INVESTIGATION - INORGANIC DATA (Continued)

AREA	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN-05	TAN-06	TAN-07	TAN-07	TAN-08
TYPE OF LOCATION	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER
SAMPLE NUMBER	TAN0590001B	TAN0690001B	TAN0790001B	TAN0790002B	TAN0890001B
MEDIA	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0890001B	ANP0690001B	ANP0690001B	ANP0690001B	TAN0890001B
ANALYTES					
Aluminum	109 B	811	116 B	171 B	---
Antimony	---	---	---	---	4.0 UWJJ
Arsenic	2.0 UW	---	---	2.0 UW	---
Barium	129 BEJ	108 B	117 B	114 B	101 B
Beryllium	---	---	---	---	---
Cadmium	---	---	---	---	---
Calcium	54600 EJ	48700	45600	48300	52600
Chromium	---	---	---	---	---
Cobalt	---	---	---	---	---
Copper	32.0	52.0	22.0 B	24.0 B	19.0 B
Iron	204 U	1680	78.0 BU	106 U	1610
Lead	15.4 S	8.3 SU	2.4 BWU	4.0 WUJ	28.4
Magnesium	15900	18000	16300	15800	13900
Manganese	---	39.0	---	---	23.0
Mercury	---	---	0.12 BU	0.11 BU	---
Nickel	---	---	---	---	15.0 B
Potassium	1930 B	3010 B	2280 B	2220 B	2470
Selenium	---	2.8 BW	2.0 UW	2.0 UW	5.0 UNR
Silver	---	---	---	---	---
Sodium	9950	10500	8630	8430	7620
Thallium	---	---	---	---	---
Vanadium	---	---	---	---	---
Zinc	244	460	194	193	406
Total (Allowed) Hold Time[a]	39(180)d	33(180)d	32(180)d	32(180)d	15(180)d
Total (Allowed) Hold Time[b]	19(26)d	13(26)d	12(26)d	12(26)d	16(26)d
Total (Allowed) Hold Time[c]	39(180)d	33(180)d	32(180)d	32(180)d	15(180)d

a. ICP/FAAS
b. CVAAS
c. GFAAS

TABLE _._._ 1990 TAN HYDROGEOLOGIC INVESTIGATION - INORGANIC DATA (Continued)

AREA	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN-09	TAN-09	TAN-10A	TAN-11	TAN-12
TYPE OF LOCATION	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER
SAMPLE NUMBER	TAN0990001B	TAN0990002B	TAN10A9002B	TAN1190001B	TAN1290001B
MEDIA	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0690001B	ANP0690001B	ANP0890001B	ANP0890001B	ANP0890001B
ANALYTES					
Aluminum	89.0 B	126 B	178 B	123 B	1820
Antimony	6.0 BWJ	6.8 BWJ	---	---	---
Arsenic	---	---	2.0 UW	2.0 UW	---
Barium	286	303	238 EJ	120 BEJ	76.0 BEJ
Beryllium	---	---	---	---	---
Cadmium	---	---	---	---	---
Calcium	86800	92600	83500 EJ	47800 EJ	46400 EJ
Chromium	---	---	---	---	---
Cobalt	---	---	---	---	---
Copper	19.0 B	---	26.0	21.0 B	19.0 B
Iron	324	330	563	2300	1340
Lead	10.3	2.7 B	14.6 S	4.6 WJ	5.1 WJ
Magnesium	24600	26400	24300 B	20400	20000
Manganese	12.0 B	13.0 B	44.0	26.0	25.0
Mercury	---	---	---	---	---
Nickel	---	---	---	---	---
Potassium	4480 B	4680 B	3220 B	3260 B	3190 B
Selenium	---	---	2.0 UWJJ	---	---
Silver	---	---	---	---	---
Sodium	42200	45500	31600	17400	11600
Thallium	---	1.0 UWJJ	---	---	---
Vanadium	12.0 UJJ	12.0 UJJ	12.0	13.0 B	---
Zinc	526	540	341	461	248
Total (Allowed) Hold Time[a]	21(180)d	21(180)d	34(180)d	35(180)d	41(180)d
Total (Allowed) Hold Time[b]	12(26)d	12(26)d	14(26)d	15(26)d	21(26)d
Total (Allowed) Hold Time[c]	21(180)d	21(180)d	34(180)d	35(180)d	41(180)d

a. ICP/FAAS
b. CVAAS
c. GFAAS

TABLE _-_-_ 1990 TAN HYDROGEOLOGIC INVESTIGATION - INORGANIC DATA (Continued)

AREA	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN-13A	TAN-13A	TAN-14	TAN-14	TAN-15
TYPE OF LOCATION	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER
SAMPLE NUMBER	TAN13A9001B	TAN13A9002B	TAN1490001B	TAN1490002B	TAN1590001B
MEDIA	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0990001B	ANP0990001B	ANP0890001B	ANP0890001B	ANP0890001B
ANALYTES					
Aluminum	92.0 B	129 B	5490	4380	110 B
Antimony	4.0 UNWJJ	4.0 UNWJJ	---	---	---
Arsenic	---	---	2.2 B	2.0 BWJ	2.0 UW
Barium	95.0 B	94.0 B	76.0 BEJ	73.0 BEJ	123 BEJ
Beryllium	---	---	---	---	---
Cadmium	---	---	---	---	---
Calcium	41100	41100	37800 EJ	37100 EJ	45800 EJ
Chromium	---	---	20.0	10.0	21.0
Cobalt	---	---	---	---	---
Copper	---	---	49.0	46.0	---
Iron	118 NUJ	119 NUJ	7530	5260	86.0 BU
Lead	1.7 BU	1.7 BU	7.9 WU	13.2 S	4.5 WU
Magnesium	10900	11000	17500	16000	17200
Manganese	15.0 U	16.0 U	115	84.0	---
Mercury	---	---	---	---	---
Nickel	---	---	36.0 B	---	---
Potassium	2180 B	2170 B	3960 B	4040 B	2630 B
Selenium	---	2.0 UW	---	2.0 UWUJ	---
Silver	---	---	---	---	---
Sodium	6830	6660	7620	7560	8270
Thallium	---	---	---	---	---
Vanadium	7.0 UJ	---	---	12.0 B	12.0 B
Zinc	654	639	142	122	173
Total (Allowed) Hold Time[a]	16(180)d	20(180)d	42(180)d	42(180)d	39(180)d
Total (Allowed) Hold Time[b]	8(26)d	12(26)d	22(26)d	22(26)d	19(26)d
Total (Allowed) Hold Time[c]	16(180)d	20(180)d	42(180)d	42(180)d	39(180)d

a. ICP/FAAS
b. CVAAS
c. GFAAS

TABLE _-_-_ 1990 TAN HYDROGEOLOGIC INVESTIGATION - INORGANIC DATA (Continued)

AREA	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN-16	TAN-16	TAN-17	TAN DISP 1	TAN DISP 2
TYPE OF LOCATION	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER
SAMPLE NUMBER	TAN1690001B	TAN1690002B	TAN1790001B	TAND190001B	TAND290001B
MEDIA	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0890001B	ANP0890001B	ANP0990001B	ANP0690001B	ANP0890001B
ANALYTES					
Aluminum	161 B	155 B	14800	199 B	328
Antimony	---	---	4.0 UNWJJ	---	---
Arsenic	2.0 UWJJ	2.0 UW	4.2 B	2.0 UWJJ	2.3 BW
Barium	113 BEJ	114 BEJ	200	95.0 B	280 EJ
Beryllium	---	---	1.0 B	---	---
Cadmium	---	---	---	---	---
Calcium	48000 EJ	47200 EJ	70000	456	81800 EJ
Chromium	---	12.0	45.0	---	---
Cobalt	---	---	---	---	---
Copper	28.0	---	146	21.0 B	150
Iron	118 U	82.0 BU	7290 NJ	3200	641
Lead	3.8 WU	3.5 WU	17.7	11.3 S	515
Magnesium	16000	16300	12700	19700	23000
Manganese	---	---	95.0	35.0	66.0
Mercury	0.10 B	---	---	0.11 BU	---
Nickel	---	---	69.0	---	---
Potassium	2510 B	2400 B	5740	3870 B	4140 B
Selenium	2.0 UW	---	10.0 UWJJ	---	2.0 UW
Silver	---	---	1.2 B	---	---
Sodium	8180	7990	15600	14000	68600
Thallium	---	---	3.1 BS	---	---
Vanadium	12.0 B	---	---	---	---
Zinc	117	105	536	53.0	225
Total (Allowed) Hold Time[a]	34(180)d	34(180)d	13(180)d	33(180)d	46(180)d
Total (Allowed) Hold Time[b]	14(26)d	14(26)d	5(26)d	13(26)d	26(26)d
Total (Allowed) Hold Time[c]	34(180)d	34(180)d	13(180)d	33(180)d	46(180)d

a. ICP/FAAS
b. CVAAS
c. GFAAS

TABLE _._._ 1990 TAN HYDROGEOLOGIC INVESTIGATION - INORGANIC DATA (Continued)

AREA	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN DISP 3	GIN-2	GIN-4	USGS-24	USGS-26
TYPE OF LOCATION	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER
SAMPLE NUMBER	TAND390001B	TANG290001B	TANG490001B	TANGS24911B	USG2690001B
MEDIA	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0690001B	ANP0990001B	ANP0990001B	TANGS24911B	ANP0690001B
ANALYTES					
Aluminum	81.0 B	146 B	507	---	---
Antimony	4.3 BWU	4.0 UNWUJ	4.0 UNWUJ	4.0 UUJ	5.2 BWUJ
Arsenic	2.1 B	---	---	2.0 B	---
Barium	105 B	183 B	183 B	220	52.0 B
Beryllium	---	---	---	---	---
Cadmium	---	---	---	---	---
Calcium	54800	63000	65000	80500	43700
Chromium	---	---	11.0 U	---	---
Cobalt	---	---	---	---	---
Copper	---	---	---	---	---
Iron	204	128 NUJ	728 NJ	123	222
Lead	5.4	43.8	1.4 BU	7.8	2.1 B
Magnesium	16000	21400 B	23600 B	18500	15800
Manganese	---	7.0 BU	18.0 U	3.0 UUJ	---
Mercury	---	0.16 BU	0.12 BU	0.12 BU	0.14 BU
Nickel	---	---	---	---	---
Potassium	2640 B	3750 B	4100 B	2860 B	2950 B
Selenium	2.0 UWUJ	2.1 BU	2.3 BWUJ	1.0 UNWUJ	10.0 UW
Silver	---	---	---	---	---
Sodium	8330	20600	17900	27000	17100
Thallium	---	2.9 B	---	---	---
Vanadium	12.0 UUJ	---	---	7.0 UUJ	12.0 UUJ
Zinc	17.0 B	---	---	---	---
Total (Allowed) Hold Time[a]	22(180)d	14(180)d	15(180)d	6(180)d	28(180)d
Total (Allowed) Hold Time[b]	13(26)d	6(26)d	7(26)d	15(26)d	6(26)d
Total (Allowed) Hold Time[c]	22(180)d	14(180)d	15(180)d	6(180)d	28(180)d

a. ICP/FAAS
b. CVAAS
c. GFAAS

TABLE _._._ 1990 TAN HYDROGEOLOGIC INVESTIGATION - NON-METAL INORGANIC DATA

AREA	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	ANP-06	ANP-08	ANP-09	FET-02	IET-06	IET-06
TYPE OF LOCATION	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER
SAMPLE NUMBER	ANP0690001	ANP0890001	ANP0990001	FET0290001	IET0690001	IET0690002
MEDIA	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0690001B	ANP0890001B	ANP0990001B	ANP0890001B	ANP0690001B	ANP0690001B
ANALYTES						
Alkalinity	146000	142000	122000	142000	164000	160000
Chloride	10800	10700	10700	15000	23500	23700
Fluoride	370	340	500	370	330	320
Nitrate	668	853	673	735	315	350
Sulfate	22000	25000	1600000	26000	22000	22000
Total (Allowed) Hold Time						
Alkalinity	13(14)d	13(14)d	14(14)d	13(14)d	14(14)d	14(14)d
Chloride	13(28)d	6(28)d	10(28)d	6(28)d	14(28)d	14(28)d
Fluoride	7(28)d	20(28)d	23(28)d	20(28)d	8(28)d	8(28)d
Nitrate	14(28)d	14(28)d	10(28)d	14(28)d	15(28)d	15(28)d
Sulfate	11(28)d	13(28)d	15(28)d	13(28)d	12(28)d	12(28)d

TABLE _._._ 1990 TAN HYDROGEOLOGIC INVESTIGATION - NON-METAL INORGANIC DATA (Continued)

AREA	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN-01	TAN-02	TAN-03	TAN-03	TAN-04	TAN-05
TYPE OF LOCATION	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER
SAMPLE NUMBER	TAN0190001	TAN0290001	TAN0390001	TAN0390EQ1	TAN0490001	TAN0590001
MEDIA	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0890001B	ANP0890001B	ANP0690001B	ANP0690001B	ANP0890001B	ANP0890001B
ANALYTES						
Alkalinity	144000	143000	160000	---	152000	149000
Chloride	26100	11500	11400	276	26900	29500
Fluoride	330	330	330	130	330	310
Nitrate	1520	877	832	---	1700	998
Sulfate	26000	26000	21000	---	19000	23000
Total (Allowed) Hold Time						
Alkalinity	13(14)d	13(14)d	11(14)d	11(14)d	13(14)d	12(14)d
Chloride	6(28)d	6(28)d	15(28)d	15(28)d	6(28)d	5(28)d
Fluoride	20(28)d	20(28)d	5(28)d	5(28)d	20(28)d	19(28)d
Nitrate	14(28)d	14(28)d	18(28)d	18(28)d	14(28)d	13(28)d
Sulfate	13(28)d	13(28)d	13(28)d	13(28)d	13(28)d	12(28)d

TABLE _._._ 1990 TAN HYDROGEOLOGIC INVESTIGATION - NON-METAL INORGANIC DATA (Continued)

AREA	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN-06	TAN-07	TAN-07	TAN-08	TAN-09	TAN-09
TYPE OF LOCATION	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER
SAMPLE NUMBER	TAN0690001	TAN0790001	TAN0790002	TAN0890001	TAN0990001	TAN0990002
MEDIA	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0690001B	ANP0690001B	ANP0690001B	TAN0890001	ANP0690001B	ANP0690001B
ANALYTES						
Alkalinity	148000	145000	146000	122000	192000	194000
Chloride	7460	11300	11200	35700	128000	128000
Fluoride	370	310	320	250	300	280
Nitrate	574	909	928	706	1550	1560
Sulfate	22000	23000	26000	19000	34000	30000
Total (Allowed) Hold Time						
Alkalinity	6(14)d	5(14)d	5(14)d	13(14)d	5(14)d	5(14)d
Chloride	9(28)d	8(28)d	8(28)d	16(28)d	21(28)d	21(28)d
Fluoride	13(28)d	12(28)d	12(28)d	20(28)d	23(28)d	23(28)d
Nitrate	7(28)d	6(28)d	6(28)d	8(28)d	12(28)d	12(28)d
Sulfate	6(28)d	5(28)d	5(28)d	21(28)d	15(28)d	15(28)d

TABLE _._._ 1990 TAN HYDROGEOLOGIC INVESTIGATION - NON-METAL INORGANIC DATA (Continued)

AREA	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN-10A	TAN-11	TAN-12	TAN-13A	TAN-13A	TAN-14
TYPE OF LOCATION	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER
SAMPLE NUMBER	TAN10A9002	TAN1190001	TAN1290001	TAN13A9001	TAN13A9002	TAN1490001
MEDIA	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0890001B	ANP0890001B	ANP0890001B	ANP0990001B	ANP0990001B	ANP0890001B
ANALYTES						
Alkalinity	183000	134000	130000	118000	124000	118000
Chloride	89800	36500	44200	2790	2750	3130
Fluoride	320	310	340	300	320	350
Nitrate	1550	782	779	314	318	713
Sulfate	26000	23000	19000	5000	5000	11000
Total (Allowed) Hold Time						
Alkalinity	7(14)d	14(14)d	13(14)d	10(14)d	10(14)d	14(14)d
Chloride	10(28)d	10(28)d	9(28)d	17(28)d	17(28)d	10(28)d
Fluoride	14(28)d	23(28)d	21(28)d	11(28)d	11(28)d	22(28)d
Nitrate	8(28)d	10(28)d	15(28)d	17(28)d	17(28)d	16(28)d
Sulfate	7(28)d	15(28)d	14(28)d	3(28)d	3(28)d	15(28)d

TABLE _._._ 1990 TAN HYDROGEOLOGIC INVESTIGATION - NON-METAL INORGANIC DATA (Continued)

AREA	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN-14	TAN	TAN-16	TAN-16	TAN-17	TAN DISP 1
TYPE OF LOCATION	REGIONAL AQUIFER	COMPOSITE	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER
SAMPLE NUMBER	TAN1490002	TAN1590001	TAN1690001	TAN1690002	TAN1790001	TAND190001
MEDIA	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0890001B	ANP0890001B	ANP0890001B	ANP0890001B	ANP0990001B	ANP0690001B
ANALYTES						
Alkalinity	118000	139000	140000	140000	120000	119000
Chloride	3480	19700	17600	17700	4940	49800
Fluoride	370	320	320	320	320	270
Nitrate	745	1040	1020	1020	486	582
Sulfate	18000	28000	28000	26000	15000	26000
Total (Allowed) Hold Time						
Alkalinity	14(14)d	12(14)d	7(14)d	7(14)d	8(14)d	6(14)d
Chloride	10(28)d	7(28)d	10(28)d	10(28)d	15(28)d	9(28)d
Fluoride	22(28)d	19(28)d	14(28)d	14(28)d	9(28)d	13(28)d
Nitrate	16(28)d	13(28)d	8(28)d	8(28)d	15(28)d	7(28)d
Sulfate	15(28)d	12(28)d	7(28)d	7(28)d	20(28)d	6(28)d

TABLE _._._ 1990 TAN HYDROGEOLOGIC INVESTIGATION - NON-METAL INORGANIC DATA (Continued)

AREA	TAN	TAN	TAN	TAN	TAN	TAN
LOCATION	TAN DISP 2	TAN DISP 3	TAN DISP 3	GIN-2	GIN-4	USGS-24
TYPE OF LOCATION	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER	REGIONAL AQUIFER
SAMPLE NUMBER	TAND290001	TAND390001	TAND390EQ2	TANG290001	TANG490001	TANGS24911
MEDIA	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	ANP0890001B	ANP0690001B	ANP0690001B	ANP0990001B	ANP0990001B	TANGS24911
ANALYTES						
Alkalinity	221000	154000	24000	156000	130000	174000
Chloride	140000	13000	244	76700	65100	71400
Fluoride	240	310	100	310	310	230
Nitrate	2860	841	---	1300	1340	1820
Sulfate	32000	32000	---	40000	26000	36000
Total (Allowed) Hold Time						
Alkalinity	6(14)d	6(14)d	6(14)d	8(14)d	9(14)d	9(14)d
Chloride	12(28)d	22(28)d	22(28)d	15(28)d	16(28)d	13(28)d
Fluoride	26(28)d	24(28)d	24(28)d	9(28)d	10(28)d	5(28)d
Nitrate	7(28)d	13(28)d	13(28)d	15(28)d	16(28)d	19(28)d
Sulfate	19(28)d	16(28)d	16(28)d	20(28)d	14(28)d	6(28)d

TABLE _._._ 1990 TAN HYDROGEOLOGIC INVESTIGATION - NON-METAL INORGANIC DATA (Continued)

AREA	TAN
LOCATION	USGS-26
TYPE OF LOCATION	REGIONAL AQUIFER
SAMPLE NUMBER	USG2690001
MEDIA	WATER
UNITS	ug/L
SDG NUMBER	ANP0690001B
ANALYTES	
Alkalinity	142000
Chloride	13100
Fluoride	610
Nitrate	767
Sulfate	22000
Total (Allowed) Hold Time	
Alkalinity	12(14)d
Chloride	20(28)d
Fluoride	6(28)d
Nitrate	19(28)d
Sulfate	22(28)d

Table 6. FY-90 Unvalidated Groundwater Data for Tritium and Strontium

WELL NAME	WELL ID NUMBER	TRITIUM	STRONTIUM-90
ANP-06	ANP0690001	-9 ± 7 E-2	1.6 ± 0.7 E-3
ANP-08	ANP0890001	0 ± 6.0 E-2	9 ± 1.0 E-4
ANP-09	ANP0990001	-2 ± 2 E-1	2.7 ± 0.2 E-2
FET-02	FET0290001	-2 ± 1.0 E-1	-2.2 ± 0.7 E-3
IET-06	IET0690001	-1.2 ± 0.8 E-1	-1.5 ± 0.7 E-3
TAN Disp1	TAND190001	1.9 ± 0.3 E+0	-3 ± 1.0 E-3
TAN Disp2	TAND290001	3.0 ± 0.3 E+0	2.9 ± 0.2 E-2
TAN Disp3	TAND390001	1.3 ± 0.8 E-1	-3 ± 0.7 E-3
TAN-01	TAN0190001	2 ± 1.1 E-1	1.8 ± 0.8 E-3
TAN-02	TAN0290001	-1 ± 2 E-1	1.2 ± 0.12 E-2
TAN-03	TAN0390001	9 ± 8 E-2	-9 ± 1.3 E-4
TAN-04	TAN0490001	1.0 ± 0.2 E+0	2 ± 1.2 E-3
TAN-05	TAN0590001	1.1 ± 0.3 E+0	6.2 ± 0.9 E-3
TAN-06	TAN0690001	-3 ± 2 E-1	1.3 ± 0.11 E-2
	TAN0690002	-3 ± 2 E-1	1.2 ± 0.10 E-2
TAN-07	TAN0790001	1.5 ± 0.8 E-1	1.3 ± 0.6 E-3
	TAN0790002	-1.1 ± 0.7 E+0	-1.7 ± 0.8 E-3
TAN-08	TAN0890001	-4.0 ± 2 E-1	1.0 ± 0.10 E-2
TAN-09	TAN0990001	6.9 ± 0.9 E+0	1.7 ± 0.13 E-2
	TAN0990002	6.7 ± 0.6 E+0	6.9 ± 0.7 E-3
TAN-10A	TAN10A9002	3.6 ± 0.4 E+0	4.7 ± 0.3 E-1
TAN-11	TAN1190001	3.3 ± 0.7 E+0	3 ± 0.6 E-3
TAN-12	TAN1290001	1.8 ± 0.3 E+0	7 ± 1.2 E-4
TAN-13A	TAN13A90001	-3.0 ± 2 E-1	2.0 ± 0.6 E-3
	TAN13A9002	-3 ± 8 E-2	-5 ± 7 E-4
TAN-14	TAN1490001	-7 ± 9 E-2	4.7 ± 0.7 E-3
	TAN1490002	-5 ± 7 E-2	-2 ± 1.1 E-3

WELL NAME	WELL ID NUMBER	TRITIUM	STRONTIUM-90
TAN-15	TAN1590001	3 ± 1.0 E-1	-3 ± 1.3 E-3
TAN-16	TAN1690001	3.2 ± 0.9 E-1	2 ± 8 E-4
TAN-16	TAN1690002	2 ± 1.2 E-1	1.3 ± 0.12 E-2
TAN-17	TAN1790001	-2.0 ± 2 E-1	2.0 ± 0.3 E-2
GIN-2	TANG29001	-2 ± 1.0 E-1	-3.6 ± 1.0 E-3
GIN-4	TANG490001	-3 ± 2 E-1	-9 ± 7 E-4
USGS-26	USG2690001	-1.3 ± 0.8 E-1	-2.1 ± 0.8 E-3
USGS-24	TANGS24911	8 ± 1.1 E+0	1.1 ± 0.13 E-2

APPENDIX E

VALIDATED AND UNVALIDATED DATA FROM SPRING 1989 AND EARLIER

Table : Results of Sampling for TCE in Drinking Water
TAN Area Wells

Date of Sample	Well No	Building	Sample Number	Concentration ug/L
a 10/23/87	TAN-1	TAN-612		7.7
				6
	TAN-2	TAN-613		5.4
				4
a 10/25/87	ANP-6	--		.5
	ANP-8	TAN-644		7.5
				5
	FET-1	TAN-632		<.2
				ND
a 10/26/87	FET-2	TAN-639		<.2
				ND
a 10/27/87	IET-DISP	TAN-332		1.3
	TSF-INJ	TAN-665		35000
b 11/13/87	TAN-2	TAN-613	0028-1	1.7
			0028-2	2.8
			0028-3	3.2
			0028-4	3.6
			0028-5	4.4
b 1/7/88	TAN-1	TAN-612	0028-8	4
			0028-9	4
			0028-10	5
			0028-11	5
	TAN-2	TAN-613	0028-12	5
			0028-13	1
			0028-14	2
			0028-15	3
			0028-16	3
			0028-17	4
	ANP-8	TAN-644	0028-21	5
c 1/14/88	TSF-INJ	TAN-665	20gpm	930
			37gpm	4150
	USGS-24	--		840
b 1/15/88	ANP-8	TAN-644	8M10023	5
			8M10024	5
			8M10025	4
			8M10026	4
			8M10027	4
b 1/20/88	ANP-8	TAN-644	8MIA0112	6
b 2/2/88	TAN-1	TAN-612	0028-32	3.2
			0028-33	3.9
			0028-34	4.3
			0028-35	5.3
			0028-36	5.4
	TAN-2	TAN-613	0028-37	ND
			0028-38	ND
			0028-39	1.6
			0028-40	1.7
			0028-41	1.7
			0028-42	2.7

ND - None Detected
TCE - Trichloroethene

Sources:

a - Mann, L.J., and Knoble, L.L., 1987, Purgeable Organic Coumpounds in the Groundwater an the INEL, Idaho. USGS Open File Report 87-766

b - unpublished data, EG&G environmental monitoring

c - informal report, April 1988, Interim Corrective Action Measures for TSF Drinking Water., EG&G, Idaho EG&G-ER-8068

DRAFT

EG&G Idaho

INTEROFFICE CORRESPONDENCE

Date: March 16, 1989

To: T. P. O'Rourke

From: L. D. Koeppen Don Koeppen

Subject: RADIATION MEASUREMENTS LABORATORY (RML) GAMMA-RAY ANALYSIS OF TAN GROUNDWATER RFI SAMPLES - LDK-21-89

The RML counted/analyzed five water samples and one sludge sample by germanium spectrometry, for the TAN groundwater investigation. The water samples were counted in a four-liter Marinelli geometry (which provides optimum geometry for water samples) and the sludge sample (mostly water) was counted in a 540 ml geometry. Each sample was counted for sixteen hours.

The activity determined on each sample is shown on the attached Table 1. Results are background corrected and decay corrected to the sample collection dates. The results reported on the attached Table 1 are those radionuclide results which were found by the analyst to be true positive and "real" according to the criteria in "RML Procedure DM-2: Evaluation and Verification of Data for Radionuclide Identification/Selection". The reported results are also above RML detection limits for the subject sample geometry and counting duration.

The total uncertainty reported includes the statistical uncertainty and the estimate of the uncertainty in the sample geometry (5%) and in the detector efficiency (5%). The uncertainties have been propagated in quadrature and are expressed as one estimated standard deviation.

Attachment:
As Stated

jd

cc: M. R. Donaldson
T. K. McCusker
R. J. Gehrke
Central Files
L. D. Koeppen File

. O'Rourke
n 16, 1989
LDK-21-89
Attachment

TABLE 1

GAMMA-RAY ACTIVITIES OF TAN GROUNDWATER SAMPLES

Sample ID	Collection Date	Sample Volume (ml)	RML ID	Radionuclide	Activity (μCi/ml)
USG2489001 H	2/28/89	4000	B3030689031	RaP-214 RaB-214	(3.6 ± .3)E-8 (4.0 ± .3)E-8
IET0689001 H	3/1/89	3965	B3030789028	RaP-214 RaB-214	(1.62± .15)E-8 (1.97± .18)E-8
TAND189001 H	3/2/89	3850	B3030889039	RaP-214 RaB-214	(6.7 ±1.1)E-9 (5.7 ±1.1)E-9
TAND289001 H	3/6/89	4065	B3030989030	Cs-137* RaP-214 RaB-214	(1.17± .12)E-8 (5.3 ± .4)E-8 (5.6 ± .4)E-8
[illegible]0589001 H	3/7/89	4100	B3031089026	Cs-137 RaP-214 RaB-214	(3.1 ± .2)E-6 (1.8 ± .2)E-8 (2.1 ± .2)E-8
TSF0589003 N	3/7/89	435	A5030889038	Co-60 Cs-137	(6.3 ± .5)E-6 (3.8 ± .3)E-5

NOTE: (1) Radionuclides RaP-214 and RaB-214 designate the measured daughter products Pb-214 and Bi-214 from the radioactive decay of naturally occurring Ra-226.

(2) The radionuclide flagged with an asterisk (*) indicates a measured activity that is only slightly above RML detection limits. The RML detection limit for Cs-137 = 8.0E-9μCi/ml.

EG&G Idaho

INTEROFFICE CORRESPONDENCE

Date: April 4, 1989

To: T. P. O'Rourke

From: L. D. Koeppen Don Koeppen

Subject: RADIOCHEMISTRY ANALYSES OF TAN GROUNDWATER RFI SAMPLES - LDK-26-89

Radiochemistry analyzed five water samples and one sludge sample for gross alpha, gross beta and H-3 activity, for the TAN groundwater investigation. The sludge sample (mostly water) activity was determined on the water portion of the sample.

The activity determined on each sample is shown on the attached Table 1. and is reported in activity units of µCi/ml. The only sample that showed any significant activity (H-3 and gross beta) was the sludge sample. If additional analyses are desired (e.g., ^{90}Sr) on the sludge sample (sludge or water portion), let us know.

The uncertainty reported is the total uncertainty and is expressed as one estimated standard deviation.

Attachment:
As Stated

jd

cc: M. R. Donaldson
R. J. Gehrke
M. W. Huntley
T. K. McCusker
Central Files
L. D. Koeppen File

3-31-89

TAN HYDROGEOLOGIC INVESTIGATION
ANALYSIS RESULTS

SAMPLE ID#	DATE	ANALYSIS RESULTS			
USG 2439001 J	2/28	9.56E-06	±	3.27E-07	H-3 uCi/mL
-	"	1.13E-09	±	4.64E-09	Gross Alpha uCi/mL
-	"	-1.13E-09	±	4.34E-09	Gross Beta uCi/mL
IET 0689001 J	3/1	6.42E-08	±	2.02E-07	H-3 uCi/mL
-	"	4.86E-09	±	6.29E-09	Gross Alpha uCi/mL
-	"	3.77E-07	±	4.26E-08	Gross Beta uCi/mL
TAN D 189001 J	3/2	7.83E-07	±	2.09E-07	H-3 uCi/mL
-	"	-3.65E-09	±	3.49E-09	Gross Alpha uCi/mL
-	"	7.12E-09	±	4.41E-09	Gross Beta uCi/mL
TAN D 289001 J	3/6	2.15E-06	±	2.74E-07	H-3 uCi/mL
-	"	4.42E-08	±	8.51E-09	Gross Alpha uCi/mL
-	"	2.60E-07	±	2.86E-08	Gross Beta uCi/mL
589001 L	3/7	3.88E-05	±	1.06E-06	H-3 uCi/mL
-	"	8.05E-08	±	2.96E-08	Gross Alpha uCi/mL
-	"	4.21E-06	±	4.48E-07	Gross Beta uCi/mL
TSF 0589003*	3/8	1.00E-04	±	2.40E-06	H-3 uCi/mL
-	"	1.25E-08	±	2.17E-08	Gross Alpha uCi/mL
-	"	1.25E-05	±	1.34E-06	Gross Beta uCi/mL

NOTE: STRONTIUM-90 ANALYSIS PERFORMED WHEN GROSS BETA > 1.0E-5 uCi/mL

ANALYSIS BY: _____

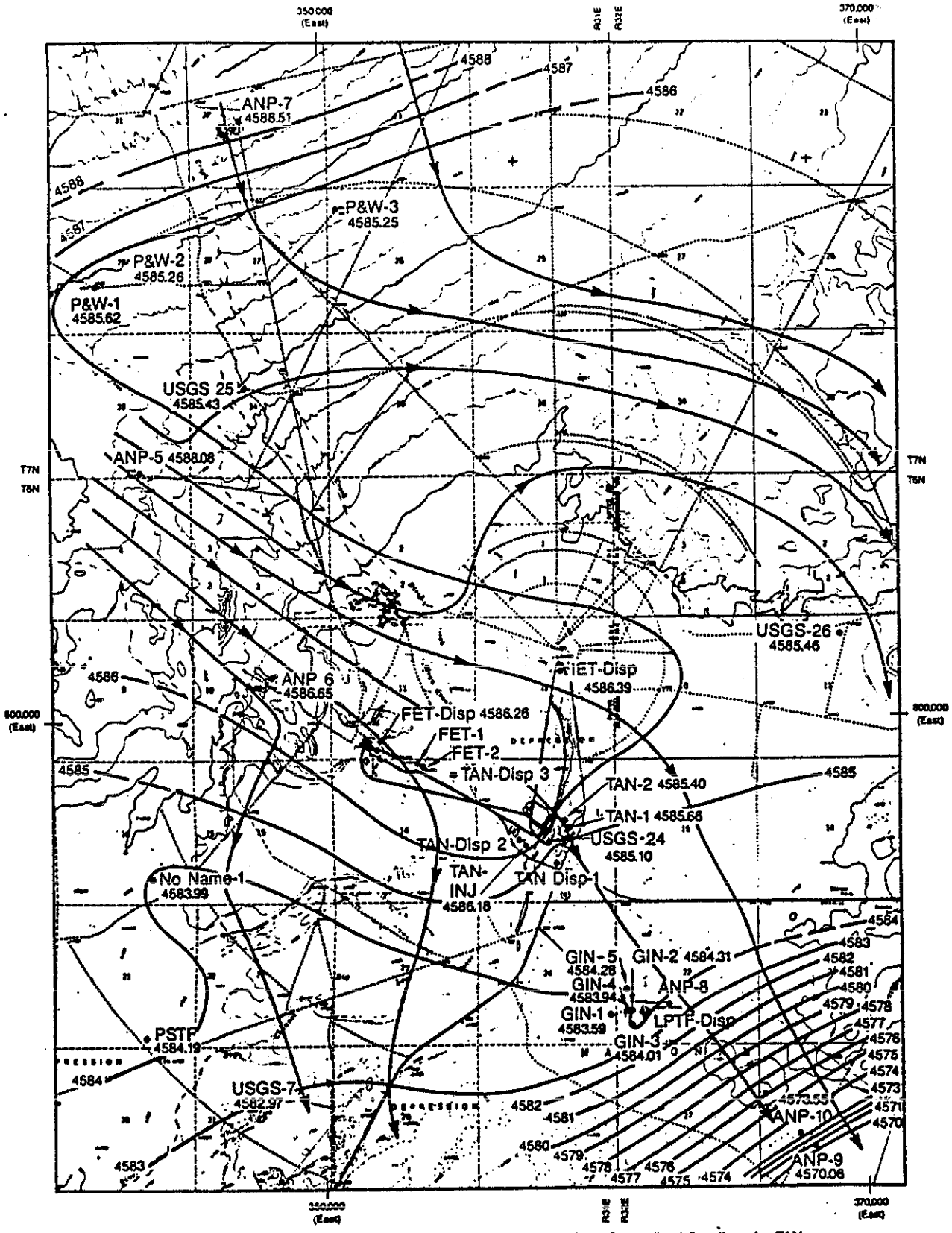
APPROVED BY: _____

* LIQUID DECANTED OFF SLUDGE SAMPLE

1t 1
, 10, 1989
HRD-25-89

UP-FRONT MONITORING ANAYTICAL RESULT SUMMARY
MAY 1989
(ppb)

COMPOUND	MCL	USGS-24	IET	TAN-D1	TAN-D2	TSF INJECTION WELL PUMP TSF1	BAILER TSF2	SOIL TSF-S
ORGANICS								
VOLATILES								
1,2-DIBROMOETHENE					3			
1,2-DICHLOROETHENE	5	22				7800	7400	
2-BUTANONE								1800000
ACETONE		18		6		670	550	
BENZENE	5		2					
CARBON DISULFIDE			18		3			
CARBON TETRACHLORIDE	5							
METHYLENE CHLORIDE		13				610		290000
TETRACHLOROETHENE				6	10			
TRICHLOROETHENE	5	210		39	170	28000	16000	20000000
SEMI-VOLATILES								
DI-N-BUTYLPHTHALATE		1	1	1				
DI-N-OCTYLPHTHALATE			1					
BIS (2-ETHTLHEXYL) PHTHALATE					3			
INORGANICS								
BARIUM	1000	201	125	76	286	147	148	326000
COPPER	1000	56	60	42	73	90	87	1320000
LEAD	50	8.9	8.3	6.5	10.3	14	6.9	159000
MERCURY	2					0.33		42500
NICKEL					26	20	21	51300
THALLIUM		3.3	3.3	3	2.2	1.6	1.3	650
VANADIUM					15			17600
ZINC	5000	64	175	36	72	267	342	2650000
ANTIMONY								21100
ARSENIC								3700
BERYLLIUM								700
CADMIUM								11300
CHROMIUM								90700
								1300
								14900



Generalized flow lines for TAN area

4586 Contour (feet MSL)

• 4585.94 Wells and water table elevations

Preliminary Water Table Contour Map
December 1988

EG&G Idaho

"Providing research and development services to the government"

INTEROFFICE CORRESPONDENCE

Date: May 8, 1989

To: T. P. O'Rourke

From: L. J. Peterson-Wright

Subject: DATA VALIDATION AND CONTRACT COMPLIANCE OF ENVIRODYNE PACKAGE UNDER SUBCONTRACT NO. C89-131958 - LJPW-16-89

Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses and Contract Compliance Screening Procedures for RAS Organics were used to screen the organic section of the data package generated by Envirodyne Engineers under Subcontract No. C89-131958.

The screening process has resulted in this list of comments regarding the integrity of the data package.

VOLATILES

For the water sample TAND189001 and associated blanks which were not analyzed within the CLP time frame, it is recommended that positive results for the aromatics (benzene, ethylbenzene, toluene, and xylenes) be flagged as estimated (J) and sample quantitation limits for these aromatics as estimated (UJ).

Water samples IET0689001TB and IET0689001SB were analyzed beyond the 12th hour without another tune are noncompliant. Flag positive results for these samples as estimated (J) and sample quantitation limits as estimated (UJ).

Soil samples TSF0589003DL and TSF0589003MSDDL were analyzed beyond the 12th hour without another tune and are noncompliant. Flag positive results for these samples as estimated (J) and sample quantitation limits as estimated (UJ).

TSF0589002 and TSF0589002RE had recoveries of surrogates outside the contract require limits. Since Envirodyne established by re-analyses that the recoveries were beyond their control, they have complied with the terms of the contract. Although surrogate recoveries are noncompliant, Environdyne's performance is compliant. Positive results for those samples should be flagged as estimated (J) and negative results are flagged with the sample quantitation limits classified as estimated (UJ).

SEMIVOLATILES

On form 4B, semivolatile method blank summary, sample TSF0589003MSRE is incorrectly labeled as TSD0589003MSRE.

On form 5B, semivolatile GC/MS tuning and mass calibration-DFTPP, sample USG2489001RE is incorrectly labeled as USB2489002RE.

If an internal standard area count is outside -50% or +100% of the associated standard analyzed, positive results for compounds quantitated using that internal standard are flagged as estimated (J) for that sample fraction non-detects for compounds quantitated using that internal standard are flagged with the sample quantitation limit as estimated (UJ) for that sample fraction. The affected samples and compounds are:

TAND289001, TSF0589001, USG2489001 and MB1-SBLK02049, TSF0589003MS

COMPOUNDS

DI-N-OCTYL PHTHALATE
BENZO (B) FLUORANTHENE
BENZO (K) FLUORANTHENE
BENZO (A) PYTENE
INDENO (1,2,3-CD) PYRENE
DIBENZO (A,H) ANTHRACENE
BENZO (G,H,I) PERYLENE

and TSF0589003MS and MB1-SBLK02049

COMPOUNDS

PYRENE
BUTYLBENZYLPHTHALATE
3,3'-DICHLOROBENZIDINE
BENZO (A) ANTHRACENE
BIS (2-ETHYLHEXYL) PHTHALATE
CHRYSENE

The internal standard area count for reinjections of these samples were within 50 % or + 100 % of the associated standard analyzed and the data need not be qualified.

IS6 header of area column is mislabeled as IS3 on all form 8C's.

Subcontract No. C89-13158, Article 2-Scope of Work, states "if any of the matrix spikes or matrix spike duplicates are outside of the QC limits established in the appropriate CLP or SW-846 methods on a sample with a "hit" then the subcontractor shall perform an additional matrix spike and a matrix spike duplicate analysis." Envirodyne performed a matrix spike/matrix spike duplicate on sample TSF0589002. This sample had "hits" and recoveries outside of the QC limits set by CLP methodology. Envirodyne did not perform an additional matrix spike and matrix spike duplicate on another sample. Instead, reinjection of the samples were made. No action is taken on matrix spike/matrix spike duplicates data alone to qualify an entire case, therefore sample data in not qualified on the basis on matrix spike/matrix spike duplicate recoveries.

Even though unknowns were not identified in any fractions, completed Form 1C's must be provided stating such. The data package is considered incomplete until these forms are submitted.

PESTICIDES/PCB'S

The % difference between calibration factors (Form 9, INDB, 3/21/89, 19:33) is greater than 15 % for gamma-BHC. Quantitative results should be flagged as estimated. Affected samples are noncompliant.

For INDA, run on 3/8/89, at 22:01, Hept. Epoxide is outside of RT window of 5.09-5.13 with a value of 5.14.

For INDA, run on 3/10/89, at 15:22 Aldrin is outside the RT window of 5.09-5.13 with a value of 5.14.

For INDB, run on 3/21/89, at 19:33, Endrin is outside of the RT window of 9.19-9.43 with value of 9.44.

CHLORINATED HERBICIDES

SW-946, 3rd Ed., Method 8150, paragraph 5.13 recommends the use of a surrogate to monitor the performance of the extraction, cleanup, analytical system and the effectiveness of the method in dealing with each sample matrix. Envirodyne did not use a surrogate.

ACETRONITRILE, ACROLEIN, ACRYLONITRILE, 1,4-DIOXANE

SW-846, 3rd Ed., Method 8030 paragraph 5.4.3 recommends that standards be prepared daily. Envirodyne's lab notebook does not document this recommended procedure.

SW-846, 3rd Ed., Method 8030 paragraph 5.6 recommends a surrogate to monitor the performance of the analytical system and the effectiveness of the method in dealing with each sample matrix. Envirodyne did not use surrogates.

Please supply the QC Officer with the results of the field QC samples as per his request so as not to break the QC chain.

Thank you for the opportunity to contribute to this project. If I can be of further assistance please contact me at 6-0782 or 6-1856.

ljpw

cc: L. L. Fritz
G. S. Groenewold
T. K. McCusker
D. L. Miller
Central Files
L. J. Peterson-Wright File

ALL LIQUID SAMPLES ARE IN UNITS OF UG/L AND SOIL SAMPLES ARE UG/KG

VOLATILES

IET0689001

75-15-0	CARBON DISULFIDE	18
71-43-2	BENZENE	2 J

IET0689001SB

75-09-2	METHYLENE CHLORIDE	2 J
124-48-1	DIBROMOCHLOROMETHANE	1 J
75-25-2	BROMOFORM	3 J

IET0689001TB

NO HITS

TAN15089001

74-87-2	CHLOROMETHANE	1 J
67-64-1	ACETONE	22
75-34-3	1,1-DICHLOROETHANE	3 J
67-66-3	CHLOROFORM	7400 E
56-23-5	CARBON TETRACHLORIDE	370 E
75-27-4	BROMODICHLOROMETHANE	810 E
79-01-6	TRICHLOROETHENE	170
124-48-1	DIBROMOCHLOROMETHANE	280 E
75-25-2	BROMOFORM	190
127-18-4	TETRACHLOROETHENE	70

TAN15089001 DL

75-09-2	METHYLENE CHLORIDE	340 BJD
67-64-1	ACETONE	11000 D
56-23-5	CARBON TETRACHLORIDE	280 JD
75-27-4	BROMODICHLOROMETHANE	730 D
79-01-6	TRICHLOROETHENE	620 D
124-48-1	DIBROMOCHLOROMETHANE	250 D
75-25-2	BROMOFORM	180 D

TAN2489000TB

75-09-2	METHYLENE CHLORIDE	2 J
79-01-6	TRICHLOROETHENE	3 J
108-88-3	TOLUENE	1 J
108-90-7	CHLOROBENZENE	2 J
100-41-4	ETHYLBENZENE	2 J
100-42-5	STYRENE	1 J
133-02-7	XYLENE (TOTAL)	1 J
74-95-3	DIBROMOMETHANE	1 J

TAND189001

67-64-1	ACETONE	6 J
79-01-6	TRICHLOROETHENE	39
127-18-4	TETRACHLOROETHENE	6 J

TAND189001SB

67-64-1	ACETONE	5 J
67-66-3	CHLOROFORM	3 J

TAND189001TB

67-64-1	ACETONE	4 J

TAND189001UB

67-64-1	ACETONE	4 J
75-15-0	CARBON DISULFIDE	10
71-43-2	BENZENE	1 J
100-42-5	STYRENE	2 J

TAND289001

75-15-0	CARBON DISULFIDE	3 J
79-01-6	TRICHLOROETHENE	170
127-18-4	TETRACHLOROETHENE	10
106-93-4	1,2-DIBROMOETHENE	3 J

TAND289001SB

67-64-1	ACETONE	5 J
124-48-1	DIBROMOCHLOROMETHANE	2 J
75-25-2	BROMOFORM	3 J

TAND289001TB

75-09-2	METHYLENE CHLORIDE	1 JB
67-64-1	ACETONE	6 J

TSF0589001

75-01-4	VINYL CHLORIDE	25
75-35-4	1,1-DICHLOROETHENE	23
540-59-0	1,2-DICHLOROETHENE	6800 E
79-01-6	TRICHLOROETHENE	5400 E
71-43-2	BENZENE	4 J

TSF0589001

75-09-2	METHYLENE CHLORIDE	610 BJD
67-64-1	ACETONE	670 BJD
540-59-0	1,2-DICHLOROETHENE	7800 D
79-01-6	TRICHLOROETHENE	28000 BD

TSF0589001SB

67-64-1	ACETONE	4 J
67-6603	CHLOROFORM	2 J
75-25-2	BROMOFORM	4 J

TSF0589001TB

75-09-2	METHYLENE CHLORIDE	3 JB
67-66-3	CHLOROFORM	3 J

TSF0589002

75-01-4	VINYL CHLORIDE	16
75-35-4	1,1-DICHLOROETHENE	16
540-59-0	1,2-DICHLOROETHENE	5300 E
79-01-6	TRICHLOROETHENE	3700 E
71-43-2	BENZENE	3 J
127-18-4	TETRACHLOROETHENE	37

TSF0589002DL

67-64-1	ACETONE	550 BJD
540-59-0	1,2-DICHLOROETHENE	7400 D
79-1-6	TRICHLOROETHENE	16000 BD

TSF0589002RE

75-01-4	VINYL CHLORIDE	25
75-35-4	1,1-DICHLOROETHENE	23
540-59-0	1,2-DICHLOROETHENE	5000 E
79-01-6	TRICHLOROETHENE	4600 E
71-43-2	BENZENE	4 J
127-18-4	TETRACHLOROETHENE	53

TSF0589002SB

67-64-1	ACETONE	5 J
67-66-3	CHLOROFORM	2 J
75-25-2	BROMOFORM	4 J

TSF0589002TB

75-09-2	METHYLENE CHLORIDE	3 JB
67-64-1	ACETONE	3 J
67-66-3	CHLOROFORM	3 J

TSF0589003SB

67-64-1	ACETONE	5 J

TSF0589003TB

75-09-2	METHYLENE CHLORIDE	2 BJ
67-64-1	ACETONE	2 J

USG2489001

540-59-0	1,2-DICHLOROETHENE	4 J
79-01-6	TRICHLOROETHENE	450 E
127-18-4	TETRACHLOROETHENE	19

USG2489001 DL

75-09-2	METHYLENE CHLORIDE	13 BJD
67-64-1	ACETONE	18 JD
540-59-0	1,2-DICHLOROETHENE	22 JD
79-01-6	TRICHLOROETHENE	210 D

USG2489001SB

75-09-2	METHYLENE CHLORIDE	2 J
67-66-3	CHLOROFORM	2 J
124-48-1	DIBROMOCHLOROMETHANE	2 J
75-25-2	BROMOFORM	4 J

USG2489001TB

75-09-2	METHYLENE CHLORIDE	2 J
100-41-4	ETHYLBENZENE	1 J
100-42-5	STYRENE	1 J
106-93-4	1,2-DIBROMOETHANE	2 J

TSF0589003DL – SLUDGE

75-09-2	METHYLENE CHLORIDE	290000 JD
78-93-3	2-BUTANONE	1800000 D
79-01-6	TRICHLOROETHENE	20000000 D

METHOD BLANK 1

NO HITS

METHOD BLANK2

75-09-2	METHYLENE CHLORIDE	2 JB

METHOD BLANK 3

75-09-2	METHYLENE CHLORIDE	4 JB

METHOD BLANK 4

75-09-2	METHYLENE CHLORIDE	6 B
79-01-6	TRICHLOROETHENE	1 BJ

METHOD BLANK 5

75-09-2	METHYLENE CHLORIDE	3 BJ
67-64-1	ACETONE	5 BJ
79-01-6	TRICHLOROETHENE	2 BJ

METHOD BLANK 1 (SOIL)

NO HITS

SEMIVOLATILES

IET0689001

84-74-2	DI-N-BUTYLPHTHALATE	1 J
117-84-0	DI-N-OCTYLPHTHALATE	1 J

TAN15089001

108-95-2	PHENOL	4 J
95-57-8	2-CHLOROPHENOL	16
88-75-5	2-NITROPHENOL	4 J
120-83-2	2,4-DICHLOROPHENOL	8 J
59-50-7	4-CHLORO-3-METHYLPHENOL	7 J
88-06-2	2,4,6-TRICHLOROPHENOL	4 J
534-52-1	4,6-DINITRO-2-METHYLPHENOL	2 J
87-86-5	PENTACHLOROPHENOL	1 J
84-74-2	DI-N-BUTYLPHTHALATE	2 J

TAND189001

84-74-2	DI-N-BUTYLPHTHALATE	1 J

TAND289001

NO HITS

TAND289001RE

117-81-7	BIS (2-ETHYLHEXYL) PHTHALATE	3 J

TSF0589002

NO HITS

TSF0589003

NO HITS

USG24890001

84-74-2	DI-N-BUTYLPHTHALATE	1 J

USG2489001RE

84-74-2	DI-N-BUTYL-PHTHALATE	2 J
117-81-7	BIS (2-ETHYLHEXYL) PHTHALATE	2 J

SBLK 02049 3/15

NO HITS

SBLK 02049 RE 3/17

NO HITS

SBLK OPA2052 3/16

NO HITS

SBLK OPA2064 3/15

NO HITS

SBLK 02114 3/16

NO HITS

SBLK 02114 RE

NO HITS

PESTICIDES/PCB'S

NO HITS

ACETRONITRILE,ACROLEIN, ACRYLONITRILE

NO HITS

CHLORINATED HERBICIDES

TAN5089001

2,4,5-TRICHLOROPHENOXYACETIC ACID 4.6

APPENDIX F

WELL LOCATIONS AND SLUG TEST DATA

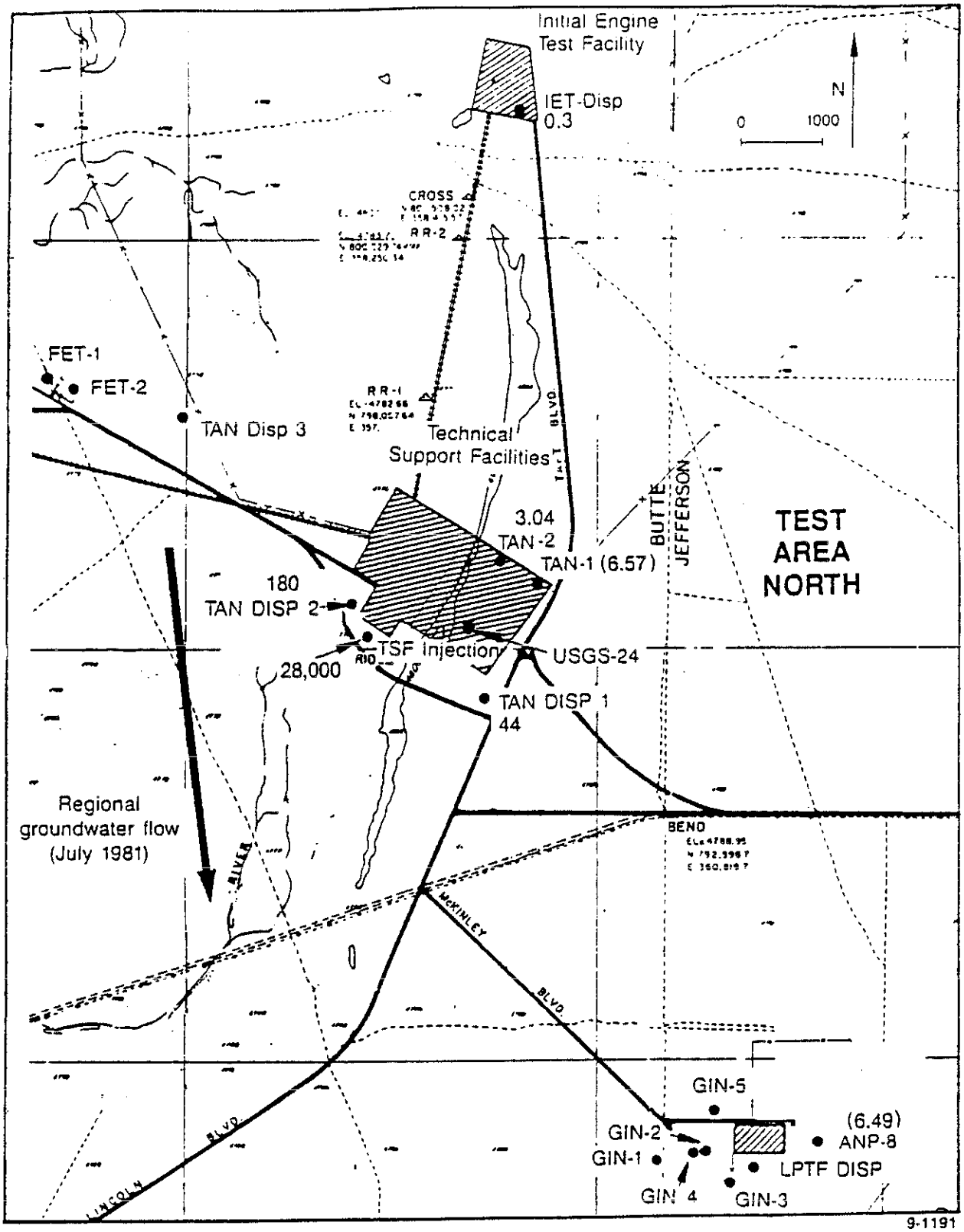


Figure 1: TCE concentrations from the initial March, 1989 project sampling event and the locations of pre-RFI activity wells. TCE concentrations ( ) are reported in ug/L.

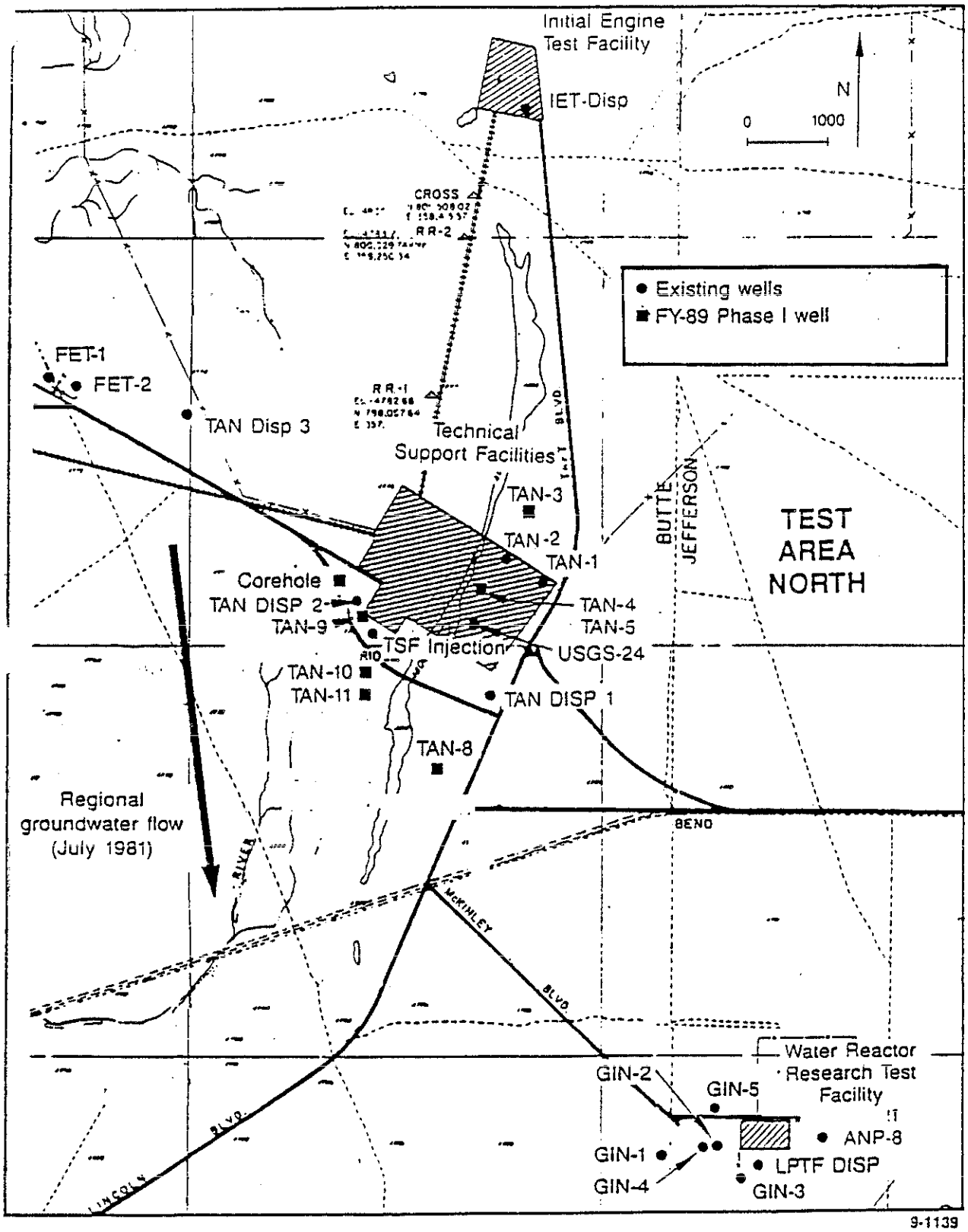


Figure 2: Location of completed Phase I monitoring wells.

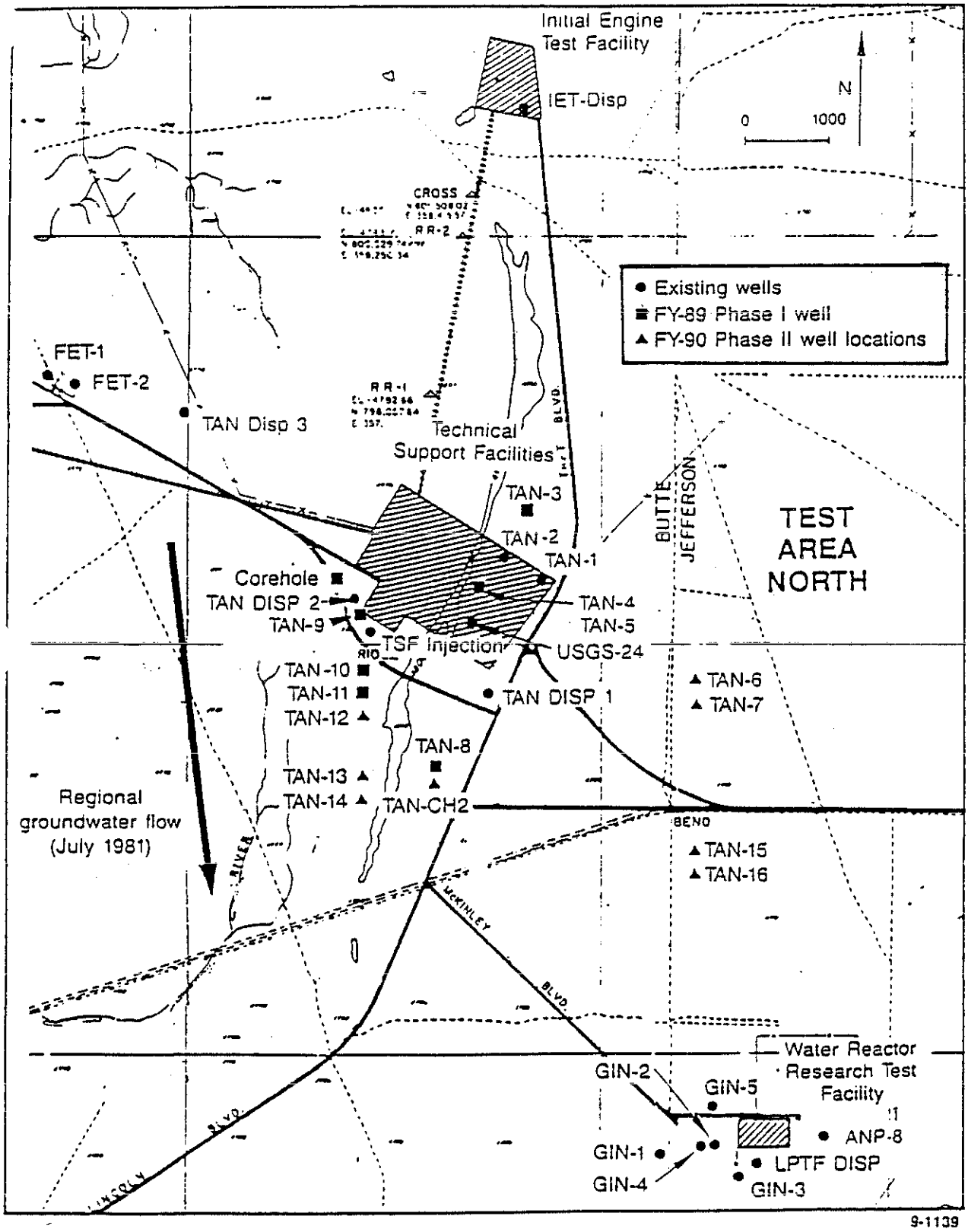


Figure 6: Proposed locations of Phase II monitoring wells.

Table 7: Preliminary analysis from TAN area slug tests.

WELL	Hvorslev K (ft/day)	Bouwer & Rice K (ft/day)	van der Kamp k (ft/day)	AVERAGE K (ft/day)
TAN3-1	-	-	172	182
TAN3-2	-	-	192	
TAN4-1	66.4	25.4	*	48.6
TAN4-2	69.1	33.6	*	
TAN5-1	-	-	303	335
TAN5-2	-	-	303	
TAN5-3	-	-	314	
TAN5-4	-	-	421	
TAN6-1	14	^	*	15
TAN6-2	16	^	*	
TAN7-1	-	-	48	48
TAN7-2	-	-	48	
TAN8-1	10.8	9.0	*	10.4
TAN8-2	10.6	11.1	*	
TAN9-1	35.9	21.7	*	28.2
TAN9-2	32.3	22.8	*	
TAN10-1	-	-	502	502
TAN10-2	-	-	502	
TAN10-3	-	-	502	
TAN10A-1	36.3	25.5	*	31.0
TAN10A-2	36.7	25.4	*	
TAN11-1	19.2	14.0	*	16.2
TAN11-2	16.8	15.0	*	
TAN12-1	3.8	^	*	3.9
TAN12-2	4.0	^	*	
TAN13A-1	16	^	*	15.5
TAN12A-2	15	^	*	
TAN14-1	0.22	^	*	.24
TAN14-2	0.25	^	*	
TAN15-1	-	-	51.1	64.3
TAN15-2	-	-	80.7	
TAN15-3	-	-	61.0	
TAN16-1	-	-	113	122
TAN16-2	-	-	127	
TAN16-3	-	-	127	

* van der Kamp method was used to evaluate slug tests experiencing excessive osculations.
\- Hvorslev and Bouwer & Rice methods not applicable due to excessive osculations.
^ Bower & Rice evaluations not completed at this time.