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Potable Water Standards Project: Final Report

Clarence E. Styron and

Herbert E. Meyer

April 7, 1981

Monsanto

MOUND FACILITY
Miamisburg, Ohio 45342

operated by
MONSANTO RESEARCH CORPORATION
a subsidiary of Monsanto Company

for the
U. S. DEPARTMENT OF ENERGY
Contract No. DE-AC04-76-DP00053

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FOREWORD

This report was prepared by the Environmental Assessment and Planning Section of the Administrative Services Department at Mound Facility. Sample collection and analysis were performed by the Environmental Laboratories Group; data reduction and project management, by the Environmental Science Group. Dames and Moore (1150 West Eight Street, Cincinnati, Ohio 45203), consultants in environmental and earth sciences, provided valuable assistance in several aspects of the project.

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ABSTRACT

Since the mid-1950's when processes involving tritium were introduced at Mound Facility, Mound's effluents have contained measurable levels of tritium. However, tritium concentrations in both the atmospheric emissions and the liquid discharges have been in compliance with applicable U.S. Department of Energy (DOE, and formerly the Atomic Energy Commission and the Energy Research and Development Administration) guidelines.

Even though these guidelines (Radioactivity Concentration Guide or RCG) were being met, Mound initiated a program in 1970 to reduce the effluents from Mound to the minimum levels achievable in order to lessen the potential impact of these effluents on the local environment. This "as low as practicable" (ALAP) program led to a decision to discontinue the discharge of all tritium process waste liquids in favor of collection, solidification, packaging, and shipment to offsite burial grounds approved by the AEC.

Concurrent with the new program, environmental monitoring was intensified to confirm the effectiveness of these efforts to reduce emissions of tritium. By 1975, the quantity of tritium in liquid effluents was reduced by a factor of 40 and tritium in gaseous effluents was reduced by a factor of 35 as compared to 1969 values. Concurrent with these effluent reductions, the level of tritium in Mound drinking water decreased from 22% of the RCG to 4% of the RCG.

New environmental legislation known as the "Safe Drinking Water Act" was signed into law on December 16, 1974. During 1975 the EPA, as the responsible implementing agency, formulated a detailed set of regulations which would impose limits for certain chemical, microbiological, and radioactive substances in public drinking water. Proposed regulations and standards for radioactivity in public drinking water were published by the EPA as part of the National Interim Primary Drinking Water Regulations in the Federal Register on August 14, 1975, and the final regulations were promulgated in the July 9, 1976 issue, the effective date being June 24, 1977. These regulations are known as the "National Interim Primary Drinking Water Regulations," Title 40 - Code of Federal Regulations, Part 141. The new standard for tritium in public drinking water (20 nCi/l) was 50 times lower than the RCG in use by DOE. The new EPA standard for tritium was essentially a nondegradation standard adopted to maintain tritium at the lowest levels practical because of the increasing number of nuclear power reactors in the United States. It was apparent from data collected in the environmental surveillance program that three Mound wells and nine nearby private and community wells would be out of compliance, in some cases by a factor as high as four, should the proposed regulations be adopted. Recognizing that actions taken in 1970 and following years to reduce the levels of tritium in airborne and liquid effluents would have to be supplemented by intensive efforts in order to bring tritium concentrations in local drinking water supplies into compliance with the EPA standard, Mound initiated the "Potable Water Standards Project."

The Potable Water Standards Project involved technical personnel at Mound, as well as consultants in geology and hydrology from Dames and Moore. A six-phase program was developed for achieving the goals of the project.

(next page)

Phase I. A. Analyze all pertinent historical data on geohydrology and tritium in the environment for clues to the source or sources of tritium reaching the aquifer.

B. Determine needs for additional data to identify the source(s) of tritium.

C. Define and initiate a rainout monitoring program to obtain data to be used in Phase III.

Phase II. Conduct a field program involving additional test borings, observation wells, and monitoring to obtain required data to identify source(s).

Phase III. Model data, evaluate results, and identify source(s) of tritium.

Phase IV. Develop a program of corrective action to curtail or eliminate the source(s) of tritium.

Phase V. Implement the program of corrective action.

Phase VI. Evaluate subsequent monitoring data to ensure that correction has been achieved.

Phases I - V have been completed and Phase VI, as a long-term effort, has been incorporated into the routine environmental surveillance program of the Facility. The corrective action program implemented in Phase V consists of high-volume pumping of water from the aquifer, with replacement by induced infiltration of water from the Great Miami River. The overall effectiveness of the pumping program has been significant. The average level of tritium in the aquifer has been reduced.

Three Mound wells and eight private and community wells have been brought into compliance with the EPA standard. Use of the ninth private well was discontinued by the owner before compliance could be confirmed, but the area of the aquifer serving this former well is assumed to be in compliance with the EPA standard for tritium, based on data from observation wells in the area. These observations have confirmed the effectiveness of high-volume pumping for bringing the aquifer into compliance with the EPA standard for tritium in drinking water, but they further suggest that a program of periodic pumping should be established to counter the "rebound" of tritium following cessation of pumping and to ensure that the aquifer remains in compliance. The routine control program of periodic pumping will be initiated in 1981.

INTRODUCTION

Sources of Tritium in the Aquifer

Tritium processes were introduced at Mound Facility in the mid-1950's. Tritium, the heaviest isotope of hydrogen, is a gas in its elemental form at room temperature. It cannot be filtered from an air stream. This characteristic makes tritium different from most other radioactive materials used in industrial processes at Mound. Most materials are handled in particulate form and, therefore, can be removed from air streams by filtration before the air is discharged to the atmosphere. Airborne tritium effluents have been released through tall stacks to the atmosphere where the emissions are diluted by orders of magnitude. Compliance with applicable U.S. Department of Energy (DOE, and formerly the Atomic Energy Commission and the Energy Research and Development Administration) Radioactivity Concentration Guide (RCG) has been demonstrated by Mound through environmental monitoring of surrounding localities (cf. Annual Environmental Monitoring Reports).

Tritium combined with oxygen as T_2O or HTO cannot be filtered from water either. Most other radioactive materials used in industrial processes can be removed relatively easily from liquid effluents by filtration or chemical treatment. There is currently no cost-acceptable process to remove low concentrations (pCi/liter) of tritium from large volumes of waste water. In past years liquid waste discharges from tritium operations at Mound were collected in sumps and analyzed for tritium. If the concentration exceeded the discharge RCG, the sump water was metered into a stream of raw supply water to attain the RCG and then discharged to the nearby Great Miami River. Tritium operations at other DOE contractor facilities have been handled similarly. In Mound operations, five sumps were used to collect and dispose of tritiated process liquid effluents. The discharge flowed through storm sewer runoff ditches to the site drainage ditch, to the old Miami-Erie Canal, and then to the Great Miami River.

A new waste disposal facility was built in 1967 and provided a centralized system for processing tritiated liquid wastes. The combined waste stream was collected in holding tanks for assay and was discharged in batches with dilution water to the site drainage ditch, the canal, and the river. Waste disposal operators recorded the amount of tritium released as well as the concentration. A continuous water sampling system was installed in 1970 in the site drainage ditch near the location at which this effluent leaves the Facility site. The sampling system measures the volume of water flowing through the ditch and automatically withdraws for analysis a sample proportional to the flow. A similar water sampling system was installed in 1971 in the underground effluent pipe at a location which monitors all the water leaving the Facility site in the pipe. This pipe runs underground and discharges directly into the Great Miami River. The record from the centralized waste disposal operations for 1969 shows that the total quantity of tritium released amounted to approximately 2330 Ci and that the concentration was well below the RCG. Routine environmental monitoring also indicated that Mound drinking water contained tritium at or less than 22% of the RCG for drinking water. It is assumed that tritium was introduced into drinking water by percolation of tritiated waste water from Mound's effluents into the aquifer.

Environmental Legislation

New environmental legislation known as the "Safe Drinking Water Act" was signed into law on December 16, 1974. During 1975 the EPA, as the responsible implementing agency, formulated a detailed set of regulations which would impose limits for certain chemical, microbiological, and radioactive substances in public drinking water. The EPA published proposed National Interim Primary Drinking Water Regulations for chemical and microbiological substances in the Federal Register on March 14, 1975. The final regulations for chemical and microbiological substances were published on December 24, 1975, for implementation in June 1977. Mound analyzed local drinking water for all those substances that could be present as a result of Mound operations and found that all regulated substances were well within the new standards.

On August 14, 1975, the EPA published proposed regulations for radioactivity in drinking water, and the final regulations were promulgated in the July 9, 1976 issue. The impact of these regulations on Mound's operations was reviewed by Meyer (1976). Briefly, the specific standards that were of greatest impact on Mound dealt with the proposed reduction of the dose commitment for the public from 170 mrem/yr to 4 mrem/yr and with the calculated concentration standard for tritium in drinking water, reducing it from 1 μCi/l to 0.02 μCi/l. These new regulations represented a 50-fold reduction in the RCG under which Mound had been operating. The new EPA standard for tritium was essentially a nondegradation standard adopted to maintain tritium at the lowest levels practical because of the increasing number of nuclear power reactors in the United States. The regulations became effective June 24, 1977.

Management of Tritiated Wastes

Monsanto Research Corporation (MRC) initiated a program in 1970, five years before the EPA regulations were published, to reduce the concentration of tritium in effluents from Mound to the minimum levels achievable in order to lessen the potential impact of these effluents on the local environment. Being acutely aware of the intense national environmental movement and that the total quantity of a pollutant was as environmentally significant as the concentration in the effluent, MRC decided to discontinue the discharge of all tritium process waste liquids in favor of collection, solidification, packaging, and shipment to offsite burial grounds approved by the AEC. An intensive environmental surveillance program was simultaneously initiated to confirm the effectiveness of these efforts to reduce emissions of tritium.

The quantity of tritium in liquid effluents was reduced between 1970 and 1975 by a factor of 40, and tritium in gaseous effluents was reduced by a factor of 35. The more strict management of waste liquids progressively reduced the total number of curies released to adjacent waterways from 2330 Ci in 1969 to 58 Ci in 1975 (Figure 1). Of those 58 Ci, 45 Ci were accounted for as being present in the water pumped from the supply wells. Mound's operations added 13 Ci. This was mixed with 1.5×10^9 l (400 million gal) of water leaving the Facility site.

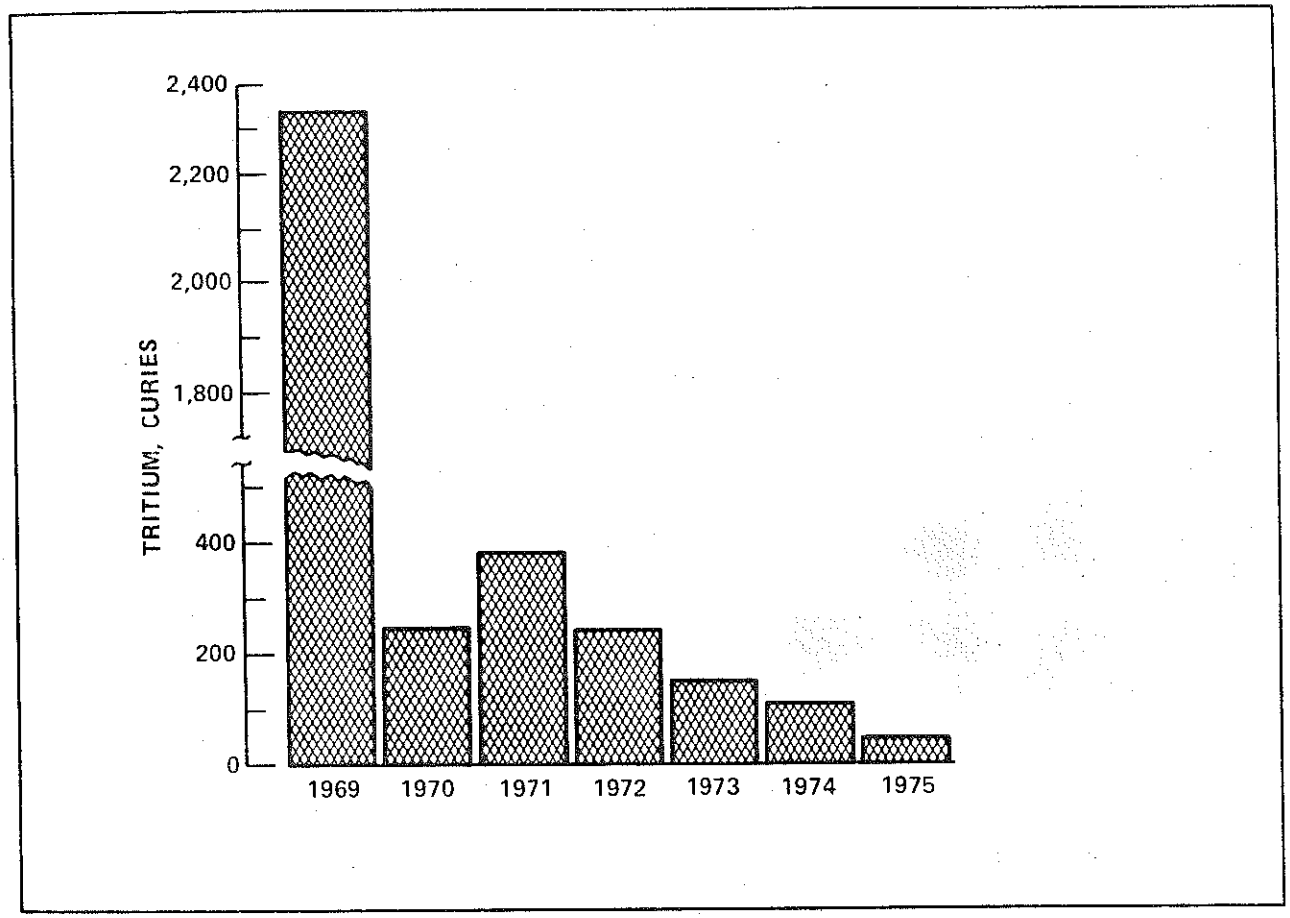

FIGURE 1 - Tritium in Liquid Effluents

Concurrent with the reduction of tritium in liquid effluents, releases of tritium to the atmosphere were greatly reduced as shown in Figure 2. Through many waste management actions, stack emissions were reduced from 315.0 kCi in 1969 to slightly less than 9.0 kCi in 1975, although during that period of time the inventory of tritium at Mound remained essentially constant.

Statement of the Problem

The significant reduction of tritium in liquid and airborne discharges from the Facility since 1970 was reflected in reduced concentration of tritium in the local aquifer as indicated by Mound well water (Figure 3). In 1971, Mound Well #1 had an average concentration of tritium that was 22% of the RCG. By 1975 this well had an average concentration that was only 4% of the RCG. Similarly, Mound Wells #2 and #3 showed a significant reduction in concentration of tritium. Even with these reductions in concentration of tritium, Mound wells would not meet the new EPA standards for public drinking water; and it was apparent from data collected in the environmental surveillance program that the three Mound wells, as well as nine offsite private and community wells, were out of compliance by a factor as high as four (Table 1).

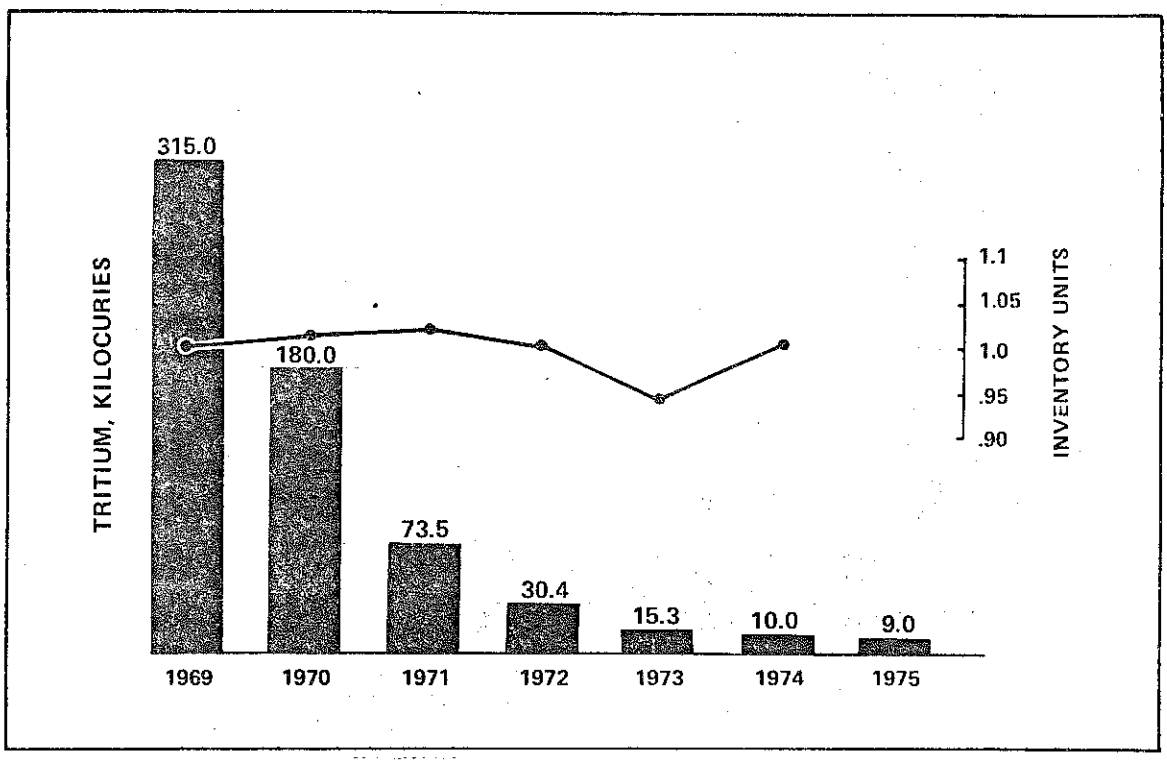

FIGURE 2 - Tritium in Airborne Effluents

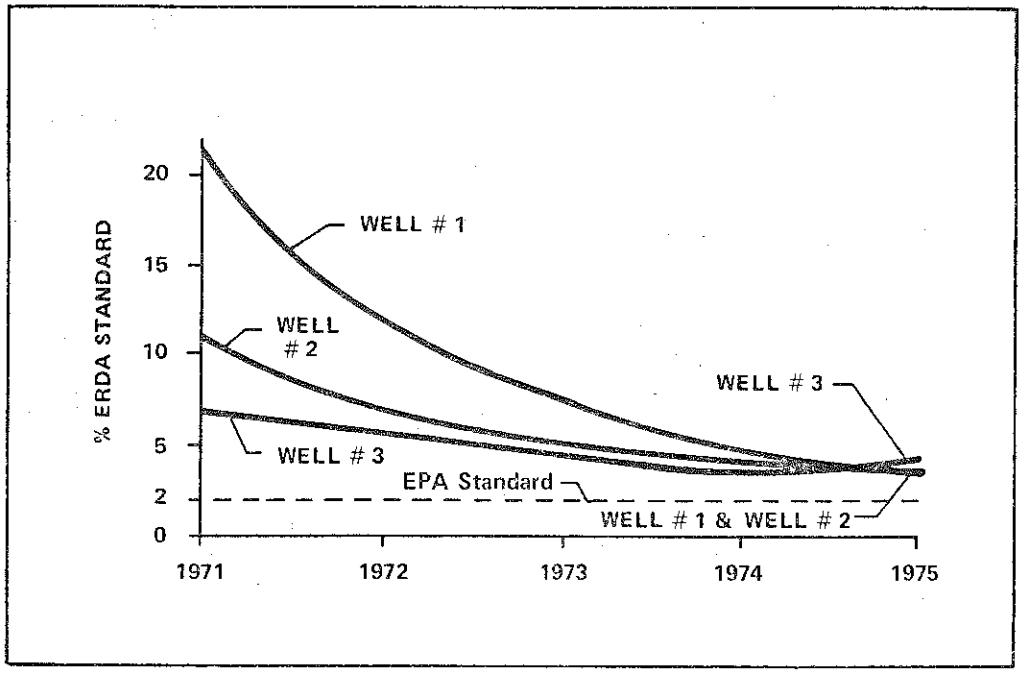

FIGURE 3 - Reduction of Tritium in Mound Well Water

TABLE 1. AVERAGE CONCENTRATION OF TRITIUM IN 1974 AT SELECTED LOCATIONS

Location	% of ERDA Standard	% of Proposed EPA Standard
Mound	6	300
Well B1	8	400
Well JW	6	300
Miamisburg	1.3	65
Springboro	0.3	15
Other Cities	Background	3 to 5

Recognizing that actions taken in 1970 and following years to reduce the levels of tritium in airborne and liquid effluents would have to be supplemented by intensive efforts in order to bring tritium concentrations in local drinking water supplies into compliance with the proposed EPA standard, Mound initiated the "Potable Water Standards Project."

The Potable Water Standards Project involved technical personnel at Mound and consultants in geology and hydrology from Dames and Moore. A six-phase program was developed for achieving the goals of the project.

Phase I.
- A. Analyze all pertinent historical data on geohydrology and tritium in the environment for clues to the source or sources of tritium reaching the aquifer.
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Phase V. Implement the program of corrective action.

Phase VI. Evaluate subsequent monitoring data to ensure that correction has been achieved.

APPROACHES TO RESOLVE THE PROBLEM

Initial efforts to bring the Buried Valley Aquifer into compliance with the new EPA standard for tritium in drinking water involved an analysis of all pertinent historical data and a determination of needs for additional data (Phase I), gathering the required data (Phase II), synthesizing the available information to develop a series of likely alternatives for corrective action (Phase III), and selecting a program of corrective action for achieving compliance (Phase IV). Phases I-IV were completed in 1976 and are summarized below as "Site Description," "Evaluation to Select Corrective Action," and "Induced Infiltration (high-volume pumping)." Implementation of the program (Phase V) was initiated in 1977, and the program is described in "RESULTS AND DISCUSSION."

Site Description

Mound Facility is located within the southern city limits of Miamisburg in Montgomery County, Ohio, an extensively urbanized county dominated by the Dayton metropolitan area. The Facility is situated about 16 km (10 mi) south-southwest of the Dayton city limits.

The northern boundary of the site is approximately 0.2 km (0.13 mi) south of Mound Avenue in Miamisburg. Mound Avenue curves south, becomes Mound Road and runs southward along the eastern boundary of the site. The southern boundary of the site lies adjacent to an undeveloped 514,000-m^2 (127-acre) open space area. Tracks of the Consolidated Rail Corporation (Conrail) roughly parallel the western boundary at distances ranging from approximately 15 to 60 m (50 to 200 ft). The Great Miami River flows 460 to 600 m (1500 to 2000 ft) west of the site.

Groundwater - Groundwater conditions at Mound Facility are variable because of the stratigraphic positions of different materials and their corresponding hydraulic properties. Bedrock, which underlies all but the first few feet of the hilltop and hillside areas, is virtually impermeable. Very small quantities of groundwater seep through joints and weathered cracks, although the rock itself is impervious. The upper 6 m (20 ft) of bedrock is the most permeable where chemical weathering allows enlargement of cracks. Permeability of the upper 6 m (20 ft) of bedrock is estimated to range from 40 to 400 liters/day/m^2 (1 to 10 gpd/ft^2). Below this depth, bedrock permeability generally ranges from 0 to 8 liters/day/m^2 (0.0 to 0.2 gpd/ft^2).

Hydraulic properties of the glacial till soils that form a veneer over the entire site are variable and are dependent upon the relative proportions of fine-grained material to coarse-grained material at any given location. Values of permeability normally range from 0.0041 to 0.041 liters/day/m^2

(0.0001 to 0.001 gpd/ft^2), although values up to 2.8 liters/day/m^2 (0.07 gpd/ft^2) were measured in the upper weathered zones.

Below the glacial till in the lower valley area is a zone of glacial outwash composed of sand and gravel. The permeability of this zone is estimated to range from 40,700 to 81,400 liters/day/m^2 (1,000 to 2,000 gpd/ft^2). This horizon forms the eastern edge of the Buried Valley Aquifer and extends under the Great Miami River to the west. The three onsite wells draw water from this aquifer. Water levels under the Facility are ultimately controlled by the level of the Great Miami River which has a nonflood level at El 208 m (682 ft). However, groundwater is normally perched and is forced to travel laterally within zones of outwash or fractures in the bedrock. For this reason, water levels measured in borings do not reflect the true static levels, but rather the dynamic equilibrium level between recharge and discharge at a given permeability interface for a particular date.

Recharge is available to the Buried Valley Aquifer from precipitation, both by direct infiltration and by leakage along the valley walls. On an average annual basis, it is estimated that approximately 20 percent of the precipitation (or about 0.19 m (7.5 in.) of equivalent rainfall) is absorbed by the aquifer directly. This is equivalent to a recharge rate of about 0.51 liters/day/m^2 [0.35 million gallons per day (mgd) per square mile] of flood plain area. Leakage along the valley walls is dependent on the character of the soils that overlie the bedrock, but is estimated to range from about 1.2 to 3.1 x 10^6 liters/day/km (0.5 to 1.3 mgd per linear mile) of valley wall. Together, these two modes of recharge contribute about 2.8 to 6.6 x 10^6 liters/day/km (1.2 to 2.8 mgd per valley-mile) at Miamisburg.

The maximum rate of ground water withdrawal from the Buried Valley Aquifer is estimated to be 35.3 to 47.0 x 10^6 liters/day/km (15 to 20 mgd per valley-mile) at Miamisburg (Dames & Moore, 1972). The order of magnitude difference between the estimated recharge rate and the estimated safe withdrawal rate is made up by induced streambed infiltration. The rate of streambed infiltration is lowest during periods of low river stage and is estimated to range from 93 to 187 liters/day/m^2 (0.1 to 0.2 mgd per acre) of streambed for the Great Miami River (Todd, 1969). During periods of high river stage, the rate of recharge may double. It is evident from this accounting of recharge sources that municipal and industrial wells that yield more than 3.8 x 10^5 liters/day (0.1 mgd) receive a major contribution from the Great Miami River, particularly if the wells are located close to the river. Small, private wells located far from the river and near a valley wall and yielding less than 3.8 x 10^4 liters/day (0.1 mgd) probably receive most or all their recharge from surface infiltration of rainfall. Wells in the intermediate category that yield from 3.8 x 10^4 to 3.8 x 10^5 liters/day (0.01 to 0.1 mgd) probably receive a combination of recharge from both principal sources in some proportion depending on distance to the river, local geology of the aquifer, pumping from adjacent wells, and other factors.

Onsite Aquifer - The east bank aquifer extends into the Mound Facility site, where it pinches out along the bedrock valley wall. The limits of the onsite aquifer are not well defined, although the tentative boundary of the area is taken as the 760 contour line (Dames & Moore, 1973). The only significant portion of the onsite aquifer is the southwest corner, where the bedrock elevation falls off rapidly and the glacial outwash materials thicken.

The three industrial wells that provide water for Mound Facility are located along a narrow strip that extends southward from the southwest corner of the site. Each well can be pumped at a rate of about 2.8×10^6 liters/day (0.75 mgd), although only one well is normally in service at any particular time. The average annual water use for 1975 was 2.4×10^6 liters/day (0.64 mgd), all of which was pumped from Mound Well #3. Mound Well #3 penetrates the thickest part of the onsite aquifer. The aquifer thins toward the north so that Mound Wells #2 and #1 become progressively shallower. The portion of the aquifer that is in a phreatic condition is probably limited to a very small area, approximately defined by the surface area below the 730 contour.

Between the 730 and 760 contours, the glacial outwash sediments overlying bedrock are in the vadose zone. Here, the groundwater is actively flowing along the bedrock surface toward the static groundwater elevation of approximately 682. Water in the vadose zone of the onsite aquifer is accountable as recharge from the valley walls. The greatest contribution probably occurs in the runoff hollow as subflow beneath the drainage stream. It is also likely that the drainage stream actively recharges vadose ground water flow along the entire course of the runoff hollow.

After contaminated water enters the principal aquifer onsite, the imposed hydraulic gradient is toward the Mound well field (assuming that Miamisburg Well #2 is not in operation). All these wells have a hydraulic boundary to the east, the Buried Valley wall. Therefore, groundwater flow occurs in a radial direction towards the pumping wells from the western sector of the aquifer. Contaminated water from Mound Facility is blended with noncontaminated water from the east bank aquifer. This conclusion is supported by significantly lower chloride levels in the active Mound wells as compared to chloride levels in the onsite aquifer, which are nominally 2 to 3 times higher as a result of Mound's water softening activities. The zone of reentry into the groundwater regime is probably a combination of infiltration to the vadose aquifer below the runoff hollow onsite and infiltration along the Miami-Erie Canal offsite.

Additional hydrological and geological information is available in Dames and Moore (1976b) and in Mound's Final Environmental Impact Statement.

Tritium Concentrations in the Aquifer - Concentrations of tritium in the aquifer at Miamisburg were anomalously high in 1976 in comparison to groundwater tritium concentrations measured in the surrounding area (Table 2). The average tritium concentration in public water supplies was found to be less than 2 nCi/l in communities surrounding Mound Facility. However, the average tritium concentration in the public water supply at Miamisburg has ranged between 11 and 24 nCi/l since 1970. In private wells on the flood plain immediately west of Mound Facility, the tritium concentration ranged from 33 to over 100 nCi/l. Within Mound Facility, elevated concentrations of tritium were detected in all three of the production wells #1, #2, and #3 (Figure 4) and in observation wells located throughout the site.

Tritium concentrations in Miamisburg community drinking water were measured monthly. The sampling point was a water tap at the municipal firehouse, and the resulting tritium concentration was derived from a blend of water produced from City Wells #8, #9, and #10. The proportion of water from each individual well source and

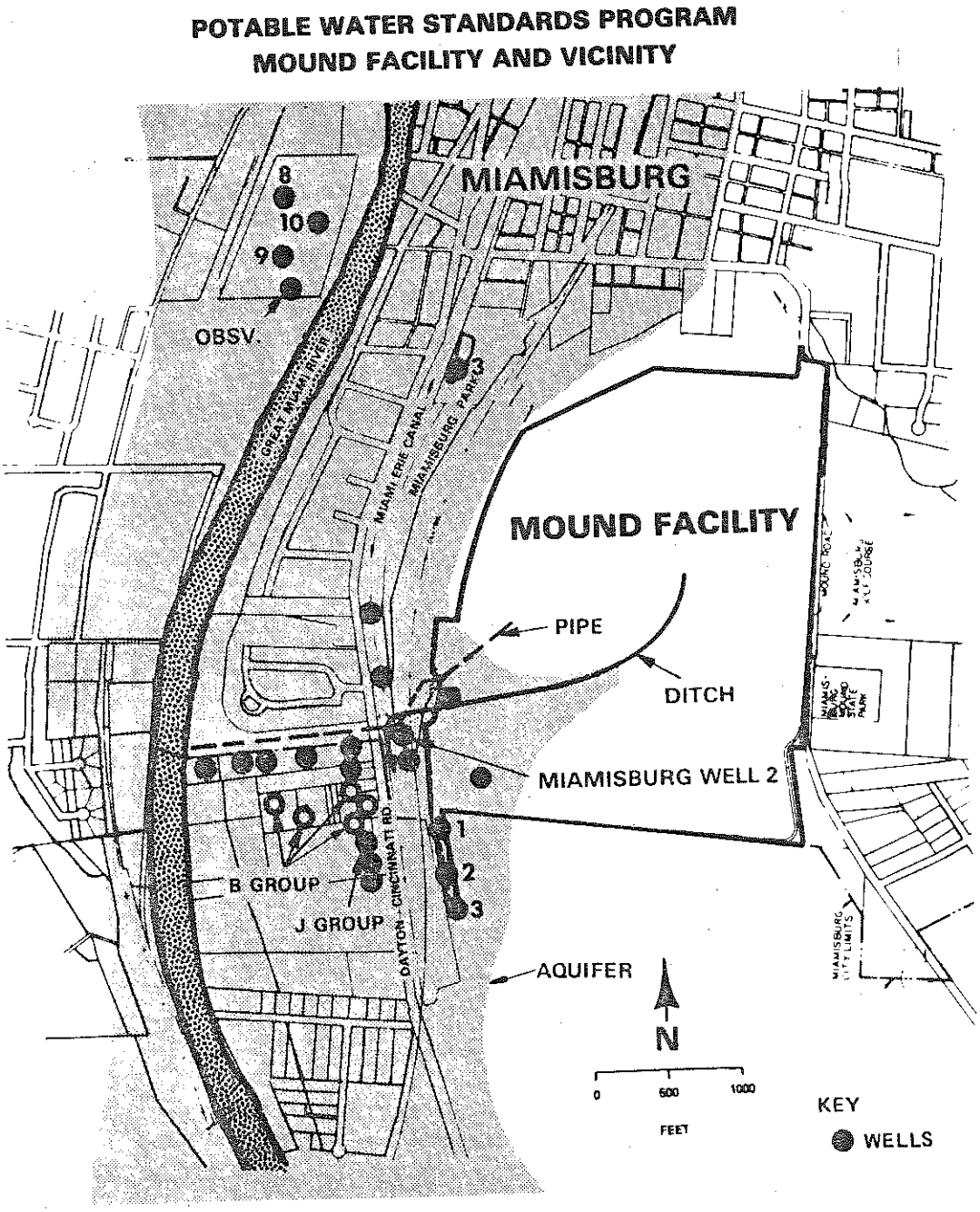

FIGURE 4 - Observation Well Locations for Monitoring Well #2

the pipeline delay time from that well field to the sampling point were indeterminant factors that effectively prevented a refined analysis of the historical data available. The fact that tritium levels in Miamisburg drinking water were consistently higher than those in the surrounding communities (Table 2, Figure 5) suggested that the aquifer is partially linked with tritium effluents at Mound Facility.

TABLE 2. SUMMARY OF TRITIUM OXIDE LEVELS IN COMMUNITY DRINKING WATER IN 1976

Location	Number of Samples	Range (nCi/l)	Average[a] (nCi/l)	% of DOE RCG[b]
Bellbrook	1		<0.54 ± 0.5	<0.05
Centerville	1		<0.54 ± 0.5	<0.05
Franklin	1		<0.54 ± 0.5	<0.05
Germantown	1		<0.54 ± 0.5	<0.05
Kettering	1		<0.54 ± 0.5	<0.05
Miamisburg	4	1.6 - 6.0	3.7 ± 0.6	0.37
Middletown	1		<0.54 ± 0.5	<0.05
Moraine	1		<0.54 ± 0.5	<0.05
Springboro	1		<0.54 ± 0.5	<0.05
Waynesville	1		<0.54 ± 0.5	<0.05
West Carrollton	1		1.3 ± 0.6	0.13

[a]Minimum Detection Limit (MDL) for tritium oxide is 0.54×10^{-6} μCi/ml. The MDL is 0.054% of the RCG.

[b]Radioactivity Concentration Guide (RCG) for tritium oxide in water = 1000×10^{-6} μCi/ml for the general population and soluble form of tritium.

Error limits are counting statistics only at 95% confidence level.

Evaluation to Select Corrective Action

From the mass of historical data analyzed in Phase I, Dames & Moore (1976b) tentatively:

1. Identified rainout as a minor contributor.

2. Identified past liquid effluents discharged via the drainage ditch as the probable cause of tritium infiltration to the local aquifer.

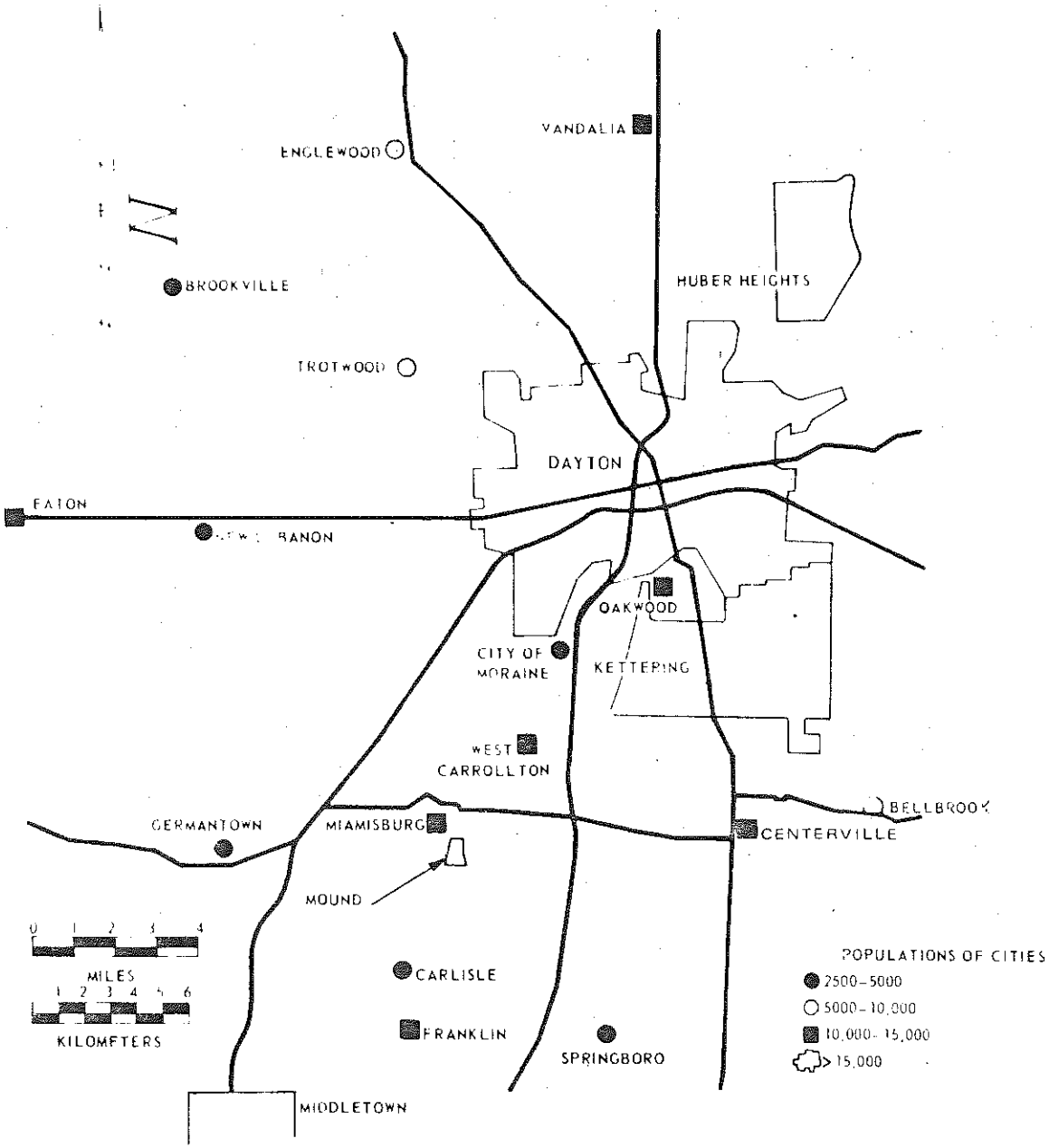

FIGURE 5 - Communities near Mound Facility.

3. Determined that the concentration of tritium in the aquifer is continuing to decrease.

For Phase II of the program, Dames & Moore (1976b) recommended:

1. The addition of a number of rain collection stations.

2. The collection and analysis of weekly samples from all wells in the Dayton Power and Light (DP&L) and the Miamisburg well fields.

3. The analysis on a one-time basis of all private wells in a housing development just north of the DP&L station.

4. Continuation of all the monitoring and analysis that Mound had been doing.

5. The drilling of additional, specified test borings and observation wells onsite.

Phase III consisted of Dames & Moore's adding the new data acquired from the additional rain monitoring stations, the 15 new soil cores and observation wells drilled onsite and the 16 new soil cores obtained from the old dump area, and the data acquired from the three Miamisburg wells, the six DP&L wells, and the 39 wells in the housing plat north of the DP&L site to the pool of accumulated information for modeling and evaluation. Details of the completion of Phase II (Conduct a field program involving additional test borings, observation wells, and monitoring to obtain required data to identify source(s) of tritium in the aquifer) and Phase III (Model data, evaluate results, and identify source(s) of tritium) are presented in Dames and Moore (1976c and 1976d).

Conclusions of the investigative program, as excerpted from the Dames & Moore (1976d) Phase III report, are as follows:

1. Tritium in the aquifer is largely a function of past emissions, not current emissions.

2. Past liquid emissions are the preponderant source of tritium now reaching the aquifer.

3. Although the total tritium discharged to the atmosphere in stack emissions was significantly higher than that in liquid emissions (8859 Ci to approximately 58 Ci) in 1975, only a small portion contributed to surface and groundwater through rainout in the vicinity of Mound Facility.

4. Rainout, based on average meteorological conditions and 1975 stack emission levels, contributed in the range of 1 to 3 Ci in liquids leaving the Mound site.

5. Surface water enters the groundwater regime through direct infiltration along the onsite drainage ditch and along the offsite Miami-Erie Canal system. This system is the major pathway for tritium infiltration into the Buried Valley Aquifer.

6. Onsite areas containing tritium in soil are not the result of surface spills or incidents.

7. The recycling of tritium in the aquifer by Mound's domestic wells constitutes the current major source of tritium leaving the site via the two effluent streams. The aquifer itself is currently a source.

8. Tritium is present in soil and groundwater in the HH-Building area, around the SW-WD complex and in the dump which is no longer used. Each of these three areas is hydraulically connected to the Buried Valley Aquifer through groundwater or surface water flow patterns and constitutes a continuing low-level tritium source.

9. The estimated 1975, order-of-magnitude inventory of tritium sources, based on weighted averages of isopleths of tritium concentration surrounding the three areas and factoring in the vertical concentration profile, is as follows:

   a) SW-WD Complex - 5 Ci
   b) HH Area - 1/2 Ci
   c) Dump - 1 Ci

10. The estimated quantity of tritium in that volume of the aquifer that exceeds the new EPA standard in 1975 is 120 Ci.

11. In 1975, the total quantity of tritium discharged in the two liquid effluent streams was 58 Ci:

    a) 36 Ci via the drainage ditch
    b) 22 Ci via the underground pipe

12. The estimated quantity of tritium reaching the aquifer from the onsite drainage ditch is 4 to 5 Ci per year.

13. The estimated quantity of tritium reaching the aquifer from the underground effluent pipe is 1 Ci per year based on an engineering leak rate evaluation of the pipe. The leak rate was found to be normal for a vitreous clay pipe installation.

14. Dames & Moore had insufficient data to estimate the annual contribution of the dump to the aquifer. However, with an inventory of approximately 1 Ci, it would not play a significant role in contaminating the aquifer.

15. As of 1976, there were insufficient data to estimate the impact of the Miami-Erie Canal on the aquifer. From observation of water losses in the canal, it is considered to have been a major pathway for infiltration of tritium prior to 1970.

16. In the overall evaluation of past and current sources contributing to the aquifer, we must also take cognizance of the fact that the tritium waste transfer line onsite is no longer in service. In 1971, the use

of this line for high-level waste was discontinued. In July of 1976, it was taken out of service completely. This possible source of significant leakage has been eliminated.

Since Dames and Moore (1976d) concluded that direct infiltration along the site drainage ditch and the Miami-Erie Canal was the major pathway for tritium entering the aquifer, additional soil borings were taken. Analysis of these samples revealed that the highest concentrations of tritium occurred at the confluence of the Mound drainage ditch and the Miami-Erie Canal. The highest concentrations were observed within 0.6 to 1.2 m of the ground surface; however, tritium concentrations remained high 6 to 9 m (20 to 30 feet) below the ground surface. The highest tritium concentration in the soil distillate was 190 μCi/l at a depth of 1.2 m (4 feet) in a boring taken from the north canal. The highest soil distillate tritium concentration in the south canal was 10 μCi/l at a depth of 0.6 m (2 feet). The total tritium activity observed in the Miami-Erie Canal is not free, however, to migrate into the Buried Valley Aquifer (Kershner and Rhinehammer, 1978). Much of the tritium is in a bound state from which it is slowly released to percolate into the aquifer. The 1976 canal inventory of bound tritium was approximately 200 Ci, and the half-time for release to the aquifer is about 3 years. The tritiated residue in the substrate of the Miami-Erie Canal is considered to be the predominant, current contributor of tritium to the Buried Valley Aquifer.

The possibility of removing the canal soil and its associated tritiated residue, thereby eliminating the primary source of tritium for the aquifer, was rejected as not being cost effective. The analysis of the residue by Kershner and Rhinehammer (1978) indicated that the maximum impact of canal tritium on the aquifer has already occurred and that the most efficacious time for removing the canal soil is past. During the next year the residue could contribute a maximum of 30 Ci of tritium to the aquifer. Pumping of water from the aquifer could more than offset this potential contribution, and the pumping would be relatively inexpensive.

Four alternatives were given serious consideration for providing drinking water in compliance with the new EPA standard (Meyer, 1977). These included the following: (1) induced infiltration caused by high-volume pumping of the aquifer, (2) installing deep wells to the lower, uncontaminated aquifer for the offsite well owners, (3) connecting private well owners to Miamisburg city water, and (4) obtaining an EPA variance.

Induced Infiltration (High-Volume Pumping) - It was the considered opinion of Dames and Moore (1976d, 1977a) that the current most significant influence in reducing the tritium level, or burden, in the aquifer was the high-volume pumping of aquifer water by the Mound domestic wells. Mound's continuing water use was gradually reducing the aquifer concentration, but since the Mound wells are 275 to 380 m south of the main body of tritium, the pumping action was very inefficient in removing this tritium. Dames and Moore noted that fortuitously Miamisburg's unused City Well #2 was located adjacent to the junction of the Mound drainage ditch and the Miami-Erie Canal at the point of maximum tritium concentration and suggested that high-volume pumping of the aquifer with this well could very possibly reduce the level of tritium to less than the new EPA standard. The program should involve pumping both Miamisburg Well #2 and Mound Well #1 to hasten the reduction of tritium in the aquifer.

Use of Lower Aquifer - When Dames and Moore (1976d) drilled the observation wells north and west of Miamisburg Well #2, they discovered some important information concerning the geology of the local aquifer. Based on the information available, Dames and Moore anticipated that all well points would be just above bedrock at an approximate depth of 21.3 m (70 ft). They found, instead, that bedrock lay at a depth of 45.7 m (150 ft), 12.2 m (40 ft) south of Miamisburg Well #2, to 39.6 m (130 ft) at a location west of Miamisburg Well #2 near the Great Miami River. They found that there is an aquifer beneath the aquifer that local wells have been using. The two aquifers are separated by a layer of till containing clay.

Water samples indicated that the tritium concentration in the lower aquifer was near natural tritium background levels. This water was also analyzed for the usual drinking water quality parameters and found to be good - acceptable for drinking.

From the geological information available, Dames and Moore hydrologists suggested (1977a) that the lower aquifer might not support the high volume water withdrawal rates required by Mound Facility and the City of Miamisburg because there was a high concentration of soil and rock fines which could plug the well screens. Dames and Moore (1977a) had no information on water recharge rates and patterns. The lower aquifer might not be capable of supporting sustained high volume withdrawal because of lack of tritium-free recharge water. Hydraulic stress resulting from pumping water from the lower aquifer could pull the more highly tritiated water from the upper aquifer into the lower and cause it to exceed the EPA standard. Furthermore, the cost of this alternative exceeded the estimated cost to connect the affected private and community wells to Miamisburg city water.

Connecting Affected Private and Community Wells to Miamisburg City Water - Since a city water main passes in front of the properties of the owners of the affected wells, it would be possible to connect the private water systems to the city water system. The residents would then be supplied with water in compliance with the EPA standard since Miamisburg drinking water is well within the standard. This alternative would entail explaining the situation to each of the users of private wells and offering the owners the option of being connected to city water free of charge until the aquifer is brought into compliance with the EPA standard. With compliance achieved, the private well owners could resume use of their wells, but would probably have to refurbish their pumps and to redevelop their wells because of the long period of inactivity. Repair of the pumps and wells would be an additional expense. The installation would involve considerable inconvenience to the private well owners and would take from 4 to 12 months to complete.

Obtaining an EPA Variance - The Safe Drinking Water Act caused initiation of a federal program to determine the quality of public drinking water systems throughout the U.S. and to determine on an individual basis the quality as compared to a set of standards developed by the U.S. EPA.

The major activity is a monitoring program to be conducted by the states or the federal government to determine compliance. Noncompliance water is not condemned.

The Act provides for exemptions for water supplies which do not and cannot be made to meet the maximum contaminant level, but do not constitute a health hazard. The Act also provides for a variance for water supplies that are found to be in non-compliance, but can be brought into compliance. A variance normally entails a compliance schedule of what will be done and when in order to achieve compliance. This schedule is developed with the regulating agency.

Although the regulations do not cover private residence wells and Mound wells, it is recognized that water from these wells exceeds the EPA standard and Mound feels a responsibility to users of this water to bring the aquifer into compliance with the EPA standard.

Of these four alternatives, induced infiltration was selected and implemented.

Induced Infiltration (High-volume Pumping)

Mound initiated an action plan to use Miamisburg Well #2 to conduct a 30-day test to determine if indeed the tritiated water could be removed from the aquifer by high-volume pumping.

The following activities were completed:

1. The written approval of the Miamisburg City Manager to use Well #2 for the pumping test was obtained.

2. The Federal EPA, Region V, NPDES Office was briefed on the pumping program and concurred. (No change in Mound's NPDES liquid effluent discharge permit was required for the pumping action although the water removed from the aquifer by Miamisburg Well #2 will be discharged via Mound's closed pipe.)

3. Approval was obtained from the Miami Conservancy District to drill observation wells offsite into the aquifer.

4. Concurrence of ERDA/DAO and ALO with the test pumping exercise was obtained.

5. A field meeting was held at Well #2 for appropriate Miamisburg, Dames and Moore, and Mound personnel to work out the engineering details.

6. It was arranged, according to an agreement between Miamisburg and Mound, to have the Dayton Power and Light Company read the electric meter at Miamisburg Well #2 and invoice Miamisburg for past power usage and to submit future monthly billings to Mound until the tests are completed.

7. Six observation wells were drilled offsite to monitor the effectiveness of the pumping action.

8. An article was placed in the Miamisburg newspaper concerning the test pumping so that the public would not be alarmed at the test well drilling activities.

9. Since Miamisburg Well #2 was not operational (it had not been used for the past five years), the electric motor was rebuilt, the pump was rebuilt, and the well itself was redeveloped so that high capacity pumping at 600 gpm could be achieved and sustained.

10. The 30-day pumping test was initiated.

Details of the 1976 test pumping of Miamisburg Well #2 are included in Dames and Moore (1977a and 1977b). Miamisburg Well #2 was placed in operation on October 11, 1976 for the pumping program. This well is located adjacent to the western boundary of Mound Facility and was pumped at a rate of 3×10^6 l/d (0.8 mgd) to induce infiltration of recharge from the Great Miami River to enter the alluvial aquifer. The pumping program was interrupted between November 4, 1976 and November 25, 1976 when the pump was shut down for repairs. Pumping was resumed November 25 and continued until January 19, 1977 when complaints were received that two private wells had been run dry. At this time all private wells that were within the likely zone of influence created by pumping Miamisburg Well #2, as well as those that could be affected by simultaneous pumping of Mound Well #1, were inventoried. Three domestic wells were found to be poorly developed and likely to cause a continuing problem with high-volume pumping of the aquifer (Dames and Moore, 1977b). Three wells were replaced and one old well was upgraded at the request of the owner to meet county sanitary standards.

Pumping of Miamisburg Well #2 was resumed on April 18, 1977. Water from this well was discharged into Mound's underground pipe and flowed directly to the Great Miami River. A prior analysis of the potential effect of discharging water from Miamisburg Well #2 to the river (Dames and Moore, 1976c) indicated that there would be no discernable impact of tritium in the water.

Pumping of Mound Well #1 for the potable water project was initiated May 16, 1977. Discharge of water from this well was to Mound's drainage ditch at the site boundary. Combining the discharge of Mound Well #1 with that of Miamisburg Well #2 already entering Mound's underground pipe would have exceeded volume limitations of the discharge pipe.

Continuous pumping of Mound Well #1, in addition to the existing discharge of process water and site runoff, lead to an interest in estimating the magnitude of discharge lost through the bottom of the Miami-Erie Canal along the 762-m (2500-ft) length between the entry point at Mound Facility and the exit point at the culvert under the Cincinnati Pike. A weir was installed on June 7, 1977 to aid in estimating percolation of water through the substrate of the canal to the Buried Valley Aquifer (Dames and Moore, 1977c). Results are presented in the next section.

RESULTS AND DISCUSSION

Inputs of Tritium to the Aquifer

It is recognized that tritium is reaching the Buried Valley Aquifer as the

result of past and present Mound operations. Present operations are making by far the smallest contribution of tritium, primarily because of the stringent, self-imposed waste management procedures introduced in 1970. Releases of airborne tritium from stacks constitute a quite small, but measurable, input of tritium to the aquifer. Tritium in airborne emissions is incorporated into rain and reaches the Buried Valley Aquifer via natural infiltration routes. Release of tritiated waste liquids was terminated during 1970 in fiavor of containment and offsite burial. Over 80% of the tritium released in Mound's liquid effluents during 1977, approximately 40 Ci, actually came from water pumped from the Buried Valley Aquifer for various plant uses. The remainder of the tritium released occurred as a consequence of operations prior to 1970. A residue from past liquid effluents remains in the substrate of the Miami-Erie Canal. The residue is slowly percolating into the Buried Valley Aquifer below the canal substrate. This latter source of tritium is considered to be the most substantial current source for tritium in the aquifer. The three sources of tritium for the aquifer -- namely, rainout of airborne tritium, infiltration of effluent from Mound Facility, and the residue in the substrate of the Miami-Erie Canal -- are discussed in further detail below.

Rainout - Tritium in airborne emissions is related to tritium in drinking water since when rain falls through a plume of tritium oxide leaving a stack, some of the tritium is washed out of the plume onto adjacent land surfaces. Some of the tritiated rainwater then infiltrates the ground and reaches the aquifer (Dames and Moore, 1978c).

Precipitation samples were collected in various sites around Mound Facility and analyzed for tritium. In addition, on several occasions, rain water runoff was collected and analyzed.

The total 1977 rainfall was 88.6 cm (34.88 in) with an average tritium concentration of 4 nCi/l. A calculated total of 10.94 Ci rained out over an area of 1 km radius around Mound Facility during the year, of which an estimated 2.8 Ci infiltrated the aquifer. This is only 7 percent of the total amount withdrawn from the aquifer. Because a large portion of the total collected tritium rained out during periods of heavy rain, with a resultant increased runoff, the total contribution to the aquifer could be much lower than 2.8 Ci.

Runoff water during periods of rainfall exhibited an average tritium concentration of 5 nCi/l and never exceeded 10 nCi/l. This concentration is well below the EPA standard for potable water and is similar to the measured average tritium concentration in rain water.

Effluent from Mound Facility - The possible recycling of tritium -- between the aquifer, Mound Well #1, the Miami-Erie Canal, and back to the aquifer -- rather than removal of tritium by high-volume pumping suggested the need to evaluate the infiltration rate along the southern section of the canal (Dames and Moore, 1978b).

On the average, and excluding rainy days, the flow into the canal is 42 l/s (671 gpm) and the flow out is 30 l/s (480 gpm). The loss of 12 l/s (191 gpm) accounts for 28.5 percent of the total flow. Since the travel time is fairly short (100 minutes to travel 762 m (2,500 ft), very little of this loss can be attributed to evapotranspiration. There was no significant difference in the rate of water loss between clear, windy days and overcast days, further supporting this point. The

conclusion is that about 1.04×10^6 l (275,000 gal) of water is lost each day from the ditch to the aquifer. During periods of rainfall when the ground becomes saturated, losses in the canal drop to about 20 percent of the total flow; some of this may be attributed to infiltration enroute. During periods of high flow in the canal not related to rainfall, the losses increase to almost 35 percent of the total flow, probably in direct proportion to the applied head.

The average velocity in the canal is 0.127 m/s (25 ft per min) according to a dye test on October 28, 1977. The volume of water in the canal may be calculated using an average flow rate of 37.8 l/s (600 gpm) as 2.27×10^5 l (60,000 gal). The canal is 762 m (2,500 ft) long (up to the weir) and about 1.8 m (6 ft) wide. The area of the canal bottom then is about 1394 m^2 (15,000 sq ft).

The average water loss of 12 l/s (191 gpm) is equivalent to 1.04×10^6 l/d (275,000 gal/day). Over an area of 1394 m^2 (15,000 sq ft), the computed percolation rate through the canal bottom is 8.63×10^{-3} l/s/m^2 (18.3 gal/day/sq ft) at the existing flow rate and for water in the temperature range of 15 to 17°C.

In conclusion, the data indicate that a daily loss of about 1.04×10^6 l (275,000 gal) occurs at the existing flow rate (with an average applied head of 0.15 m (one-half foot). The average loss is 28.5 percent of the water flowing in the canal. The distribution of this loss cannot be determined from the available data.

Residue in Substrate of Miami-Erie Canal - Extensive surveys of soil and the Buried Valley Aquifer adjacent to Mound during early phases of the Potable Water Standards Project identified an unusual tritiated residue in the substrate of the Miami-Erie Canal. Roughly 90% of the tritium residue was found to be a relatively stable, or "bound", chemical species that was not readily exchangeable with the "free" water of the canal substrate. A separate study (Kershner and Rhinehammer, 1978) was initiated in order to characterize the contaminant and to assess the potential impact of the residue on concentration of tritium in the Buried Valley Aquifer. The radionuclide was confirmed to be tritium, but the identity of the chemical species of the associated residue eluded investigators, largely because of the extremely low concentration. A tritium inventory of approximately 200 Ci (0.02 g) as of December 1976 was estimated for the 1585-m (5,200-ft) length of the canal, and the residue was estimated to be present at a concentration of less than a picogram per kilogram of soil. The significance of the tritium in the residue is less than might be expected, since only 10% is available for percolation to the aquifer. Half-time for conversion of the residue from a "bound" to a "free" state was estimated to be 3 yr, and about 30 Ci of tritium was calculated to be available for transport to the aquifer during 1977.

Removal of Tritium from the Aquifer

Physical Decay of Tritium and Natural Flushing of Aquifer - Tritium, the heaviest isotope of hydrogen, decays radiologically with a half-life of 12.3 yr. In the Buried Valley Aquifer, the effects of radiological decay are combined with

removal, or clearing, of tritium from the area by natural flow of water through the aquifer and by flow induced from pumping water from the aquifer. Recharge is available to the Buried Valley Aquifer from precipitation both by direct infiltration and by leakage along valley walls. Natural flow of water in the area of the aquifer adjacent to Mound, when recharge exceeds withdrawal, is southwesterly toward the Great Miami River. When withdrawal exceeds recharge by precipitation, the flow of water in the aquifer shifts and the deficit is replaced by induced streambed infiltration of water from the Great Miami River. Since Mound significantly reduced liquid and airborne discharges of tritium in 1970, the concentration of tritium in Mound Well #1 declined from 22% of the applicable ERDA RCG in 1971 to 6% in 1974 and 4% in 1975. As indicated in Figure 3, the reduction in concentration of tritium in Mound well water asymptotically approached 4% of the RCG and appeared to reach a new equilibrium at that time. The pattern of change in concentration of tritium in Mound well water between 1970-1975 suggested that the combination of radiological decay, natural aquifer clearing, and clearing induced by pumping water from the aquifer in 1975 balanced input of tritium from rainout, liquid effluents, and residues of past waste disposal practices. Apparent existence of such a steady state condition suggested that a rather long time would be required for the aquifer to reach the EPA standard for tritium in drinking water (2% of the ERDA RCG) without further intervention, e.g., high-volume pumping of water from the aquifer.

Tritium Reduction by Induced Infiltration - The efficacy of high-volume pumping for lowering the concentration of tritium in the Buried Valley Aquifer was tested by pumping Miamisburg Well #2 from October 11, 1976 through January 20, 1977. Decreases in concentration of tritium in water from several wells during the test period gave a strong indication that long-term, high-volume pumping could bring the aquifer into compliance with the EPA standard for tritium in drinking water. The concentration of tritium in Observation Well 2 decreased from 103 to 76 nCi/l; Observation Well 4, from 52 to 41; Observation Well 6, from 36 to 11; Well JN, from 44 to 36; and Well B3, from 48 to 38 nCi/l (Dames and Moore, 1976d).

Pumping with Miamisburg Well #2 was resumed April 18, 1977; and additional, simultaneous pumping with Mound Well #1 was initiated May 16, 1977. Pumping continued for nearly nine months, removing approximately 1.5×10^9 l (4×10^8 gal) of water and 50 Ci of tritium. Data on concentration of tritium in the wells are given in Appendices I and II. The data show that during the pumping of Miamisburg Well #2 and Mound Well #1 the tritium concentrations, as measured in the majority of observation wells, decreased. It is concluded that the decrease was due in large part to the pumping, although there might be a slight decrease without pumping.

The following conclusions may be drawn from data on concentrations of tritium in area wells between April 1977 and January 1978:

1. The concentration of tritium in Mound Wells #1, #2, and #3 was reduced to less than the EPA standard of 20 nCi/l. Furthermore, these wells showed a continuing downward trend.

2. Tritium concentrations in Miamisburg Well #2 were only slightly above the EPA standard of 20 nCi/l, and there was a marked decrease since the pumping of Miamisburg Well #2 and Mound Well #1 commenced. The concentration of tritium in Miamisburg Well #3 remained below 20 nCi/l.

3. The tritium concentrations in Wells B2 and B3 remained slightly above 20 nCi/l but in both wells tritium decreased slightly. Well B1 and Well JN remained at concentrations near 40 nCi/l and neither well showed indications of a downward trend during this time. However, it is noteworthy that Well B1 had concentrations of 60 nCi/l in December 1976.

4. The tritium concentrations in Observation Wells 1A, 3, and 5 all approached 40 nCi/l. The concentrations in Observation Well 3 varied widely, ranging from 20 to 150 nCi/l. Since Observation Well 3 is close to the valley wall and was dry on occasions, it is not considered to be a reliable indicator of concentration of tritium in the aquifer. Concentrations of tritium in Observation Well 1A dropped from 60 to 40 nCi/l since mid-May 1977 and remained nearly constant at 40 nCi/l since August 1977. The concentrations in Observation Well 4 remained nearly constant since June 1977.

5. The tritium concentrations in Observation Wells 2, 6A, 7, and 8A decreased during the pumping and all but Observation Well 2 were below the EPA standard of 20 nCi/l.

6. There was no discernable relationship between data on precipitation and the change in concentration of tritium in area wells.

7. It is suggested that there was a relatively large body of tritium in the area of the aquifer near Well B1 and Well JN, which is most likely part of a larger plume which extended from the confluence of the Mound drainage ditch and the Miami-Erie Canal southwest toward the Great Miami River. Pumping Miamisburg Well #2 pulled water from the main axis of the original plume and also pulled water from the north. It appears that the area north of Miamisburg Well #2, represented by Observation Well 2, had lower concentrations of tritium. The area to the south, represented by Observation Well 1A, had higher concentrations of tritium.

Changes in concentration of tritium in wells of the Buried Valley Aquifer from June 3, 1977 to February 3, 1978 are summarized in Figures 6-8. To the degree that conditions at the wells represent conditions within the aquifer, the isopleths of tritium concentrations reflect patterns in distribution of tritium in the aquifer. The exact positioning of isopleths was a matter of informed judgement, since the number of observation points is too few for complete objectivity. Figure 6 illustrates the distribution of tritium in the aquifer on June 3, 1977, six weeks into the pumping program. At this time, Mound Well #3 and Observation Wells 6A, 7, and 8A were in compliance with the EPA standard; that is, concentrations of tritium in these wells were $\leq$20 nCi/l. Visually, the objective of the pumping program is

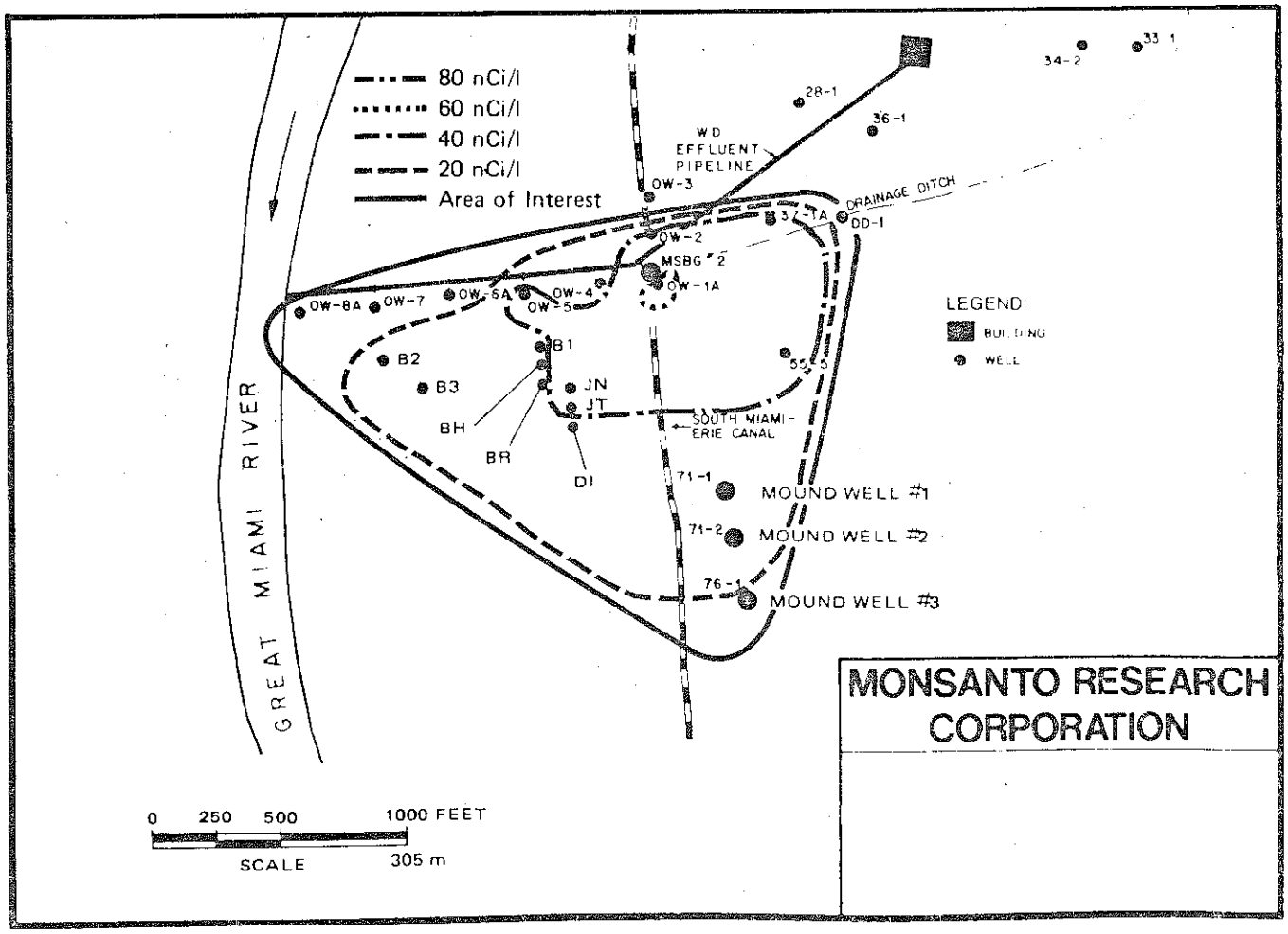

FIGURE 6 - Isopleths of Tritium Concentrations for June 3, 1977

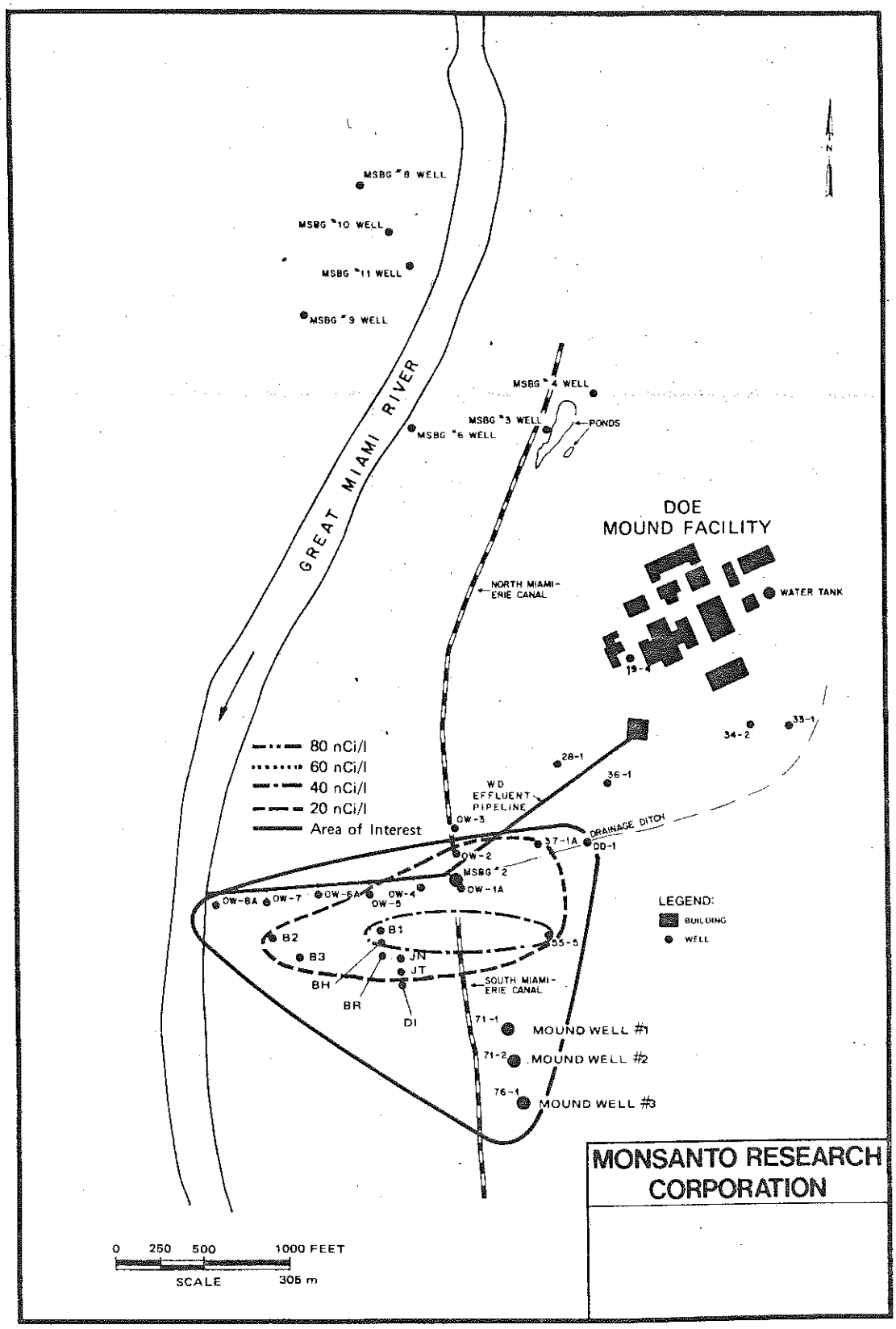

FIGURE 7 - Isopleths of Tritium Concentrations for January 5, 1978

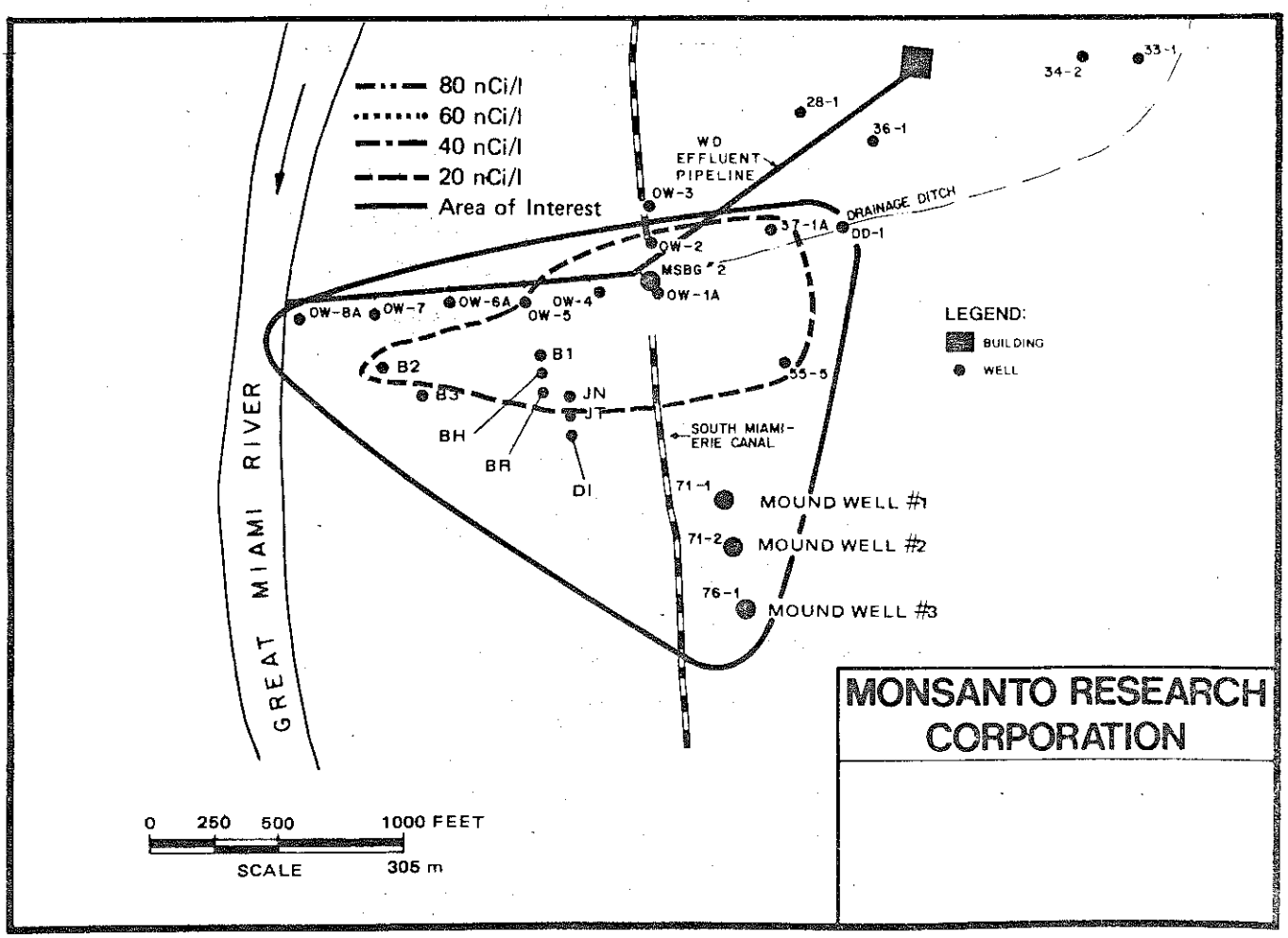

FIGURE 8 - Isopleths of Tritium Concentrations for February 3, 1978

to reduce the area of the aquifer enclosed by all contours except the "Area of Interest" isopleth. By January 5, 1978 (Figure 7), all Mound wells were in compliance and the area enclosed by the 20- and 40-nCi/l isopleths were significantly reduced. Only Well B1 and Well 55-5 had concentrations of tritium greater than 40 nCi/l. By February 3, 1978 (Figure 8), Well B3 and Well JT were also in compliance. It is important to note that the 40-nCi/l and higher isopleths were eliminated.

Pumping of Miamisburg Well #2 stopped January 26, 1978 when a blizzard shut off the pump and low temperatures caused the drainage pipe to freeze. The imminent Energy Crisis of 1978 contributed to a decision to also shut off Mound Well #1 and enter a study of tritium rebound in the aquifer.

Rebound of Tritium Concentrations - Concentrations of tritium in wells rebounded, or returned to previous and even higher levels, in many wells very soon after pumping was stopped during the initial test pumping studies of 1976. The stability of tritium concentrations is, of course, a major concern, since it is planned that high-volume pumping will bring the aquifer into compliance and maintain it well within the EPA standard. The relative success of the pumping program from April 1977 to January 1978, the shutdown of Miamisburg Well #2 by a blizzard on January 26, 1978, and the imminent Energy Crisis -- all provided support for beginning the rebound study of 1978. The rebound study was initiated by leaving Miamisburg Well #2 off after the blizzard and turning Mound Well #1 off on February 6, 1978. The study continued until Miamisburg Well #2 was restarted June 28, 1978 and pumping of Mound Well #1 was resumed on September 7, 1978.

Changes in concentrations of tritium in area wells during the 1978 rebound study were in marked contrast to changes that occurred in 1976. In 1978, concentrations of tritium changed more slowly and over a smaller range (See Figure 9 as an example). Among those wells supplying drinking water, three declined in concentration of tritium for 2 to 4 months and then increased, six stabilized, and one varied over a wide range during the rebound study (Table 3). Increases in concentration of tritium at offsite private and community wells were quite small through June 8 and in no cases exceeded levels recorded for February 3, 1978 when the rebound study was initiated. Data plotted in Appendix II and listed in Appendix I confirm that the range of rebound was relatively small, Miamisburg Well #2 being the only exception.

Miamisburg Well #2 did evince a significant rebound after an initial decline in concentration of tritium during March 1978. Between March 20 and June 23, the concentration of tritium in this well increased from 17 to 67 nCi/l. This increase at Miamisburg Well #2 suggests that a quantity of tritium was becoming available for migration toward the private and community wells to the southwest. After pumping of Miamisburg Well #2 was resumed June 28, 1978, concentration of tritium in the private and community wells increased until all wells in the "Area of Interest" were out of compliance by 1 to 7 nCi/l. Well B1 increased in concentration of tritium during July and August to

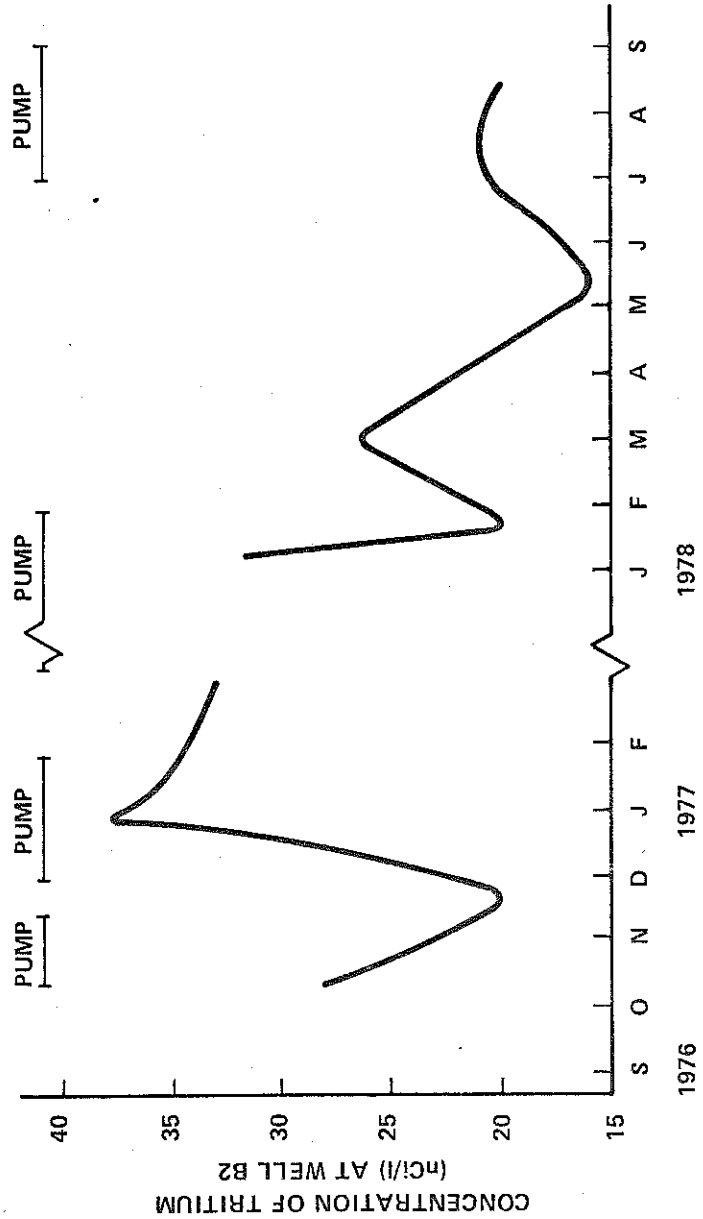

FIGURE 9 - Comparison of Changes in Concentration of Tritium for Well B2 during Rebound Studies of 1976 and 1978

26 nCi/l; Well B2, 21 nCi/l by July; Well B3, 25 nCi/l by July; and Well BH, 27 nCi/l by September. These data suggest that a latent rebound was developing in the aquifer as early as April -- two months into the rebound study -- when the concentration of tritium at Miamisburg Well #2 increased from 17 to 34 nCi/l. It is hypothesized that tritium had already migrated beyond the area of Miamisburg Well #2 by April toward the private well area and that a lag in time of appearance of the tritium in private wells was caused by a complex set of parameters, e.g., heterogeneity of structure of the aquifer, variation in "tortuosity" across the aquifer, and variation in rates of flow of water in the aquifer. The pattern of latent rebound is illustrated further by the isopleths in Figures 10-15.

TABLE 3. RESPONSES OF WELLS DURING TRITIUM REBOUND STUDY, FEBRUARY 6 - JUNE 28, 1978

Concentration of Tritium	Well
Declined	Well #55-5
Declined through March, then increased	Miamisburg Well #2
Declined through April, then increased	Observation Wells 4, 5, 6A
Declined through mid-May, then increased	Well B2[a]
Declined through May, then increased	Well B3[a]
Declined through June, then increased	Well B1[a]
Stabilized	DP&L Wells #2, #3; Well JN[a]; Well KK[a]; Miamisburg Wells #8[a], #9[a], #10[a]; Mound Wells #1[a], #2[a], #3[a]; Observation Wells 1, 1A, 8, 8A; Well 37-1A
Stabilized through April, then varied	Observation Well 6
Increased	Miamisburg Well #3
Varied	Observation Wells 3, 6, 7; Well JT[a]

[a]Indicates wells supplying drinking water.

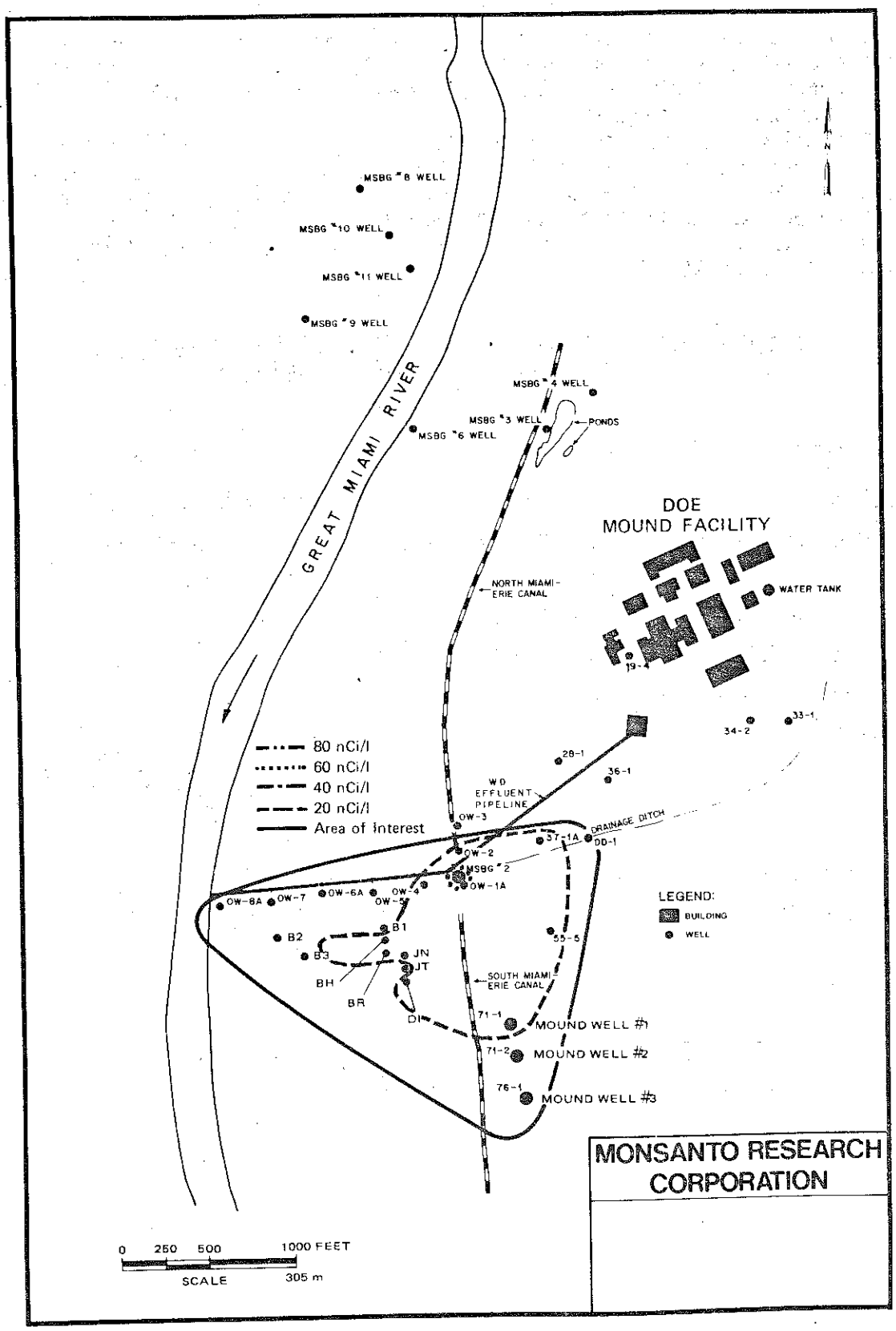

FIGURE 10 - Isopleths of Tritium Concentrations for June 8, 1978

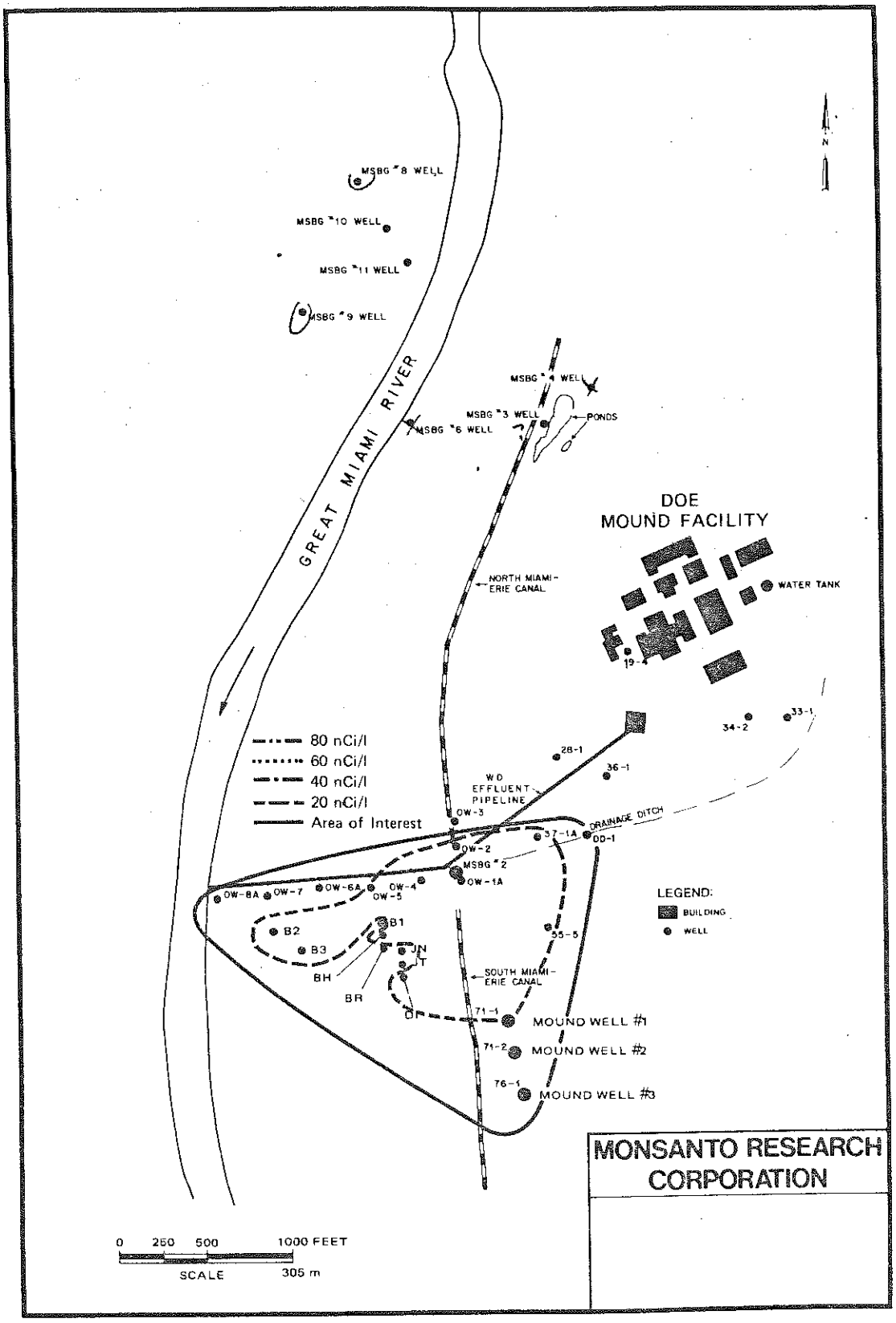

FIGURE 11 - Isopleths of Tritium Concentrations for July 18, 1978

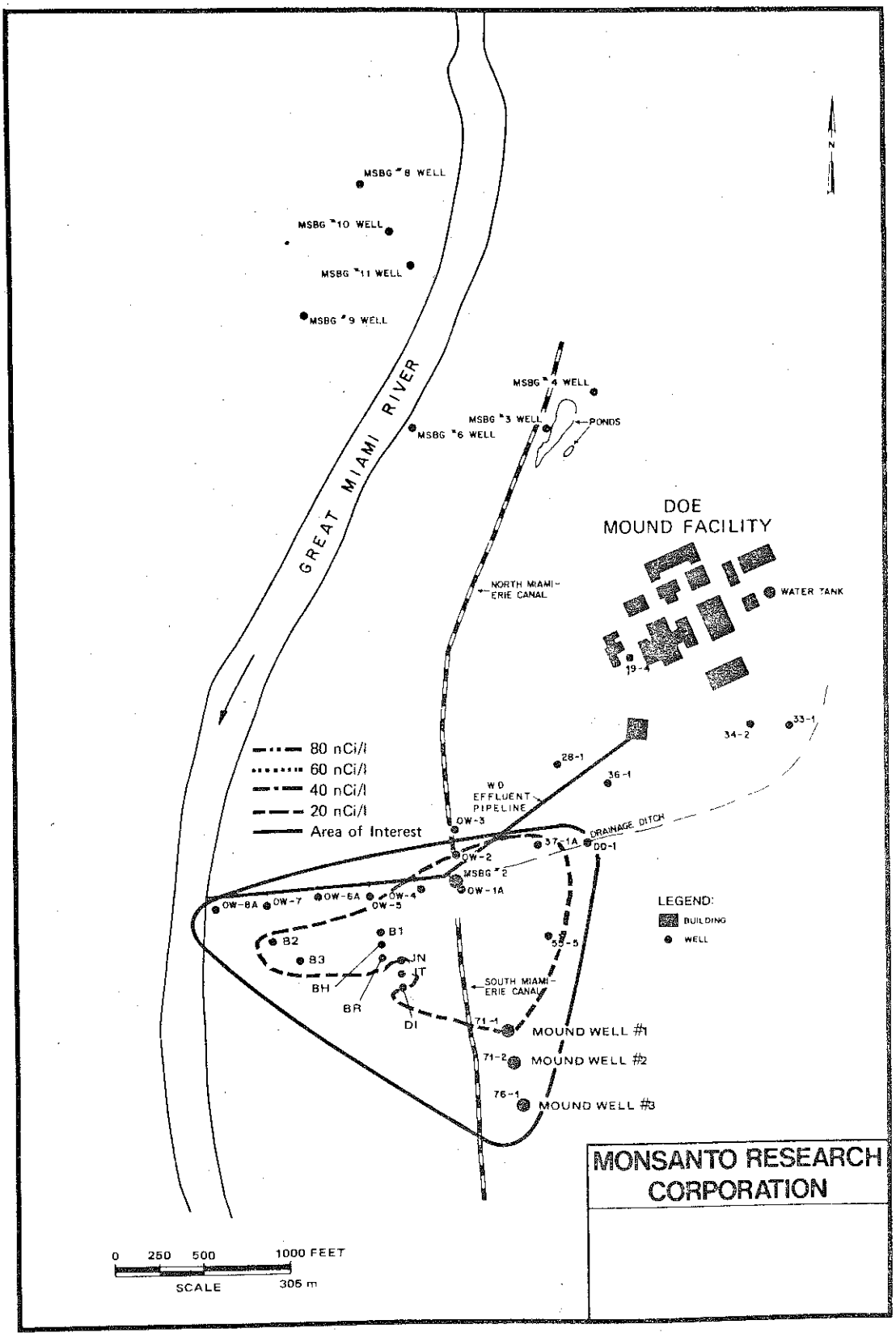

FIGURE 12 - Isopleths of Tritium Concentrations for August 18, 1978

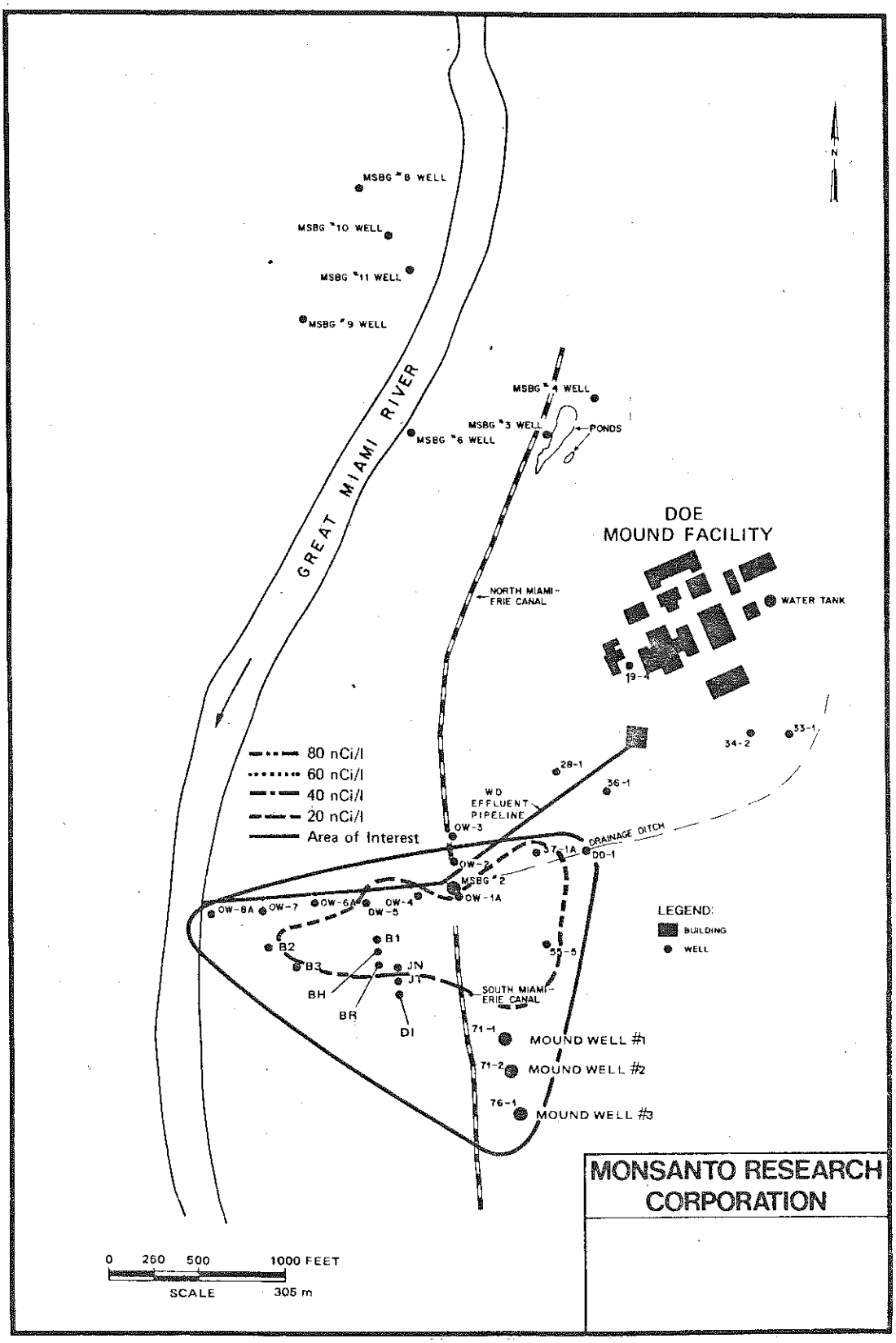

FIGURE 13 - Isopleths of Tritium Concentrations for September 14, 1978

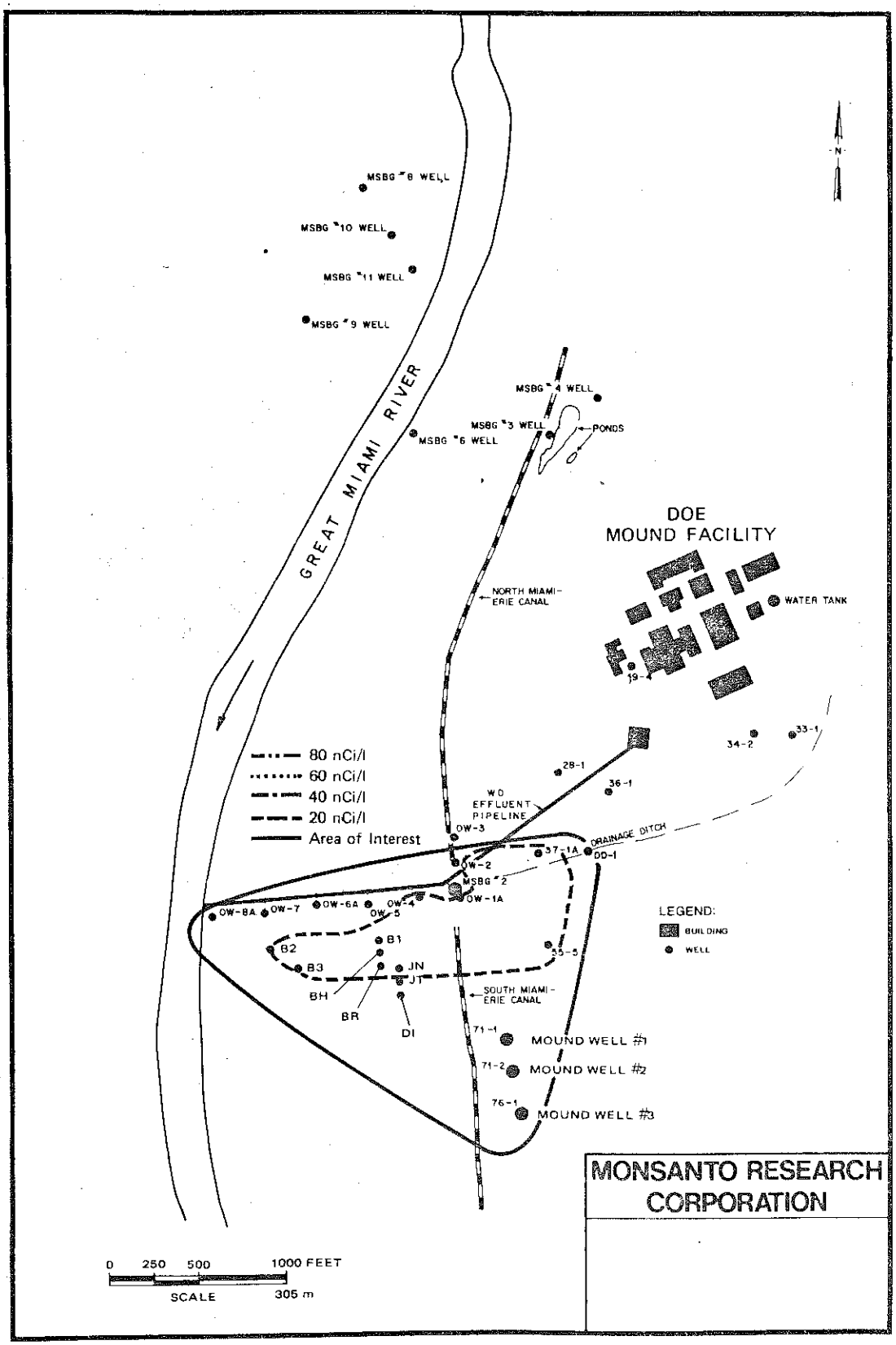

FIGURE 14 - Isopleths of Tritium Concentrations for October 16, 1978

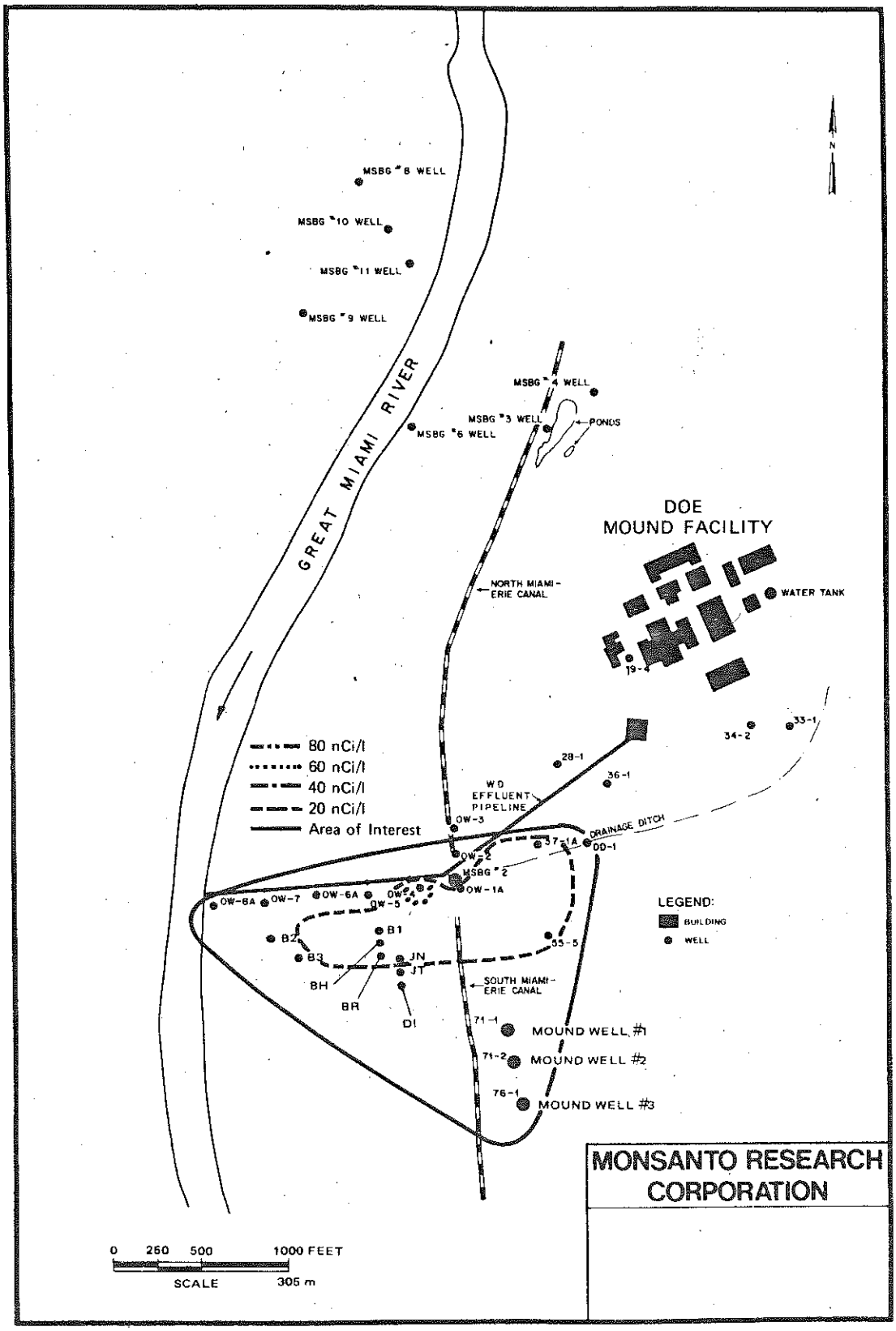

FIGURE 15 - Isopleths of Tritium Concentrations for November 16, 1978

Compartment Model of Tritium Behavior - A compartment model was developed to enable a better assessment of the interactions between sources of tritium and the Buried Valley Aquifer. As usual for such models, this model represents an extreme simplification of the actual system. Although the selected equations may mimic, or simulate, behavior of tritium in the aquifer to a relatively high degree, it is not possible to deduce information on the nature of the mechanisms involved in the actual system from the nature of the equations in the model without further testing. Some of the complicating factors operating in this interacting system, as pointed out by Kershner and Rhinehammer (1978), include (1) the heterogeneous distribution of the tritium residue in the Miami-Erie Canal, (2) variations in the percolation rate along the length of the canal, and (3) the aquifer being neither homogeneous nor isotropic. Kershner and Rhinehammer (1978) developed a three-compartment model for migration of tritium from the residue in the canal to the aquifer, but at the time of their work there were insufficient data to warrant carrying the model further. The following model was developed as an aid in predicting responses of concentrations of tritium in the aquifer to pumping/not pumping.

Conceptually, the model (Figure 16) consists of three input compartments: residue from the Miami-Erie Canal, liquid effluent of Mound in the canal, and rainout of tritium from airborne releases at Mound. The tritium enters the aquifer and diffuses toward the wells where it may be sensed by monitoring the water. Tritium may be lost to the aquifer through natural clearing and radiological decay of tritium, through pumping of Miamisburg Well #2, and through pumping of Mound Well #1.

Initial attempts to derive coefficients for exponential equations for the transfers from each of the three Input compartments were unsuccessful in that predicted concentrations of tritium were too high, based on historical data, and the rate of increase at Miamisburg Well #2 was too low. Data suggested that the concentration of tritium in this well increased rapidly initially but leveled off at less than 115 nCi/l. The logistic equation below (1) was found to closely duplicate the response of Miamisburg Well #2, and since this well most rapidly responds to the pumping regime, equation (1) was taken as a close approximation of the response of the aquifer at the point of entry of tritium. Coefficients were fit to the data and refined by iteration.

$$I_t = \frac{K}{1 + e^{a-rt}} \qquad (1)$$

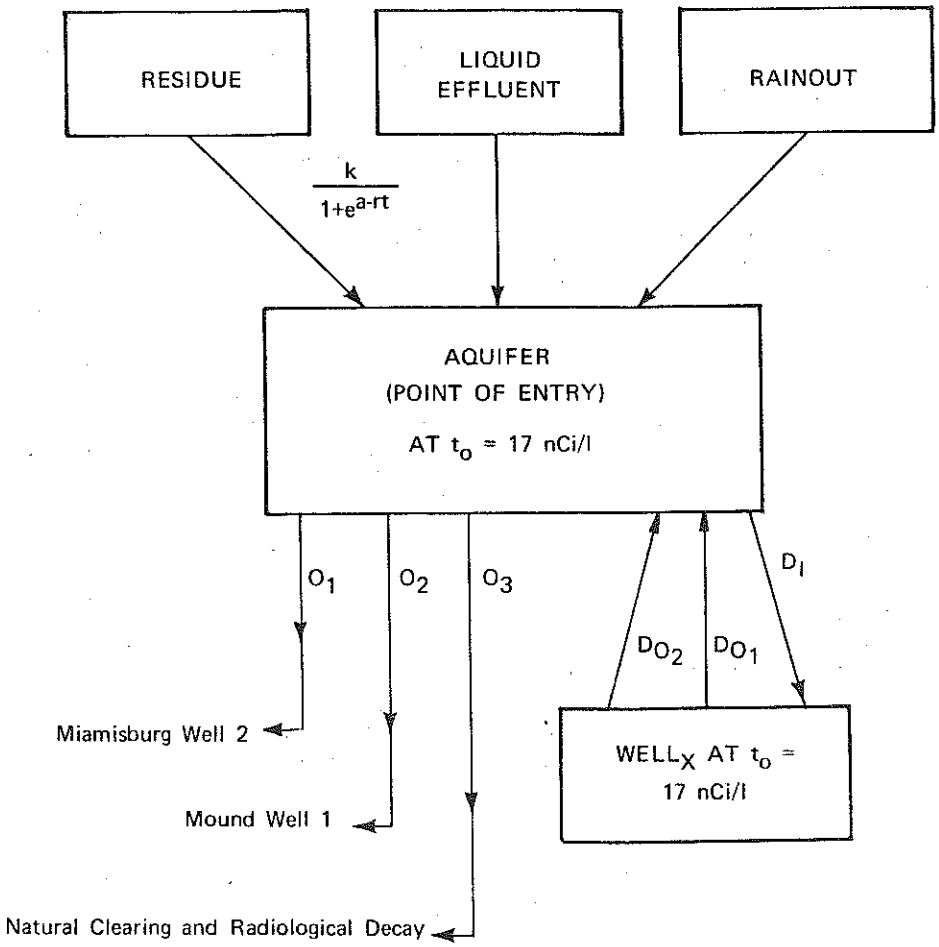

FIGURE 16 - Compartment Model for Behavior of Tritium in the Buried Valley Aquifer

where I_t = Input of tritium, concentration at time t

t = Time in days

K = Upper asymptote for tritium concentration

a = $\log \frac{K - W}{W}$ at time t = 0

W = Concentration of tritium at time t

r = Rate of increase in concentration of tritium.

For this example,

t = 95

K = 115

W = 17

a = 1.752

So, r = 0.02195

And, $$I_t = \frac{115}{1 + e^{1.752 - 0.02195\ t}}$$

This equation sets the upper limit for concentration of tritium and the rate of reaching the limit.

There are also operating the three output terms.

O_1 = Output from pumping Miamisburg Well #2

O_2 = Output from pumping Mound Well #1

O_3 = Output from combined effect of radiological decay of tritium and natural aquifer flushing

The output terms are used in equation (2)

$$A_t = A_0 e^{O_x t_x} \qquad (2)$$

where $O_1 = -0.02773$

$O_2 = -0.0004167$

$O_3 = -0.001385$

t_1 = time pumping Miamisburg Well #2

t_2 = time pumping Mound Well #1

t = time

The terms, t_1 and t_2, may or may not accumulate depending upon whether the respective wells are pumping.

Response of each well to I_t, O_1, O_2 varies with well type, distance from the source terms, etc. There is, therefore, a delay in the effect of I_t, O_1, and O_2. These delay terms, D, are listed in Table 4. The term O_3 is considered to be uniformly and instantaneously applied to all wells, and there is no delay.

The concentration of tritium (T, nCi/l) in a given well (x) is estimated by equation (3).

$$T_{x,t} = T_{x,0} \; e^{I_t D_{x,I}} \; e^{O_1 t D_{x,1}} \; e^{O_2 t D_{x,2}} \; e^{O_3 t} \qquad (3)$$

where $D_{x,y} = 1 - e^{\lambda_{x,y} t_x}$

Examples of the output of equation (3) are illustrated in Figure 17.

Figure 17 illustrates a situation in which the aquifer is brought into compliance at 17 nCi/l and pumping is stopped at Miamisburg Well #2 and Mound Well #1 for 2 years. After that time all wells are out of compliance with the EPA standard. At t=690 days, Miamisburg Well #2 is started. Miamisburg Well #2 is the first to reach compliance (5 months), then Mound Well #1 (6 months), and finally Wells B1, B2, B3, and BH (7½ months). If both Miamisburg Well #2 and Mound Well #1 are pumped after the aquifer is brought into compliance, the aquifer will remain

TABLE 4. COEFFICIENTS FOR DELAY TERM D IN RESPONSE OF SELECTED WELLS

Well (y)	$\lambda_{I,y}$	$\lambda_{1,y}$	$\lambda_{2,y}$
Miamisburg Well #2	-0.026	-6.931	-5.853E-04
Mound Well #1	-7.390E-04	-4.795E-03	-6.931
Mound Well #2	-7.390E-04	-5.817E-03	-0.01065
Mound Well #3	-7.390E-04	-5.298E-04	-0.0163
Well B1	-4.188E-04	-2.043E-03	-5.853E-04
Well B2	-2.666E-04	-1.756E-03	-5.853E-04
Well B3	-2.741E-04	-2.663E-03	-5.853E-04
Well BH	-4.188E-04	-1.603E-03	-5.853E-04
Well BR	-4.188E-04	-1.603E-03	-5.853E-04
Well JN	-2.899E-04	-2.915E-03	-5.853E-04
Well JT	-2.436E-05	-1.823E-03	-5.853E-04
Obs. Well 1A	-7.248E-04	-8.224E-04	-5.853E-04
Obs. Well 2	-4.151E-04	-6.678E-03	-5.853E-04
Obs. Well 4	-3.043E-04	-5.129E-04	-5.853E-04
Obs. Well 5	-4.739E-04	-7.419E-03	-5.853E-04
Obs. Well 6A	-9.400E-05	-5.129E-04	-5.853E-04
Obs. Wells 7 & 8A	-9.744E-06	-5.129E-04	-5.853E-04

in compliance. The model allows a number of other estimates of the behavior of tritium in the aquifer. For example, Miamisburg Well #2 would go out of compliance after 1 month of not pumping and would be at 36 nCi/l after 2 months. Returning this well to compliance would require 4 months of pumping Miamisburg Well #2. Returning Well B1 to compliance after allowing it to reach 26 nCi/l would require 7 months of pumping Miamisburg #2. The model is judged adequate in simulations of pumping/not pumping that were observed through June of 1978. Continuous pumping of Miamisburg Well #2 from June, 1978 to April 1979 had little effect on wells BH, BR, and B1. These three wells remained just above the standard for the 12-month period. An experimental pumping program was therefore launched in an attempt to bring the wells into compliance.

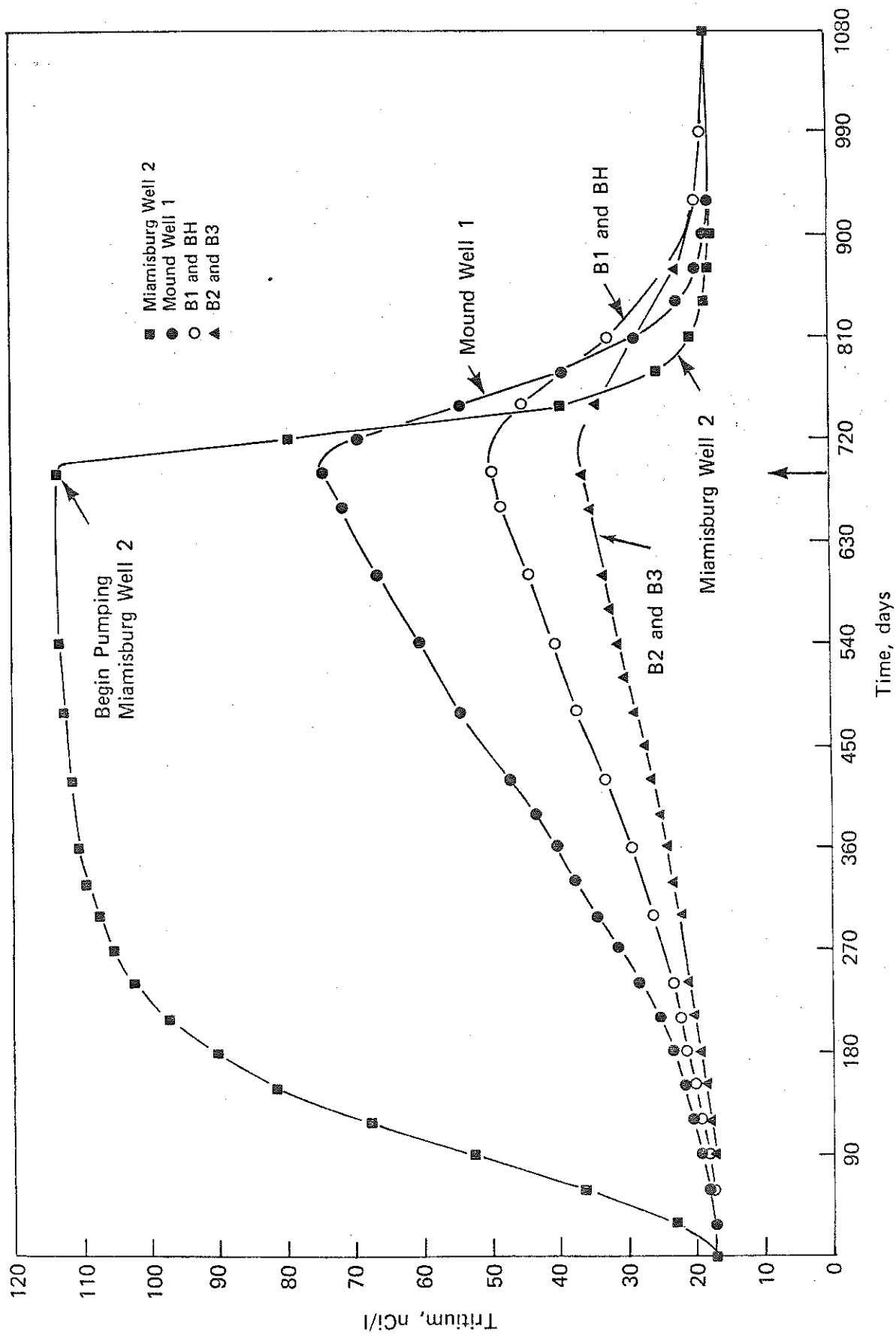

FIGURE 17 - Sample Output of Compartment Model, Assuming Pumping After 2 Years

Experimental Pumping Program - Several steps were taken as part of the experimental pumping program. First pumping of Mound Well #1 was discontinued for longer and longer periods. During this time, no increase in concentration of tritium in Mound's well field occurred, and no change in concentration of tritium in the private well area was associated with this pumping program. On June 13, 1980 Mound Well #1 was returned to the status of occasional pumping for plant use only. The concentration of tritium in Mound well water is monitored closely, and appropriate changes in pumping schedules will be initiated if significant increases appear in the concentration of tritium.

The second step taken in the experimental pumping program was to shut Miamisburg Well #2 off for two weeks every two months. The rationale here was that perhaps relaxing drawdown for a brief period would mobilize the suspected pocket, or pool, of tritiated water in the area of wells BH, BR, and B1. The effectiveness of this approach was unclear until December, 1980 - January, 1981 when aquifer recharge from rainfall was quite low and the cone of depression from pumping Miamisburg Well #2 exceeded 3.5 m (11.75 ft) for the first time (Appendix III). During this time, changes in the pumping schedule for Miamisburg Well #2 appeared to lower the concentration of tritium in well B1.

The third step, occasional continuous pumping of wells BH and BR and increased usage of well B1, was by far the most effective approach in that it produced an immediate decline in concentration of tritium in these wells. Furthermore, with each successive cycle of one month on and one month off, the magnitude of the rebound was reduced. On August 4, 1980, it was decided that this cyclic pumping had produced its optional impact, and pumping was returned to normal domestic use. Concentrations of tritium in wells BH and BR have remained in compliance since February 11, 1980. Well B1 has ranged between 4 and 23 nCi/l since March 23, 1980, and at this writing well B1 is in compliance.

Effects of pumping on aquifer water levels

An important concern during the entire pumping program has been to ensure that the Buried Valley Aquifer should not be damaged, or permanently reduced in its capacity to support pumping for private, community, and industrial purposes. Levels of water in the aquifer were monitored in the private wells, observation wells, and industrial wells (Appendix III). Various analytical techniques were employed to determine whether or not the pumping program had caused a lasting impact on the Buried Valley Aquifer. Preliminary analyses (Appendix III) included data from all onsite and offsite wells. No trends were apparent from scatter plots of water level as a function of month of the year or date. An analysis of variance (ANOVA) indicated, however, that there was a significant seasonal variation in aquifer water levels. Duncan's Multiple Range Test indicated that aquifer water levels were highest during April; intermediate during February, March, May, June, July, and August; and lowest during September, October, November, December, and January. Furthermore, pumping had no significant effect on aquifer water level.

Many onsite observation wells do not properly reflect conditions in the Buried Valley Aquifer. Ground water onsite is normally perched and water levels measured in onsite observation wells do not reflect true static levels, but rather the dynamic equilibrium level between recharge and discharge at a given permeability interface for a particular date. In subsequent analyses, therefore, only wells that actualy reflect levels of water in the Buried Valley Aquifer were included.

These wells are Mound Wells #1-3, Observation Wells 1-8, and the offsite private wells. These wells are <548 m (1800 ft) east of Observation Well #8.

Scatter plots (Appendix III) of water level as a function of distance east of Observation Well #8 showed that the greatest variation in level occurred in Observation Wells 1A and 2 (427 m or 1400 ft east of Observation Well #8); these are closest to Miamisburg Well #2 and are in the cone of depression when Miamisburg Well #2 is pumping. The greatest drop in water level, 3.58 m (11.75 ft), occurred at Observation Well 1A on November 20, 1980. The least variation occurred in observation wells near the Great Miami River.

A scatter plot (Appendix III) of aquifer water level as a function of month revealed a distinct seasonal variation, which was also confirmed by an analysis of variance (ANOVA, see Appendix III). The ANOVA indicated that not only month but also pumping (variable CHAR = 'P' when Miamisburg Well #2 is pumping and CHAR = 'N' when the well is not pumping) had an effect on aquifer water level. Furthermore, the interaction between month and pumping was significant.

As indicated by Duncan's Multiple Range Test for wells that are <548 m (1800 ft) east of Observation Well 8, the aquifer water level was highest in March, followed by April, May, February, October, June, July, September, December, August, November, and January. On the average, high-volume pumping lowered the aquifer water level 0.46 m (1.5 ft). While statistically significant, this temporary drop in water level while pumping does not amount to a hydrologically significant impact on the aquifer. Data on individual wells indicate that the aquifer rebounds quickly to, or in some cases above, initial levels when pumping is stopped.

Project costs

Project costs were highest during the early phases - 1976 and 1977 - when extensive geohydrological investigations were under way, observation wells were being installed, and Miamisburg Well #2 was renovated (Table 5). The primary costs in FY-1980 and FY-1981 have been for electrical power to pump Miamisburg Well #2.

TABLE 5. PROJECT COSTS

Fiscal Year	Costs
1. Operating	
1976	$167,338
1976A	110,796
1977	165,173
1978	37,785
1979	48,942
1980	21,225
1981 YTD	5,976
	557,235
2. Capital Work Orders	51,462
	$608,697

SUMMARY

1. An area of the Buried Valley Aquifer adjacent to Mound Facility contains tritium derived from past routine liquid waste discharges from operations at Mound. Although the concentrations of tritium were well within the federal standards (AEC and ERDA RCG) in effect during these disposal operations, new standards promulgated by the EPA in 1975 becoming effective in 1977 -- 7 years after discharge of liquid process tritium wastes was terminated at Mound -- were so low that a portion of the aquifer was effectively legislated out of compliance. Concentrations of tritium in the aquifer declined significantly after 1970, but it was apparent in 1975 that the rate of decline was too slow to meet the proposed EPA standard (50 times lower than the ERDA RCG) by 1977 without intensive corrective action. Mound's Potable Water Standards Project was initiated to guide these efforts.

2. The Potable Water Standards Project involved scientific and technical personnel at Mound, as well as consultants in geology and hydrology. Several alternative action plans were evaluated, and high-volume pumping with induced infiltration of river water was selected as the plan most likely to bring the Buried Valley Aquifer into compliance with the EPA standard for tritium in drinking water. Intensive surveys of historical records were made, and Mound's environmental surveillance program was broadened to provide more specific information on the location of the source(s) of tritium reaching the aquifer and the effects of the corrective action program.

3. Test pumping in 1976 with an abandoned production well (Miamisburg Well #2) borrowed from the City of Miamisburg suggested that high-volume pumping of water from the aquifer would be effective in reducing the concentration of tritium in the aquifer but that hydraulic stress on the aquifer generated by this pumping could cause some shallow private wells to go dry. Furthermore, once pumping stopped, concentrations of tritium returned to their former levels. The problem with the private wells was resolved by redeveloping them as deep wells. The rebound of concentrations of tritium upon termination of pumping was designated for further study.

4. Pumping of water from the aquifer with Miamisburg Well #2 as well as Mound Well #1 from April 1977 to February 1978 removed 1.5×10^9 l (4×10^8 gal) of water and 50 Ci of tritium from the aquifer. No private or community wells were adversely affected by the high-volume pumping, and the level of water in the aquifer during February 1978 was even higher than in April 1977 when pumping started. Concentration of tritium in the aquifer was significantly reduced. All three Mound production wells were brought into compliance, one private well was brought into compliance, and most of the other private and community wells were reduced in concentration of tritium. These effects of the high-volume pumping program confirmed the efficacy of this approach for bringing the aquifer into compliance with the EPA standard for tritium in drinking water.

5. The 1978 rebound study was initiated when Miamisburg Well #2 was shut off January 26, 1978 and Mound Well #1 was shut off February 6, 1978. Concentration of tritium continued to decline in the private wells until 3 of 5 affected wells were in compliance after 3 months. The concentration of tritium in Miamisburg Well #2 stabilized for 2 months but then began to increase rapidly until pumping was resumed in June 1978. Pumping in June 1978 caused an immediate reduction in concentration of tritium in Miamisburg Well #2. This rapid response of Miamisburg Well #2 to pumping/not pumping suggested that it is very near a source of tritium for the aquifer. Previous observations have also confirmed that there is a tritiated residue -- a remnant of past liquid discharges -- in the substrate of the Miami-Erie Canal very near Miamisburg Well #2. The position of the residue relative to Miamisburg Well #2 and laboratory observations that the residue slowly releases tritium to water suggest that the residue is an important source of tritium for the aquifer and most likely the cause of the rebound of concentrations of tritium in area wells after high-volume pumping stopped. An evaluation of rainout of tritium from Mound's airborne releases of tritium and of infiltration through the Miami-Erie Canal of tritium from Mound's current liquid effluent indicated that neither of these most recent sources of tritium could account for the rate and magnitude of tritium rebound or even represented significant sources of tritium in the aquifer.

6. After the 1978 rebound study ended in June, the private wells which had been brought into compliance gradually increased in concentration of tritium until they were again out of compliance. As pumping continued, these wells showed a decline in concentration of tritium. It is suggested that during the rebound study tritium entered the aquifer, as reflected at Miamisburg Well #2, and began to diffuse toward the private well field. Even though resumption of pumping Miamisburg Well #2 at the end of June removed tritium in the immediate vicinity of that well, a body of tritiated water had migrated past the well toward the private well field, causing the concentration of tritium to increase at these private wells. High-volume pumping of Miamisburg Well #2 caused a reversal in the flow of tritiated water back toward Miamisburg Well #2. Changing the flow of water in the aquifer could have also induced infiltration of water from the Great Miami River and further reduced the concentration of tritium in the private well field.

7. A compartment model of behavior of tritium in the aquifer was developed to aid in prescribing a maintenance program for keeping the aquifer in compliance with the EPA standard. The model predicts that once the aquifer is in compliance, pumping may be stopped for 4 months before the private wells and Mound wells go out of compliance. It would then require 6 to 9 months of pumping to correct the situation. Since it is highly desirable to keep the wells in compliance with the EPA standard after achieving compliance, a shorter period of not pumping will be followed. The data suggest and the model support the approach that once the private wells reach 17 nCi/l (3 nCi/l below the standard of 20 nCi/l) a pumping schedule of 2 months off/4 months on will keep the wells between 17 and 18 nCi/l. This schedule will be approached for the 1981 maintenance program. First, Miamisburg Well #2 will be turned off for two out of eight weeks, then three out of eight weeks, and four out of eight weeks. Time off will gradually be increased until a significant rise in the concentration of tritium signals the need to return to continuous pumping or until the end of the 1981 program when the data will be reviewed and the model will be refined to determine whether the period of not pumping can be extended while keeping the wells in compliance.

CONCLUSIONS

The results of the Potable Water Program have demonstrated that tritium levels in the drinking water can be brought into compliance and controlled by high-volume pumping.

Since pumping of Miamisburg Well #2 was resumed June 28, 1978 and of Mound Well #1 was resumed September 7, 1978, Mound's three production wells have remained in compliance and eight private and community wells have been brought into compliance with the EPA standard for tritium in drinking water (< 20 nCi/l). Use of the ninth private well was discontinued by the owner before compliance could be confirmed, but the area of the aquifer serving this former well is asumed to be in compliance based on data from observation wells.

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APPENDIX I

Concentrations of Tritium in Area Wells from December 24, 1975 through February 5, 1981.

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	BH	BR	B1	B2	B3	JN	JT	DI	MBG2	MND1	MND2	MND3	OW1A	OW2	OW3	OW4	OW5	OW6A	OW7	OW8A	WL37_1A	WL55_5	REMARKS
1	25DEC75	.	.	65	40	43	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
2	15JAN76	.	.	66	32	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
3	17JAN76	.	.	.	.	.	.	.	.	.	.	.	32	.	.	.	.	.	.	.	.	.	.	
4	24JAN76	.	.	.	.	.	.	.	.	.	34	.	.	.	.	.	.	.	.	.	.	.	.	
5	14FEB76	.	.	.	.	.	.	.	.	.	.	.	34	.	.	.	.	.	.	.	.	.	.	
6	21FEB76	.	.	67	31	38	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
7	28FEB76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
8	06MAR76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
9	10MAR76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
10	13MAR76	.	.	61	33	32	.	.	.	.	.	.	36	.	.	.	.	.	.	.	.	.	.	
11	20MAR76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
12	27MAR76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
13	01JUN76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 3 ON
14	11JUN76	.	.	59	34	43	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	21	
15	18JUN76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
16	19JUN76	.	.	60	34	44	.	.	.	.	80	81	52	.	.	.	.	.	.	.	.	.	21	
17	25JUN76	.	.	68	37	46	.	.	.	.	75	87	50	.	.	.	.	.	.	.	.	46	22	
18	26JUN76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
19	03JUL76	.	.	62	33	44	.	.	.	.	.	75	35	.	.	.	.	.	.	.	.	.	21	
20	07JUL76	.	.	63	34	43	.	.	.	.	58	67	42	.	.	.	.	.	.	.	.	.	14	
21	10JUL76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
22	16JUL76	.	.	59	32	41	.	.	.	.	40	88	88	.	.	.	.	.	.	.	.	.	25	
23	17JUL76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
24	22JUL76	43	48	67	37	50	.	.	.	.	.	.	43	.	.	.	.	.	.	.	.	.	24	
25	23JUL76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
26	29JUL76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	7	.	.	.	.	.	.	.	
27	30JUL76	.	.	.	.	.	.	.	.	.	.	.	.	.	111	.	.	.	.	.	.	.	.	
28	31JUL76	.	.	68	38	49	.	.	.	.	66	43	.	.	.	.	.	.	.	.	.	44	24	
29	13AUG76	.	.	60	29	41	.	.	.	.	70	85	77	.	108	36	79	57	.	37	.	.	20	
30	20AUG76	.	.	65	36	47	.	.	.	76	68	86	52	.	110	42	57	60	.	38	.	.	23	
31	20AUG76	.	.	65	36	47	.	.	.	74	68	86	52	.	110	42	57	60	.	38	.	.	23	
32	27AUG76	.	.	67	36	49	.	.	.	.	10	90	79	.	108	2	56	62	.	39	.	52	25	
33	03SEP76	.	.	.	.	.	.	.	.	.	54	84	51	.	.	.	.	.	.	.	.	.	23	
34	04SEP76	.	.	59	30	48	.	.	.	70	.	.	.	.	103	39	52	53	.	36	.	.	.	
35	09SEP76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 ON
36	10SEP76	.	.	61	32	46	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
37	11SEP76	.	.	.	.	.	.	.	.	.	56	83	76	.	.	.	.	.	.	.	.	44	23	
38	12SEP76	.	.	.	.	.	.	.	.	75	.	.	.	9	90	38	50	50	22	.	.	44	.	
39	13SEP76	.	.	.	.	.	.	.	.	75	.	.	.	11	94	40	52	50	23	.	.	52	.	MBG WELL 2 OFF

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	BH	BR	B1	B2	B3	JN	JT	DI	MBG2	MND1	MND2	MND3	OW1A	OW2	OW3	OW4	OW5	OW6A	OW7	OW8A	WL37_1A	WL55_5	REMARKS
40	13SEP76	.	.	.	.	.	.	.	.	75	.	.	.	14	95	43	52	53	21	.	.	60	.	MBG WELL 2 C
41	15SEP76	.	.	.	.	.	.	.	.	.	.	.	.	22	102	52	56	57	22	.	.	54	.	
42	16SEP76	.	.	.	.	.	.	.	.	.	.	.	.	34	101	52	55	57	22	.	.	52	.	
43	17SEP76	.	.	.	.	.	.	.	.	.	.	.	.	39	81	39	46	54	15	.	.	45	.	
44	18SEP76	.	.	70	36	48	.	.	.	.	41	59	55	37	89	47	38	47	16	.	.	34	.	
45	23SEP76	.	.	.	.	.	.	.	.	.	43	82	42	.	.	.	.	.	.	.	.	50	24	
46	24SEP76	.	.	.	.	.	.	.	.	.	.	.	.	64	100	60	52	53	20	.	.	.	.	
47	29SEP76	.	.	.	.	.	.	.	.	.	40	77	40	54	93	53	49	51	18	.	.	.	22	
48	01OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
49	02OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
50	06OCT76	.	.	.	.	.	.	.	.	.	.	.	.	49	95	52	48	51	19	.	.	.	.	
51	08OCT76	.	.	.	.	.	.	.	.	.	39	80	41	.	.	.	.	.	.	.	.	.	22	
52	09OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
53	11OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 D
54	12OCT76	.	.	.	.	.	.	.	.	68	.	.	.	60	102	47	48	53	18	.	.	42	.	
55	13OCT76	.	.	.	.	.	.	.	.	75	41	82	44	61	108	47	54	58	20	.	.	51	26	
56	14OCT76	.	.	.	.	.	.	.	.	69	.	.	.	65	104	40	51	56	20	.	.	42	.	
57	15OCT76	.	.	.	.	.	.	.	.	67	.	.	.	56	104	41	51	56	20	.	.	43	.	
58	16OCT76	.	.	.	.	.	.	.	.	66	.	.	.	59	99	44	47	55	19	.	.	41	.	
59	17OCT76	.	.	.	.	.	.	.	.	66	.	.	.	54	98	47	47	53	19	.	.	42	.	
60	18OCT76	.	.	.	.	.	.	.	.	65	.	.	.	55	100	51	48	52	17	.	.	34	.	
61	19OCT76	.	.	.	.	.	.	.	.	67	.	.	.	54	99	50	48	52	16	.	.	27	.	
62	20OCT76	.	.	.	.	.	.	.	.	.	74	25	38	.	.	.	.	.	.	.	.	.	25	
63	21OCT76	.	.	.	.	.	.	.	.	67	.	.	.	56	99	50	47	53	16	.	.	27	.	
64	22OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
65	23OCT76	.	.	61	26	41	.	.	.	63	.	.	.	51	100	57	52	53	13	.	.	24	.	
66	27OCT76	.	.	.	.	.	.	.	.	.	75	35	36	.	.	.	.	.	.	.	.	.	26	
67	28OCT76	.	.	.	.	.	.	.	.	60	.	.	.	52	92	.	47	52	11	.	.	19	.	
68	30OCT76	.	.	56	25	40	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
69	03NOV76	.	.	.	.	.	.	.	.	.	35	72	34	.	.	.	.	.	.	.	.	.	24	MBG WELL 2 D
70	04NOV76	.	.	.	.	.	.	.	.	55	.	.	.	56	76	61	41	50	11	.	.	18	.	
71	05NOV76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
72	06NOV76	.	.	56	24	38	.	.	.	.	.	.	.	53	73	73	41	53	10	.	.	16	.	
73	11NOV76	.	.	.	.	.	.	.	.	.	36	75	35	90	69	117	48	50	12	.	.	21	27	
74	12NOV76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
75	13NOV76	.	.	48	23	38	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
76	17NOV76	.	.	51	24	40	.	.	.	.	35	72	36	84	65	121	41	48	11	.	.	20	28	
77	19NOV76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
78	24NOV76	.	.	.	.	.	.	.	.	.	38	75	39	.	.	.	.	.	.	.	.	.	31	

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	BH	BR	B1	B2	B3	JN	JT	JI	MBG2	MND1	MND2	MND3	OW1A	OW2	OW3	OW4	OW5	OW6A	OW7	OW8A	WL37_1A	WL55_5	REMARKS
79	25NOV76	.	.	43	20	32	.	.	.	.	.	.	.	49	62	113	49	44	38	.	4	19	.	MBG WELL 2 ON
80	27NOV76	.	.	.	.	.	.	.	.	.	.	.	.	74	76	97	42	53	42	.	.	.	.	
81	29NOV76	.	.	.	.	.	.	.	.	69	.	.	.	81	81	86	55	52	40	.	4	23	.	
82	02DEC76	.	.	55	28	42	.	.	.	83	35	64	37	65	80	157	52	55	30	4	6	25	31	
83	10DEC76	.	.	56	27	40	.	.	.	74	37	74	37	102	60	178	53	62	22	5	7	42	37	
84	16DEC76	.	.	55	28	40	.	.	.	73	52	69	53	89	61	94	50	58	28	4	10	27	37	
85	22DEC76	.	.	54	32	38	.	.	.	66	37	72	34	91	58	124	50	57	27	.	.	40	.	
86	29DEC76	.	.	59	38	.	.	.	.	64	36	71	34	85	58	116	51	61	7	.	.	36	.	
87	08JAN77	.	.	57	36	37	.	.	.	56	35	74	34	75	47	102	46	56	23	6	12	36	42	
88	10JAN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 3 OFF
89	10JAN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 2 ON
90	15JAN77	.	.	59	35	35	.	.	.	54	.	55	.	83	49	106	50	57	19	.	.	27	.	
91	20JAN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 OFF
92	20JAN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 2 OFF
93	20JAN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 3 ON
94	22JAN77	.	.	58	33	35	.	.	.	51	.	50	.	72	45	.	51	55	5	.	.	40	.	
95	29JAN77	.	.	53	34	36	.	.	.	.	32	54	30	69	43	133	47	54	25	.	.	26	.	
96	12FEB77	.	.	48	35	37	.	.	.	.	30	54	29	71	47	132	51	45	25	6	17	30	46	
97	19FEB77	.	.	50	36	36	.	.	.	.	32	57	31	70	48	138	48	46	23	.	.	35	.	
98	05MAR77	.	.	51	33	35	.	.	.	.	32	52	31	67	60	117	44	45	20	5	17	36	47	
99	19MAR77	.	.	49	32	35	.	.	.	.	27	46	27	61	64	50	41	44	21	.	.	25	.	
100	09APR77	.	.	40	32	35	.	.	.	.	30	30	30	57	55	77	38	40	20	4	12	31	45	
101	16APR77	.	.	43	26	33	42	.	.	.	26	43	25	55	58	34	35	37	18	3	8	30	39	
102	16APR77	.	.	43	26	33	42	.	.	.	26	43	25	55	58	34	35	37	18	3	8	30	39	
103	18APR77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 ON
104	23APR77	.	.	37	26	30	36	.	.	52	.	38	24	53	38	21	34	36	17	.	.	29	.	
105	23APR77	.	.	37	26	30	36	.	.	62	.	38	24	53	38	21	34	36	17	.	.	29	.	
106	30APR77	.	.	.	.	.	37	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
107	07MAY77	.	.	.	.	.	38	.	.	47	.	40	25	56	50	66	34	44	22	4	9	24	39	
108	11MAY77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 OFF
109	14MAY77	.	.	37	32	32	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
110	16MAY77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 ON
111	16MAY77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 2 ON
112	21MAY77	.	.	33	29	30	36	.	.	48	44	36	23	64	55	43	36	48	.	.	.	24	.	
113	04JUN77	.	.	36	34	32	44	.	.	44	29	33	19	61	49	66	37	53	3	6	13	51	51	
114	18JUN77	.	.	38	32	30	48	.	.	39	35	37	17	59	42	74	36	57	.	.	.	54	.	
115	30JUN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 OFF
116	05JUL77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 ON
117	09JUL77	.	.	38	28	31	48	.	.	36	32	24	15	55	34	75	43	50	5	5	14	49	54	

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	BH	BR	B1	B2	B3	JN	JT	DI	MBG2	MND1	MND2	MND3	OW1A	OW2	OW3	OW4	OW5	OW6A	OW7	OW8A	WL37_1A	WL55_5	REMARKS
118	21JUL77	.	.	46	30	30	49	.	.	34	29	19	15	50	34	46	31	49	6	.	.	49	.	
119	06AUG77	.	.	43	27	28	35	.	.	29	30	14	12	41	29	41	40	52	11	5	11	43	49	
120	19AUG77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 OFF
121	23AUG77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 ON
122	24AUG77	.	.	52	27	26	39	.	.	26	24	14	12	38	28	27	40	54	11	.	.	40	.	
123	02SEP77	38	.	53	26	26	36	.	.	26	22	13	12	38	28	20	39	48	14	7	10	37	56	
124	20SEP77	.	.	54	24	25	31	.	.	20	18	12	11	36	24	38	27	47	15	.	.	29	.	
125	28SEP77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 3 OFF
126	28SEP77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 2 ON
127	10OCT77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 OFF
128	10OCT77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 2 OFF
129	10OCT77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 3 ON
130	15OCT77	.	.	45	25	26	37	.	.	22	21	10	10	42	24	63	37	39	12	6	9	30	46	
131	16OCT77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 ON
132	29OCT77	.	.	47	26	27	31	.	.	26	17	10	11	38	23	35	36	33	2	.	.	34	43	
133	16NOV77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 1 OFF
134	24NOV77	.	.	49	24	23	28	.	.	22	15	9	10	41	25	.	35	51	10	6	10	28	.	
135	25NOV77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 1 ON
136	23DEC77	.	.	50	25	22	30	.	.	.	14	10	11	41	21	100	24	33	12	.	.	26	.	
137	23DEC77	.	.	50	25	22	30	.	.	.	14	10	10	41	21	100	24	33	12	.	.	26	.	
138	06JAN78	.	.	49	32	24	30	.	.	29	12	9	9	42	22	81	33	26	2	7	8	32	43	
139	20JAN78	.	.	45	26	22	32	11	.	25	.	.	.	41	23	55	33	22	.	.	.	30	.	
140	26JAN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 OFF
141	04FEB78	.	.	29	22	19	24	.	.	.	12	6	.	39	21	58	34	20	9	5	7	25	38	
142	06FEB78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 1 OFF
143	16FEB78	.	.	29	24	22	26	17	.	.	17	6	7	39	22	44	18	18	.	.	.	28	37	
144	03MAR78	40	.	28	27	21	.	.	.	.	20	7	8	40	23	35	13	14	8	5	6	29	34	
145	21MAR78	.	.	23	22	21	27	.	.	17	20	10	10	36	20	134	16	15	7	.	.	24	.	
146	07APR78	.	.	19	20	22	28	.	.	34	23	9	11	38	22	44	15	12	6	6	1	29	34	
147	20APR78	.	.	17	18	17	28	.	.	36	20	12	8	33	32	20	14	8	2	.	.	25	.	
148	11MAY78	.	.	14	16	17	26	.	.	31	19	12	.	32	39	9	21	13	7	22	0	25	29	
149	25MAY78	.	.	13	17	17	25	14	.	42	17	8	8	32	40	7	24	14	4	.	.	27	.	
150	09JUN78	22	.	13	18	18	28	.	30	61	.	10	9	37	22	9	24	16	5	6	1	28	31	

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	BH	BR	B1	B2	B3	JN	JT	DI	MBG2	MND1	MND2	MND3	OW1A	OW2	OW3	CW4	OW5	OW6A	OW7	OW8A	WL37_1A	WL55_5	REMARKS
151	24JUN78	.	.	13	21	19	26	.	.	67	21	14	11	37	31	11	23	15	7	.	.	40	.	
152	26JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 3 OFF
153	26JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 1 FOR DRINKING ON
154	27JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 1 OFF
155	28JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 ON
156	28JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 1 FOR DRINKING ON
157	29JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 OFF
158	30JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 ON
159	06JUL78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MND1 OFF, MND2 ON FOR PLANT
160	08JUL78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 OFF
161	10JUL78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 ON
162	14JUL78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 2 OFF
163	14JUL78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 3 ON
164	19JUL78	24	.	19	21	25	18	17	25	37	20	.	14	38	39	65	24	21	3	.	.	28	.	
165	19AUG78	26	.	26	20	22	20	18	20	22	20	12	.	35	20	66	25	17	2	.	.	32	.	
166	07SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 1 ON
167	15SEP78	26	.	23	18	18	22	16	15	18	17	9	5	34	14	61	37	22	3	10	2	32	33	
168	15SEP78	27	.	24	20	19	22	16	15	19	16	8	5	34	14	61	37	22	3	10	2	34	42	
169	15SEP78	27	.	24	20	19	22	16	15	19	16	8	5	34	14	61	37	22	3	10	2	34	42	
170	26SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 3 OFF
171	26SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 3 ON
172	27SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 1 OFF
173	28SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 OFF
174	28SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 1 ON
175	29SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 1 OFF
176	06OCT78	.	.	.	.	.	.	.	.	12	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 ON
177	06OCT78	.	.	.	.	.	.	.	.	12	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 1 ON
178	17OCT78	23	.	24	20	20	24	15	.	19	12	5	6	36	20	61	29	10	2	.	.	33	.	
179	17NOV78	24	.	27	18	19	22	13	.	17	10	.	7	31	15	32	69	17	6	.	.	27	.	
180	06DEC78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 OFF
181	08DEC78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 ON
182	11DEC78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 OFF
183	12DEC78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 ON

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	BH	BR	B1	B2	B3	JN	JT	DI	MBG2	MND1	MND2	MND3	OW1A	OW2	OW3	OW4	OW5	OW6A	OW7	OW8A	WL37_1A	WL55_5	REMARKS
184	13DEC78	24	.	23	19	15	22	13	.	11	10	6	.	26	14	26	60	10	4	.	.	26	.	
185	18JAN79	25	.	19	15	14	16	11	.	18	8	.	5	22	13	78	67	7	4	.	.	23	.	
186	16FEB79	.	.	20	14	14	14	.	.	15	7	.	5	21	13	56	74	9	4	.	.	26	.	
187	14MAR79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 1 OFF
188	16MAR79	23	.	21	14	12	8	12	.	25	7	.	4	.	.	127	35	8	4	.	.	23	70	
189	20MAR79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 1 ON
190	21MAR79	.	.	.	.	.	.	.	.	24	.	.	.	18	12	110	.	.	.	.	.	.	.	
191	21APR79	23	.	24	12	12	11	6	6	21	6	.	4	18	11	87	24	8	1	.	.	.	.	
192	28APR79	.	21	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
193	15MAY79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 3 OFF
194	18MAY79	23	22	19	12	12	10	8	.	15	5	.	4	16	10	.	25	7	1	.	.	.	.	
195	01JUN79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 1 OFF
196	12JUN79	22	24	26	11	12	11	6	5	11	4	.	4	17	9	.	24	8	1	.	.	.	.	
197	17JUN79	23	.	27	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
198	23JUN79	23	21	26	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
199	30JUN79	22	22	25	.	.	.	.	.	.	.	.	.	.	.	59	.	.	.	.	.	.	.	MBG WELL 2 OFF
200	01JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 1 ON
201	06JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	WELLS BH&BR ON CONTINUOUSLY
202	07JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	WELL B1 INCREASED IN USE.
203	08JUL79	14	20	18	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
204	17JUL79	13	22	15	12	11	13	7	6	13	7	4	.	16	9	.	16	7	2	.	.	.	.	MOUND WELLS 2 & 3 BOTH USED
205	17JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 ON
206	24JUL79	13	19	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
207	28JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	9	.	.	.	.	.	.	
208	28JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	13	.	.	.	.	.	.	
209	29JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	.	.	.	.	.	
210	29JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	
211	30JUL79	14	19	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
212	31JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 1 OFF
213	05AUG79	15	22	18	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
214	06AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	54	.	.	.	.	.	.	
215	06AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	66	.	.	.	.	.	.	
216	06AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	11	.	.	.	.	.	.	

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	BH	BR	B1	B2	B3	JN	JT	DI	MBG2	MND1	MND2	MND3	OW1A	OW2	OW3	OW4	OW5	OW6A	OW7	OW8A	WL37_1A	WL55_5	REMARKS
217	07AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	52	9	.	.	.	.	.	
218	07AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	52	6	.	.	.	.	.	
219	07AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	52	5	.	.	.	.	.	
220	07AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	52	9	.	.	.	.	.	
221	08AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	WELLS BH&BR ON DOMESTIC USE
222	13AUG79	21	22	22	12	11	13	8	.	14	5	4	4	17	10	.	23	6	3	.	.	.	.	
223	17AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 OFF
224	20AUG79	22	23	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
225	26AUG79	22	23	14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
226	31AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 ON
227	04SEP79	21	23	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
228	06SEP79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	WELLS BH&BR ON CONTINUOUSLY
229	10SEP79	14	22	18	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
230	17SEP79	14	20	19	11	11	11	7	.	19	.	5	.	16	10	68	36	6	3	.	.	.	.	
231	24SEP79	13	23	20	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
232	01OCT79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 OFF
233	01OCT79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 1 ON
234	05OCT79	15	20	22	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
235	09OCT79	11	19	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
236	15OCT79	10	18	14	10	10	11	6	.	16	4	.	2	12	7	.	21	4	11	.	.	.	.	MBG WELL 2 ON
237	24OCT79	13	20	14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
238	30OCT79	15	20	19	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
239	01NOV79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	WELLS BH&BR ON DOMESTIC USE
240	05NOV79	20	20	21	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
241	11NOV79	19	20	22	11	12	13	8	.	14	7	.	5	17	11	.	32	8	4	.	.	25	.	
242	16NOV79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 OFF
243	18NOV79	19	23	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
244	25NOV79	18	21	20	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
245	30NOV79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 ON
246	01DEC79	14	21	14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	WELLS BH&BR ON CONTINUOUSLY
247	01DEC79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 1 OFF
248	12DEC79	17	23	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
249	15DEC79	.	.	19	11	10	.	.	.	19	4	.	4	17	11	.	58	8	3	.	.	30	.	

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

DAS	DATE	BH	BR	B1	B2	B3	JN	JT	DI	MBG2	MND1	MND2	MND3	OW1A	CW2	OW3	OW4	OW5	OW6A	OW7	OW8A	WL37_1A	WL55_5	REMARKS
250	18DEC79	14	21	.	.	.	14	9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
251	24DEC79	11	20	21	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
252	01JAN80	12	19	22	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
253	07JAN80	12	19	23	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
254	14JAN80	12	17	20	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
255	15JAN80	12	17	20	10	10	12	5	.	16	4	.	4	17	10	.	46	8	3	.	.	21	.	
256	31JAN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	WELLS BH&BR ON DOMESTIC USE
257	04FEB80	18	17	20	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
258	11FEB80	21	16	21	11	11	9	.	.	13	5	.	4	16	10	.	32	8	3	.	.	16	.	
259	20FEB80	20	15	20	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
260	25FEB80	19	15	20	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
261	01MAR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	WELLS BH&BR ON CONTINUOUSLY
262	01MAR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 1 ON
263	07MAR80	17	14	21	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
264	11MAR80	14	15	24	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
265	18MAR80	13	14	25	12	10	8	5	.	12	4	.	4	17	8	20	50	8	3	.	1	17	37	
266	23MAR80	13	15	22	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
267	31MAR80	12	14	21	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND WELL 1 OFF
268	01APR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 OFF
269	02APR80	12	16	18	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	16	.	.	.	
270	08APR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	WELL B1 BACK TO NORMAL USE
271	14APR80	12	15	12	12	12	10	5	7	19	.	.	4	14	8	.	25	9	3	.	.	20	.	
272	15APR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG WELL 2 ON
273	23APR80	12	16	22	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
274	30APR80	16	17	22	13	12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
275	01MAY80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	WELLS BH&BR ON DOMESTIC USE
276	06MAY80	18	16	21	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
277	13MAY80	18	18	20	12	13	9	5	.	16	.	.	.	15	9	.	26	9	4	.	.	.	.	
278	23MAY80	19	19	14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
279	29MAY80	18	19	18	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
280	01JUN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	WELLS BH&BR ON CONTINUOUSLY
281	04JUN80	14	18	10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
282	11JUN80	13	17	12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

DRS.	DATE	BH	BR	B1	B2	B3	JN	JT	DI	MBG2	MND1	MND2	MND3	OW1A	OW2	OW3	OW4	CW5	OW6A	OW7	OW8A	WL37-1A	WL55-5	REMARKS
283	13JUN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
284	16JUN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MND3 OFF & MND1 ON PLANT USE
285	18JUN80	12	17	16	12	11	9	6	.	7	7	.	.	15	9	.	45	10	4	.	.	19	.	MBG2 OFF FOR 2 WEEKS
286	25JUN80	11	17	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
287	01JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
288	01JUL80	.	.	.	.	.	.	.	.	.	7	.	.	.	.	.	.	.	.	.	.	.	.	B2 OFF FOR WATER QUALITY
289	02JUL80	12	16	14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
290	08JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
291	11JUL80	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.	.	.	.	.	MBG2 OFF 4 DAYS FROM STORM
292	11JUL80	13	15	12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
293	17JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
294	18JUL80	13	16	10	12	11	10	8	.	.	6	.	.	15	10	.	21	9	5	.	.	20	.	MBG2 OFF 4 DAYS FROM STORM
295	21JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
296	23JUL80	12	15	12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG2 OFF 1 DAY FROM STORM
297	30JUL80	12	15	13	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.	.	.	.	.	
298	02AUG80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
299	04AUG80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG2 OFF 2 DAYS FROM STORM
300	06AUG80	11	15	12	.	.	.	.	.	.	7	.	.	.	.	.	.	.	.	.	.	.	.	WELLS BH&BR ON DOMESTIC USE
301	11AUG80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MND1 OFF & MND3 ON
302	14AUG80	12	12	5	.	.	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.	.	.	MBG2 OFF 1 DAY FROM STORM
303	20AUG80	11	13	10	11	10	9	7	.	14	.	.	5	14	9	.	20	7	3	.	.	19	.	
304	28AUG80	14	13	12	.	.	.	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.	.	
305	03SEP80	13	13	10	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.	.	.	.	.	MND 1,2,&3 BEING TESTED
306	09SEP80	13	15	13	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.	.	.	.	.	BR WATERING GRASS A LOT
307	12SEP80	13	15	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
308	17SEP80	14	14	15	11	10	8	7	.	10	6	.	.	14	8	.	17	8	2	.	.	20	22	RAINFALL LOW LAST 4 WEEKS
309	25SEP80	13	15	21	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
310	02OCT80	13	15	19	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
311	08OCT80	14	15	20	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
312	16OCT80	15	15	22	11	9	7	6	.	8	5	.	.	14	7	.	52	7	2	.	.	10	.	
313	22OCT80	15	16	23	.	.	.	.	.	.	5	.	.	.	.	.	.	.	.	.	.	.	.	
314	23OCT80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
315	31OCT80	15	16	23	.	.	.	.	.	.	5	.	.	.	.	.	.	.	.	.	.	.	.	MBG 2 TURNED OFF FOR 2 WEEKS

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	BH	BR	B1	B2	B3	JN	JT	DI	MBG2	MND1	MND2	MND3	OW1A	OW2	OW3	OW4	OW5	OW6A	OW7	OW8A	WL37_1A	WL55_5	REMARKS
316	06NOV80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG 2 BACK ON
317	07NOV80	14	15	16	.	.	.	.	.	.	5	.	.	.	.	.	.	.	.	.	.	.	.	
318	14NOV80	13	15	21	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
319	20NOV80	.	15	20	10	9	6	6	.	8	5	.	.	13	7	.	16	7	2	.	.	12	.	
320	26NOV80	15	14	22	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
321	02DEC80	15	14	18	.	.	.	.	.	.	5	.	.	.	.	.	.	.	.	.	.	.	.	
322	03DEC80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG 2 TURNED OFF FOR 2 WEEKS
323	10DEC80	14	18	14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
324	17DEC80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MBG 2 BACK ON
325	19DEC80	14	17	10	10	9	8	5	.	8	5	.	.	11	6	.	5	6	1	.	.	.	.	
326	09JAN81	16	.	18	.	.	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.	.	.	
327	15JAN81	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	MOUND 3 ON, 1 OFF FOR PLANT
328	19JAN81	17	17	22	10	9	9	.	.	8	5	.	.	11	6	.	6	6	.	.	.	.	.	MOUND 1 DOWN FOR REPAIRS
329	22JAN81	16	16	23	.	.	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.	.	.	
330	30JAN81	17	.	17	.	.	.	.	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.	
331	05FEB81	16	.	4	.	.	.	.	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.	

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	DP_L_1	DP_L_2	DP_L_3	DP_L_4	DP_L_5	DP_L_6	JW	KK	MBG_DRNK	MBG_OBS	MBG_3	MBG_8	MBG_9	MBG_10	OW1	OW6	OW8	WL_1	WL_2	WL_3	WL_4	WL_5	WL_6
1	25DEC75	.	.	.	.	.	.	44	.	7	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2	15JAN76	.	.	.	.	.	.	46	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3	17JAN76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	54	.	2	40	49
4	24JAN76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	54	.	3	34	51
5	14FEB76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	52	.	2	34	54
6	21FEB76	.	.	.	.	.	.	44	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.
7	28FEB76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
8	06MAR76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
9	10MAR76	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
10	13MAR76	.	.	.	.	.	.	43	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.
11	20MAR76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
12	27MAR76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
13	01JUN76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
14	11JUN76	4	9	16	4	3	2	.	18	.	21	.	4	19	10	.	.	.	79	80	36	.	.	.
15	18JUN76	.	11	16	4	3	2	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
16	19JUN76	.	.	.	.	.	.	.	.	.	18	.	4	22	9	.	.	.	.	.	.	.	.	.
17	25JUN76	4	10	16	4	3	2	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
18	26JUN76	.	.	.	.	.	.	.	.	.	20	.	4	23	9	.	.	.	.	.	.	.	.	.
19	03JUL76	4	8	8	4	2	1	42	2	.	17	.	4	22	14	.	.	.	.	.	.	.	.	.
20	07JUL76	3	9	11	4	2	1	42	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
21	10JUL76	.	.	.	.	.	.	.	.	.	17	.	3	21	8	.	.	.	.	.	.	.	.	.
22	16JUL76	4	8	12	3	1	0	40	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
23	17JUL76	.	.	.	.	.	.	.	.	.	16	.	2	20	8	.	.	.	.	.	.	.	.	.
24	22JUL76	.	.	.	.	.	.	46	.	.	12	.	2	16	6	.	.	.	.	.	.	.	.	.
25	23JUL76	3	8	6	2	2	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
26	29JUL76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.
27	30JUL76	.	5	.	0	0	0	.	0	.	.	.	.	.	.	.	0	.	.	.	.	.	.	.
28	31JUL76	.	.	.	.	.	.	48	.	.	13	.	0	16	6	.	.	.	.	.	.	.	.	.
29	13AUG76	.	.	.	.	.	.	43	.	6	.	.	.	.	.	1	2	.	.	.	.	.	.	.
30	20AUG76	3	8	13	5	2	2	47	3	.	18	.	3	24	9	2	7	.	.	.	.	.	.	.
31	20AUG76	3	8	13	5	2	2	47	3	.	18	.	3	24	9	2	7	.	.	.	.	.	.	.
32	27AUG76	4	10	15	7	4	.	47	4	.	22	.	5	5	10	3	6	.	.	.	.	.	.	.

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	DP_L_1	DP_L_2	DP_L_3	DP_L_4	DP_L_5	DP_L_6	JW	KK	MBG_DRNK	MBG_OBS	MBG_3	MBG_8	MBG_9	MBG_10	OW1	OW6	OW8	WL_1	WL_2	WL_3	WL_4	WL_5	WL_6
33	03SEP76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
34	04SEP76	5	10	.	.	4	4	44	4	.	20	.	4	.	8	1	5	.	.	.	.	.	.	.
35	09SEP76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
36	10SEP76	5	11	15	6	4	3	45	4	.	20	.	4	23	10	.	.	.	.	.	.	.	.	.
37	11SEP76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
38	12SEP76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	9	.	.	.	.	.	.	.
39	13SEP76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	10	.	.	.	.	.	.	.
40	13SEP76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	9	.	.	.	.	.	.	.
41	15SEP76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	12	.	.	.	.	.	.	.
42	16SEP76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	11	.	.	.	.	.	.	.
43	17SEP76	8	14	12	4	8	3	.	.	.	.	.	.	.	.	.	10	.	.	.	.	.	.	.
44	18SEP76	.	.	.	.	.	.	47	4	.	15	.	4	21	7	.	8	.	.	.	.	.	.	.
45	23SEP76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
46	24SEP76	4	12	11	6	5	6	.	4	.	.	.	5	26	10	2	10	5	.	.	.	.	.	.
47	29SEP76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	10	.	.	.	.	.	.	.
48	01OCT76	4	13	10	6	9	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
49	02OCT76	.	.	.	.	.	.	.	5	.	19	.	5	.	11	.	.	.	.	.	.	.	.	.
50	06OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	9	4	.	.	.	.	.	.
51	08OCT76	6	9	8	5	3	3	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
52	09OCT76	.	.	.	.	.	.	.	.	.	24	.	5	.	8	.	.	.	.	.	.	.	.	.
53	11OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
54	12OCT76	.	.	.	.	.	.	43	.	.	.	.	.	.	.	2	10	4	.	.	.	.	.	.
55	13OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	11	5	.	.	.	.	.	.
56	14OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	10	5	.	.	.	.	.	.
57	15OCT76	5	9	13	6	4	4	.	4	.	.	.	.	.	.	2	10	4	.	.	.	.	.	.
58	16OCT76	.	.	.	.	.	.	.	.	.	19	.	4	.	9	2	10	5	.	.	.	.	.	.
59	17OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	10	5	.	.	.	.	.	.
60	18OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	9	5	.	.	.	.	.	.
61	19OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	11	5	.	.	.	.	.	.
62	20OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
63	21OCT76	.	.	.	.	.	.	37	.	.	.	.	.	.	.	2	9	5	.	.	.	.	.	.
64	22OCT76	5	8	.	5	4	3	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	DP-L-1	DP-L-2	DP-L-3	DP-L-4	DP-L-5	DP-L-6	JW	KK	MBG-DRNK	MBG-OBS	MBG-3	MBG-8	MBG-9	MBG-10	OW1	OW6	OW8	WL-1	WL-2	WL-3	WL-4	WL-5	WL-6
65	23OCT76	.	.	.	.	.	.	.	.	.	18	.	4	18	9	2	9	4	.	.	.	.	.	.
66	27OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
67	28OCT76	5	9	5	6	3	5	36	2	.	16	16	6	24	9	2	9	5	.	.	.	.	.	.
68	30OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
69	03NOV76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
70	04NOV76	.	.	.	.	.	.	35	.	.	.	.	.	.	.	4	10	4	.	.	.	.	.	.
71	05NOV76	5	13	11	7	4	3	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
72	06NOV76	.	.	.	.	.	.	36	.	.	18	.	4	22	9	4	9	4	.	.	.	.	.	.
73	11NOV76	.	.	.	.	.	.	38	.	.	.	.	.	.	.	3	9	4	.	.	.	.	.	.
74	12NOV76	10	12	12	7	4	4	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
75	13NOV76	.	.	.	.	.	.	.	.	.	20	.	10	.	10	.	.	.	.	.	.	.	.	.
76	17NOV76	.	.	.	.	.	.	37	.	.	.	.	.	.	.	6	13	5	.	.	.	.	.	.
77	19NOV76	11	11	8	8	5	4	.	5	.	19	.	4	.	9	.	.	.	.	.	.	.	.	.
78	24NOV76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
79	25NOV76	4	8	7	6	4	3	33	6	.	13	20	4	.	10	2	24	4	.	.	.	.	.	.
80	27NOV76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	21	.	.	.	.	.	.	.
81	29NOV76	.	.	.	.	.	.	40	.	.	.	.	.	.	.	3	28	4	.	.	.	.	.	.
82	02DEC76	8	9	13	6	3	3	37	3	.	19	.	4	.	9	2	24	5	.	.	.	.	.	.
83	10DEC76	4	9	13	5	4	3	34	.	.	18	18	4	.	9	2	22	3	.	.	.	.	.	.
84	16DEC76	5	9	14	5	4	2	32	2	.	12	19	5	.	10	2	20	2	.	.	.	.	.	.
85	22DEC76	.	.	.	.	.	.	.	.	.	.	19	4	.	8	.	.	.	.	.	.	.	.	.
86	29DEC76	.	.	.	.	.	.	.	.	.	.	16	4	.	9	.	.	.	.	.	.	.	.	.
87	08JAN77	.	9	5	.	.	.	30	.	.	.	14	4	.	9	2	14	3	.	.	.	.	.	.
88	10JAN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
89	10JAN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
90	15JAN77	.	.	.	.	.	.	.	.	.	.	13	.	.	.	.	.	.	.	.	.	.	.	.
91	20JAN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
92	20JAN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
93	20JAN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
94	22JAN77	.	.	.	.	.	.	.	.	.	.	14	.	.	.	.	.	.	.	.	.	.	.	.
95	29JAN77	.	.	.	.	.	.	27	.	.	.	.	4	.	9	.	.	.	.	.	.	.	.	.
96	12FEB77	.	.	.	.	.	.	27	.	.	.	14	4	.	.	3	20	6	.	.	.	.	.	.

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	DP_L_1	DP_L_2	DP_L_3	DP_L_4	DP_L_5	DP_L_6	JW	KK	MBG_DRNK	MBG_OBS	MBG_3	MBG_8	MBG_9	MBG_10	OW1	OW6	OW8	WL_1	WL_2	WL_3	WL_4	WL_5	WL_6
97	19FEB77	.	.	.	.	.	.	24	.	.	.	14	3	.	.	.	.	.	.	.	.	.	.	.
98	05MAR77	.	.	.	.	.	.	23	.	.	.	13	4	.	9	2	25	3	.	.	.	.	.	.
99	19MAR77	.	.	.	.	.	.	23	.	.	.	13	3	.	7	.	.	.	.	.	.	.	.	.
100	09APR77	.	.	.	.	.	.	19	.	.	.	.	.	.	.	1	16	1	.	.	.	.	.	.
101	16APR77	.	2	7	.	.	.	21	.	.	.	.	.	.	.	0	25	1	.	.	.	.	.	.
102	16APR77	.	2	7	.	.	.	19	.	.	.	.	.	.	.	0	25	1	.	.	.	.	.	.
103	18APR77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
104	23APR77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.
105	23APR77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.
106	30APR77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
107	07MAY77	.	6	8	.	.	.	20	.	.	.	10	1	.	5	0	13	1	.	.	.	.	.	.
108	11MAY77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
109	14MAY77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
110	16MAY77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
111	16MAY77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
112	21MAY77	.	.	.	.	.	.	.	.	.	.	12	1	.	6	.	3	.	.	.	.	.	.	.
113	04JUN77	.	.	.	.	.	.	.	.	.	.	14	.	.	.	1	12	1	.	.	.	.	.	.
114	18JUN77	.	.	.	.	.	.	.	.	.	.	17	.	.	.	.	4	.	.	.	.	.	.	.
115	30JUN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
116	05JUL77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
117	09JUL77	.	6	11	.	.	.	.	.	.	.	13	1	.	5	0	9	1	.	.	.	.	.	.
118	21JUL77	.	.	.	.	.	.	.	.	.	.	14	.	.	.	.	.	.	.	.	.	.	.	.
119	06AUG77	.	7	7	.	.	.	.	.	.	.	14	1	.	7	1	8	1	.	.	.	.	.	.
120	19AUG77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
121	23AUG77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
122	24AUG77	.	.	.	.	.	.	.	.	6	.	16	1	.	5	.	.	.	.	.	.	.	.	.
123	02SEP77	.	6	12	.	.	.	.	1	.	.	20	2	.	5	1	6	1	.	.	.	.	.	.
124	20SEP77	.	.	.	.	.	.	.	.	.	.	17	6	.	5	.	.	.	.	.	.	.	.	.
125	28SEP77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
126	28SEP77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
127	10OCT77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
128	10OCT77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	DP-L-1	DP-L-2	DP-L-3	DP-L-4	DP-L-5	DP-L-6	JW	KK	MBG-DRNK	MBG-OBS	MBG-3	MBG-8	MBG-9	MBG-10	OW1	OW6	OW8	WL-1	WL-2	WL-3	WL-4	WL-5	WL-6
129	10OCT77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
130	15OCT77	.	11	7	.	.	.	.	1	.	.	16	2	.	5	2	4	2	.	.	.	.	.	.
131	16OCT77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
132	29OCT77	.	.	.	.	.	.	.	.	3	.	14	5	.	1	.	.	.	.	.	.	.	.	.
133	16NOV77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
134	24NOV77	.	8	2	.	.	.	.	1	2	.	12	1	.	6	1	4	1	.	.	.	.	.	.
135	25NOV77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
136	23DEC77	.	.	.	.	.	.	.	.	.	.	13	2	.	6	.	.	.	.	.	.	.	.	.
137	23DEC77	.	.	.	.	.	.	.	.	.	.	13	2	.	6	.	.	.	.	.	.	.	.	.
138	06JAN78	.	5	11	.	.	.	.	0	.	.	13	2	.	5	1	4	8	.	.	.	.	.	.
139	20JAN78	.	.	.	.	.	.	.	.	.	.	16	2	.	6	.	10	.	.	.	.	.	.	.
140	26JAN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
141	04FEB78	.	4	10	.	.	.	.	.	.	.	16	1	.	4	0	3	0	.	.	.	.	.	.
142	06FEB78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
143	16FEB78	.	.	.	.	.	.	.	.	5	.	18	2	.	6	1	8	.	.	.	.	.	.	.
144	03MAR78	.	4	11	.	.	.	.	.	.	.	20	1	.	5	1	3	0	.	.	.	.	.	.
145	21MAR78	.	.	.	.	.	.	.	.	6	.	16	6	.	8	.	.	.	.	.	.	.	.	.
146	07APR78	.	5	10	.	.	.	.	2	.	.	27	2	.	5	3	6	2	.	.	.	.	.	.
147	20APR78	.	.	.	.	.	.	.	.	.	.	32	.	.	3	.	.	.	.	.	.	.	.	.
148	11MAY78	.	3	11	.	.	.	.	0	.	.	26	.	8	5	3	5	3	.	.	.	.	.	.
149	25MAY78	.	.	.	.	.	.	.	.	.	.	.	.	6	1	.	.	.	.	.	.	.	.	.
150	09JUN78	.	5	10	.	.	.	.	2	.	.	24	.	.	2	0	2	1	.	.	.	.	.	.
151	24JUN78	.	.	.	.	.	.	.	.	.	.	.	.	7	4	.	.	.	.	.	.	.	.	.
152	26JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
153	26JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
154	27JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
155	28JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
156	28JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
157	29JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
158	30JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
159	06JUL78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
160	08JUL78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	DP_L_1	DP_L_2	DP_L_3	DP_L_4	DP_L_5	DP_L_6	JW	KK	MBG_DRNK	MBG_OBS	MBG_3	MBG_8	MBG_9	MBG_10	OW1	OW6	OW8	WL_1	WL_2	WL_3	WL_4	WL_5	WL_6
161	10JUL78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
162	14JUL78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
163	14JUL78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
164	19JUL78	.	.	.	.	.	.	.	.	.	.	27	.	.	.	.	.	.	.	.	.	.	.	.
165	19AUG78	.	.	.	.	.	.	.	.	.	.	32	5	.	2	.	.	.	.	.	.	.	.	.
166	07SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
167	15SEP78	.	.	.	.	.	.	.	.	.	.	23	1	.	4	.	.	.	.	.	.	.	.	.
168	15SEP78	.	.	.	.	.	.	.	.	.	.	20	1	.	4	.	.	.	.	.	.	.	.	.
169	15SEP78	.	.	.	.	.	.	.	.	.	.	20	1	.	4	.	.	.	.	.	.	.	.	.
170	26SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
171	26SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
172	27SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
173	28SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
174	28SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
175	29SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
176	06OCT78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
177	06OCT78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
178	17OCT78	.	.	.	.	.	.	.	.	.	.	17	.	.	.	.	.	.	.	.	.	.	.	.
179	17NOV78	.	.	.	.	.	.	.	.	.	.	10	3	.	.	.	.	.	.	.	.	.	.	.
180	06DEC78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
181	08DEC78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
182	11DEC78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
183	12DEC78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
184	13DEC78	.	.	.	.	.	.	.	.	.	.	9	.	.	.	.	.	.	.	.	.	.	.	.
185	18JAN79	.	.	.	.	.	.	.	.	.	.	7	.	.	.	.	.	.	.	.	.	.	.	.
186	16FEB79	.	.	.	.	.	.	.	.	1	.	9	2	4	.	.	.	.	.	.	.	.	.	.
187	14MAR79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
188	16MAR79	.	.	.	.	.	.	.	.	.	.	10	.	.	.	.	.	.	.	.	.	.	.	.
189	20MAR79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
190	21MAR79	.	.	.	.	.	.	.	.	2	.	12	.	.	.	.	.	.	.	.	.	.	.	.
191	21APR79	.	.	.	.	.	.	.	.	.	.	13	1	.	4	.	.	.	.	.	.	.	.	.
192	28APR79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	DP_L_1	DP_L_2	DP_L_3	DP_L_4	DP_L_5	DP_L_6	JW	KK	MBG_DRNK	MBG_OBS	MBG_3	MBG_8	MBG_9	MBG_10	OW1	OW6	OW8	WL_1	WL_2	WL_3	WL_4	WL_5	WL_6
193	15MAY79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
194	18MAY79	.	.	.	.	.	.	.	.	1	.	20	1	.	.	.	.	.	.	.	.	.	.	.
195	01JUN79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
196	12JUN79	.	.	.	.	.	.	.	.	2	.	14	.	.	.	.	.	.	.	.	.	.	.	.
197	17JUN79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
198	23JUN79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
199	30JUN79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
200	01JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
201	06JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
202	07JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
203	08JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
204	17JUL79	.	.	.	.	.	.	.	.	2	.	14	.	.	.	.	.	.	.	.	.	.	.	.
205	17JUL79	.	.	.	.	.	.	.	.	2	.	14	.	.	.	.	.	.	.	.	.	.	.	.
206	24JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
207	28JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
208	28JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
209	29JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
210	29JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
211	30JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
212	31JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
213	05AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
214	06AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
215	06AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
216	06AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
217	07AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
218	07AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
219	07AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
220	07AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
221	08AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
222	13AUG79	.	.	.	.	.	.	.	.	.	.	12	.	.	.	.	.	.	.	.	.	.	.	.
223	17AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
224	20AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	DP_L_1	DP_L_2	DP_L_3	DP_L_4	DP_L_5	DP_L_6	JW	KK	MBG_DRNK	MBG_OBS	MBG_3	MBG_8	MBG_9	MBG_10	OW1	OW6	OW8	WL_1	WL_2	WL_3	WL_4	WL_5	WL_6
225	26AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
226	31AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
227	04SEP79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
228	06SEP79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
229	10SEP79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
230	17SEP79	.	.	.	.	.	.	.	.	.	.	10	.	.	.	.	.	.	.	.	.	.	.	.
231	24SEP79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
232	01OCT79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
233	01OCT79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
234	05OCT79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
235	09OCT79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
236	15OCT79	.	.	.	.	.	.	.	.	.	.	10	.	.	.	.	.	.	.	.	.	.	.	.
237	24OCT79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
238	30OCT79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
239	01NOV79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
240	05NOV79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
241	11NOV79	.	.	.	.	.	.	.	.	.	.	14	3	.	.	.	.	.	.	.	.	.	.	.
242	16NOV79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
243	18NOV79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
244	25NOV79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
245	30NOV79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
246	01DEC79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
247	01DEC79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
248	12DEC79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
249	15DEC79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
250	18DEC79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
251	24DEC79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
252	01JAN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
253	07JAN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
254	14JAN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
255	15JAN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
256	31JAN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	DP_L_1	DP_L_2	DP_L_3	DP_L_4	DP_L_5	DP_L_6	JW	KK	MBG_DRNK	MBG_OBS	MBG_3	MBG_8	MBG_9	MBG_10	OW1	OW6	OW8	WL_1	WL_2	WL_3	WL_4	WL_5	WL_6
257	04FEB80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
258	11FEB80	.	.	.	.	.	.	.	.	2	.	.	2	.	4	.	.	.	.	.	.	.	.	.
259	20FEB80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
260	25FEB80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
261	01MAR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
262	01MAR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
263	07MAR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
264	11MAR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
265	18MAR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
266	23MAR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
267	31MAR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
268	01APR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
269	02APR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
270	08APR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
271	14APR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
272	15APR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
273	23APR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
274	30APR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
275	01MAY80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
276	06MAY80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
277	13MAY80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
278	23MAY80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
279	29MAY80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
280	01JUN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
281	04JUN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
282	11JUN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
283	13JUN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
284	16JUN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
285	18JUN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
286	25JUN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
287	01JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
288	01JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	DP_L_1	DP_L_2	DP_L_3	DP_L_4	DP_L_5	DP_L_6	JW	KK	MBG_DRNK	MBG_OBS	MBG_3	MBG_8	MBG_9	MBG_10	OW1	OW6	OW8	WL_1	WL_2	WL_3	WL_4	WL_5	WL_6
289	02JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
290	08JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
291	11JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
292	11JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
293	17JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
294	18JUL80	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.
295	21JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
296	23JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
297	30JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
298	02AUG80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
299	04AUG80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
300	06AUG80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
301	11AUG80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
302	14AUG80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
303	20AUG80	.	.	.	.	.	.	.	.	.	.	15	.	.	.	.	.	.	.	.	.	.	.	.
304	28AUG80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
305	03SEP80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
306	09SEP80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
307	12SEP80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
308	17SEP80	.	.	.	.	.	.	.	.	.	.	12	1	.	.	.	.	.	.	.	.	.	.	.
309	25SEP80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
310	02OCT80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
311	08OCT80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
312	16OCT80	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
313	22OCT80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
314	23OCT80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
315	31OCT80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
316	06NOV80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
317	07NOV80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
318	14NOV80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
319	20NOV80	.	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.	.	.	.	.
320	26NOV80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	DP_L_1	DP_L_2	DP_L_3	DP_L_4	DP_L_5	DP_L_6	JW	KK	MBG_DRNK	MBG_OBS	MBG_3	MBG_8	MBG_9	MBG_10	OW1	OW6	OW8	WL_1	WL_2	WL_3	WL_4	WL_5	WL_6
321	02DEC80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
322	03DEC80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
323	10DEC80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
324	17DEC80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
325	19DEC80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
326	09JAN81	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
327	15JAN81	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
328	19JAN81	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
329	22JAN81	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
330	30JAN81	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
331	05FEB81	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	WL 19-4	WL 20-1	WL 27-2	WL 28-1	WL 33-1	WL 34-1	WL 34-2	WL 35-1	WL 35-2	WL 36-1	WL 36-2	WL 37-1	WL 42-1	WL 42-2	WL 43-1	WL 43-2	WL 45-3	WL 46-1	WL 46-2	WL 52-1	WL 55-1	WL 55-2	WL 55-3	WL 55-4	WL 63-1
1	25DEC75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2	15JAN76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3	17JAN76	.	72	.	44	.	.	.	.	.	175	54	.	133	.	.	.	.	.	.	.	.	.	.	.	.
4	24JAN76	.	61	.	42	.	.	.	.	.	161	54	.	.	.	140	.	.	.	.	.	.	.	.	.	.
5	14FEB76	.	65	.	32	.	.	.	.	.	177	55	.	121	.	.	.	.	.	.	.	.	.	.	.	.
6	21FEB76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
7	28FEB76	.	.	.	.	.	.	.	.	.	190	.	.	119	.	.	.	.	.	.	.	.	.	.	.	.
8	06MAR76	.	.	.	.	.	.	.	.	.	187	.	.	118	.	.	.	31	.	8	.	54	32	32	127	.
9	10MAR76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
10	13MAR76	.	63	.	37	.	.	.	.	.	192	31	.	121	.	.	.	31	52	7	.	63	28	31	136	32
11	20MAR76	.	.	.	.	.	.	.	.	.	199	.	.	120	.	.	.	28	.	7	.	63	30	28	138	.
12	27MAR76	.	.	.	.	.	.	.	.	.	198	.	.	118	.	.	.	30	.	8	.	70	42	28	138	.
13	01JUN76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
14	11JUN76	2442	.	71	.	94	58	12	1	13	167	.	40	95	45	12	6	.	54	.	13	.	.	.	.	38
15	18JUN76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
16	19JUN76	.	.	73	.	75	61	28	1	13	181	.	42	120	45	12	7	.	57	.	13	.	.	.	.	38
17	25JUN76	2431	.	77	.	88	67	40	1	14	186	.	.	124	46	12	7	.	58	.	13	.	.	.	.	44
18	26JUN76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
19	03JUL76	2026	.	68	.	92	60	64	0	14	179	.	41	99	41	12	7	.	50	.	12	.	.	.	.	37
20	07JUL76	1572	.	58	.	84	62	58	0	11	143	.	41	87	32	11	5	.	46	.	9	.	.	.	.	32
21	10JUL76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
22	16JUL76	2247	.	81	.	114	85	80	1	16	198	.	48	129	50	12	8	.	59	.	14	.	.	.	.	37
23	17JUL76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
24	22JUL76	2045	.	78	.	110	71	46	1	17	203	.	49	127	49	5	8	.	60	.	13	.	.	.	.	37
25	23JUL76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
26	29JUL76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
27	30JUL76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
28	31JUL76	2055	.	79	.	118	81	11	3	16	192	.	.	126	49	5	9	.	62	.	14	.	.	.	.	37
29	13AUG76	.	.	71	.	95	71	49	2	18	170	.	48	108	47	14	8	.	61	.	14	.	.	.	.	35
30	20AUG76	899	.	55	.	66	51	52	0	10	123	.	28	80	30	3	6	.	55	.	13	.	.	.	.	37
31	20AUG76	899	.	55	.	66	51	52	0	10	123	.	28	80	30	3	6	.	55	.	13	.	.	.	.	37
32	27AUG76	1822	.	82	.	120	82	29	3	18	189	.	.	127	49	8	9	.	65	.	15	.	.	.	.	42
33	03SEP76	1744	.	76	.	96	76	46	3	16	.	.	48	108	44	8	9	.	61	.	14	.	.	.	.	39
34	04SEP76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
35	09SEP76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
36	10SEP76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

37	11SEP76	.	.	76	.	120	81	15	.	.	177	.	.	.	.	.	.	.	.	.	14	.	.	.	.	.
38	12SEP76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
39	13SEP76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
40	13SEP76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
41	15SEP76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
42	16SEP76	1693	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
43	17SEP76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
44	18SEP76	.	.	60	26	92	57	58	.	.	113	.	30	.	32	.	.	.	45	.	.	.	.	.	.	.
45	23SEP76	1618	133	81	41	127	81	92	.	.	181	.	.	124	48	.	.	.	61	.	.	.	.	.	.	.
46	24SEP76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
47	29SEP76	1763	121	76	38	121	79	24	.	.	162	.	43	110	44	.	.	.	51	.	.	.	.	.	.	.
48	01OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
49	02OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
50	06OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
51	08OCT76	1628	110	74	34	110	77	8	.	.	163	.	41	102	43	.	.	.	54	.	.	.	.	.	.	.
52	09OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
53	11OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
54	12OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
55	13OCT76	1509	116	76	30	115	75	17	.	.	168	.	.	101	46	.	.	.	56	.	.	.	.	.	.	.
56	14OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
57	15OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
58	16OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
59	17OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
60	18OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
61	19OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
62	20OCT76	.	100	106	37	40	77	60	.	.	156	.	.	89	55	.	.	.	.	.	.	.	.	.	.	.
63	21OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
64	22OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
65	23OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
66	27OCT76	.	99	74	23	106	77	3	.	.	156	.	.	86	42	.	.	.	.	.	.	.	.	.	.	.
67	28OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
68	30OCT76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
69	03NOV76	.	.	73	26	101	16	4	.	.	156	.	.	82	43	.	.	.	.	.	.	.	.	.	.	.
70	04NOV76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
71	05NOV76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
72	06NOV76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
73	11NOV76	1036	.	74	23	99	75	9	.	.	153	.	.	72	42	.	.	.	61	.	.	.	.	.	.	.
74	12NOV76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
75	13NOV76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
76	17NOV76	1487	.	74	27	100	75	25	.	.	152	.	.	72	42	.	.	.	57	.	.	.	.	.	.	.
77	19NOV76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
78	24NOV76	1332	.	82	24	109	92	36	.	.	169	.	.	83	46	.	.	.	72	.	.	.	.	.	.	.
79	25NOV76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
80	27NOV76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
81	29NOV76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
82	02DEC76	1557	.	.	26	111	91	82	.	.	175	.	.	94	44	.	.	.	.	.	.	.	.	.	.	.
83	10DEC76	1455	.	82	29	103	85	18	.	.	168	.	.	107	44	.	.	.	.	.	.	.	.	.	.	.
84	16DEC76	1711	.	78	24	106	87	91	.	.	168	.	.	112	44	.	.	.	.	.	.	.	.	.	.	.
85	22DEC76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
86	29DEC76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
87	08JAN77	1625	.	83	30	108	82	73	.	.	164	.	.	121	.	.	.	.	.	.	.	.	.	.	.	.
88	10JAN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	WL-19-4	WL-20-1	WL-27-2	WL-28-1	WL-33-1	WL-34-1	WL-34-2	WL-35-1	WL-35-2	WL-36-1	WL-36-2	WL-37-1	WL-42-1	WL-42-2	WL-43-1	WL-43-2	WL-45-3	WL-46-1	WL-46-2	WL-52-1	WL-55-1	WL-55-2	WL-55-3	WL-55-4	WL-63-1
89	10JAN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
90	15JAN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
91	20JAN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
92	20JAN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
93	20JAN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
94	22JAN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
95	29JAN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
96	12FEB77	1529	.	83	25	107	75	75	.	.	166	.	.	118	.	.	.	.	.	.	.	.	.	.	.	.
97	19FEB77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
98	05MAR77	1683	.	80	38	113	69	17	.	.	170	.	.	88	.	.	.	.	.	.	.	.	.	.	.	.
99	19MAR77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
100	09APR77	2099	.	80	31	111	57	10	.	.	162	.	.	78	.	.	.	.	.	.	.	.	.	.	.	.
101	16APR77	1492	.	73	32	102	.	35	.	.	162	.	.	80	.	.	.	.	.	.	.	.	.	.	.	.
102	16APR77	1492	.	73	32	102	.	35	.	.	162	.	.	80	.	.	.	.	.	.	.	.	.	.	.	.
103	18APR77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
104	23APR77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
105	23APR77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
106	30APR77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
107	07MAY77	1494	.	.	33	95	.	1	.	.	155	.	.	77	.	.	.	.	.	.	.	.	.	.	.	.
108	11MAY77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
109	14MAY77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
110	16MAY77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
111	16MAY77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
112	21MAY77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
113	04JUN77	1577	.	82	33	105	.	34	.	.	175	.	.	96	.	.	.	.	.	.	.	.	.	.	.	.
114	18JUN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
115	30JUN77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
116	05JUL77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
117	09JUL77	1608	.	86	34	97	.	14	.	.	176	.	.	94	.	.	.	.	.	.	.	.	.	.	.	.
118	21JUL77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
119	06AUG77	1541	.	81	38	90	.	12	.	.	177	.	.	95	.	.	.	.	.	.	.	.	.	.	.	.
120	19AUG77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
121	23AUG77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
122	24AUG77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
123	02SEP77	1474	.	75	34	97	.	18	.	.	164	.	.	74	.	.	.	.	.	.	.	.	.	.	.	.
124	20SEP77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

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125	28SEP77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
126	28SEP77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
127	10OCT77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
128	10OCT77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
129	10OCT77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
130	15OCT77	1519	.	88	34	96	.	11	.	.	166	.	.	71	.	.	.	.	.	.	.	.	.	.	.	.
131	16OCT77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
132	29OCT77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
133	16NOV77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
134	24NOV77	1698	.	80	33	91	.	10	.	.	149	.	.	72	.	.	.	.	.	.	.	.	.	.	.	.
135	25NOV77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
136	23DEC77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
137	23DEC77	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
138	06JAN78	.	.	78	29	85	.	13	.	.	142	.	.	83	.	.	.	.	.	.	.	.	.	.	.	.
139	20JAN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
140	26JAN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
141	04FEB78	1711	.	86	48	100	.	31	.	.	151	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
142	06FEB78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
143	16FEB78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
144	03MAR78	1443	.	83	29	104	.	37	.	.	138	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
145	21MAR78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
146	07APR78	1613	.	72	30	100	.	13	.	.	147	.	.	50	.	.	.	.	.	.	.	.	.	.	.	.
147	20APR78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
148	11MAY78	1177	.	63	27	84	.	13	.	.	155	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
149	25MAY78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
150	09JUN78	1443	.	83	28	94	.	8	.	.	168	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
151	24JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
152	26JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
153	26JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
154	27JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
155	28JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
156	28JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
157	29JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
158	30JUN78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
159	06JUL78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
160	08JUL78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
161	10JUL78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
162	14JUL78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
163	14JUL78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
164	19JUL78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
165	19AUG78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
166	07SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
167	15SEP78	1362	.	83	6	88	.	7	.	.	146	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
168	15SEP78	1241	.	83	7	85	.	7	.	.	158	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
169	15SEP78	1241	.	83	9	85	.	7	.	.	158	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
170	26SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
171	26SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
172	27SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
173	28SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
174	28SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
175	29SEP78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
176	06OCT78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

OBS	DATE	WL 19-4	WL 20-1	WL 27-2	WL 28-1	WL 33-1	WL 34-1	WL 34-2	WL 35-1	WL 35-2	WL 36-1	WL 36-2	WL 37-1	WL 42-1	WL 42-2	WL 43-1	WL 43-2	WL 45-3	WL 46-1	WL 46-2	WL 52-1	WL 55-1	WL 55-2	WL 55-3	WL 55-4	WL 63-1
177	06OCT78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
178	17OCT78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
179	17NOV78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
180	06DEC78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
181	08DEC78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
182	11DEC78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
183	12DEC78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
184	13DEC78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
185	18JAN79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
186	16FEB79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
187	14MAR79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
188	16MAR79	1306	.	68	26	74	.	28	.	.	95	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
189	20MAR79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
190	21MAR79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
191	21APR79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
192	28APR79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
193	15MAY79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
194	18MAY79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
195	01JUN79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
196	12JUN79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
197	17JUN79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
198	23JUN79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
199	30JUN79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
200	01JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
201	06JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
202	07JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
203	08JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
204	17JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
205	17JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
206	24JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
207	28JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
208	28JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
209	29JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
210	29JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
211	30JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
212	31JUL79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

213	05AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
214	06AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
215	06AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
216	06AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
217	07AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
218	07AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
219	07AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
220	07AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
221	08AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
222	13AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
223	17AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
224	20AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
225	26AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
226	31AUG79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
227	04SEP79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
228	06SEP79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
229	10SEP79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
230	17SEP79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
231	24SEP79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
232	01OCT79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
233	01OCT79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
234	05OCT79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
235	09OCT79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
236	15OCT79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
237	24OCT79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
238	30OCT79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
239	01NOV79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
240	05NOV79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
241	11NOV79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
242	16NOV79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
243	18NOV79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
244	25NOV79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
245	30NOV79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
246	01DEC79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
247	01DEC79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
248	12DEC79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
249	15DEC79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
250	18DEC79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
251	24DEC79	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
252	01JAN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
253	07JAN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
254	14JAN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
255	15JAN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
256	31JAN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
257	04FEB80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
258	11FEB80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
259	20FEB80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
260	25FEB80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
261	01MAR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
262	01MAR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
263	07MAR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
264	11MAR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

POTABLE WATER STANDARDS PROJECT - MOUND FACILITY
CONCENTRATION OF TRITIUM (NCI/LITER) IN SELECTED WELLS

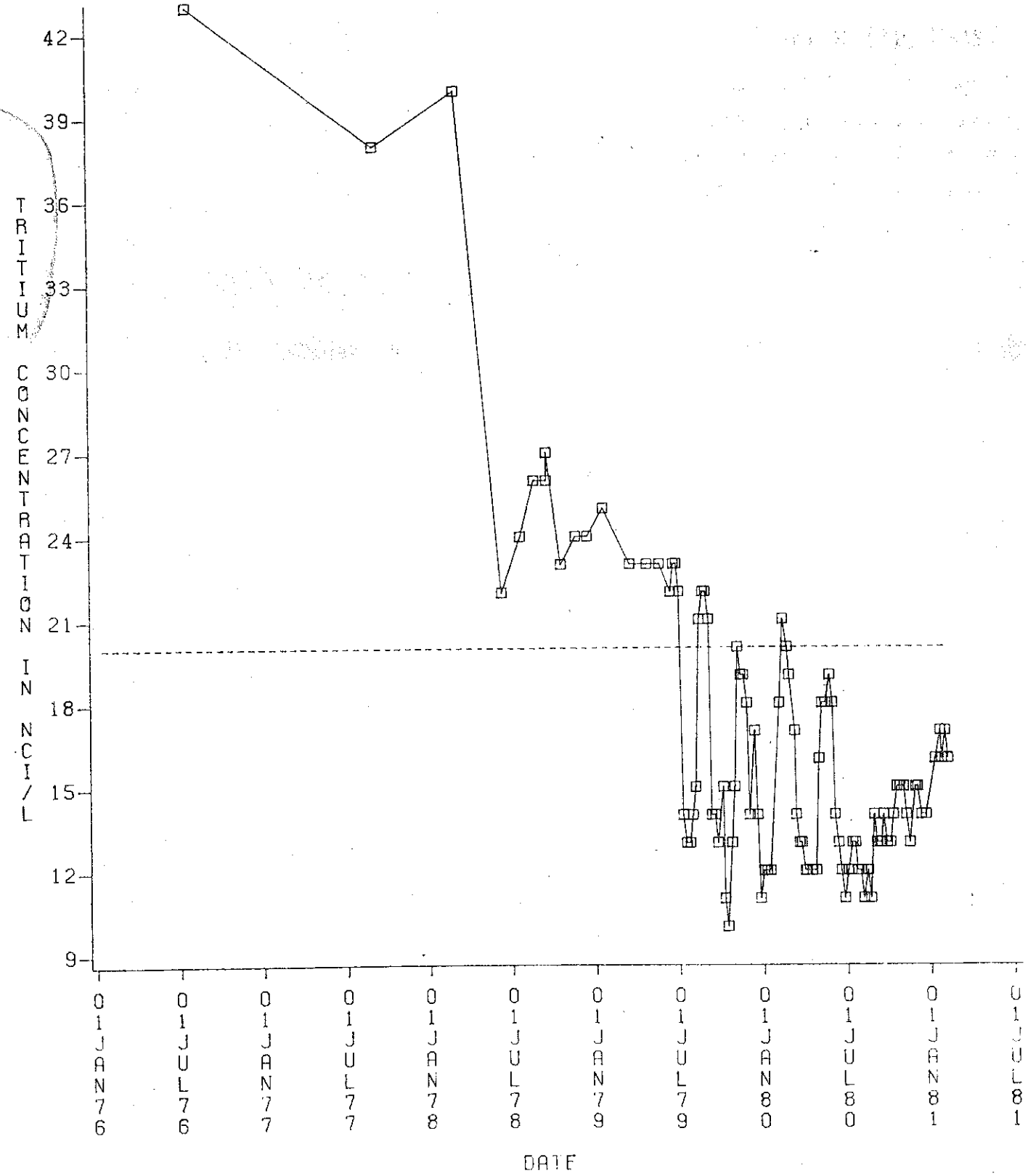
OBS	DATE	WL 19-4	WL 20-1	WL 27-2	WL 28-1	WL 33-1	WL 34-1	WL 34-2	WL 35-1	WL 35-2	WL 36-1	WL 36-2	WL 37-1	WL 42-1	WL 42-2	WL 43-1	WL 43-2	WL 45-3	WL 46-1	WL 46-2	WL 52-1	WL 55-1	WL 55-2	WL 55-3	WL 55-4	WL 63-1
265	18MAR80	1238	.	79	18	71	.	.	.	.	85	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
266	23MAR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
267	31MAR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
268	01APR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
269	02APR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
270	08APR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
271	14APR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
272	15APR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
273	23APR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
274	30APR80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
275	01MAY80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
276	06MAY80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
277	13MAY80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
278	23MAY80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
279	29MAY80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
280	01JUN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
281	04JUN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
282	11JUN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
283	13JUN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
284	16JUN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
285	18JUN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
286	25JUN80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
287	01JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
288	01JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
289	02JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
290	08JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
291	11JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
292	11JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
293	17JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
294	18JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
295	21JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
296	23JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
297	30JUL80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
298	02AUG80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
299	04AUG80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
300	06AUG80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

301	11AUG80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
302	14AUG80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
303	20AUG80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
304	28AUG80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
305	03SEP80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
306	09SEP80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
307	12SEP80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
308	17SEP80	.	.	68	10	52	.	.	.	.	17	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
309	25SEP80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
310	02OCT80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
311	08OCT80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
312	16OCT80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
313	22OCT80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
314	23OCT80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
315	31OCT80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
316	06NOV80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
317	07NOV80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
318	14NOV80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
319	20NOV80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
320	26NOV80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
321	02DEC80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
322	03DEC80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
323	10DEC80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
324	17DEC80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
325	19DEC80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
326	09JAN81	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
327	15JAN81	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
328	19JAN81	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
329	22JAN81	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
330	30JAN81	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
331	05FEB81	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

APPENDIX II

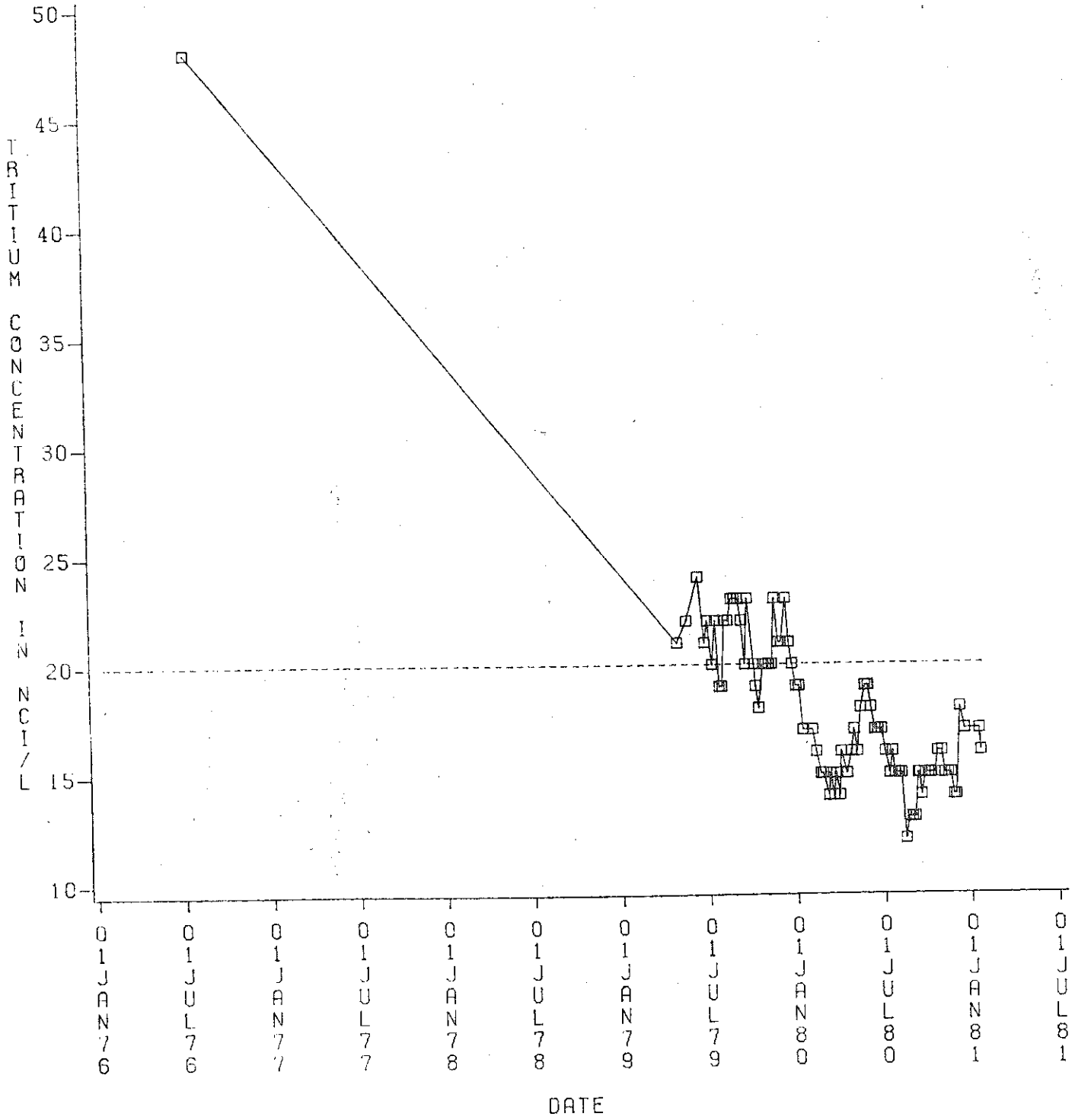
Scatter Plots of Tritium Concentration (nCi/l) Against Time for Selected Area Wells from December 24, 1975 through February 5, 1981

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL BH



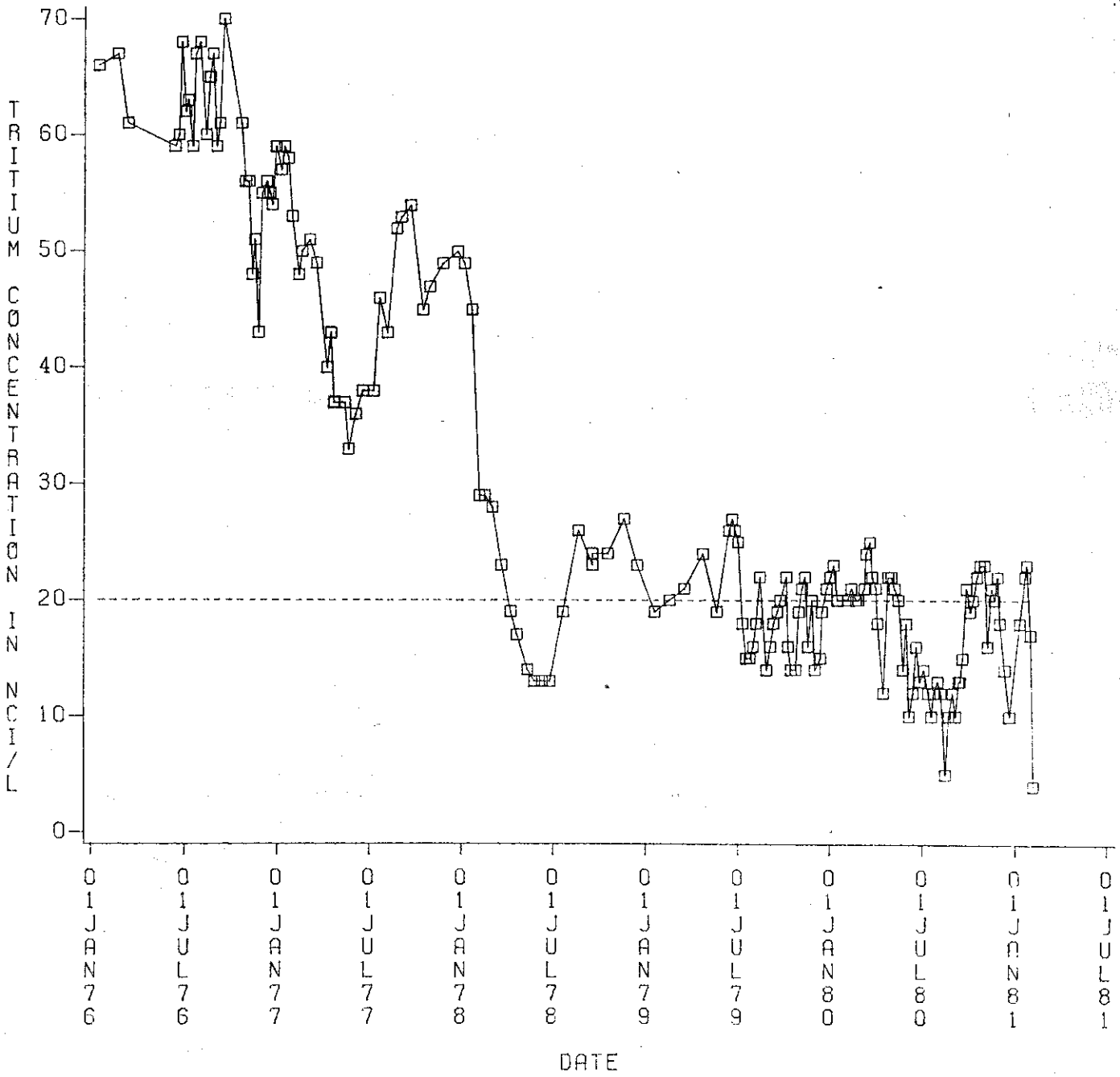
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL BH

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL BR



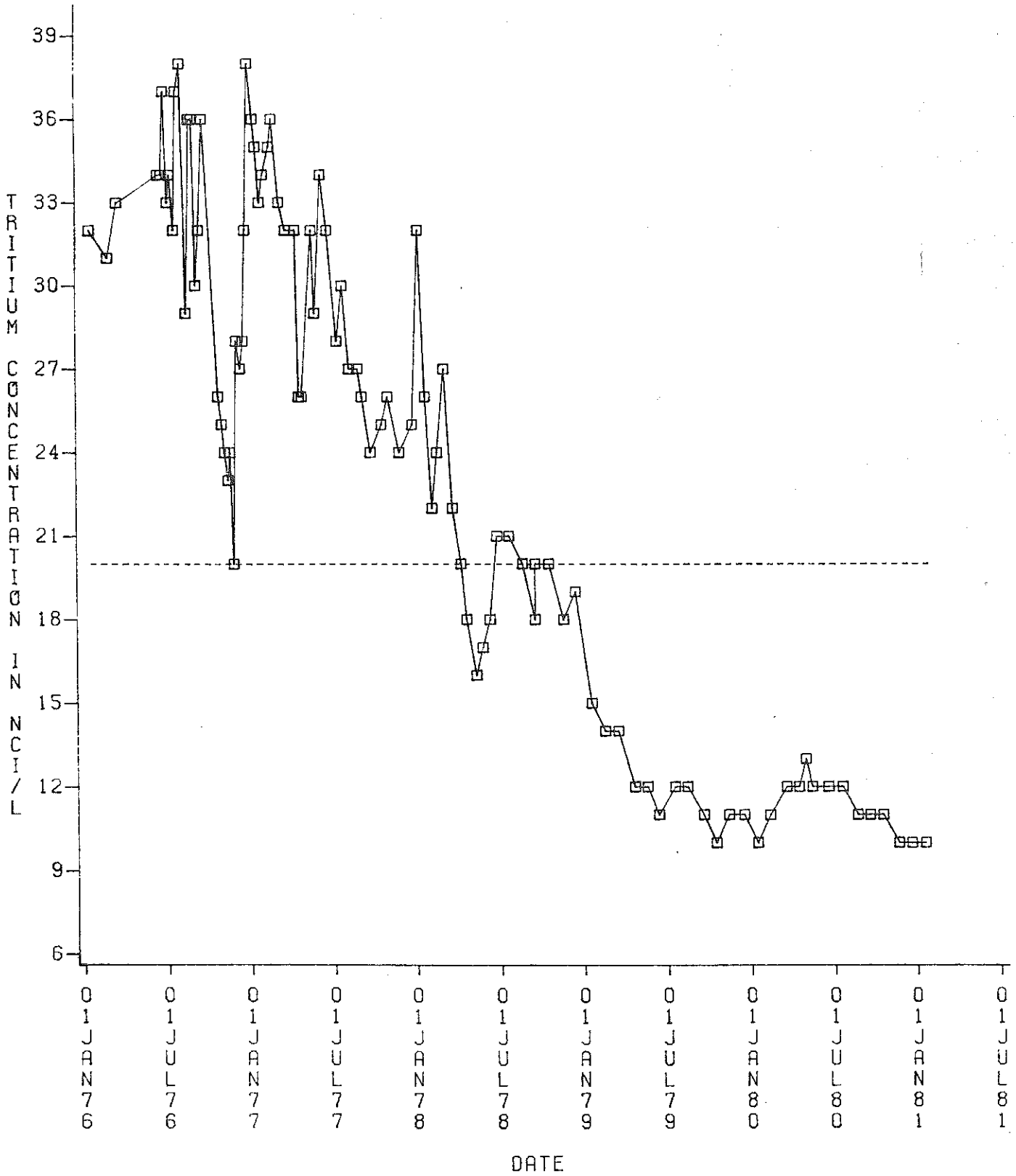
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL BR

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL B1



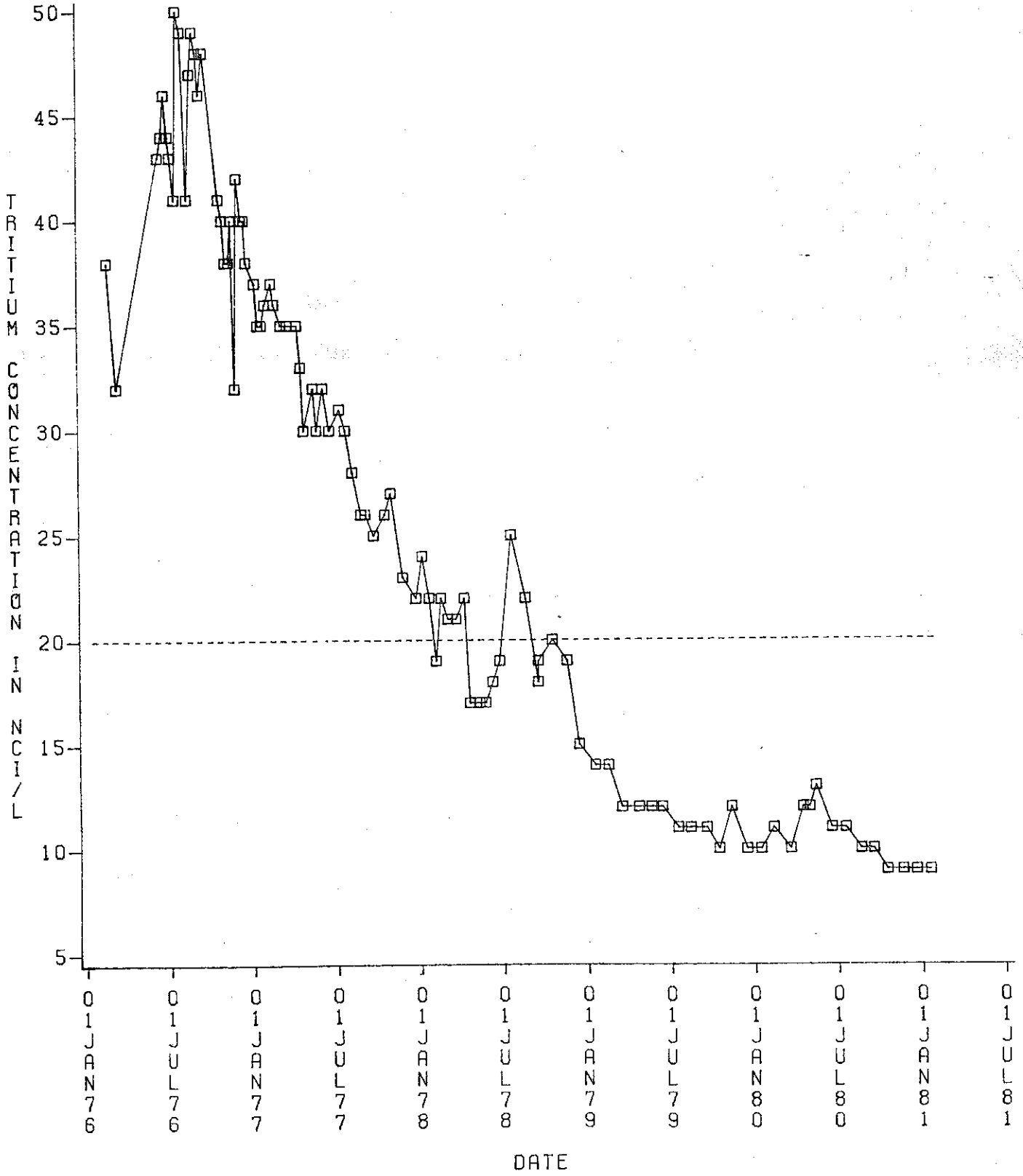
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL B1

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL B2



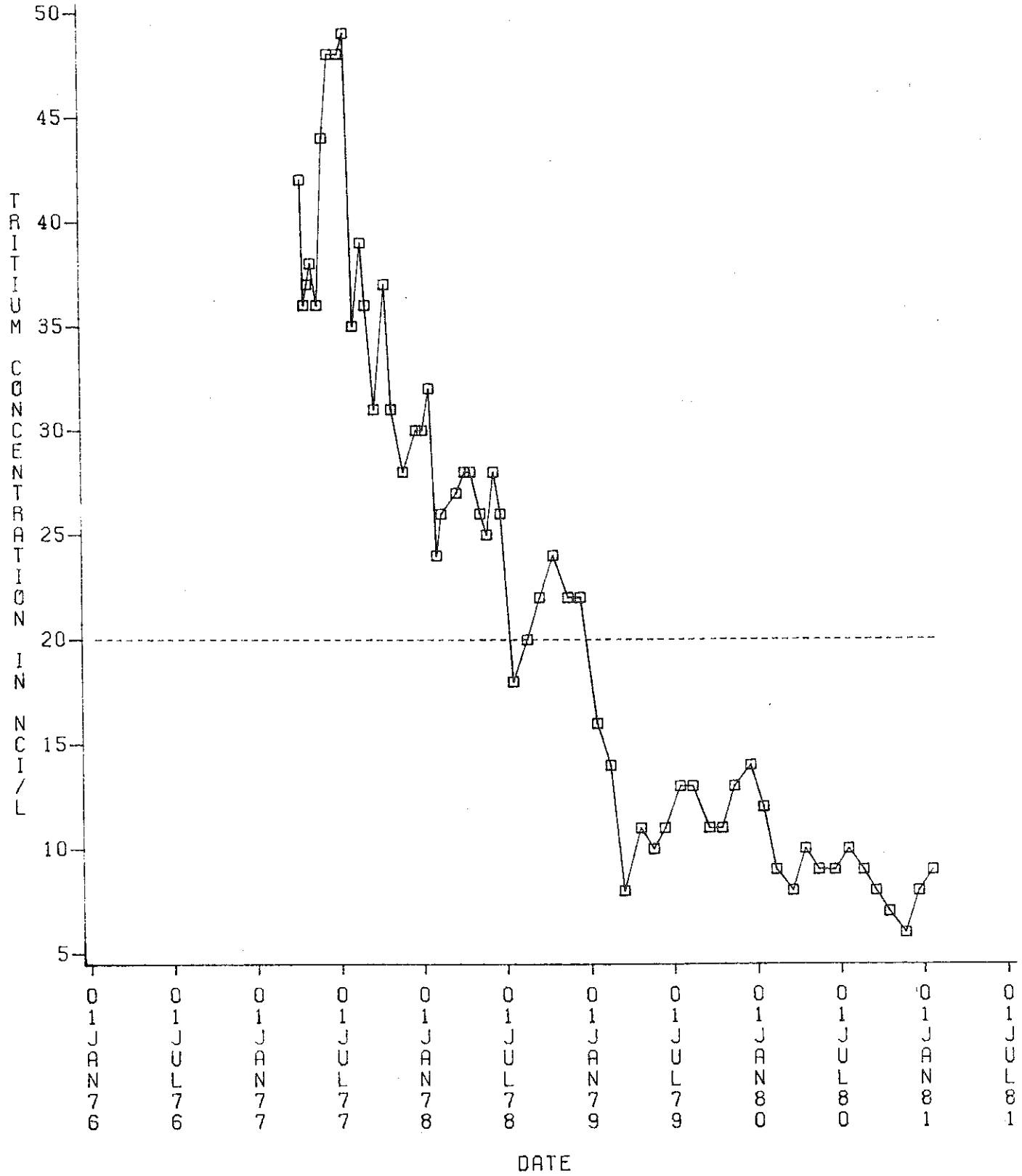
LEGEND: --- EPA STANDARD, ¤ – ¤ WELL B2

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL B3



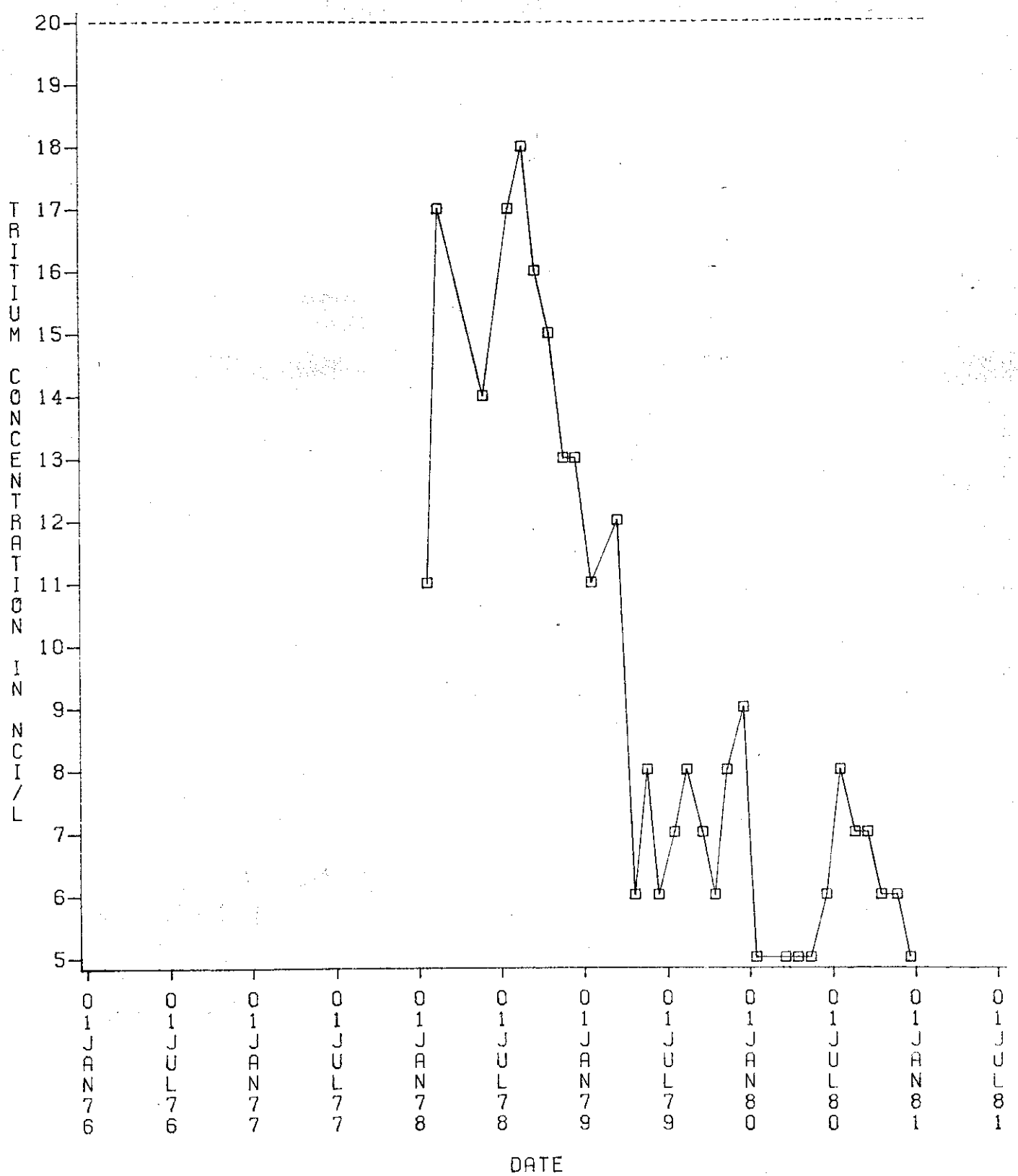
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL B3

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL JN



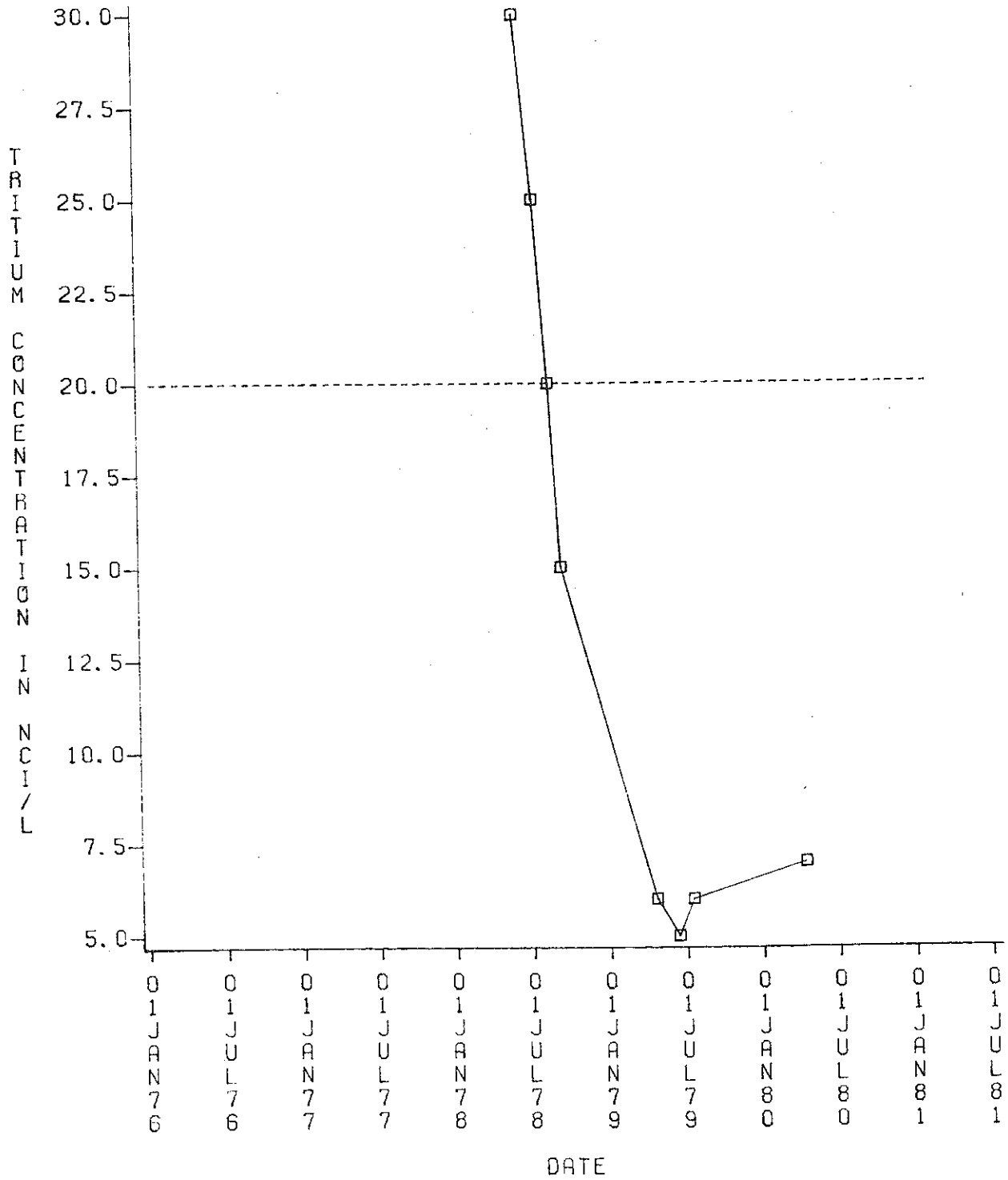
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL JN

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL JT



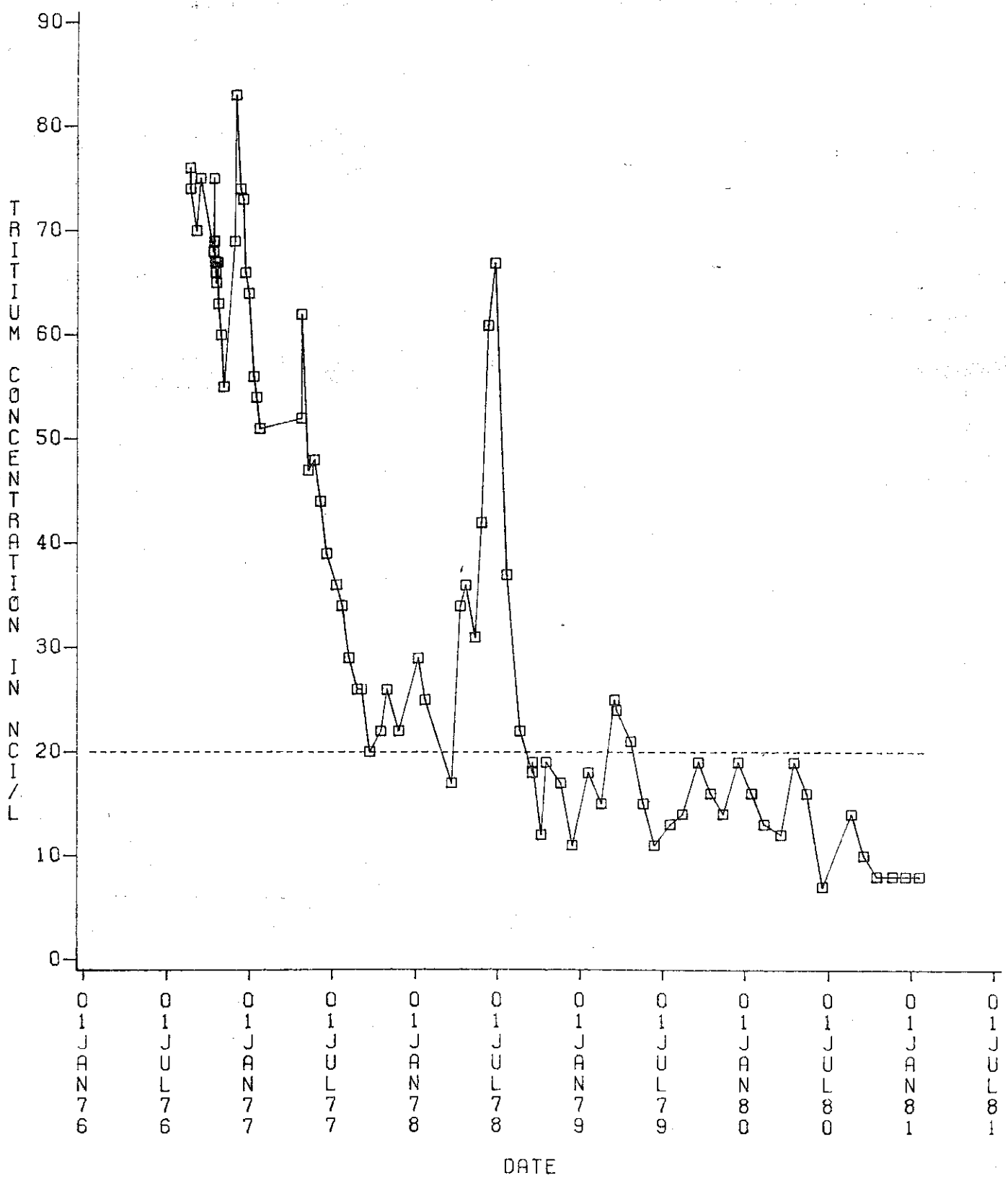
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL JT

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL DI



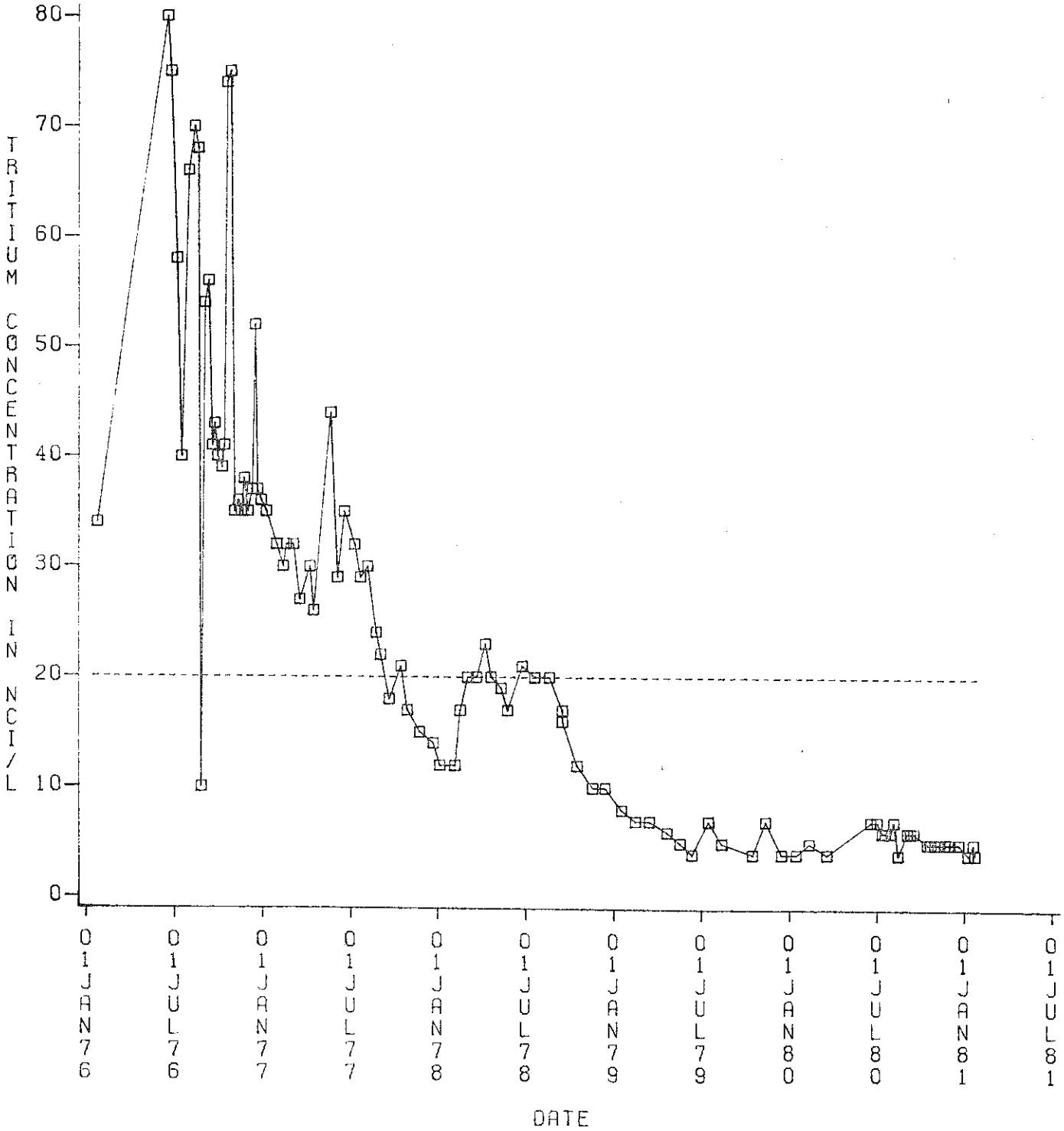
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL DI

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN MIAMISBURG WELL 2



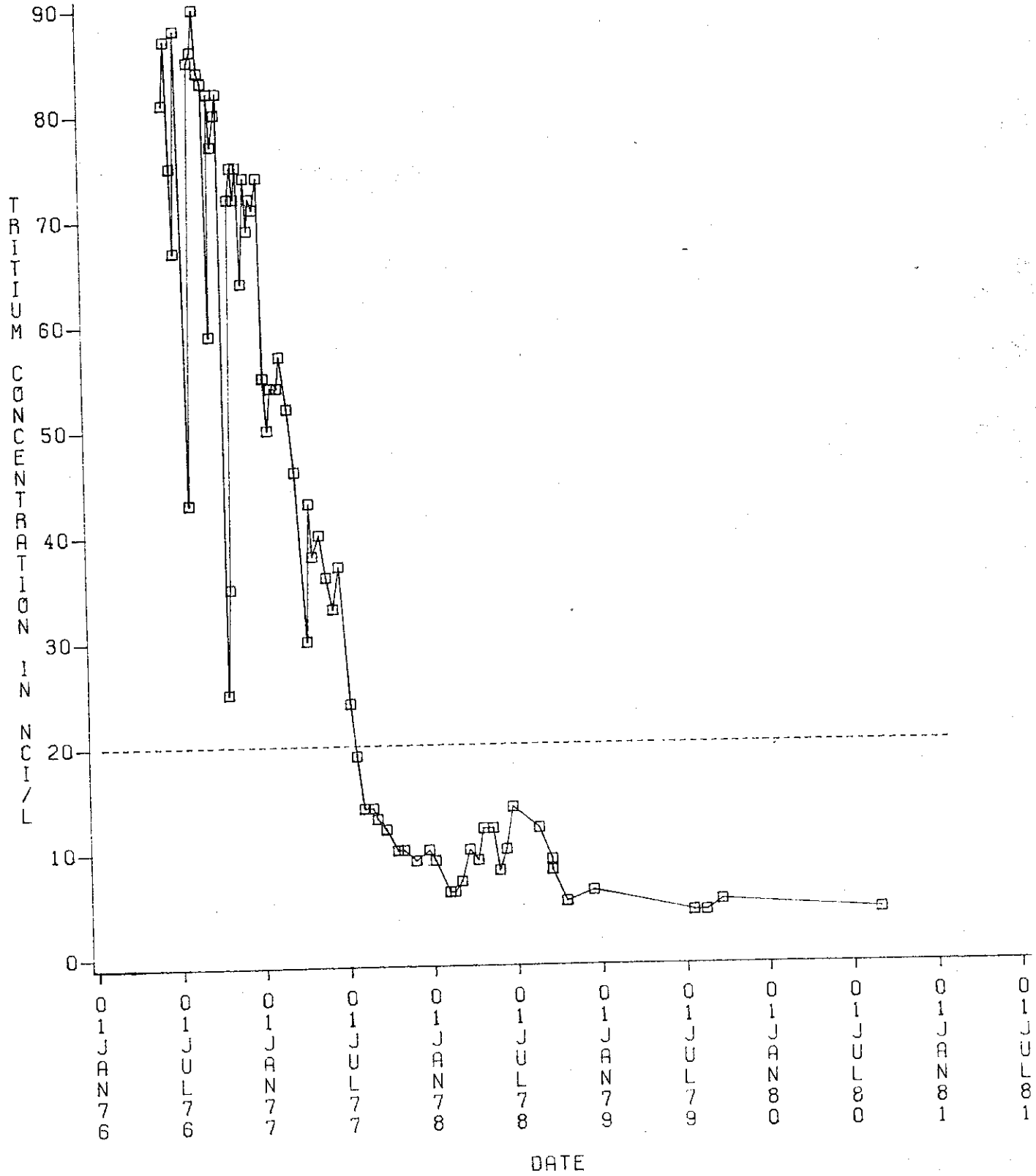
LEGEND: --- EPA STANDARD, ⌑ – ⌑ MIAMISBURG WELL 2

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN MOUND WELL 1



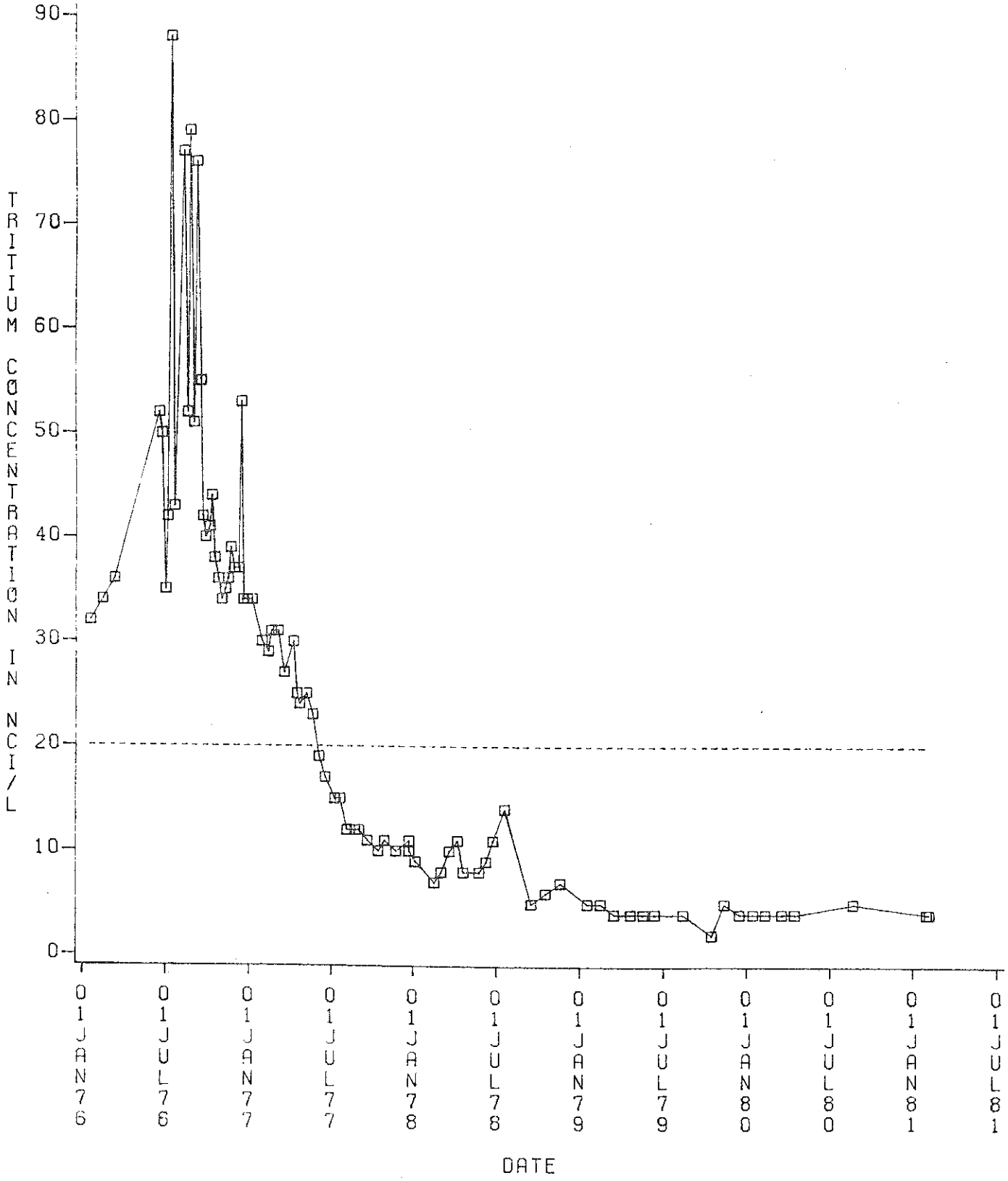
LEGEND: --- EPA STANDARD, ⌑ – ⌑ MOUND WELL 1

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN MOUND WELL 2



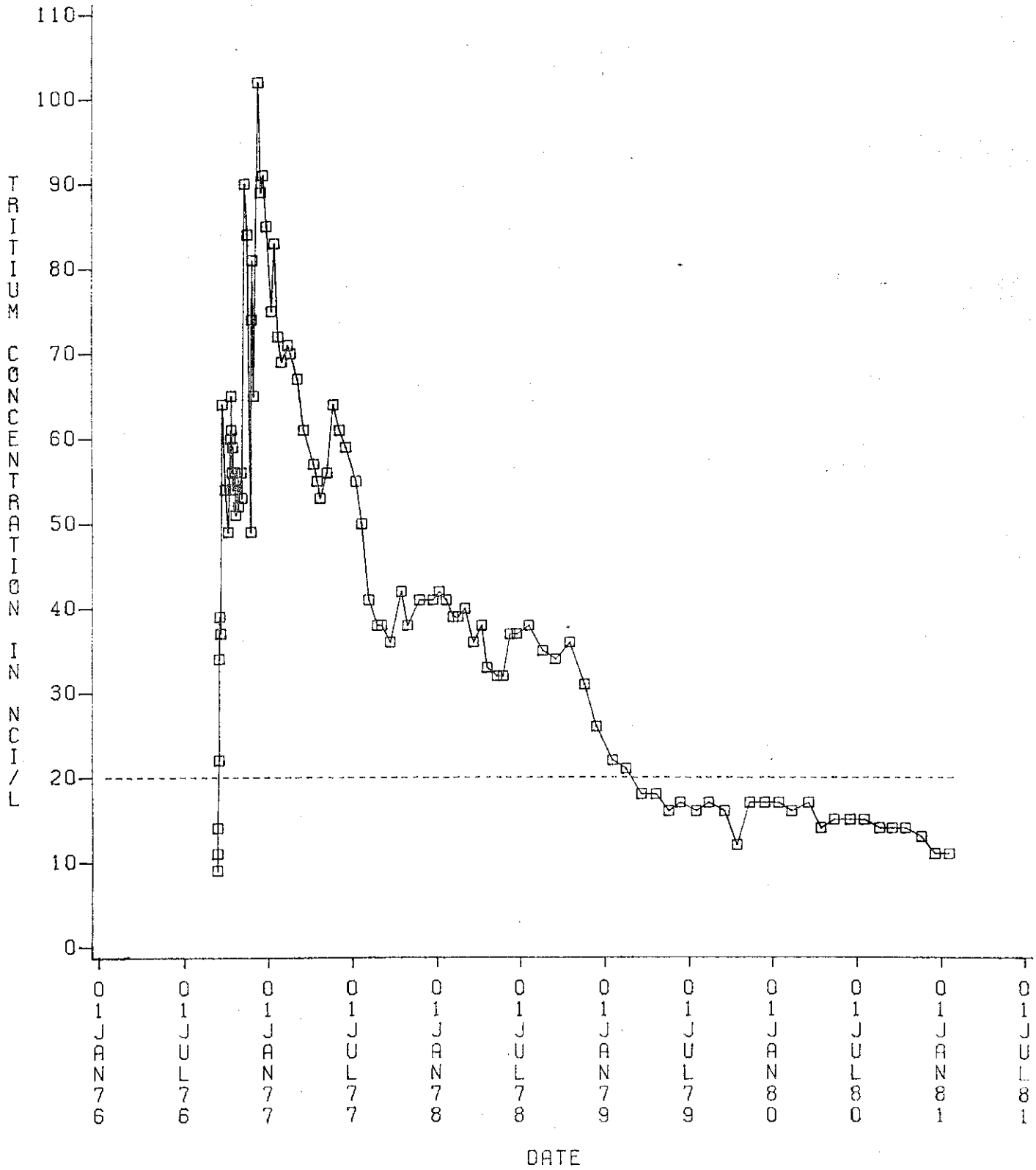
LEGEND: --- EPA STANDARD, ⌑ – ⌑ MOUND WELL 2

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN MOUND WELL 3



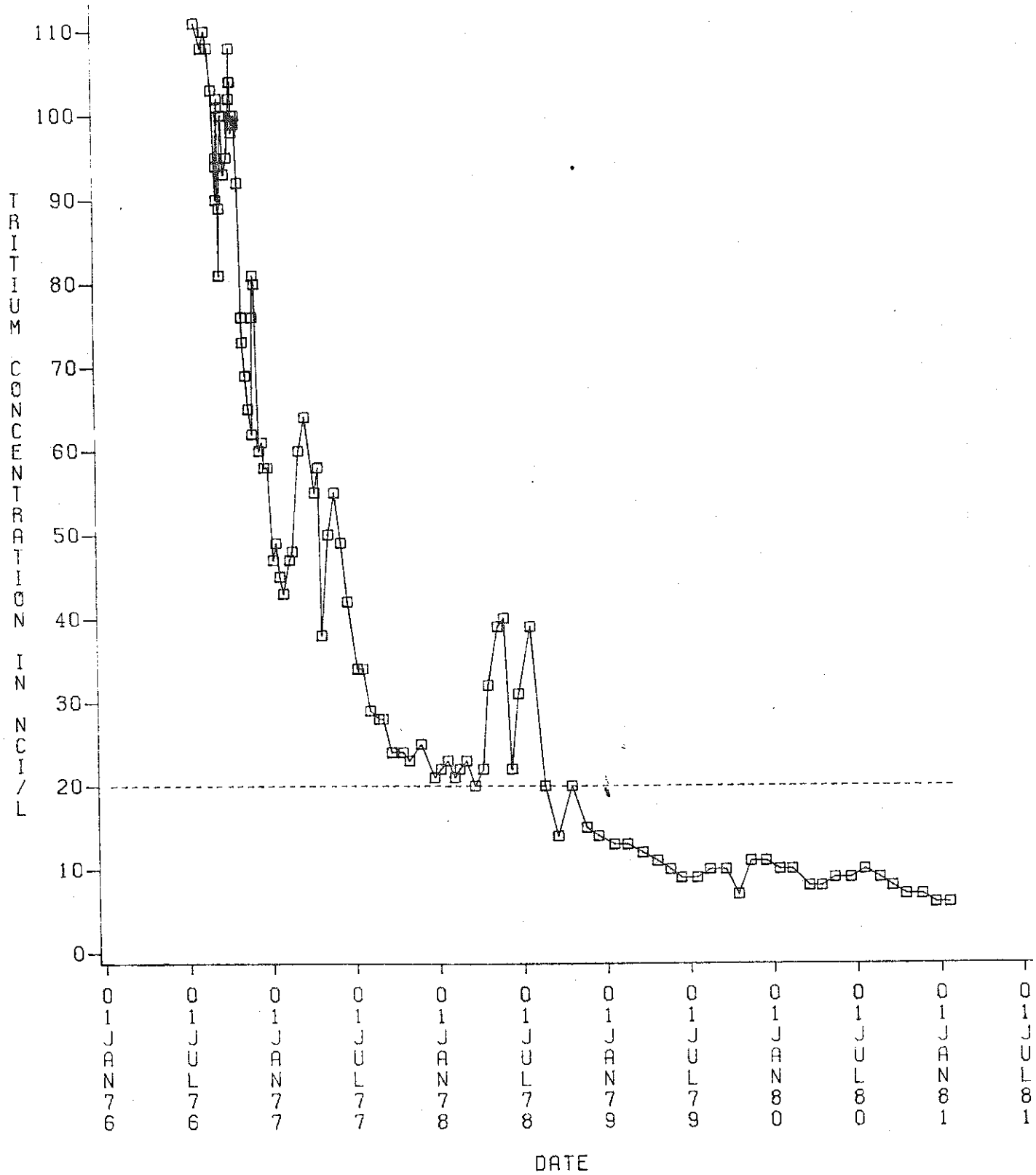
LEGEND: --- EPA STANDARD, ⌑ – ⌑ MOUND WELL 3

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN OBSERVATION WELL 1A



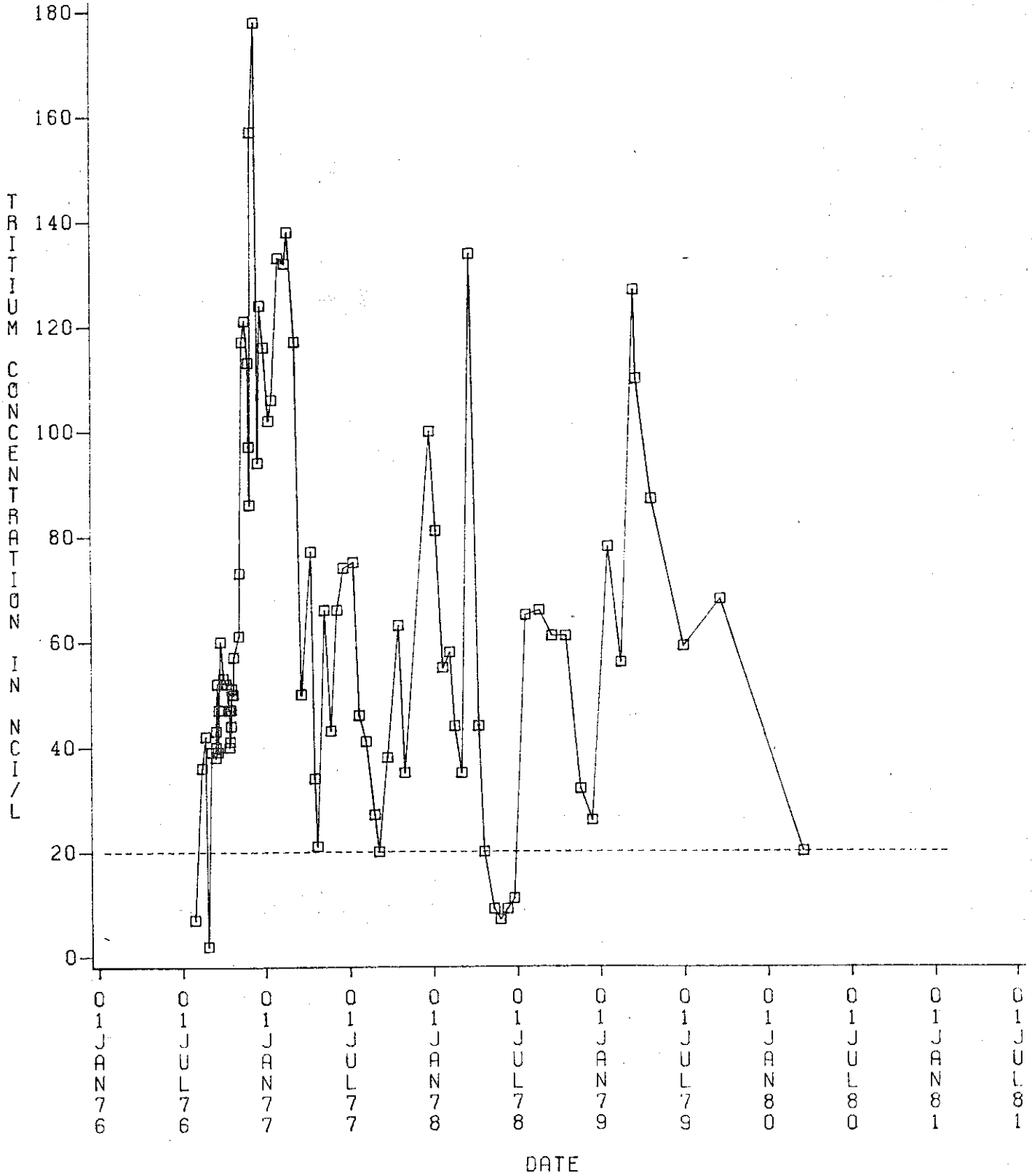
LEGEND: --- EPA STANDARD, ⌑ – ⌑ OBSERVATION WELL 1A

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN OBSERVATION WELL 2



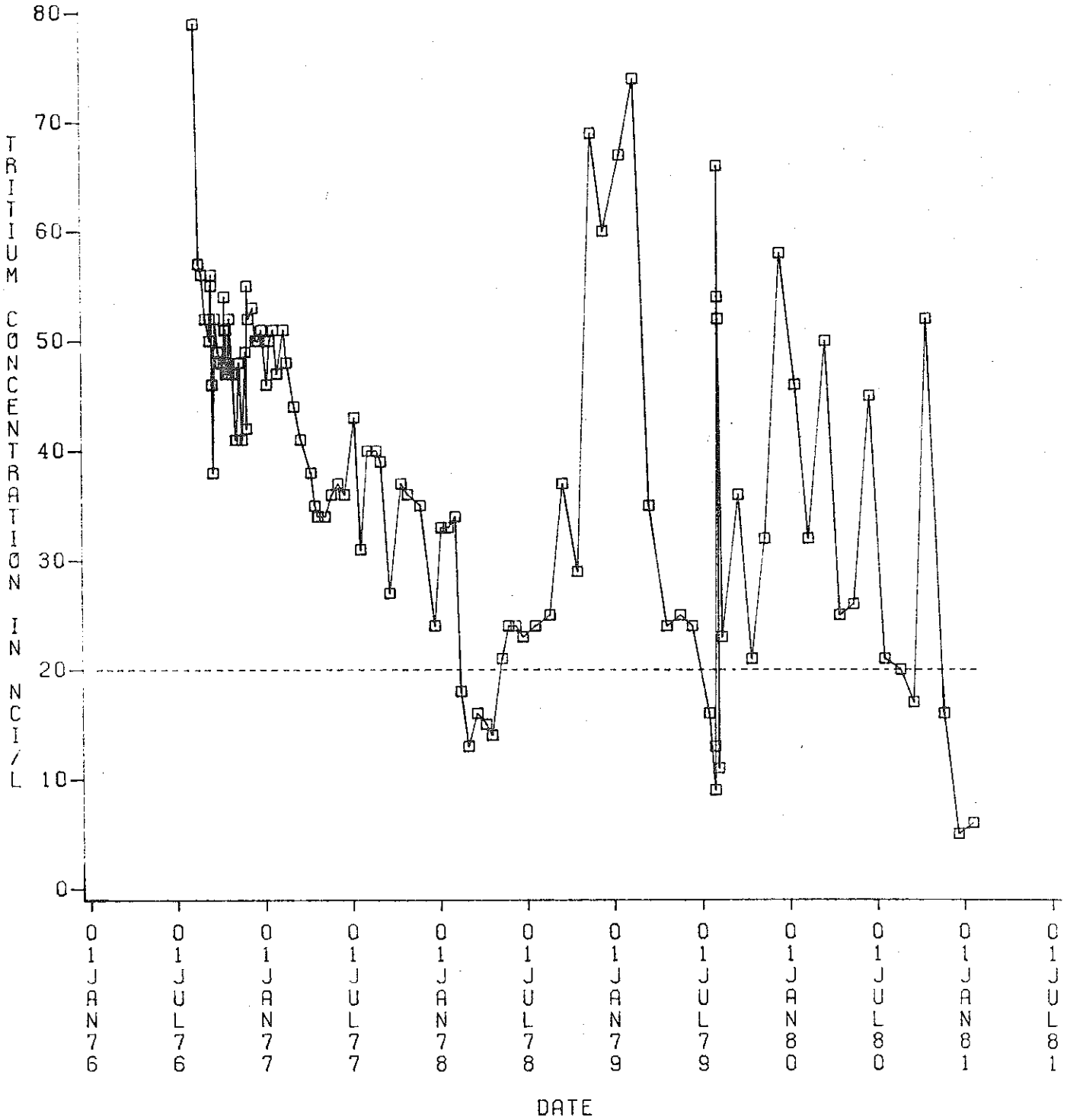
LEGEND: --- EPA STANDARD, ⌑ – ⌑ OBSERVATION WELL 2

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN OBSERVATION WELL 3



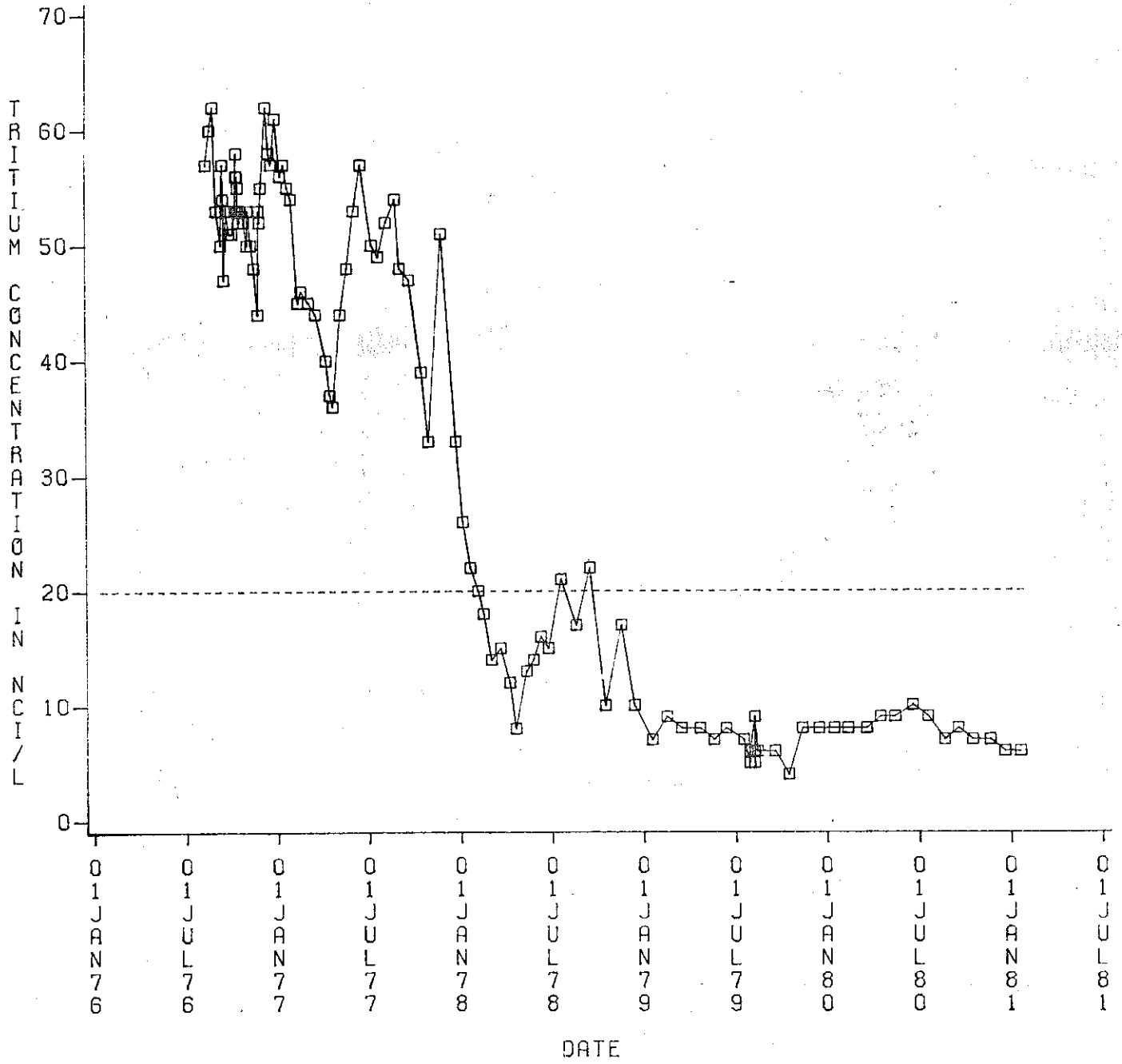
LEGEND: --- EPA STANDARD, ⌑ – ⌑ OBSERVATION WELL 3

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN OBSERVATION WELL 4



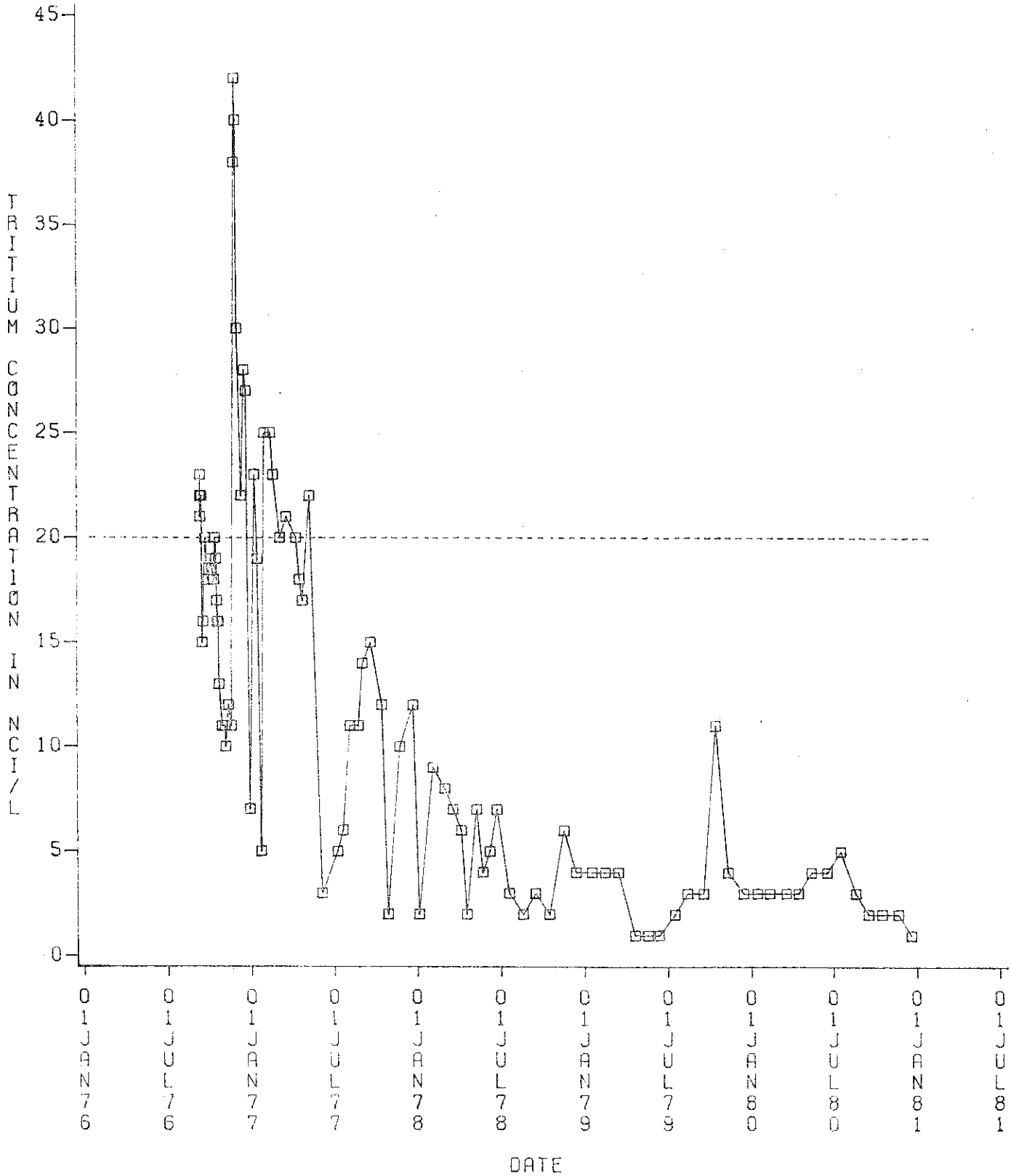
LEGEND: ---- EPA STANDARD, ⌑ – ⌑ OBSERVATION WELL 4

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN OBSERVATION WELL 5



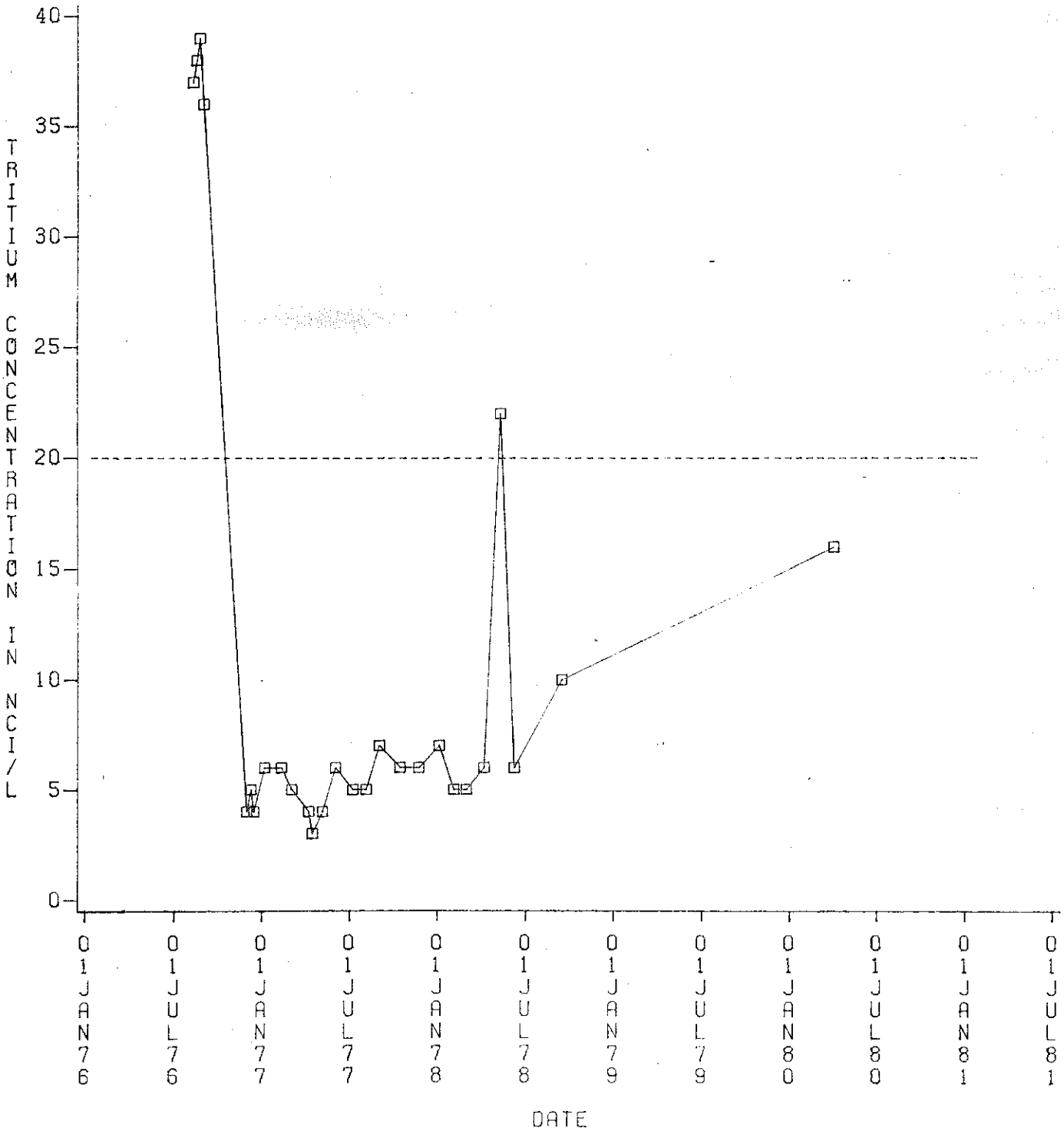
LEGEND: --- EPA STANDARD, ⌑ – ⌑ OBSERVATION WELL 5

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN OBSERVATION WELL 6A



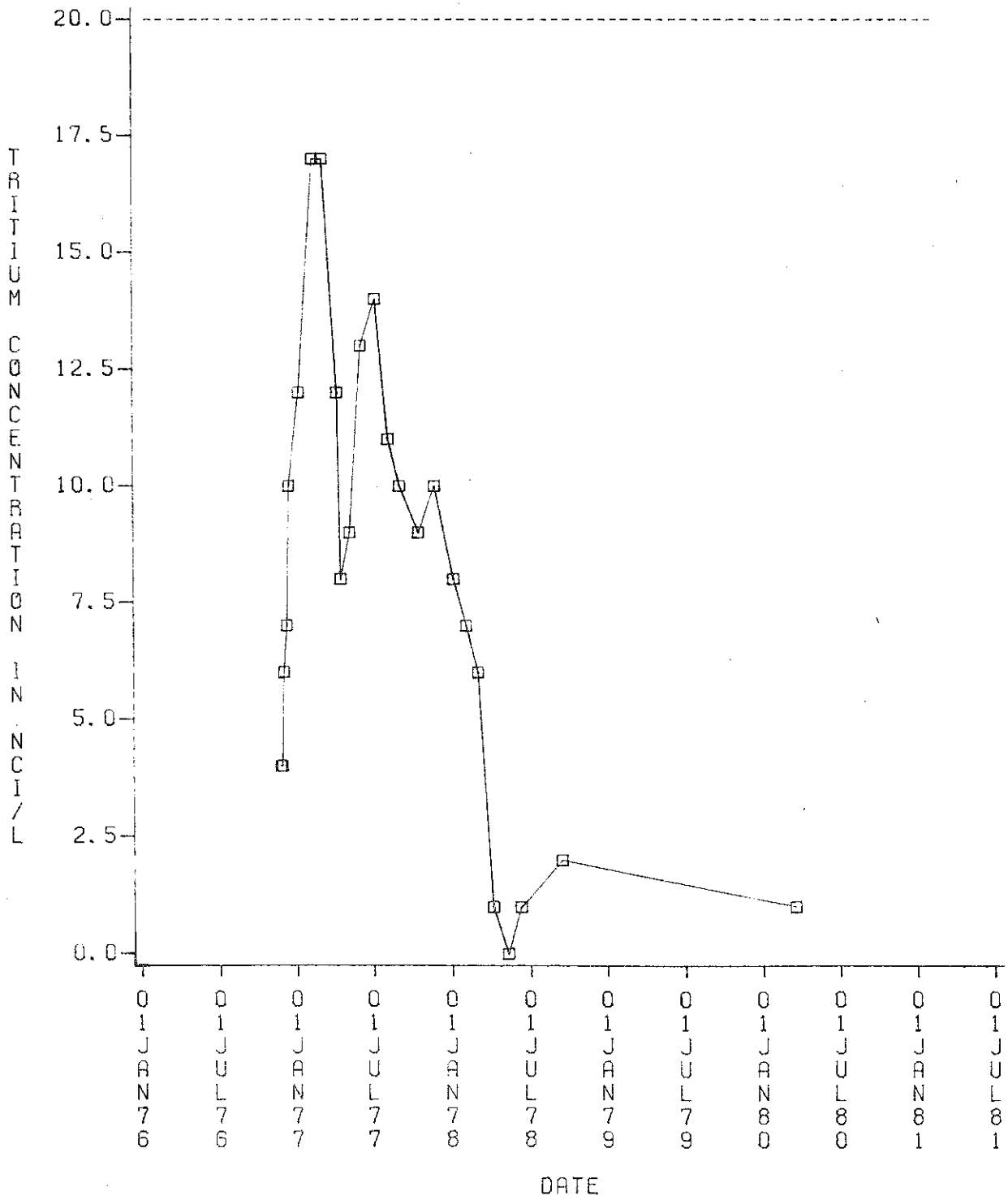
LEGEND: --- EPA STANDARD, ⌑ – ⌑ OBSERVATION WELL 6A

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN OBSERVATION WELL 7



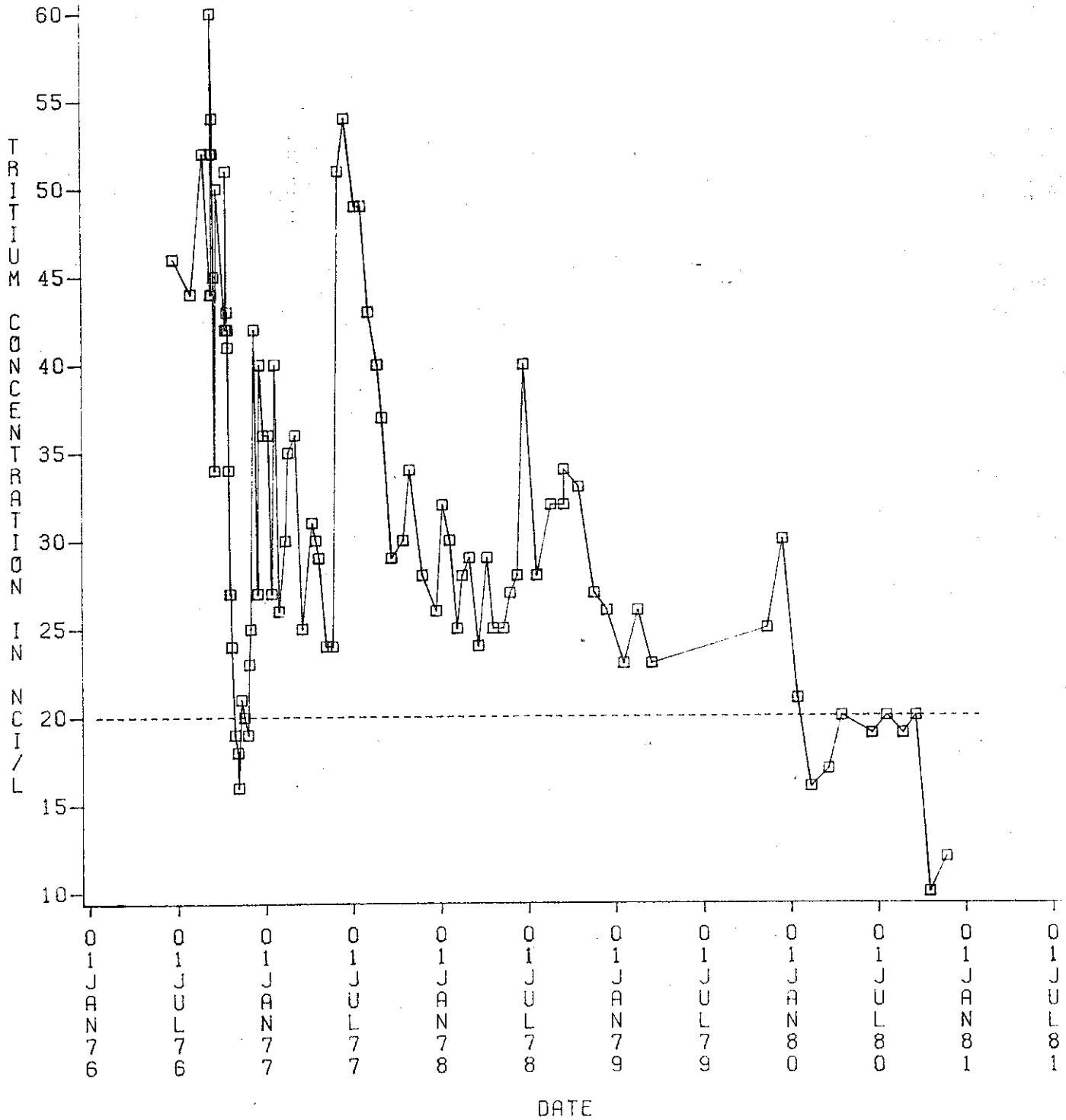
LEGEND: --- EPA STANDARD, ⌑ – ⌑ OBSERVATION WELL 7

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN OBSERVATION WELL 8A



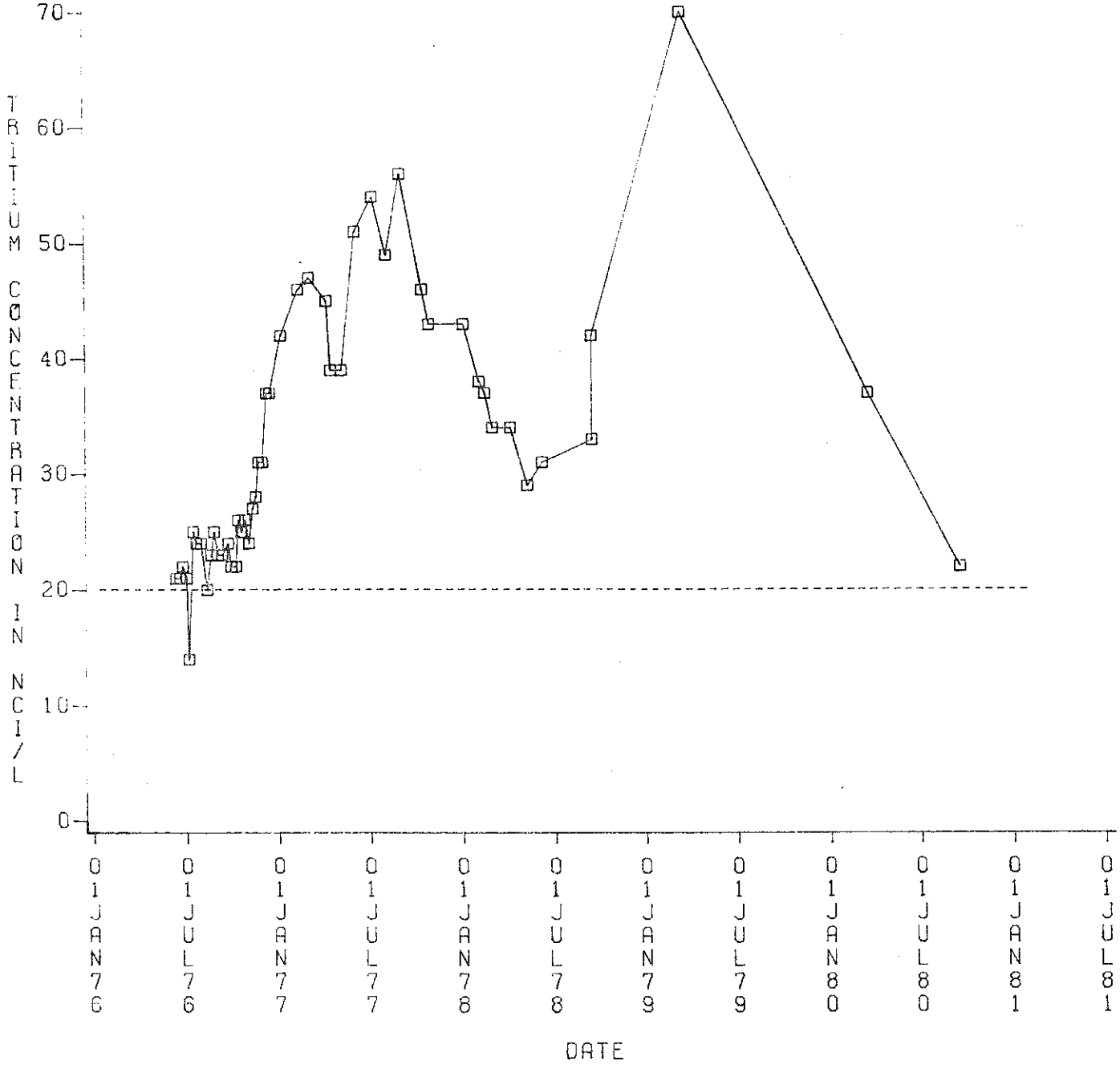
LEGEND: --- EPA STANDARD, ⌑ – ⌑ OBSERVATION WELL 8A

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 37 1A



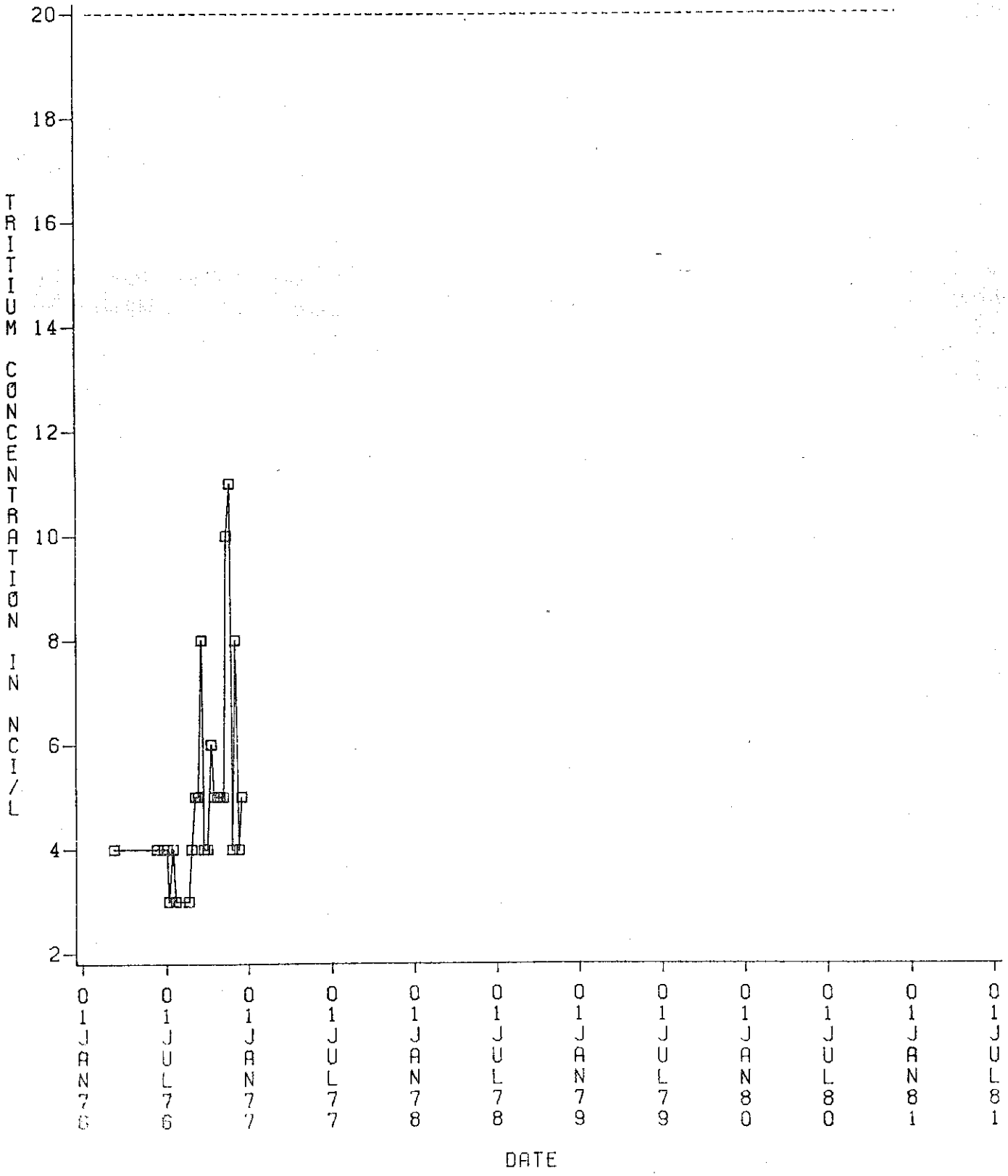
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 37 1A

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 55 5



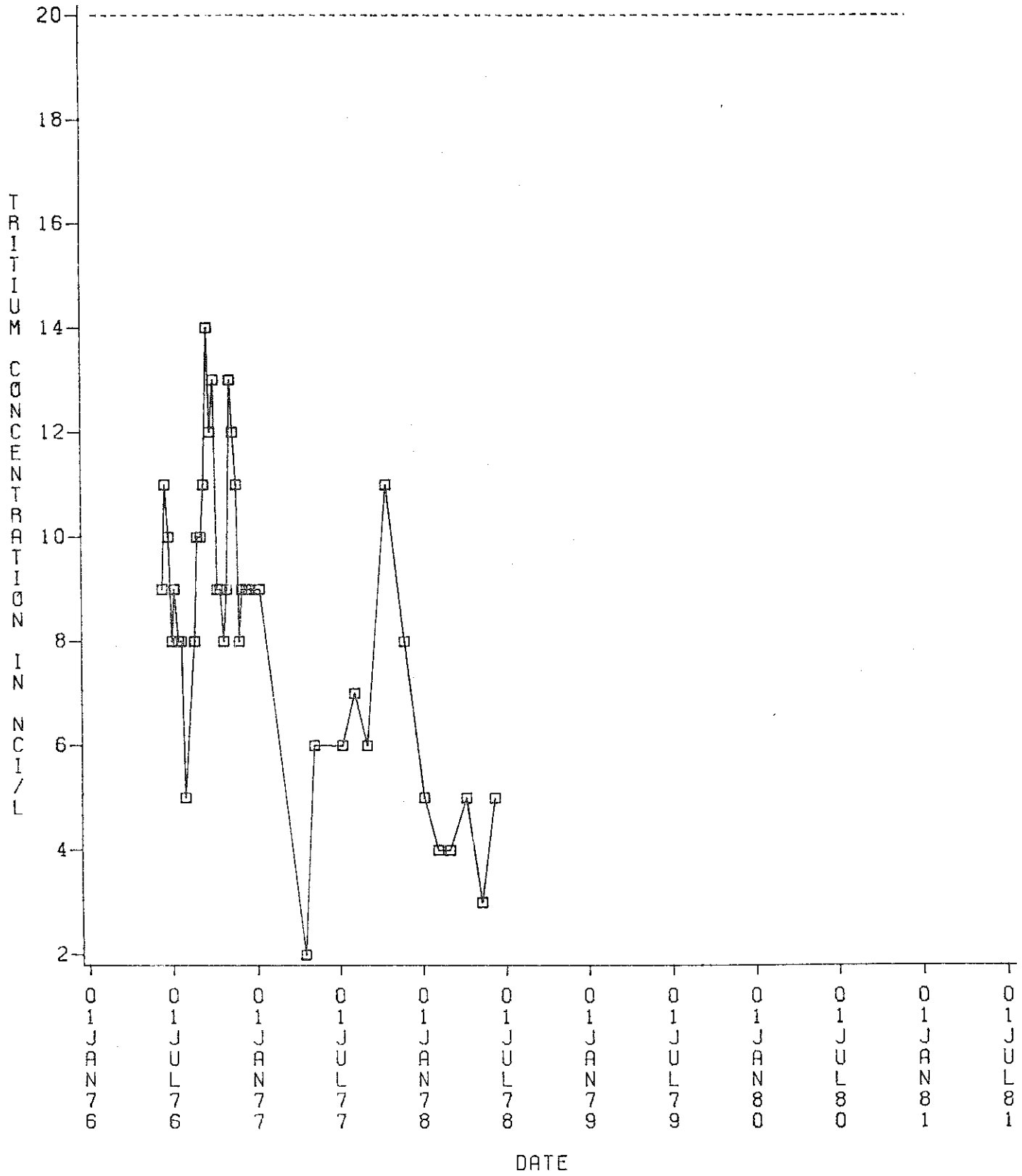
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 55 5

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN DP&L WELL 1



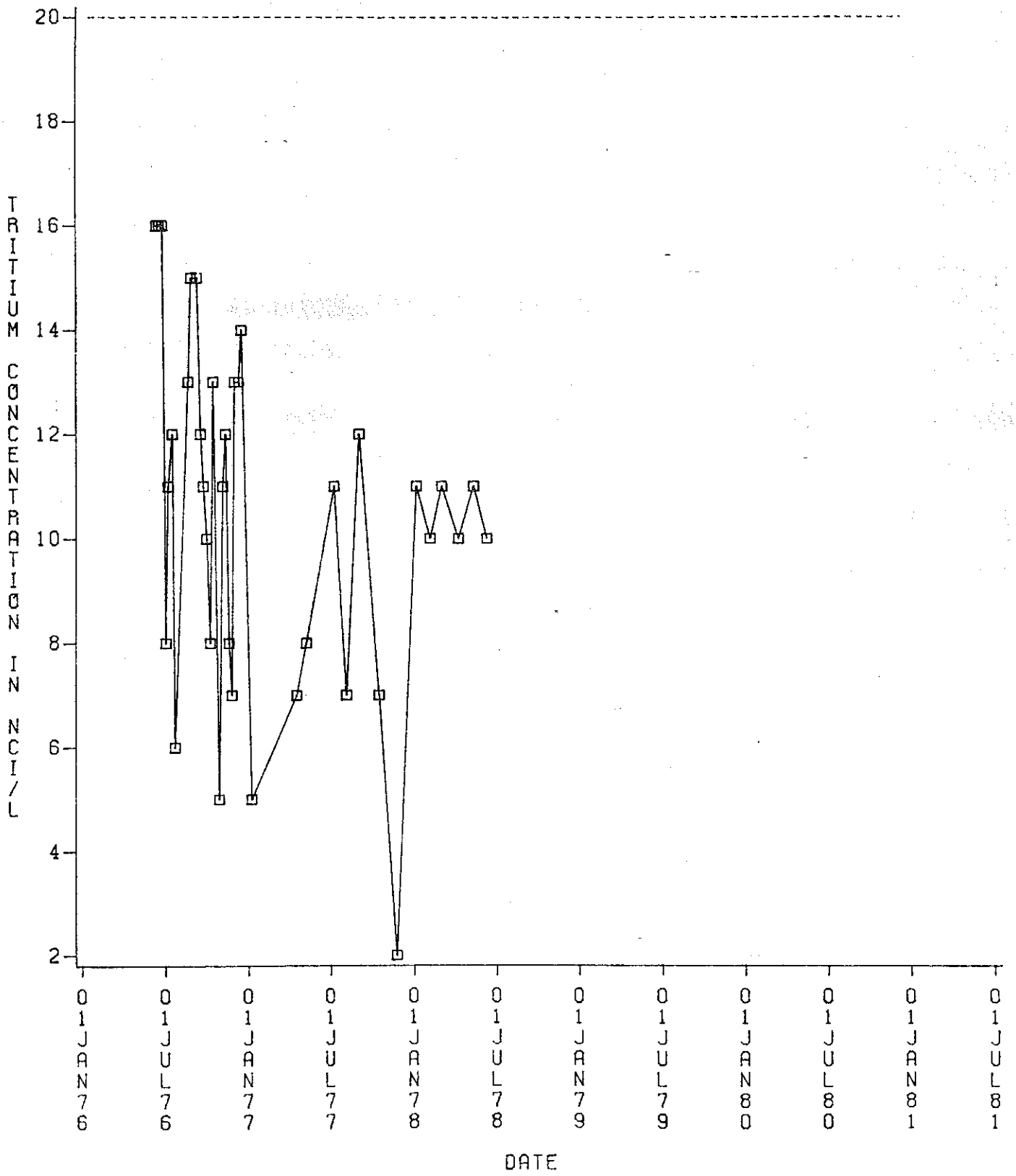
110 LEGEND: --- EPA STANDARD, ⌑ – ⌑ DP&L WELL 1

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN DP&L WELL 2



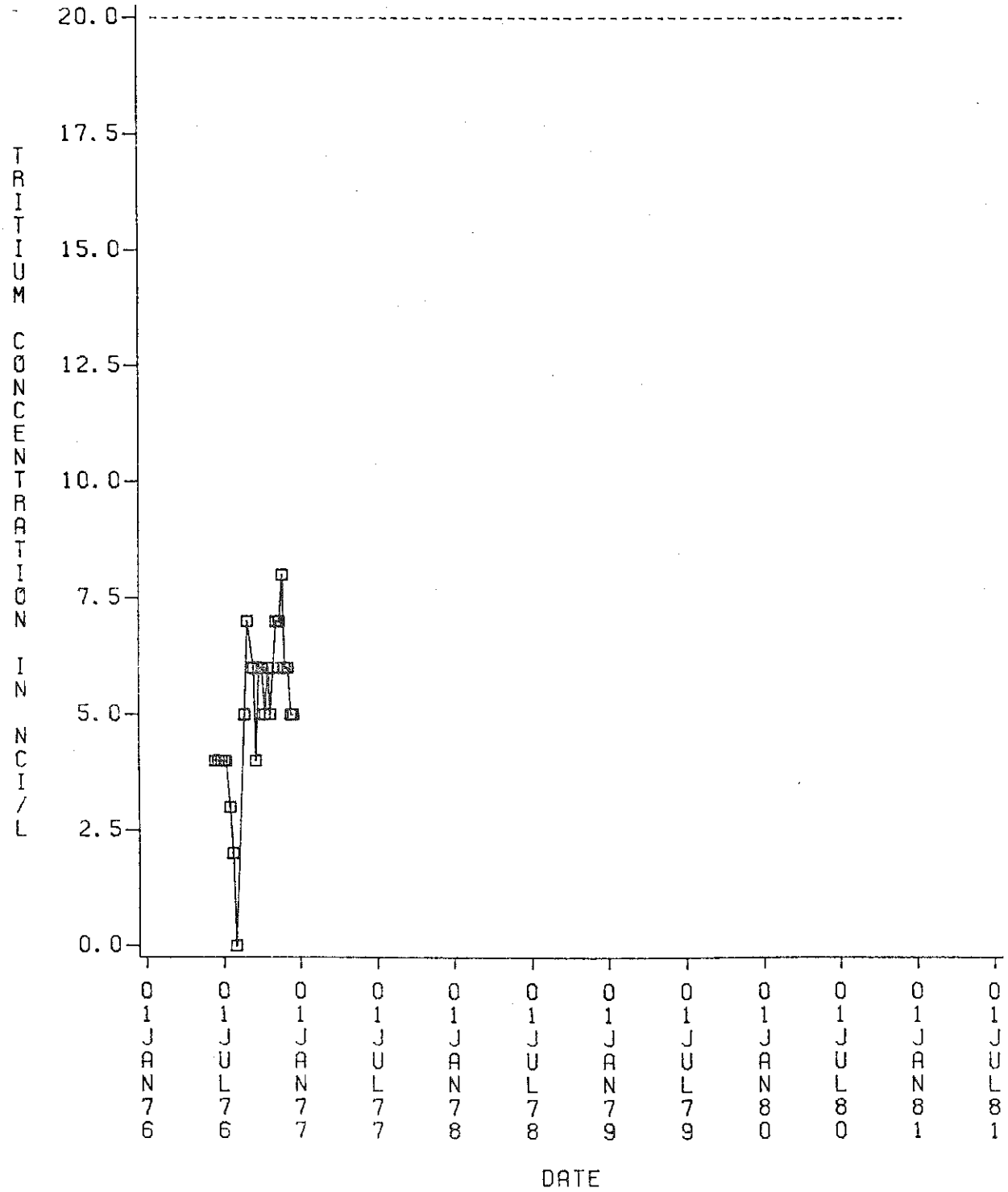
LEGEND: --- EPA STANDARD, ⌑ – ⌑ DP&L WELL 2

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN DP&L WELL 3



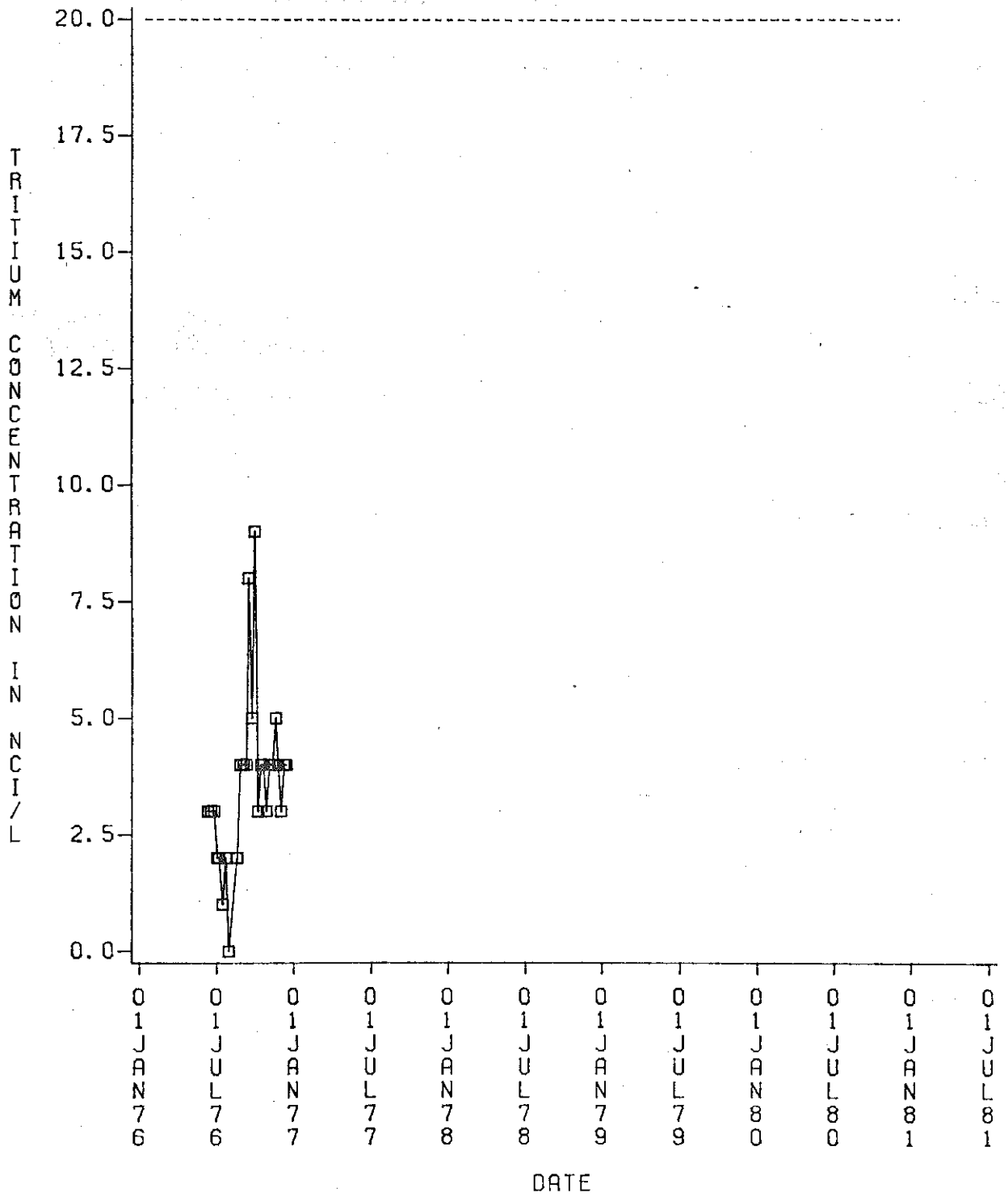
LEGEND: --- EPA STANDARD, ⌑ – ⌑ DP&L WELL 3

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN DP&L WELL 4



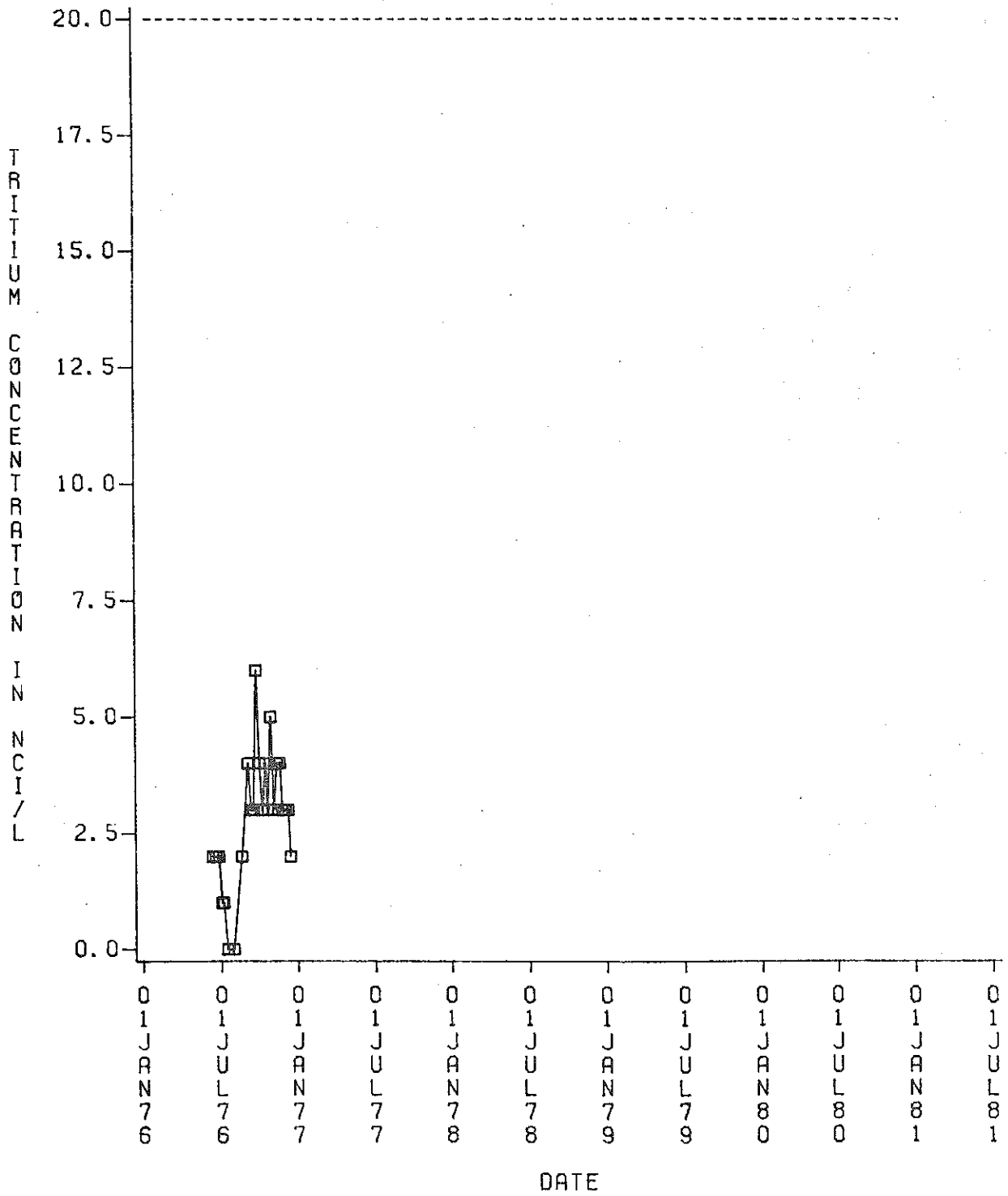
LEGEND: --- EPA STANDARD, ⌑ – ⌑ DP&L WELL 4

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN DP&L WELL 5



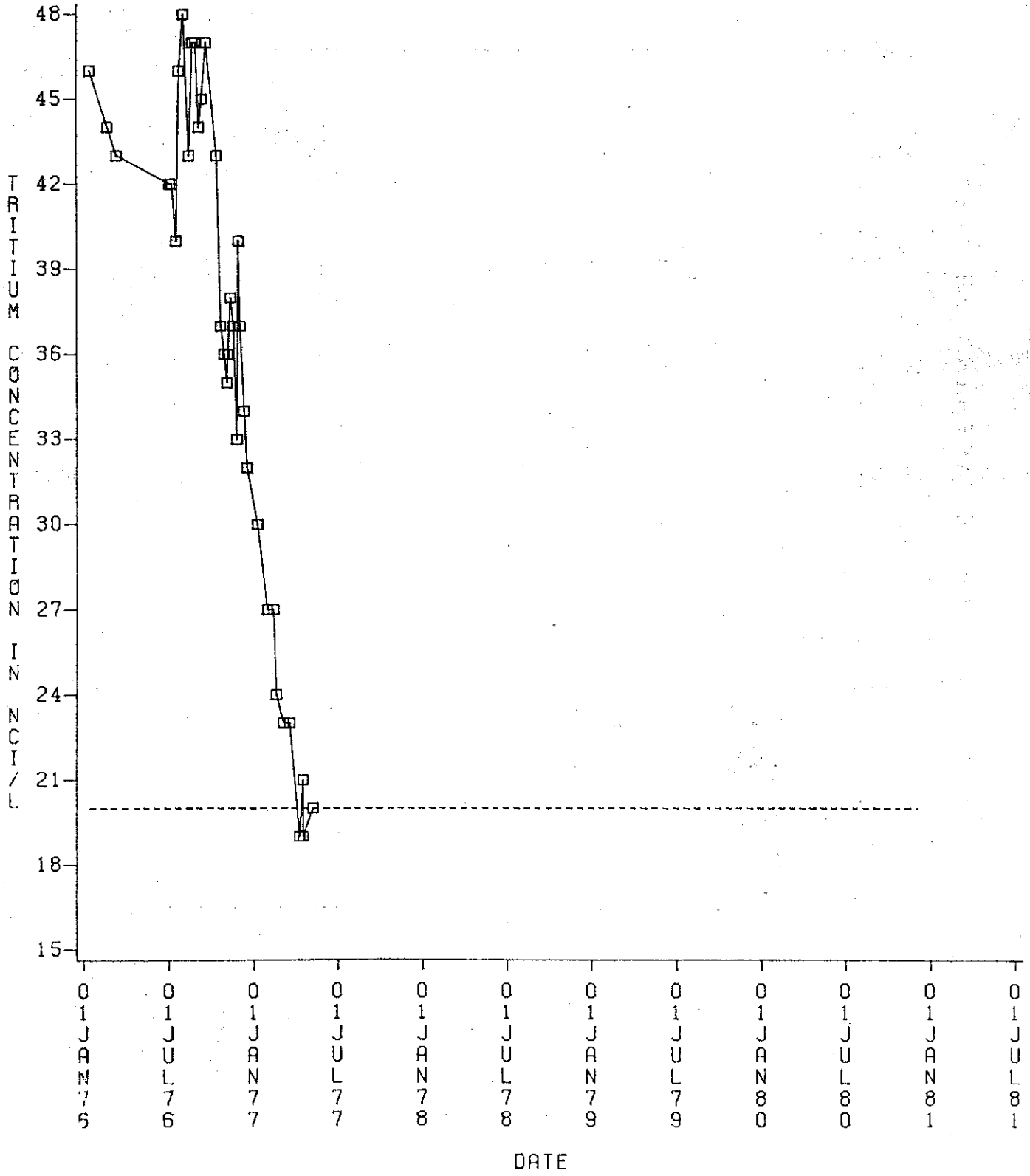
LEGEND: ---- EPA STANDARD, ⌑ – ⌑ DP&L WELL 5

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN DP&L WELL 6



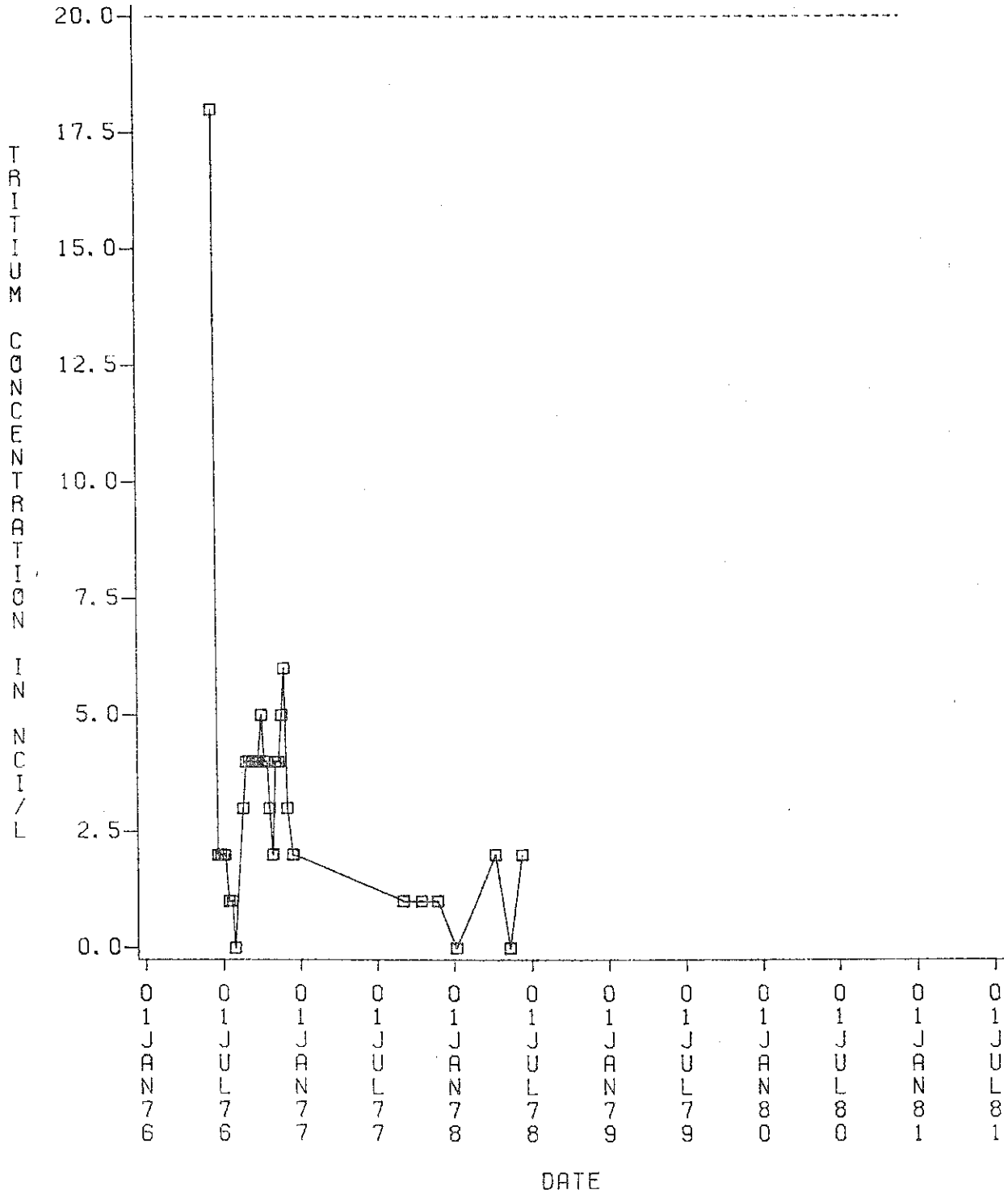
LEGEND: --- EPA STANDARD, ⌑ – ⌑ DP&L WELL 6

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN JW



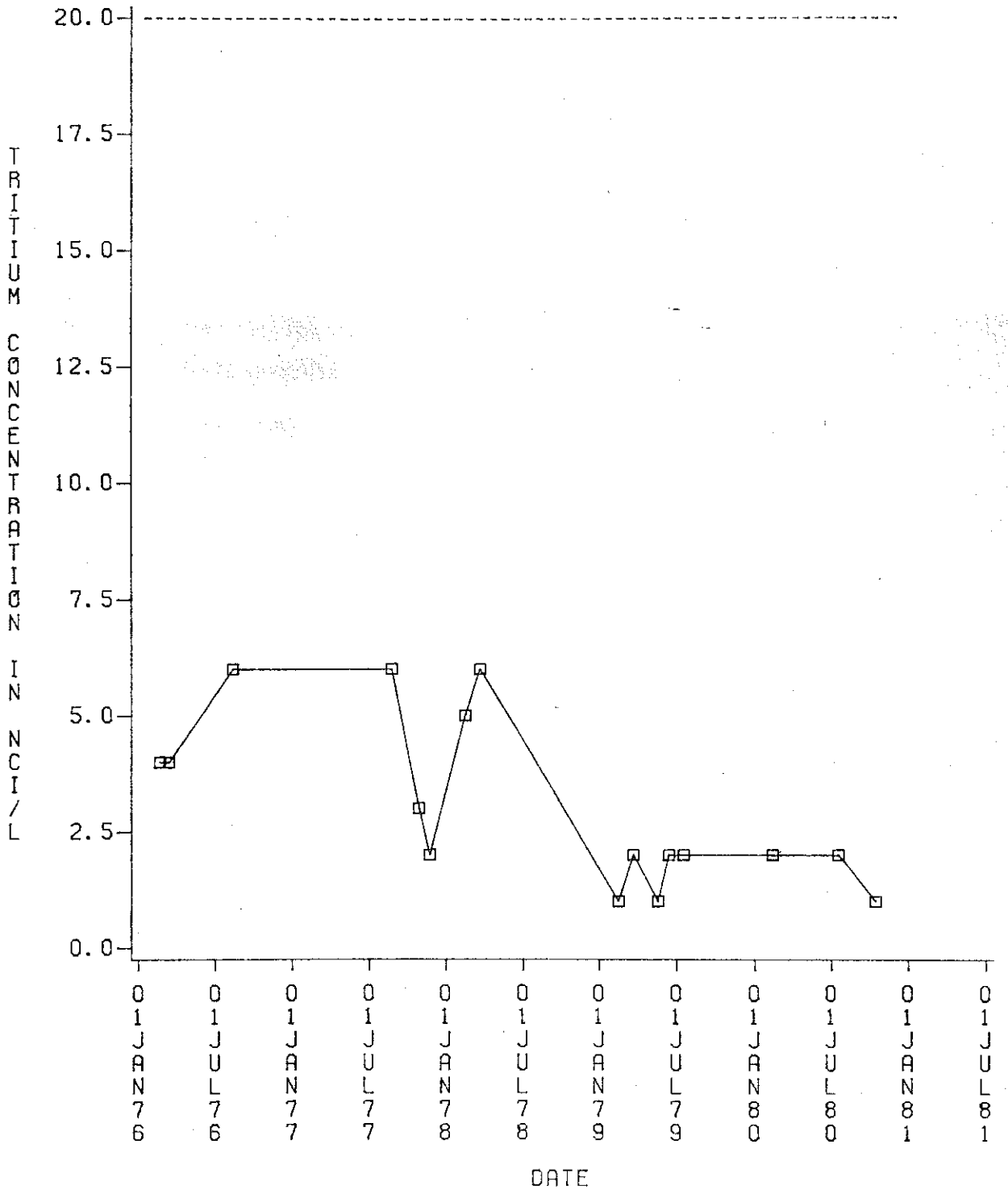
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL JW

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN KK



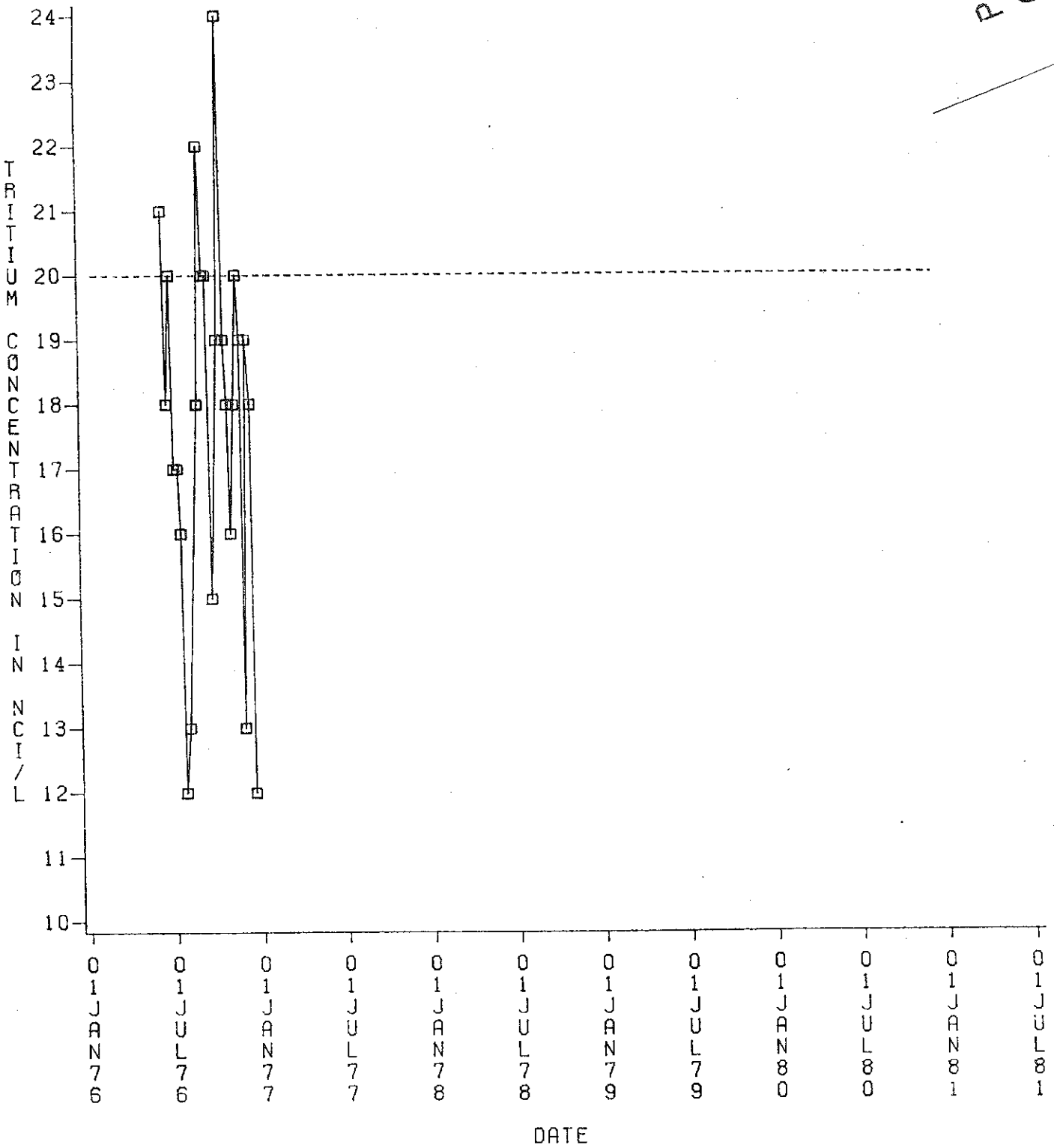
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL KK

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN MIAMISBURG DRINKING WATER



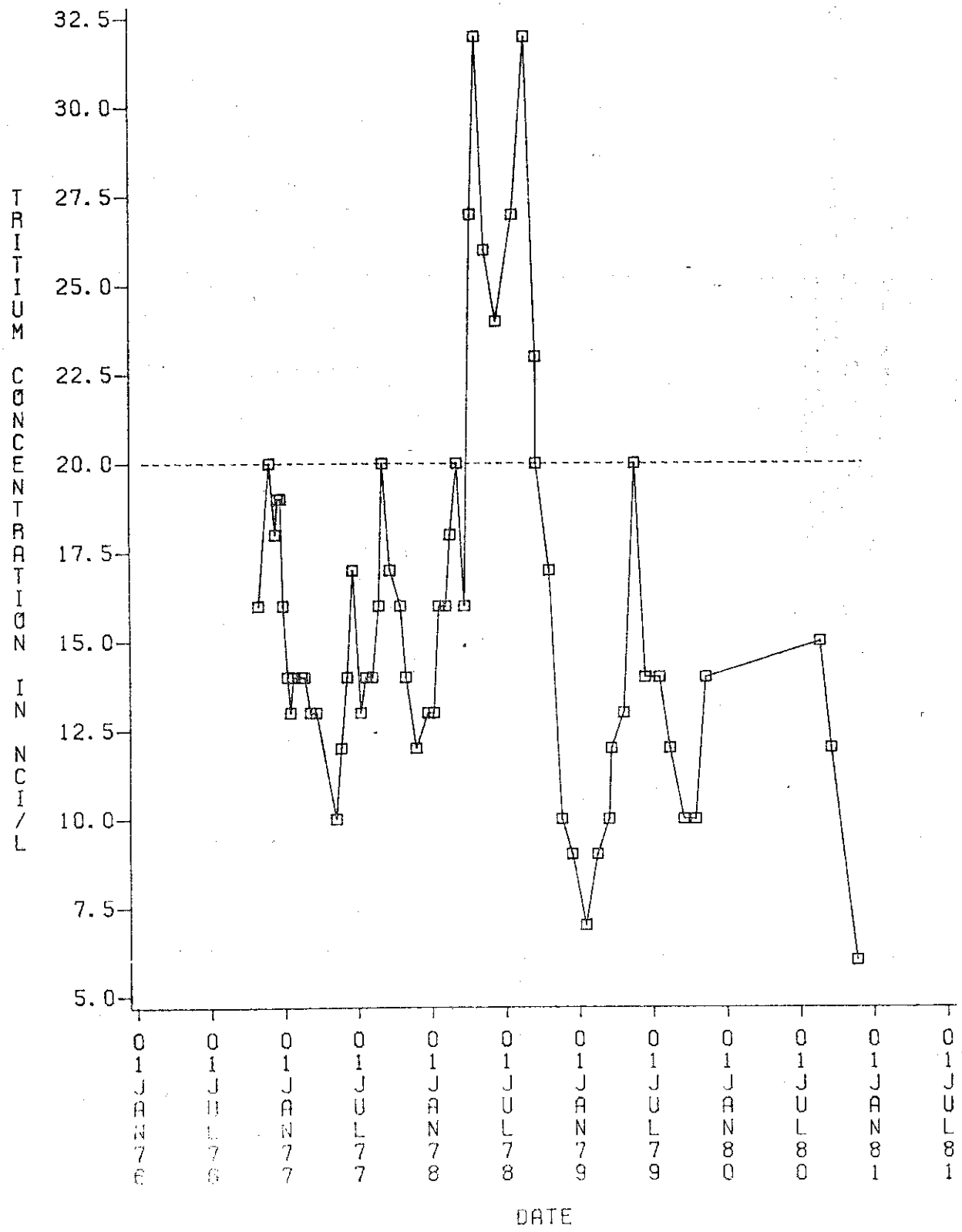
LEGEND: --- EPA STANDARD, ⌑ – ⌑ MIAMISBURG DRINKING WATER

POTABLE WATER STANDARDS PROJECT – MOU
CONCENTRATION OF TRITIUM IN MIAMISBURG OBSER



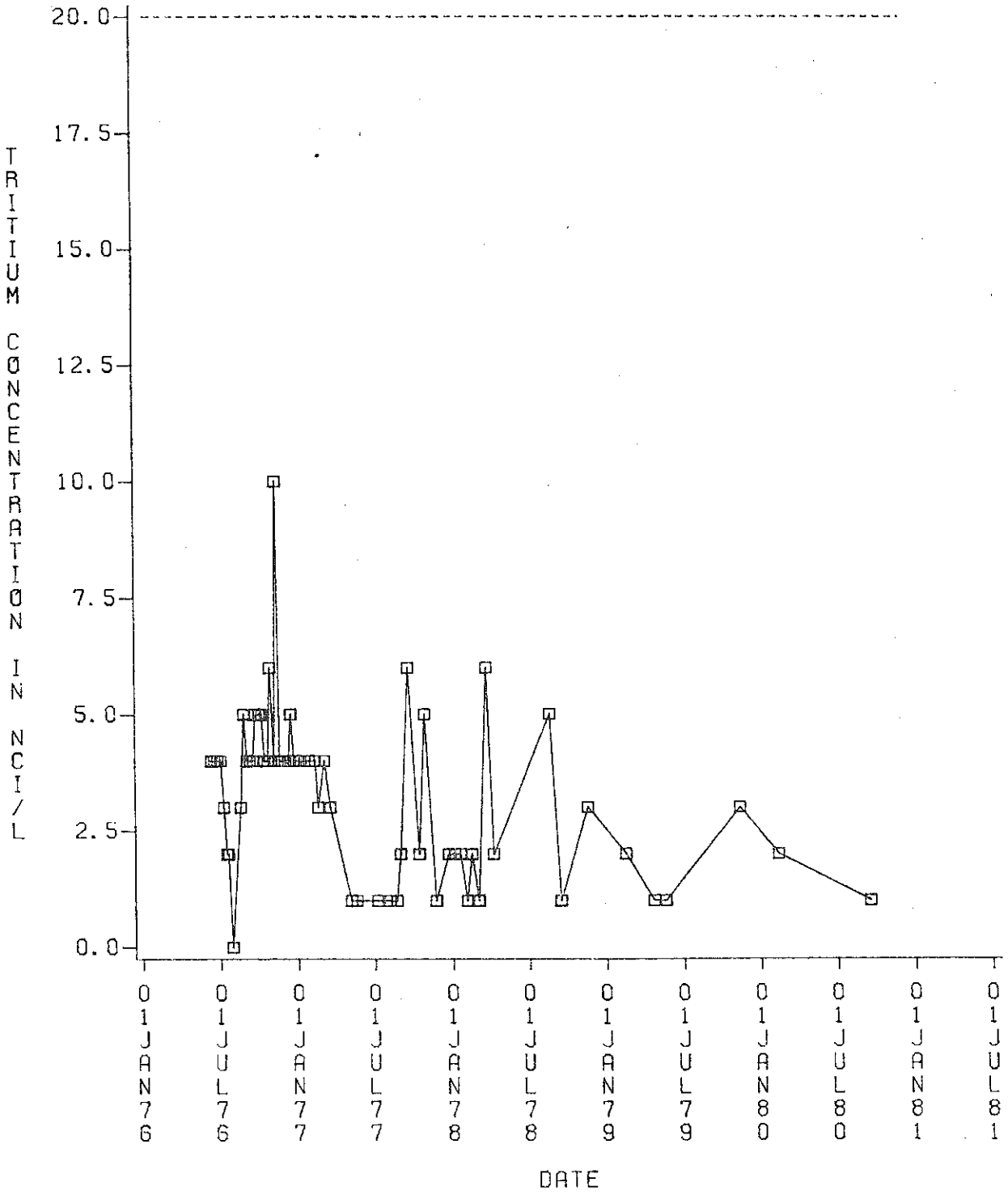
LEGEND: --- EPA STANDARD, ⌑ – ⌑ MIAMISBURG OBSERVATION WELL

..LE WATER STANDARDS PROJECT – MOUND FACILITY
..NCENTRATION OF TRITIUM IN MIAMISBURG WELL 3



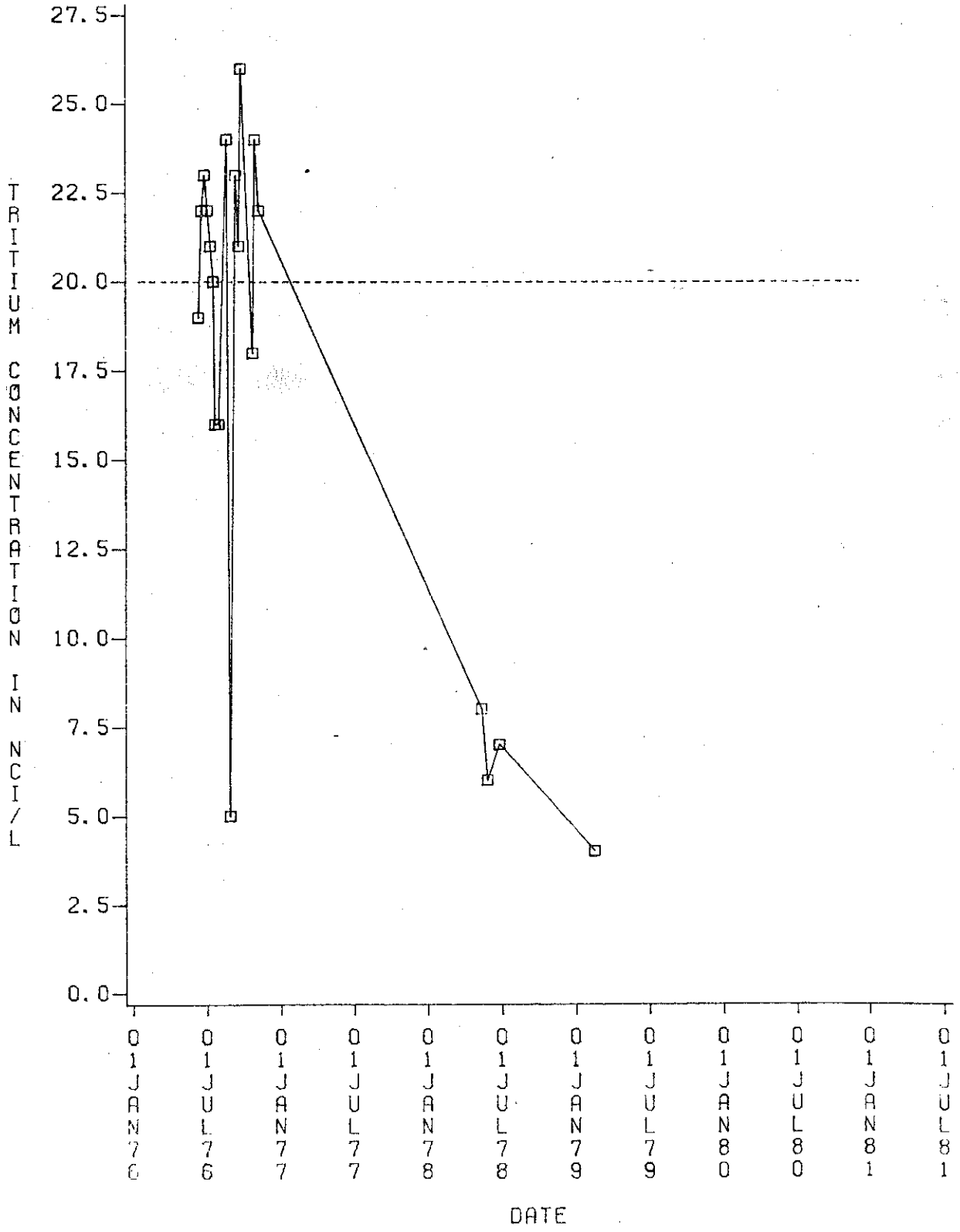
LEGEND: --- EPA STANDARD, ⌑ – ⌑ MIAMISBURG WELL 3

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN MIAMISBURG WELL 8



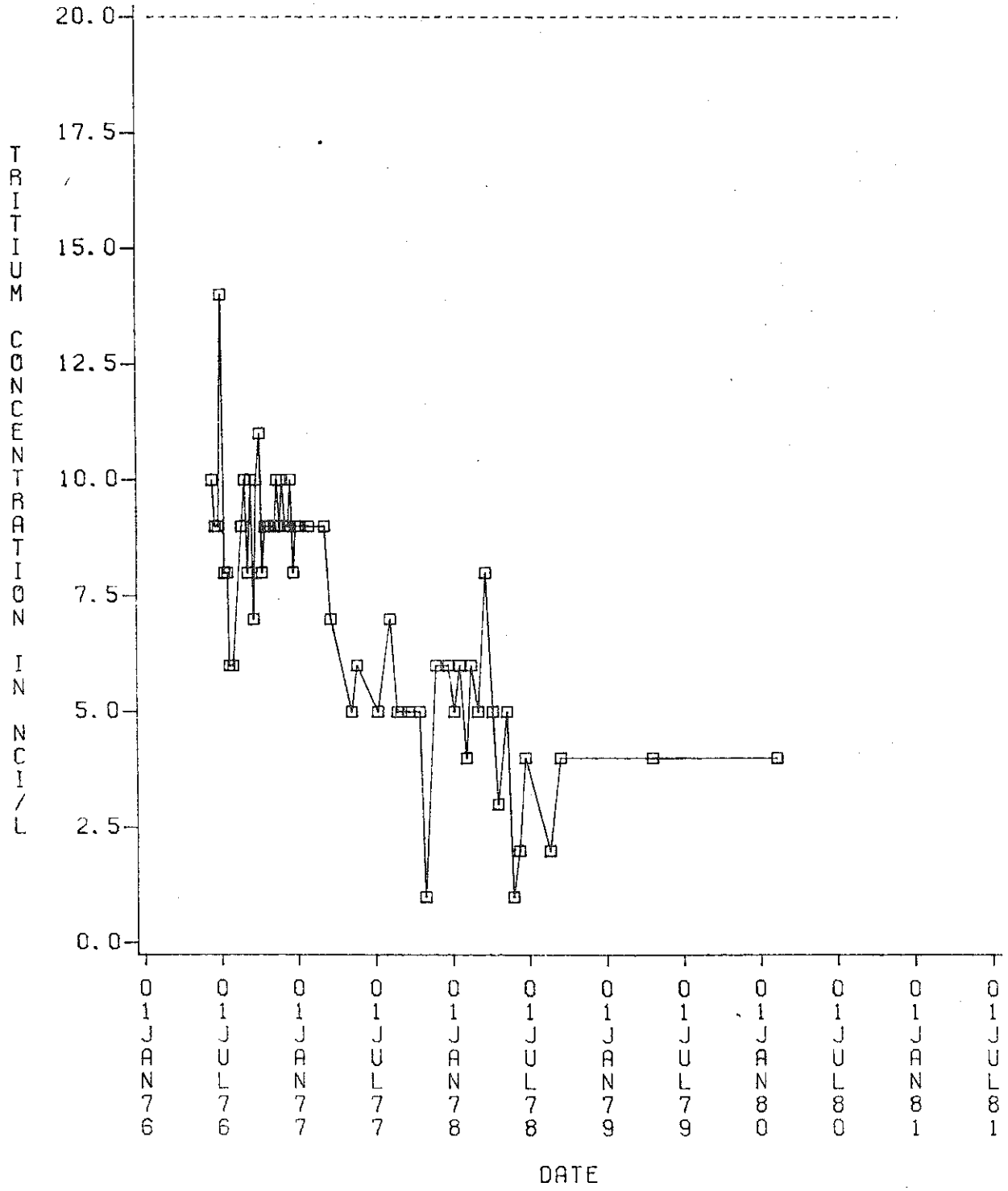
LEGEND: --- EPA STANDARD, ⌑ – ⌑ MIAMISBURG WELL 8

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN MIAMISBURG WELL 9



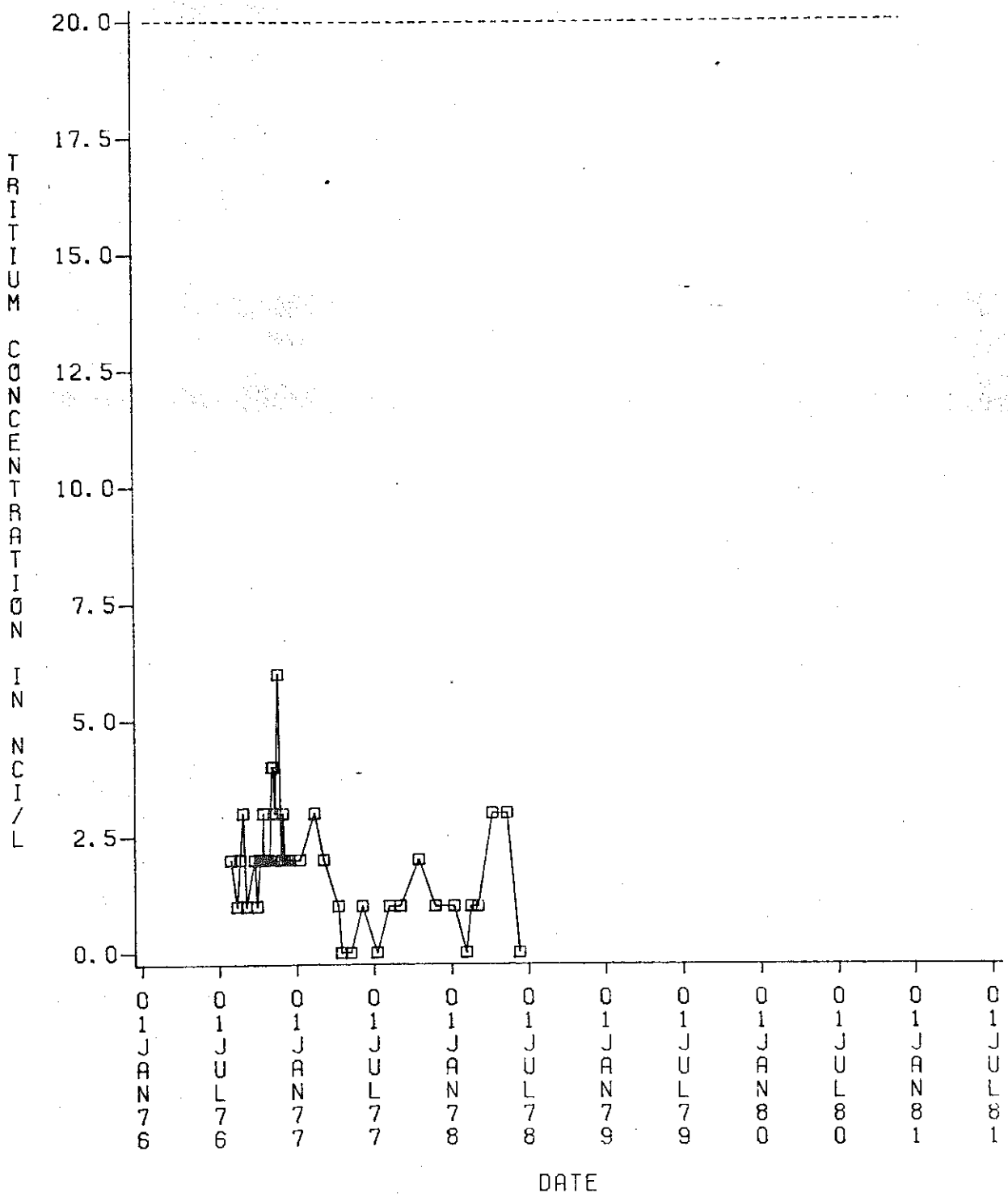
LEGEND: --- EPA STANDARD, ⌑ – ⌑ MIAMISBURG WELL 9

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN MIAMISBURG WELL 10



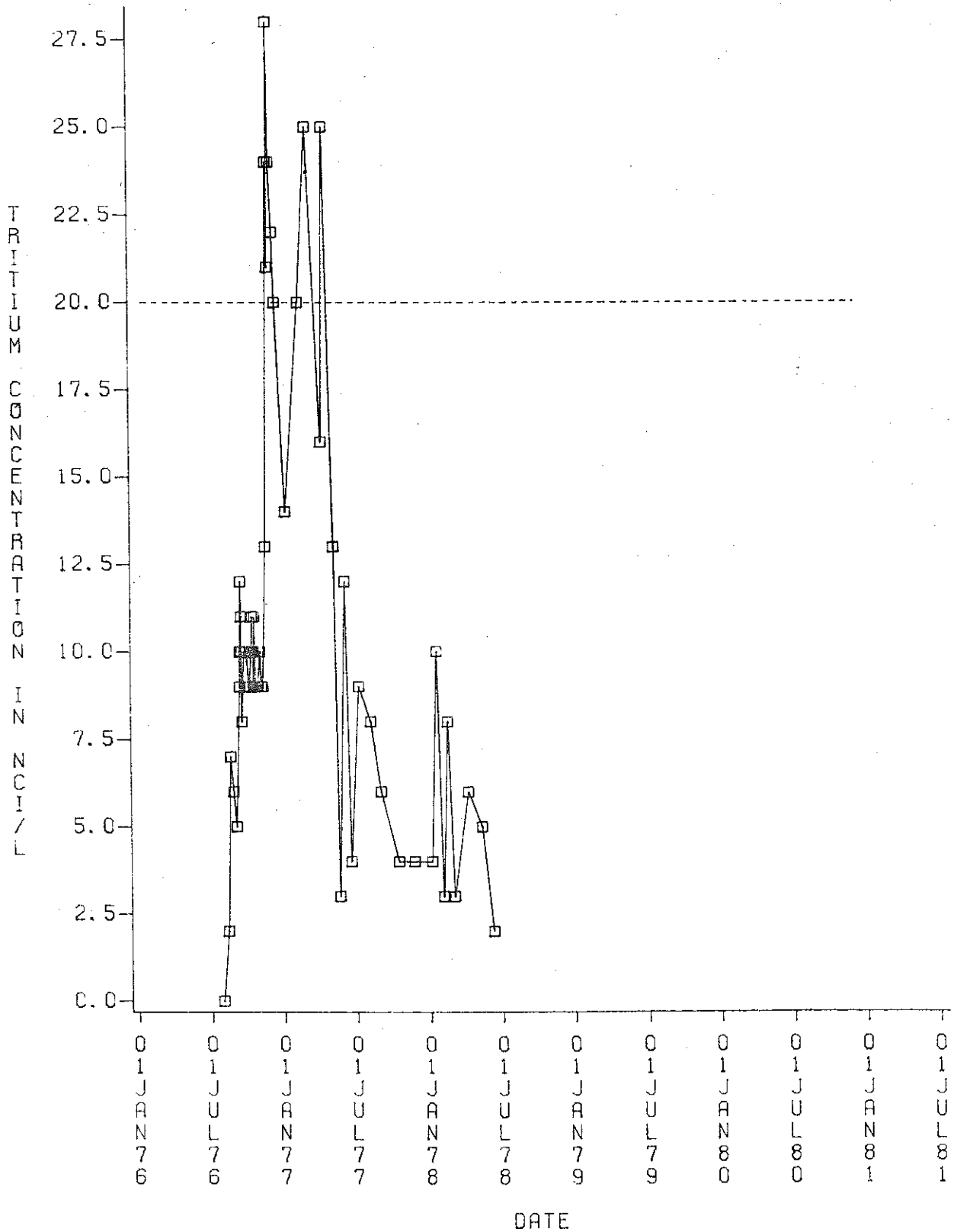
LEGEND: --- EPA STANDARD, ⌑ – ⌑ MIAMISBURG WELL 10

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN OBSERVATION WELL 1



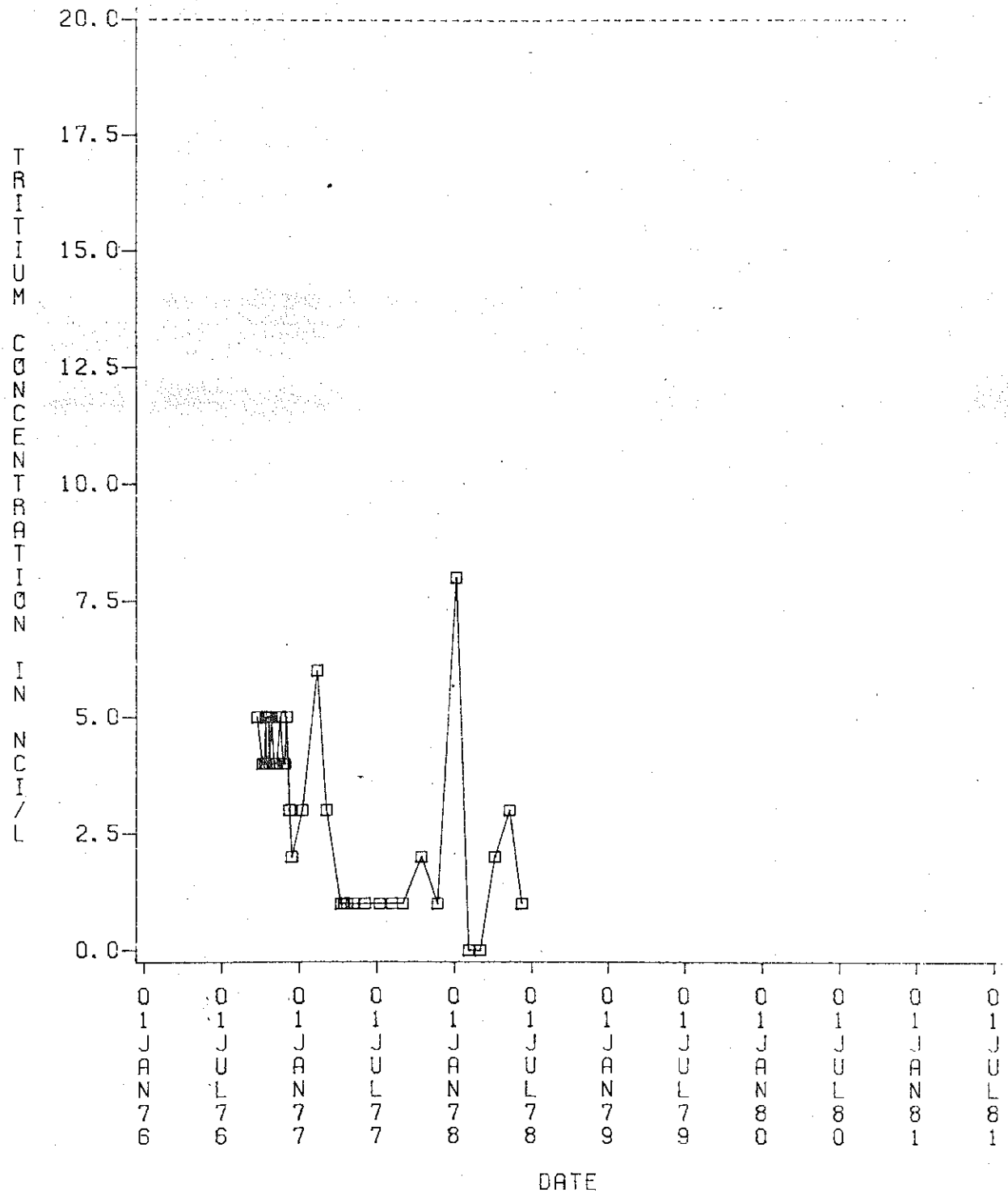
LEGEND: --- EPA STANDARD, ⌑ – ⌑ OBSERVATION WELL 1

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN OBSERVATION WELL 6



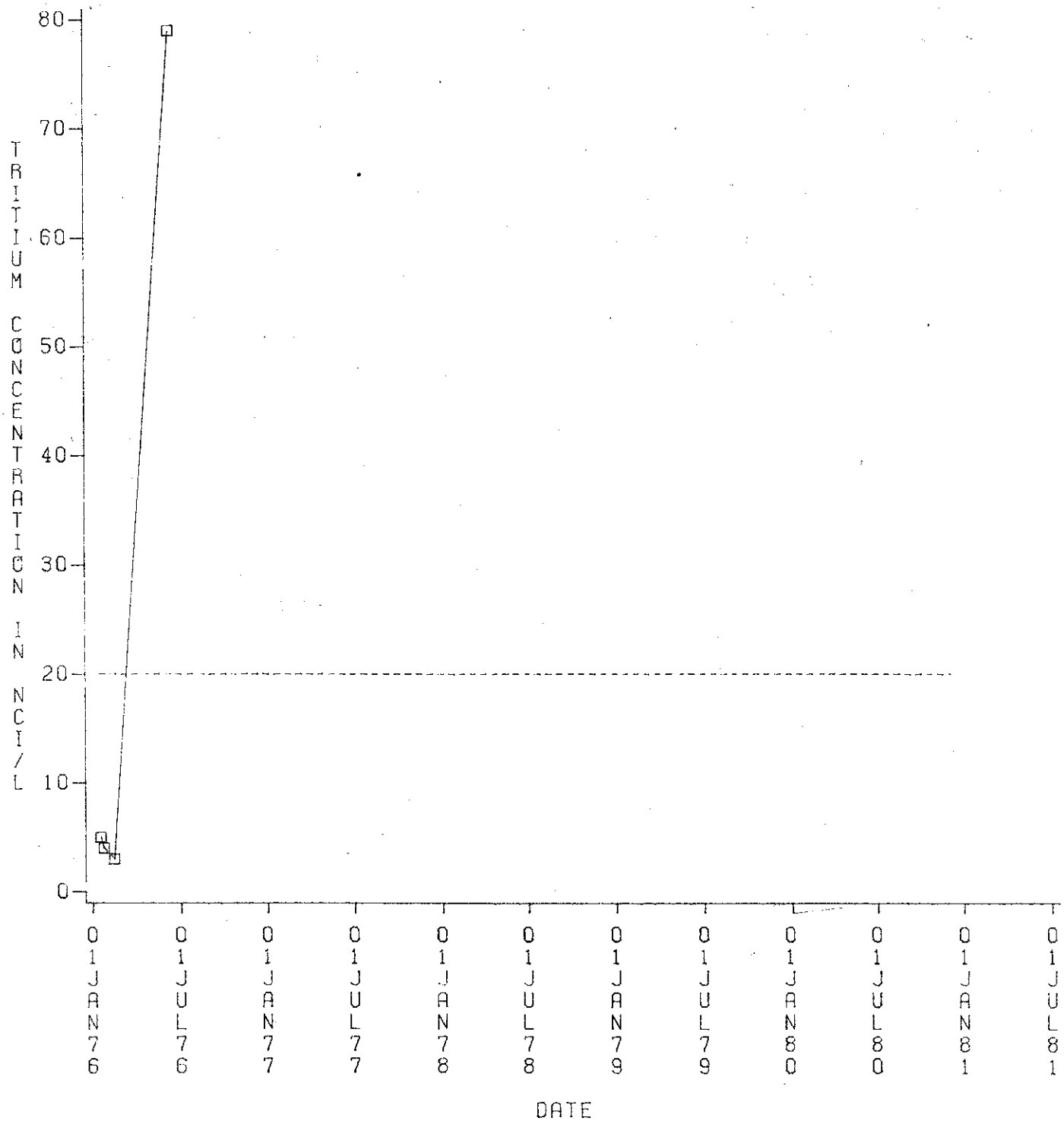
LEGEND: --- EPA STANDARD, ⌑ – ⌑ OBSERVATION WELL 6

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN OBSERVATION WELL 8



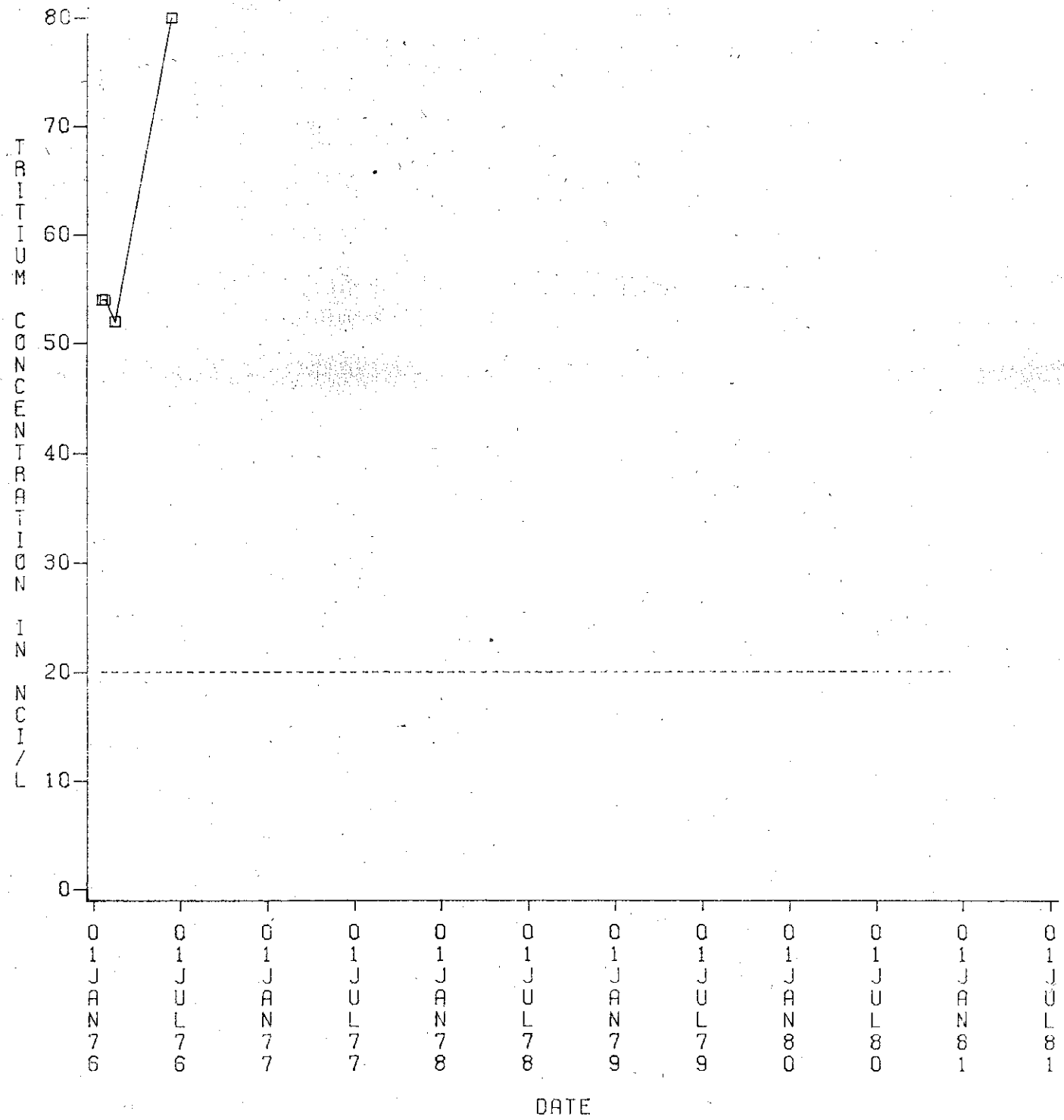
LEGEND: --- EPA STANDARD, ⌑ – ⌑ OBSERVATION WELL 8

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 1



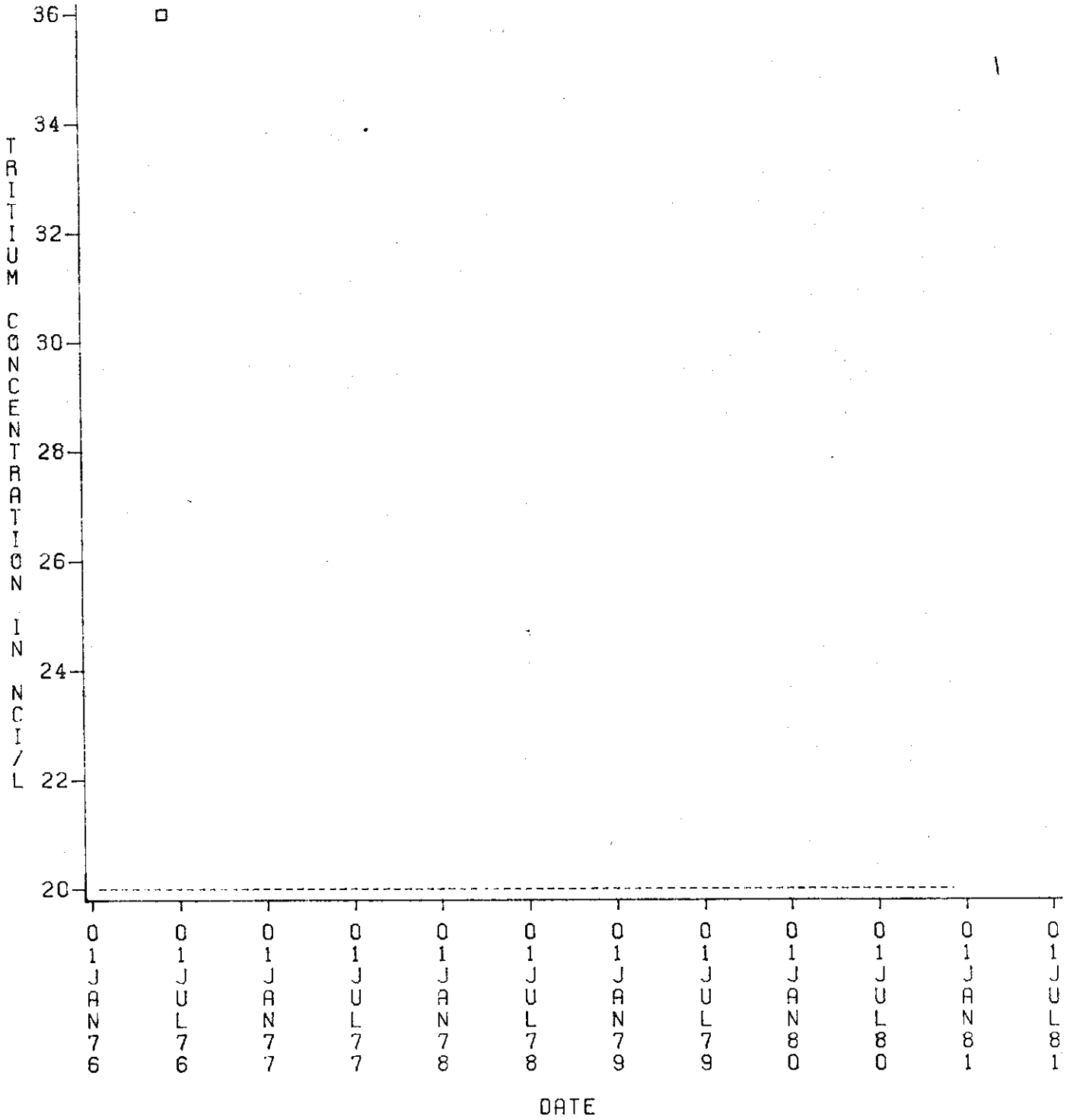
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 1

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 2



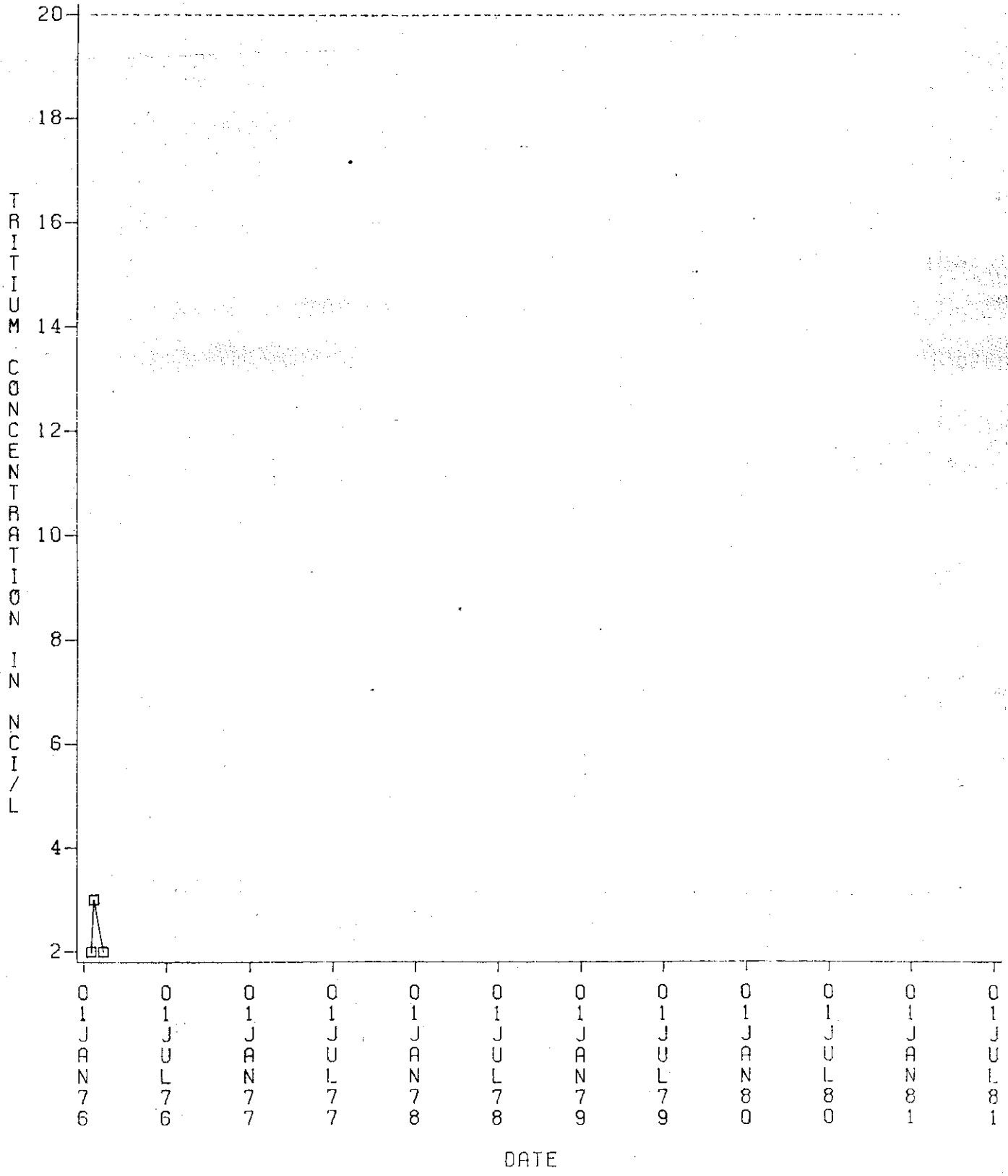
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 2

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 3



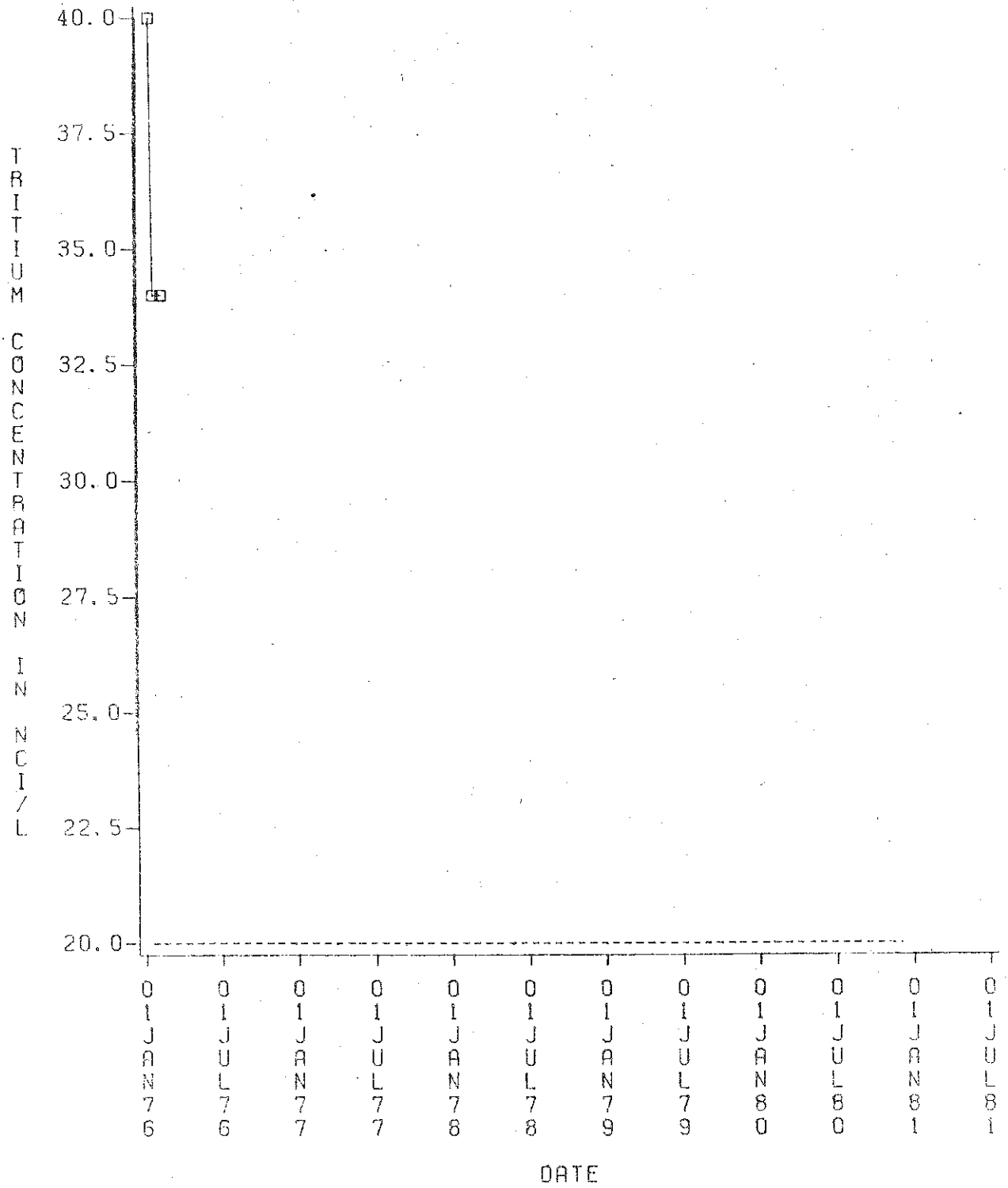
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 3

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 4



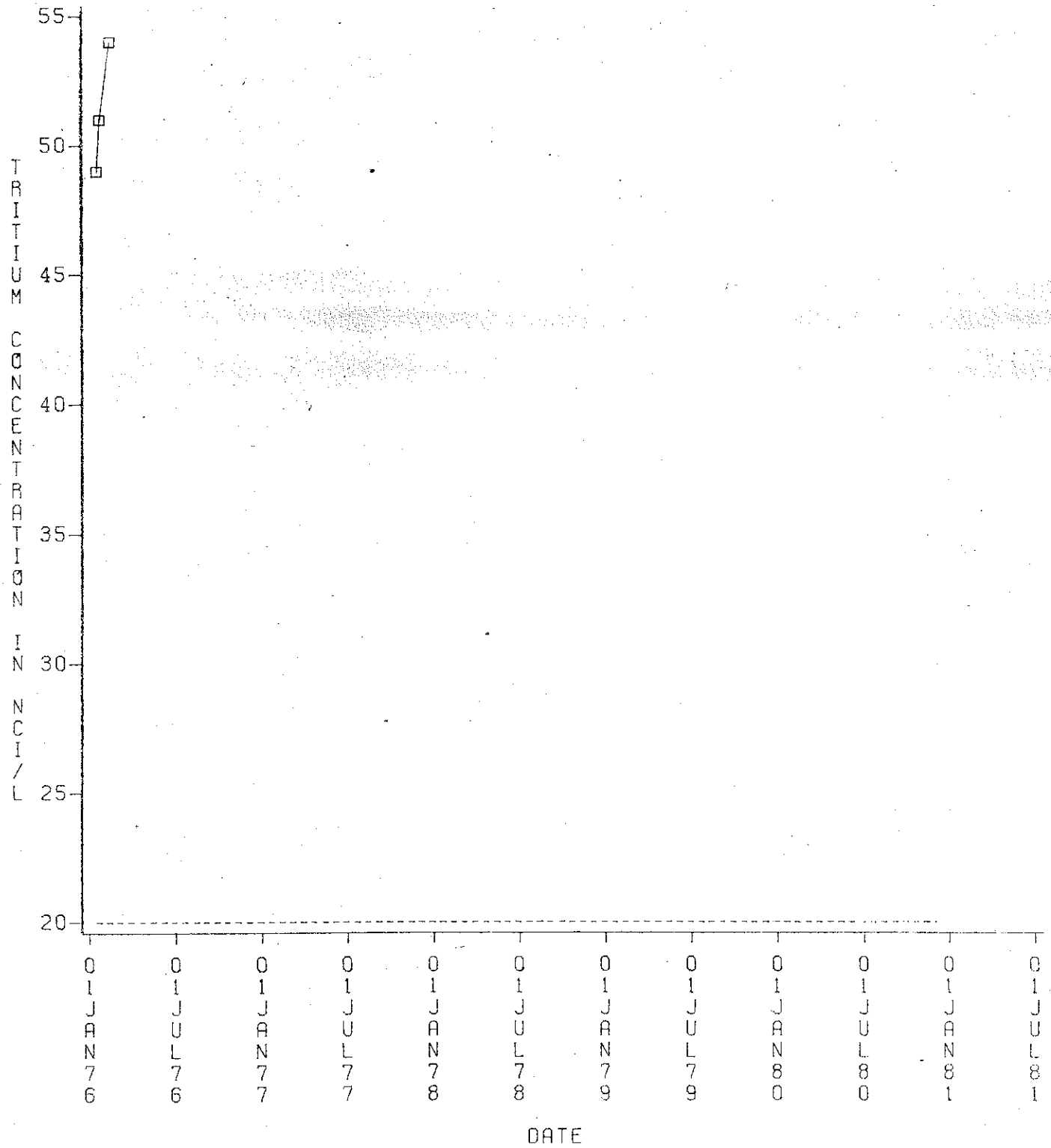
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 4

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 5



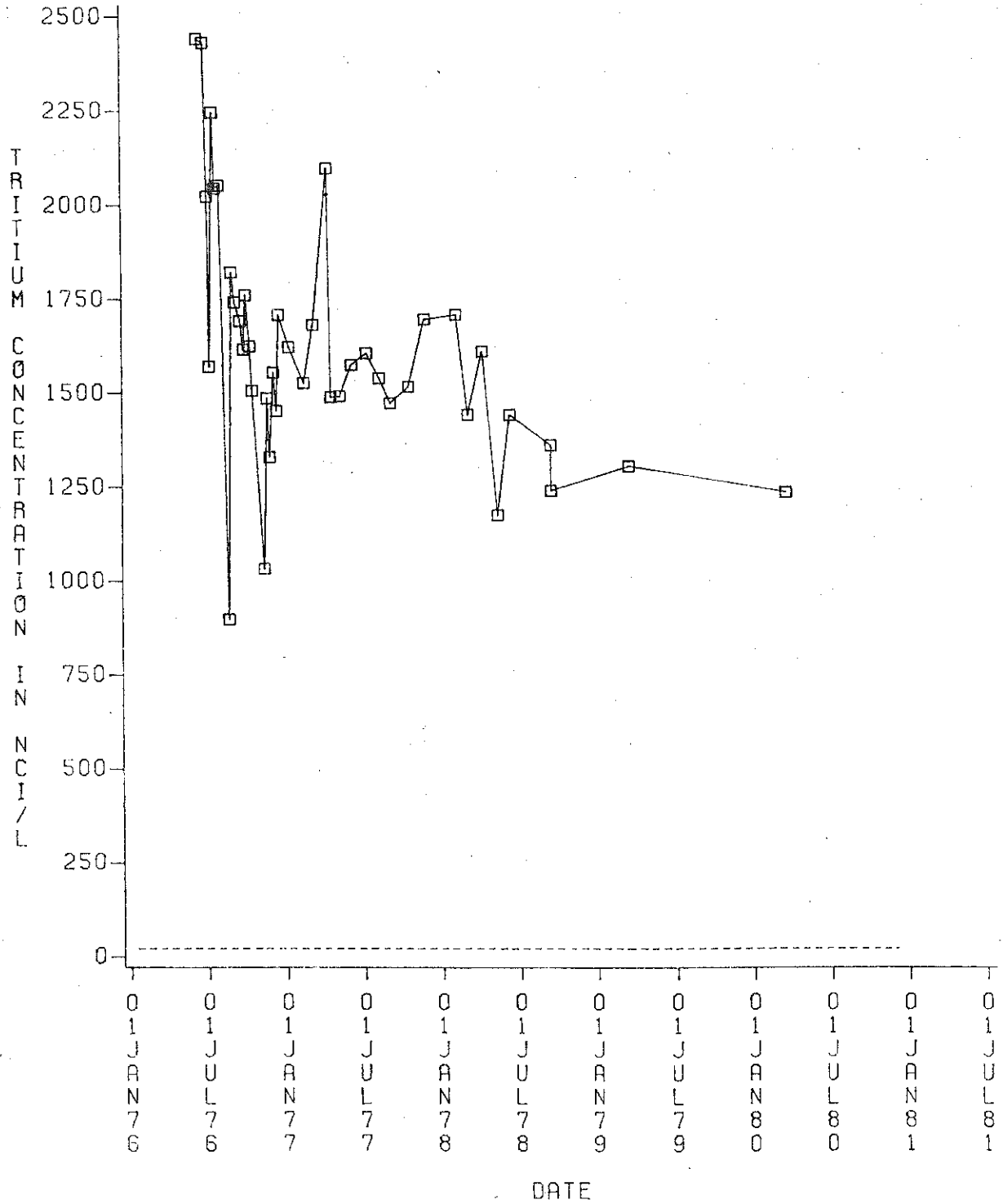
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 5

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 6



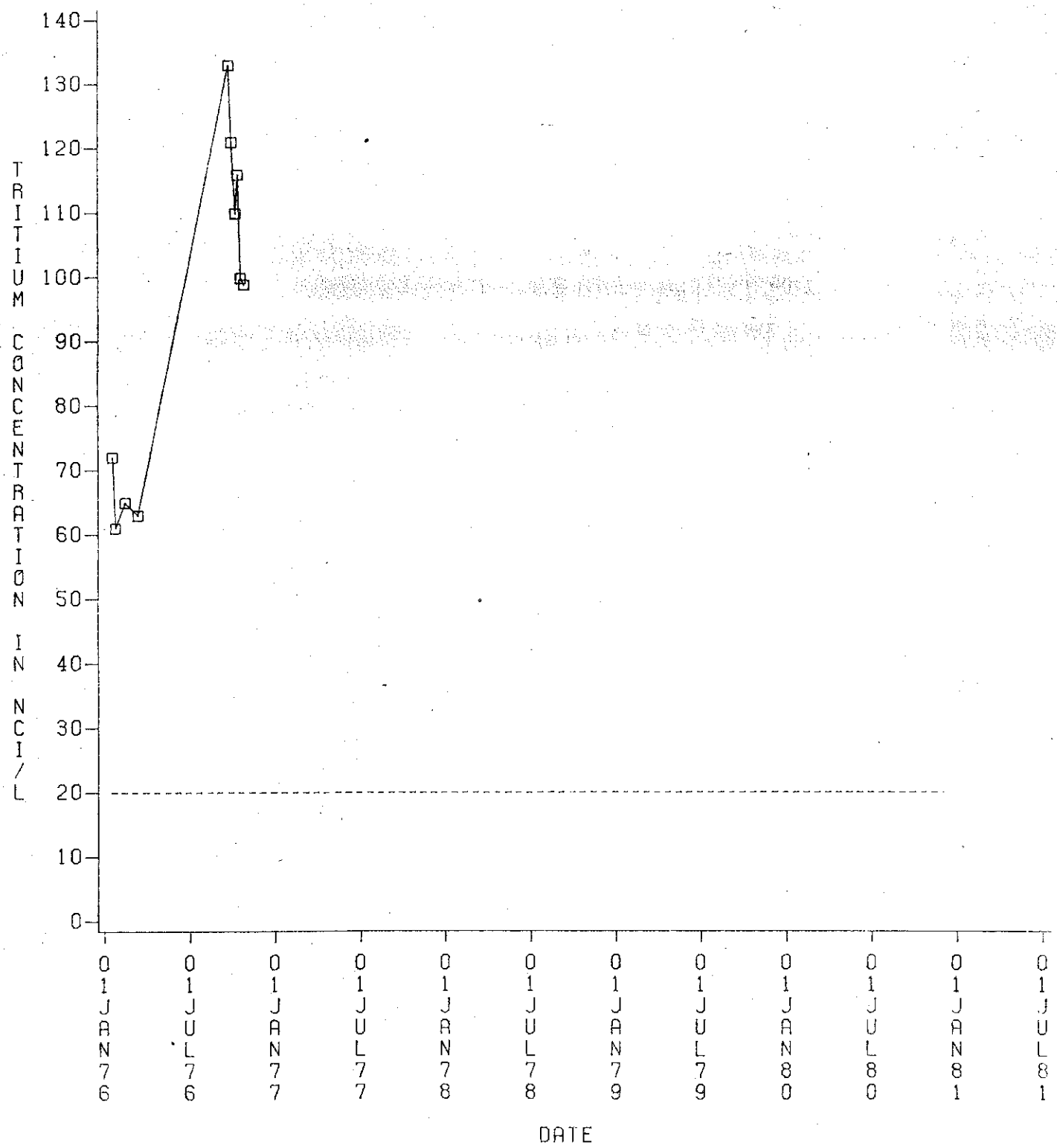
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 6

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 19 4



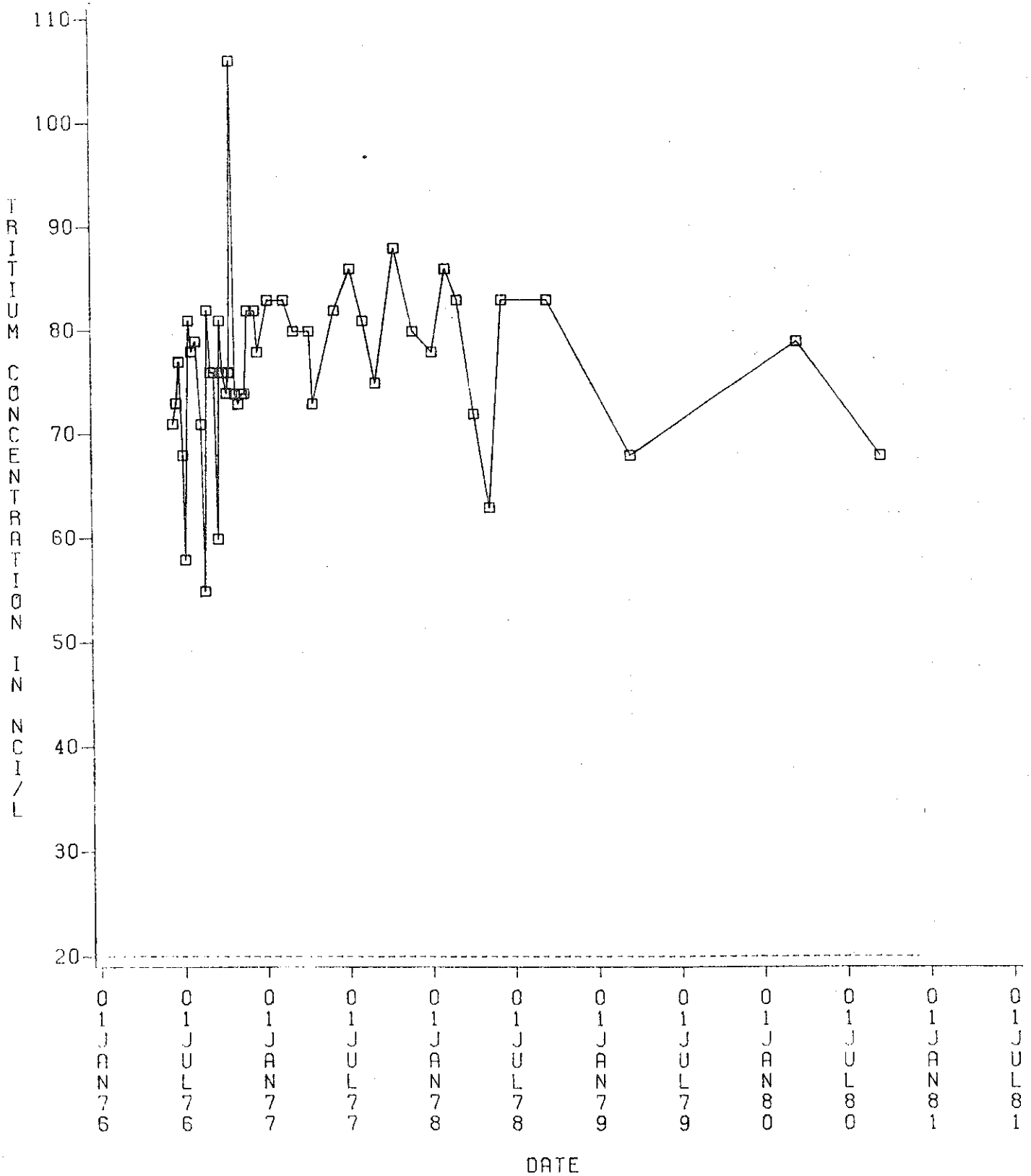
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 19 4

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 20 1



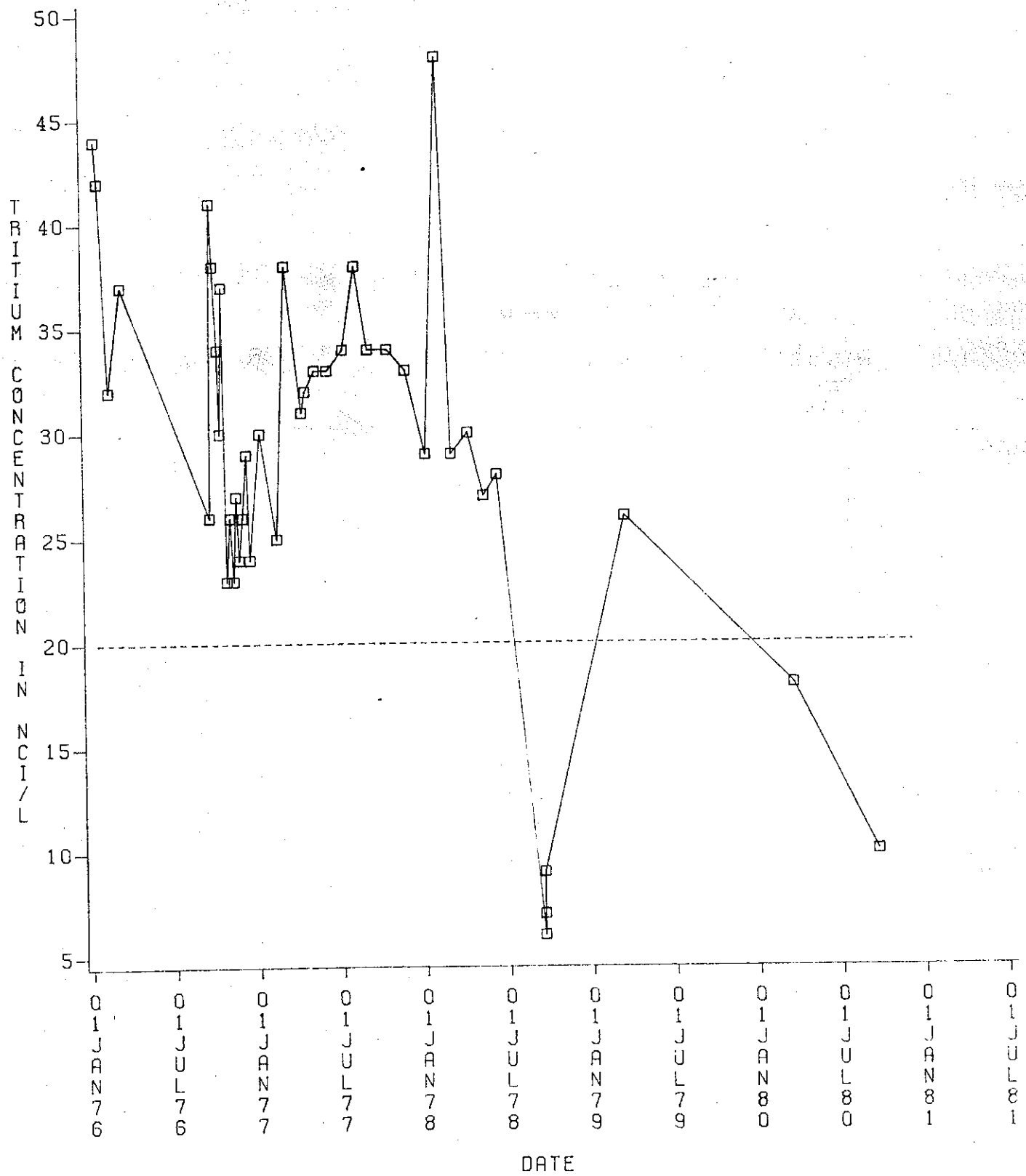
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 20 1

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 27 2



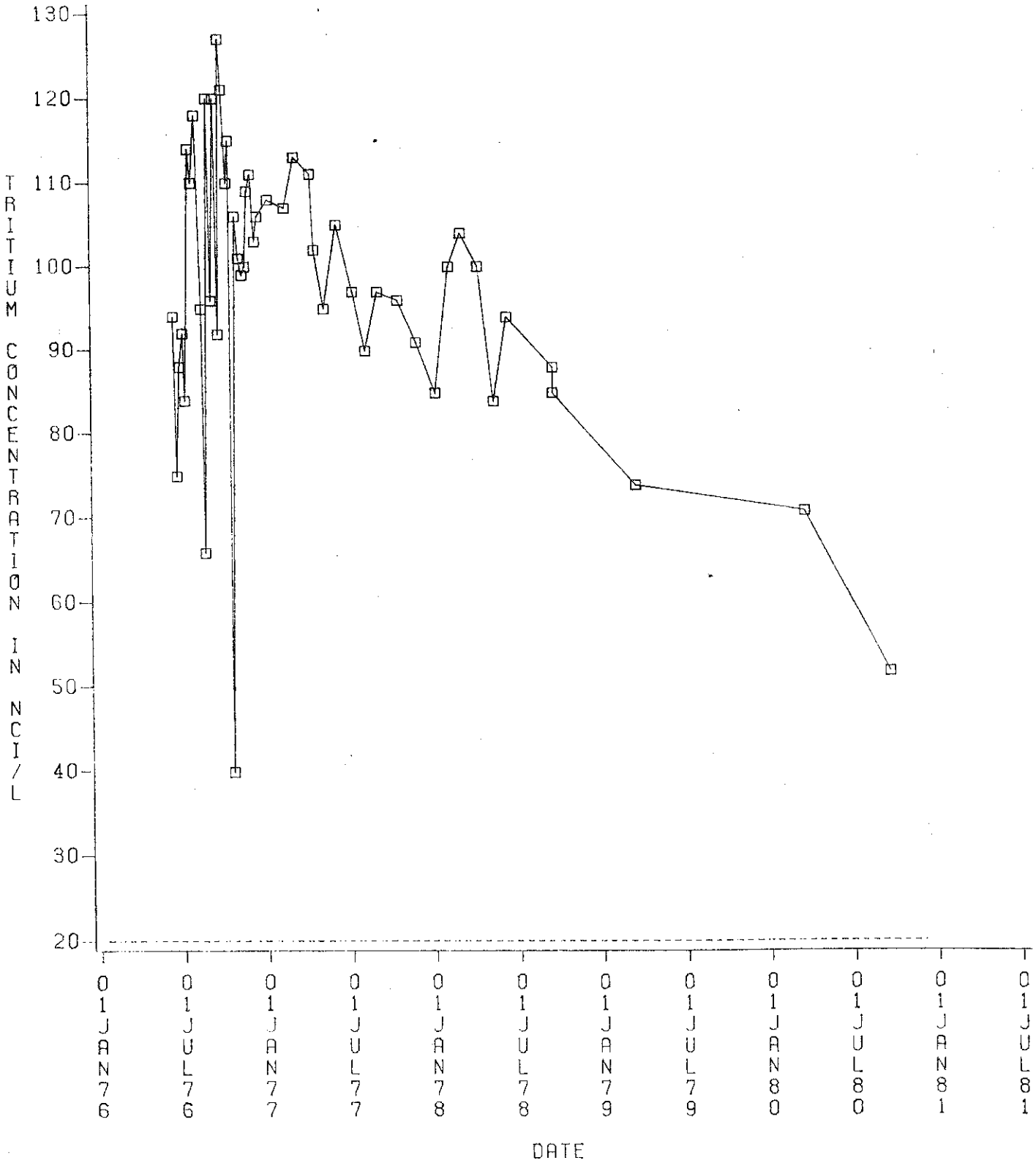
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 27 2

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 28 1



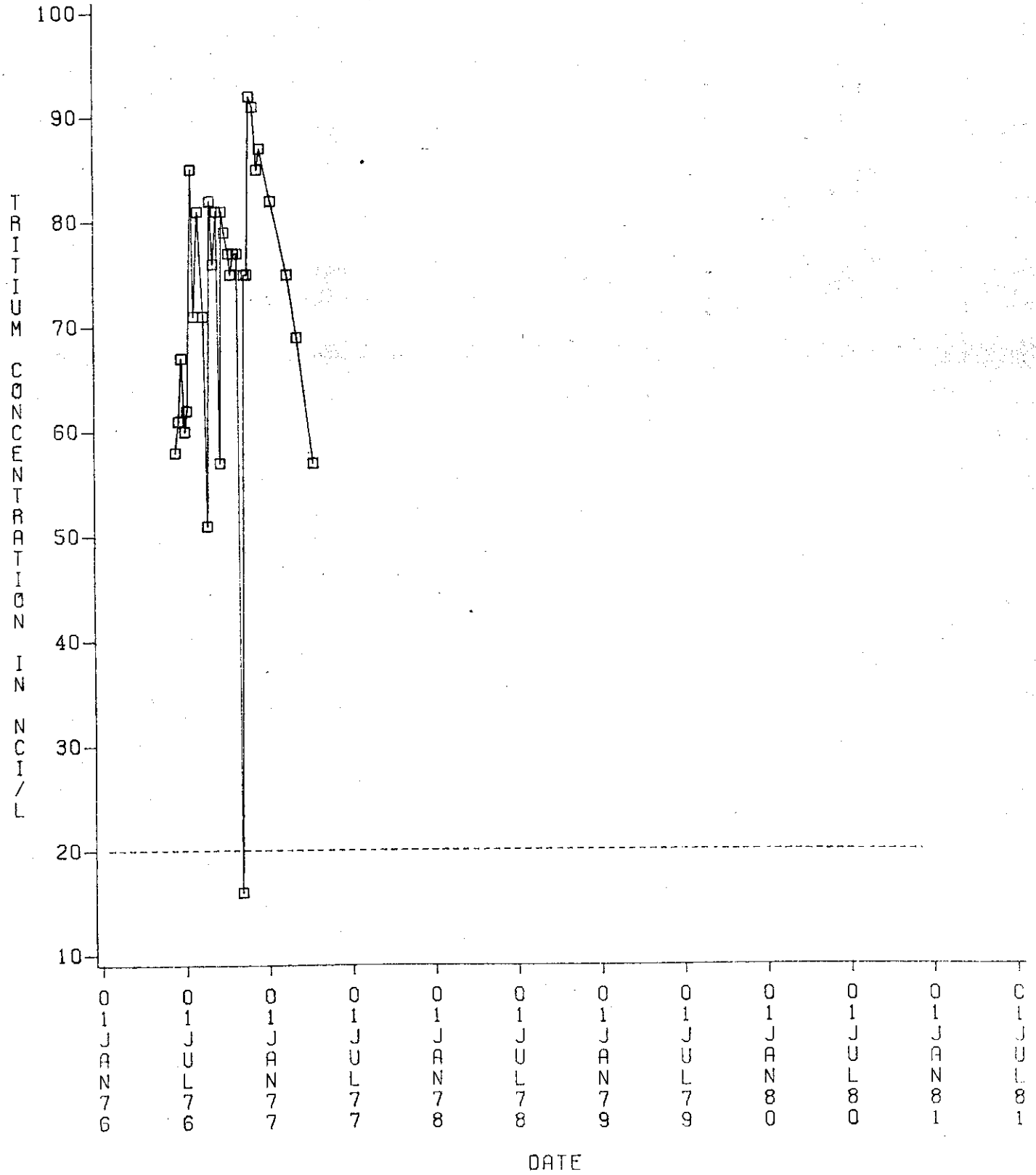
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 28 1

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 33 1



LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 33 1

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 34 1



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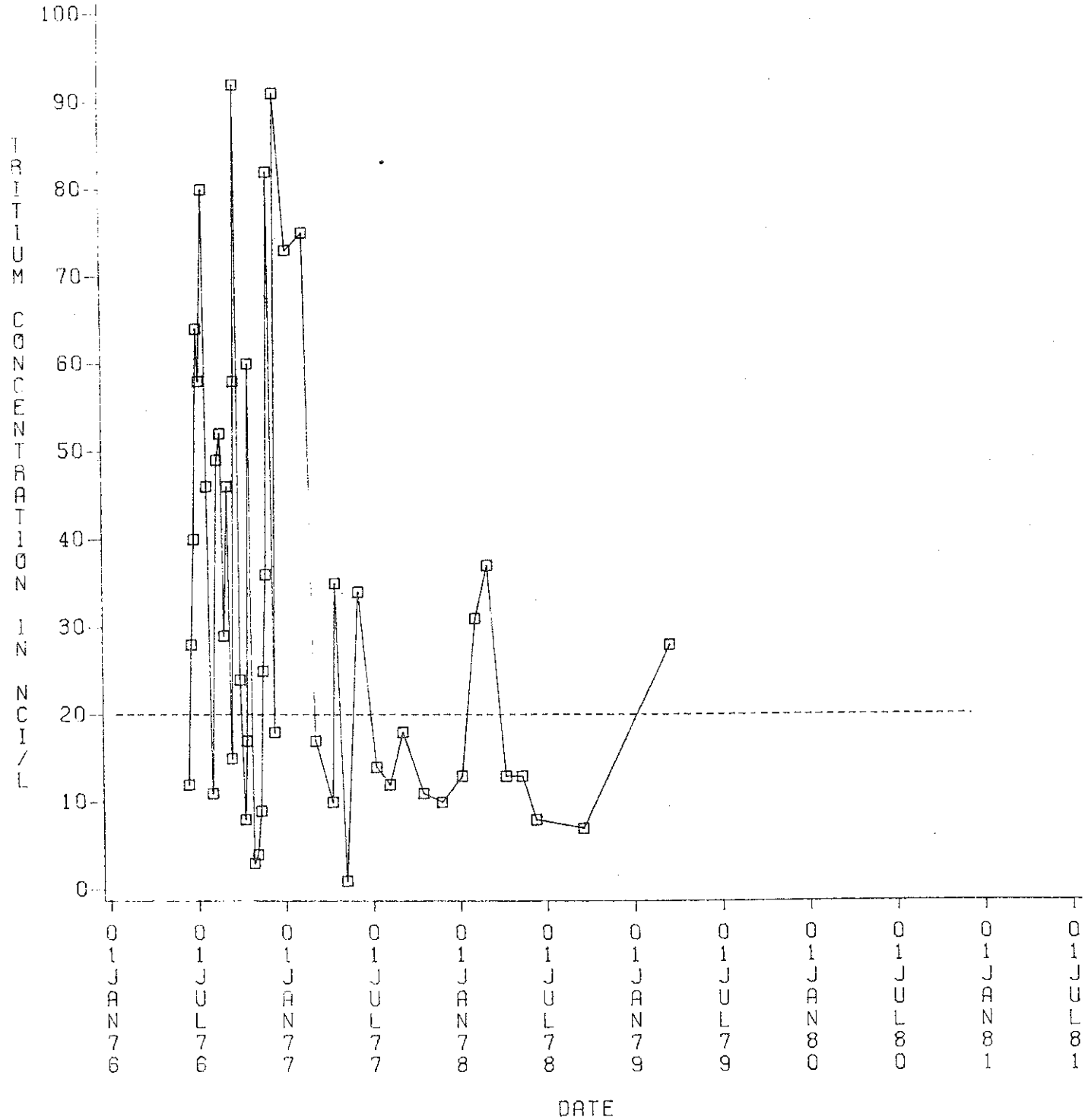
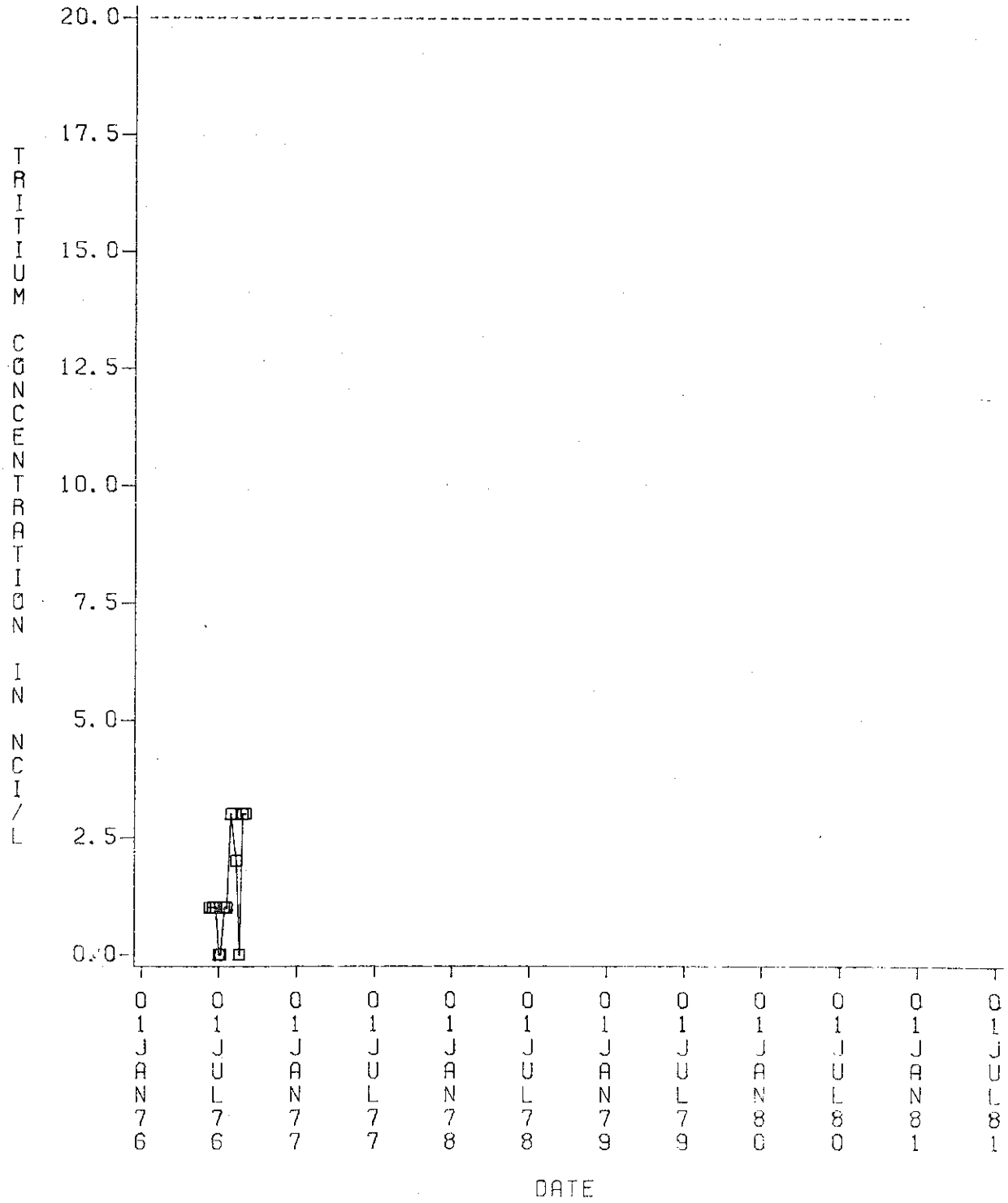
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 34 1

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 34 2



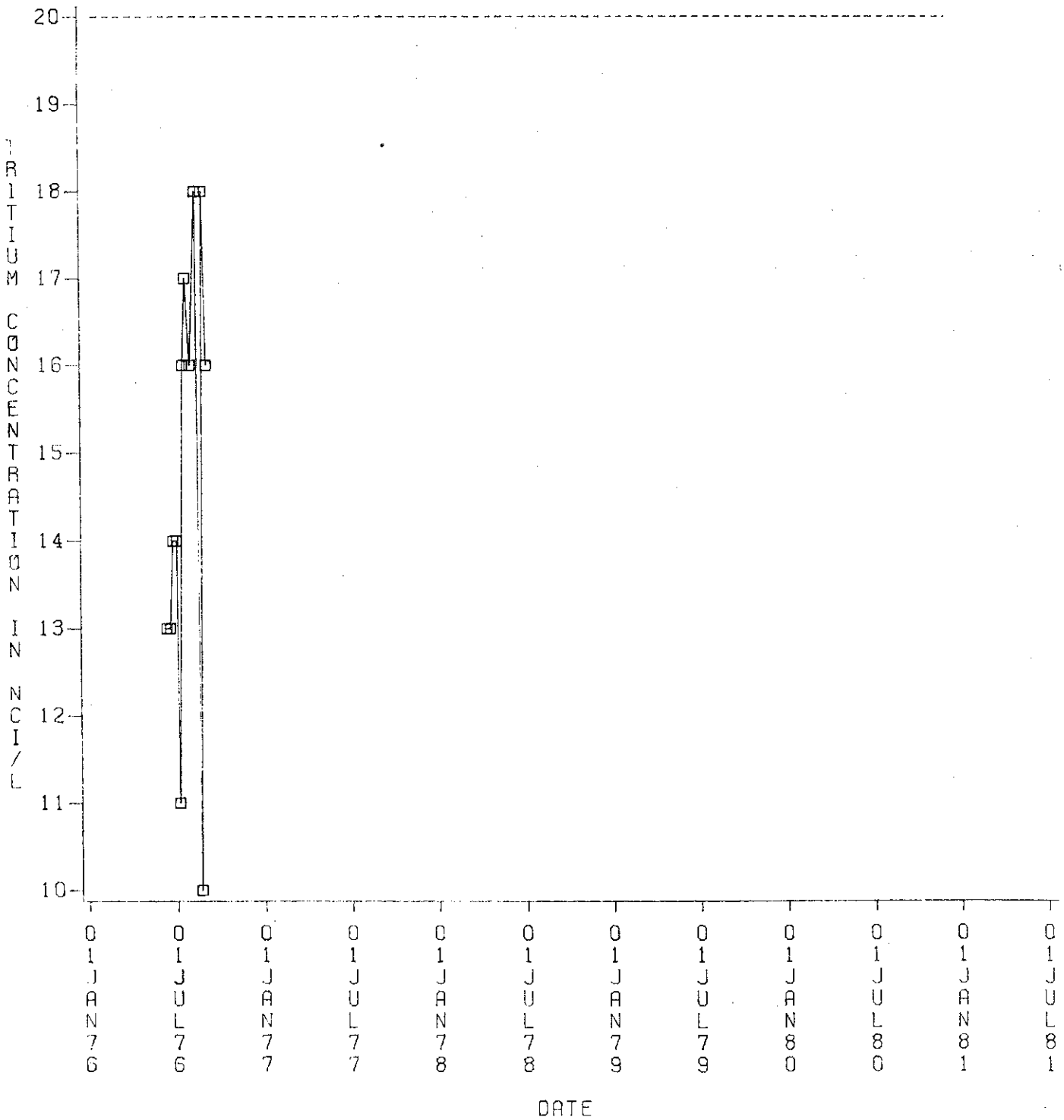
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 34 2

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 35 1



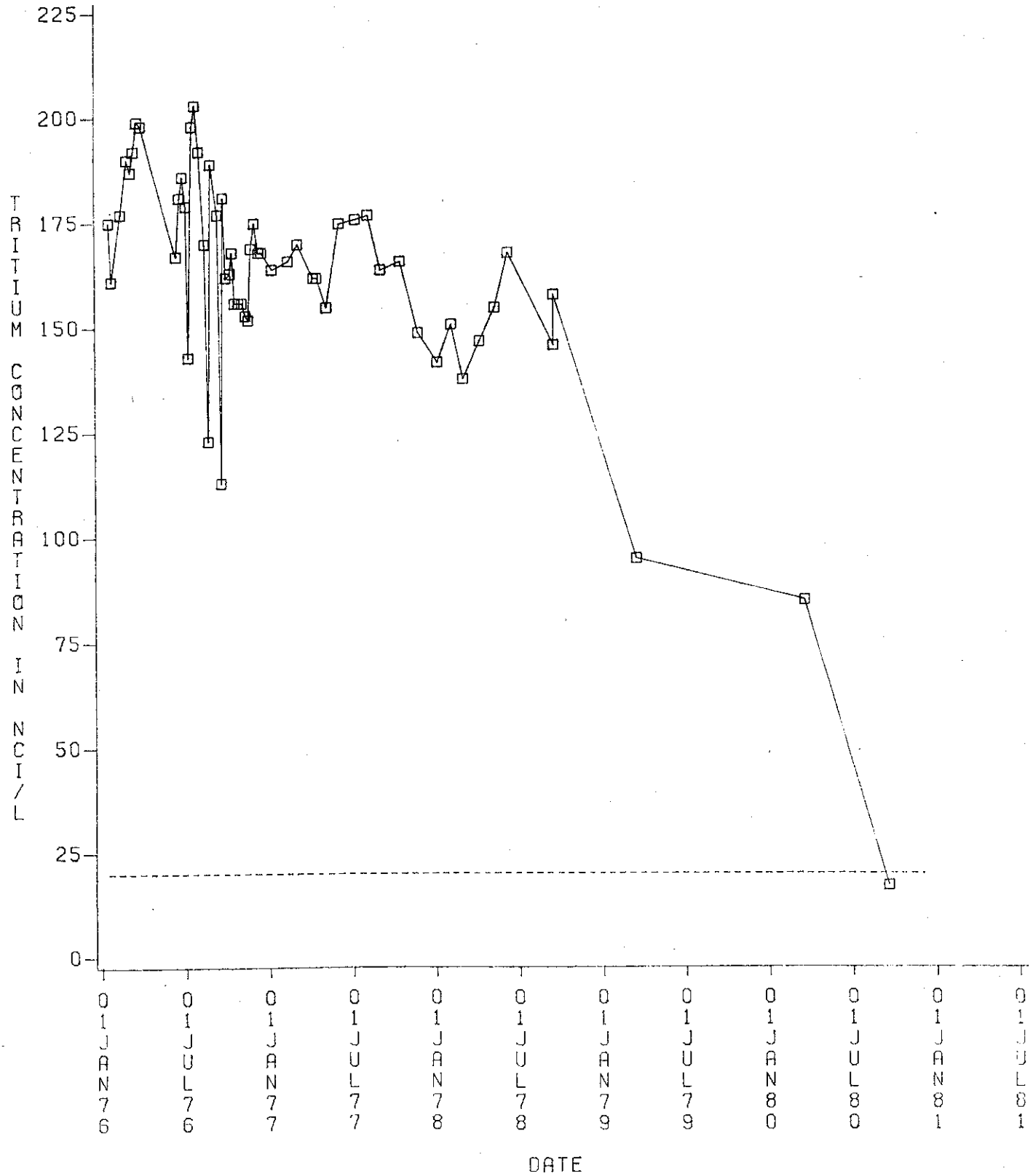
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 35 1

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 35 2



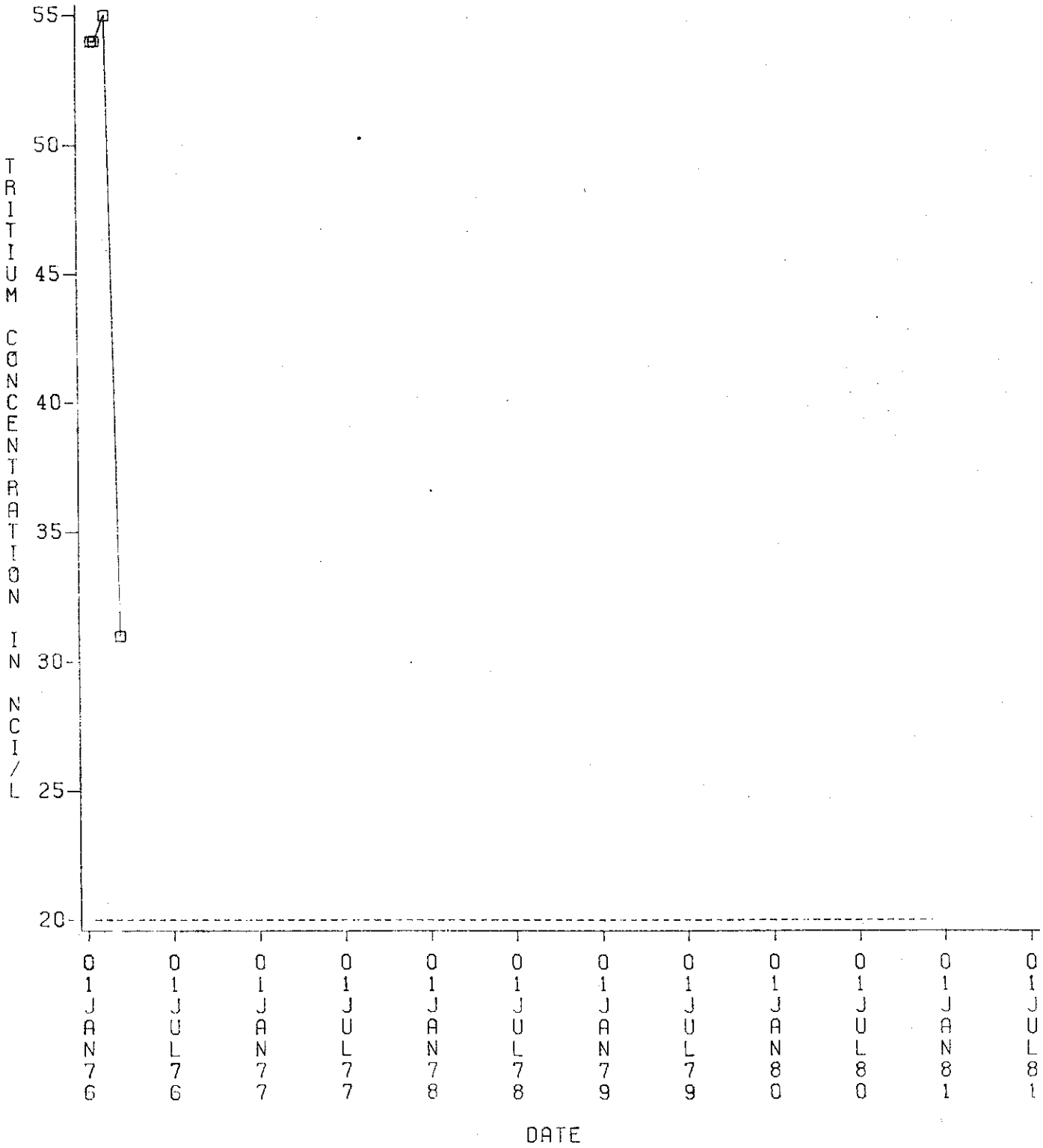
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 35 2

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 36 1



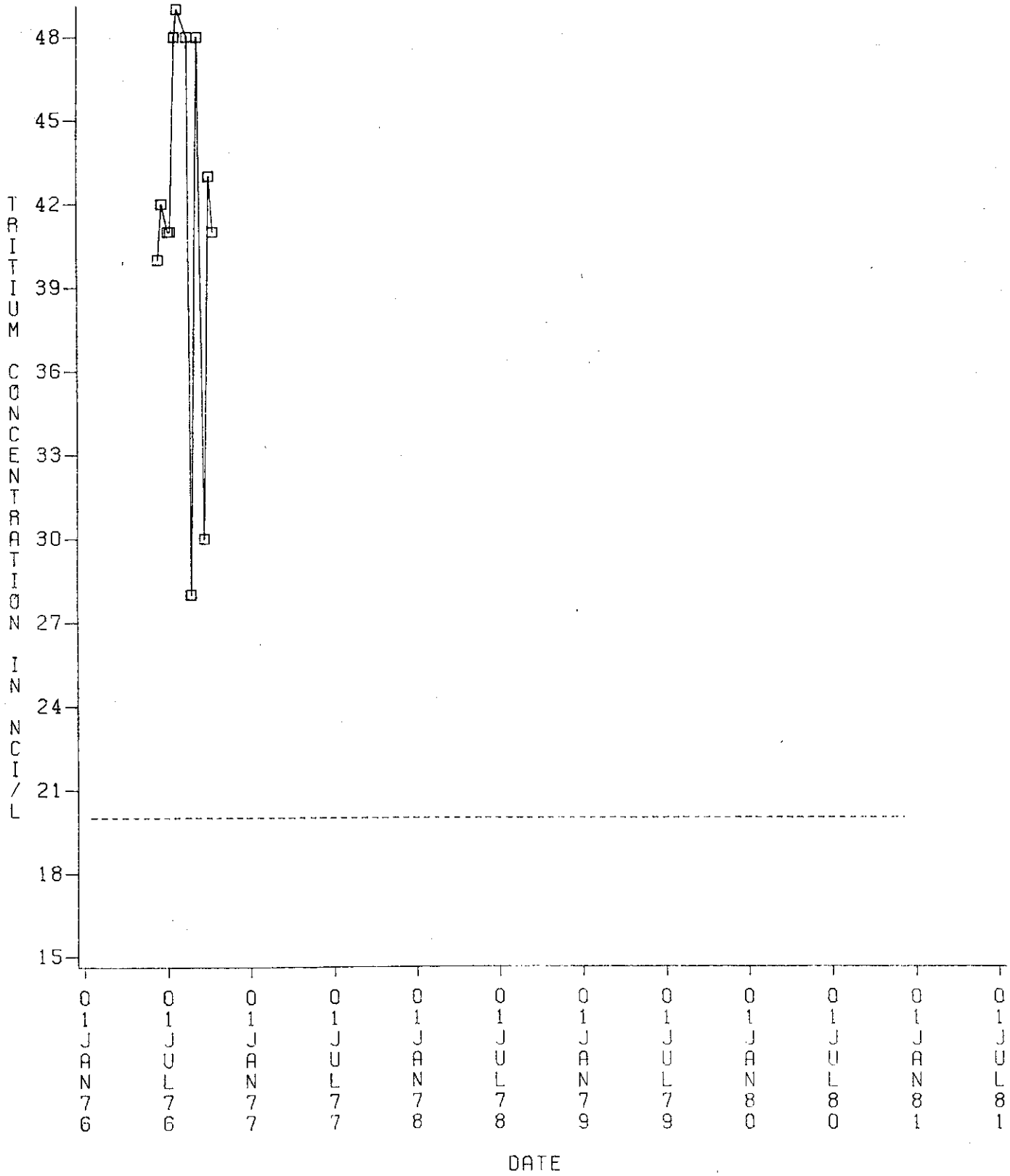
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 36 1

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 36 2



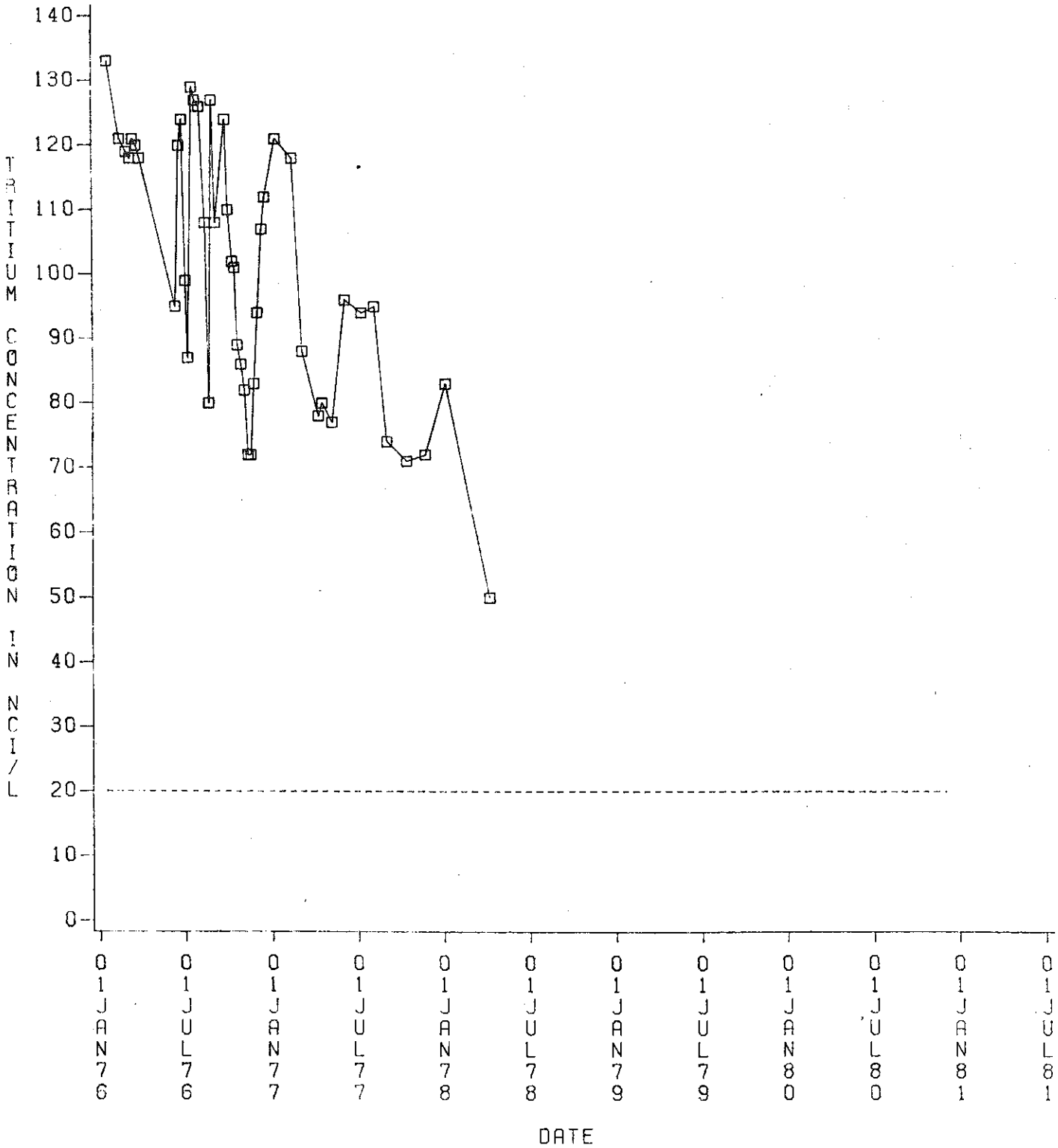
LEGEND: --- EPA STANDARD, ¤ – ¤ WELL 36 2

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 37 1



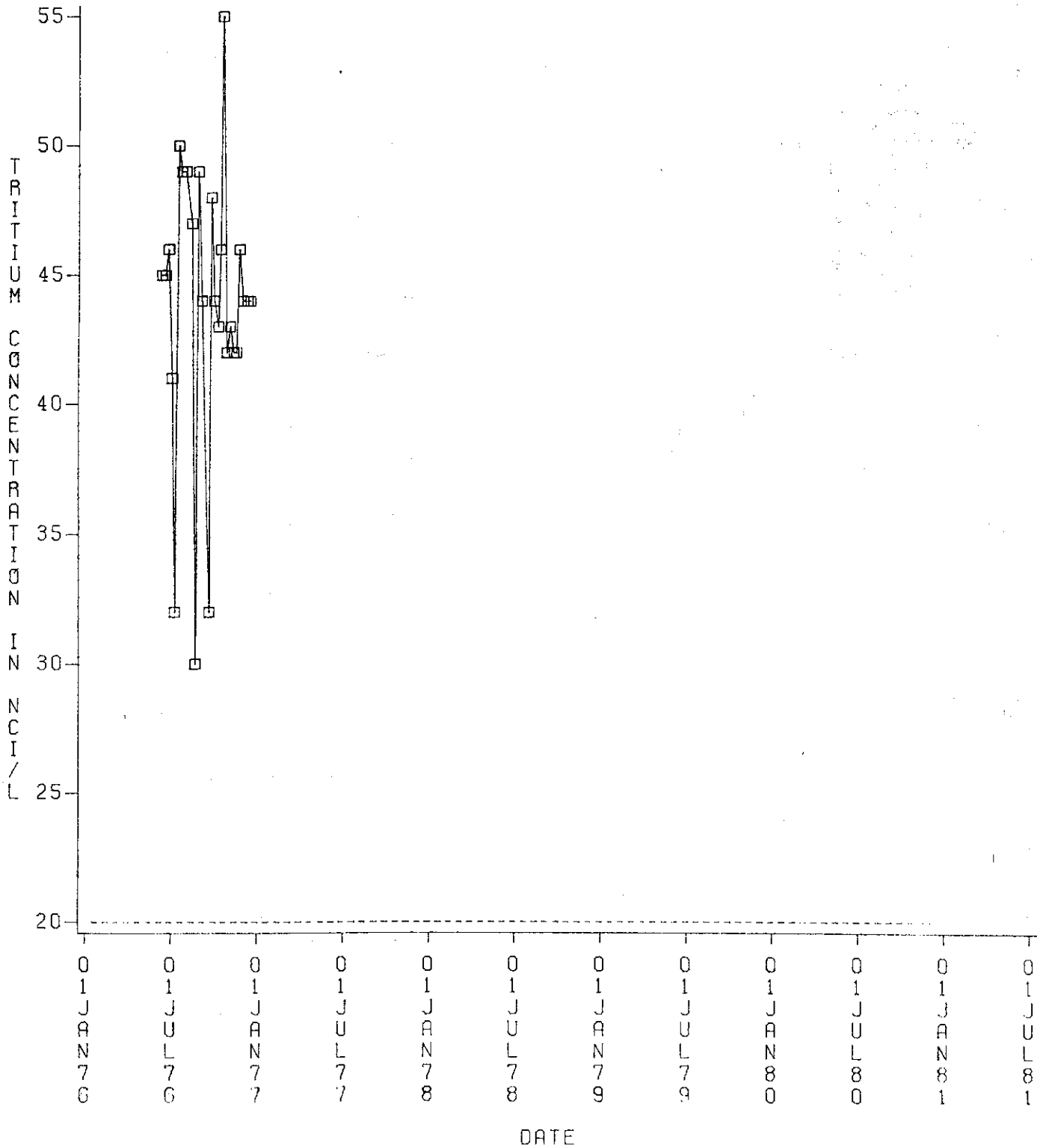
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 37 1

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 42 1



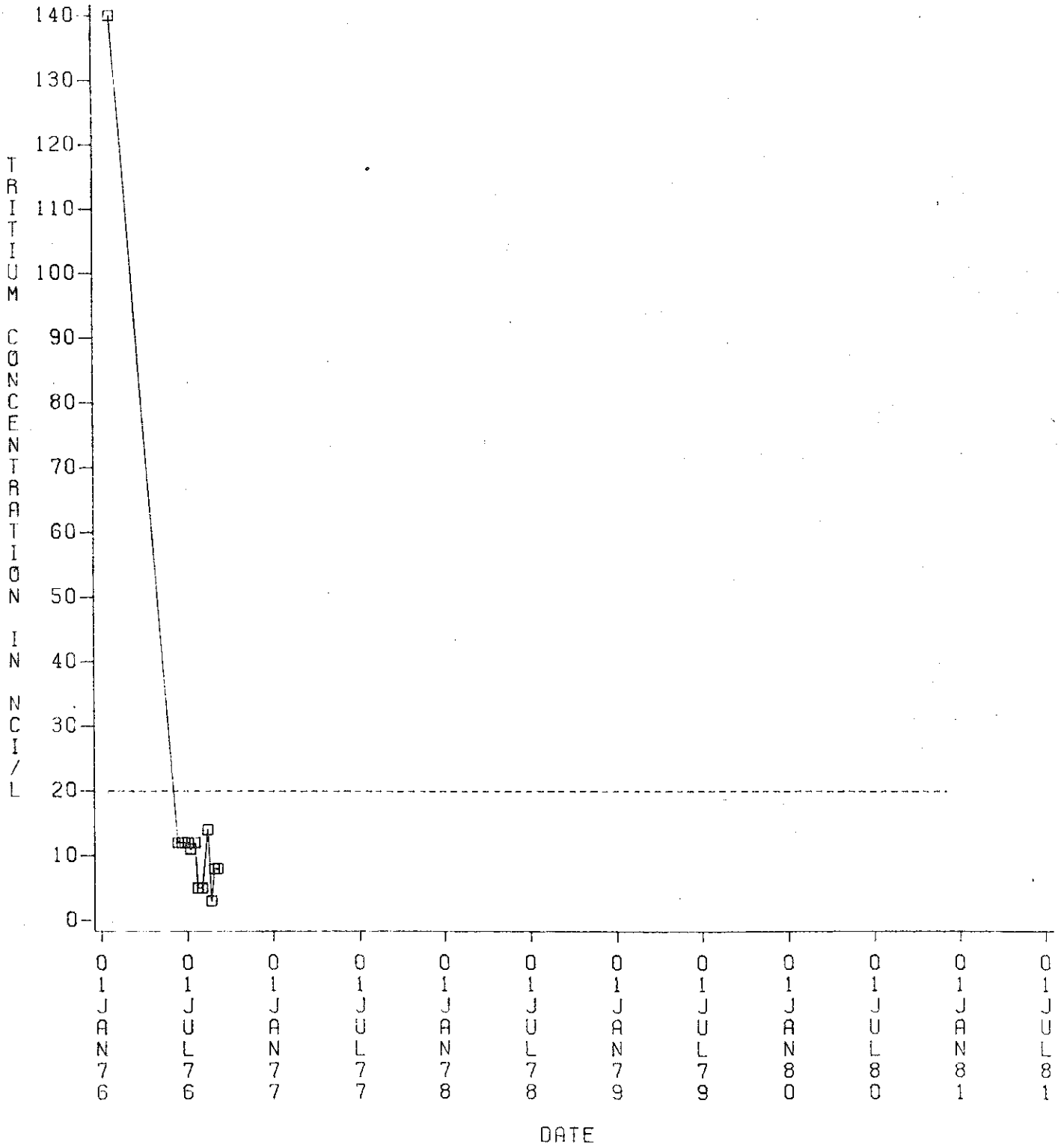
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 42 1

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 42 2



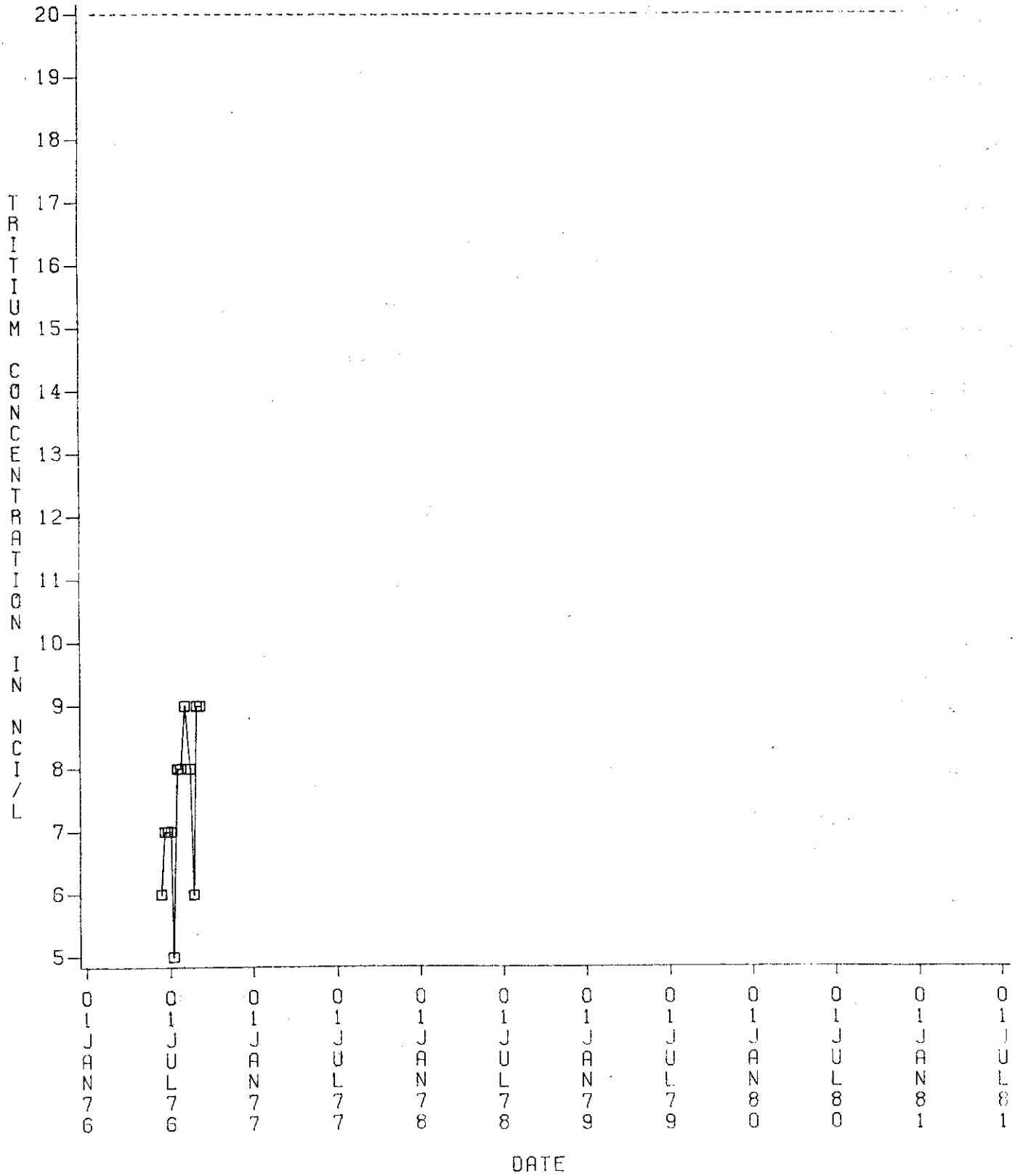
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 42 2

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 43 1



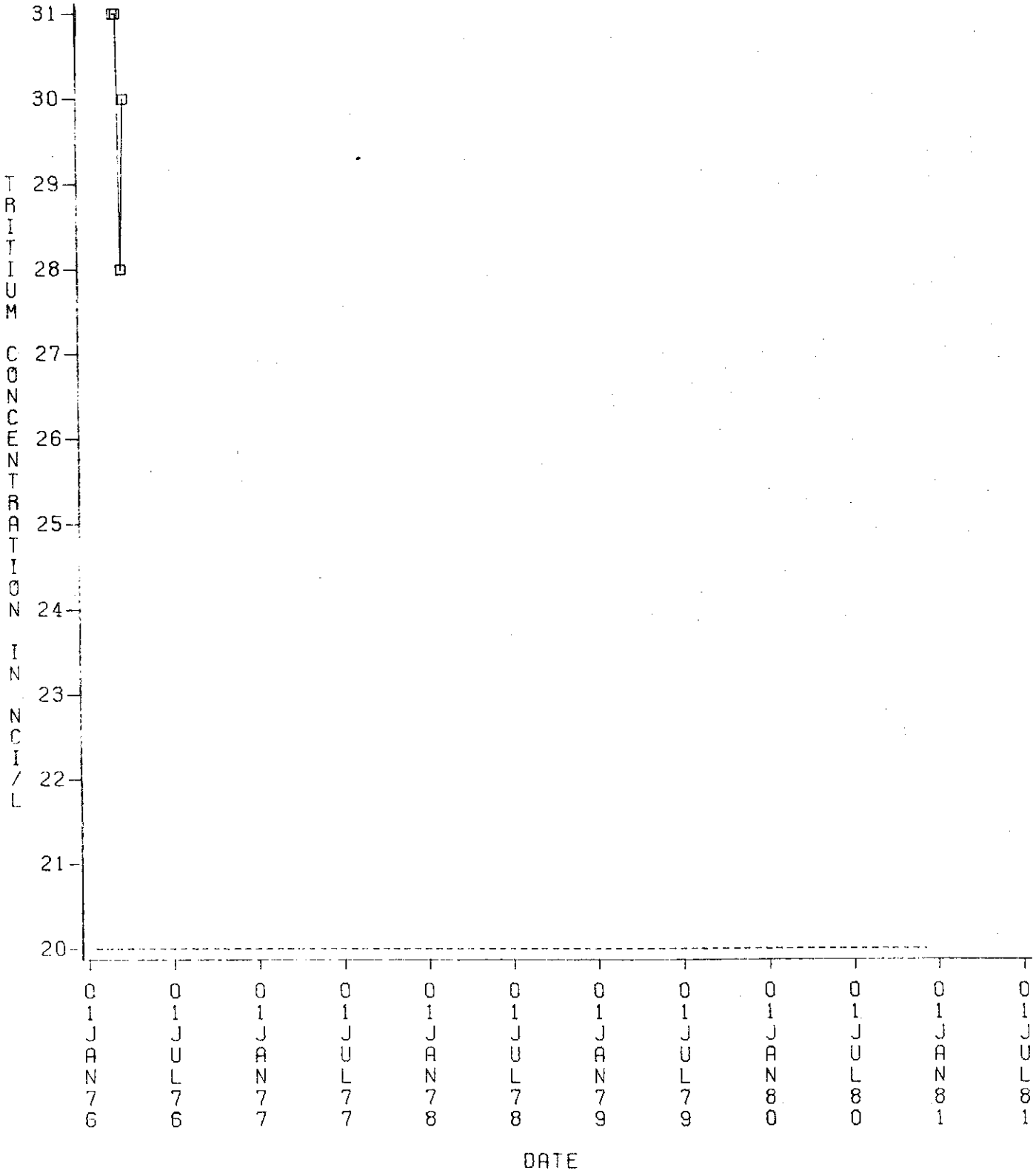
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 43 1

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 43 2



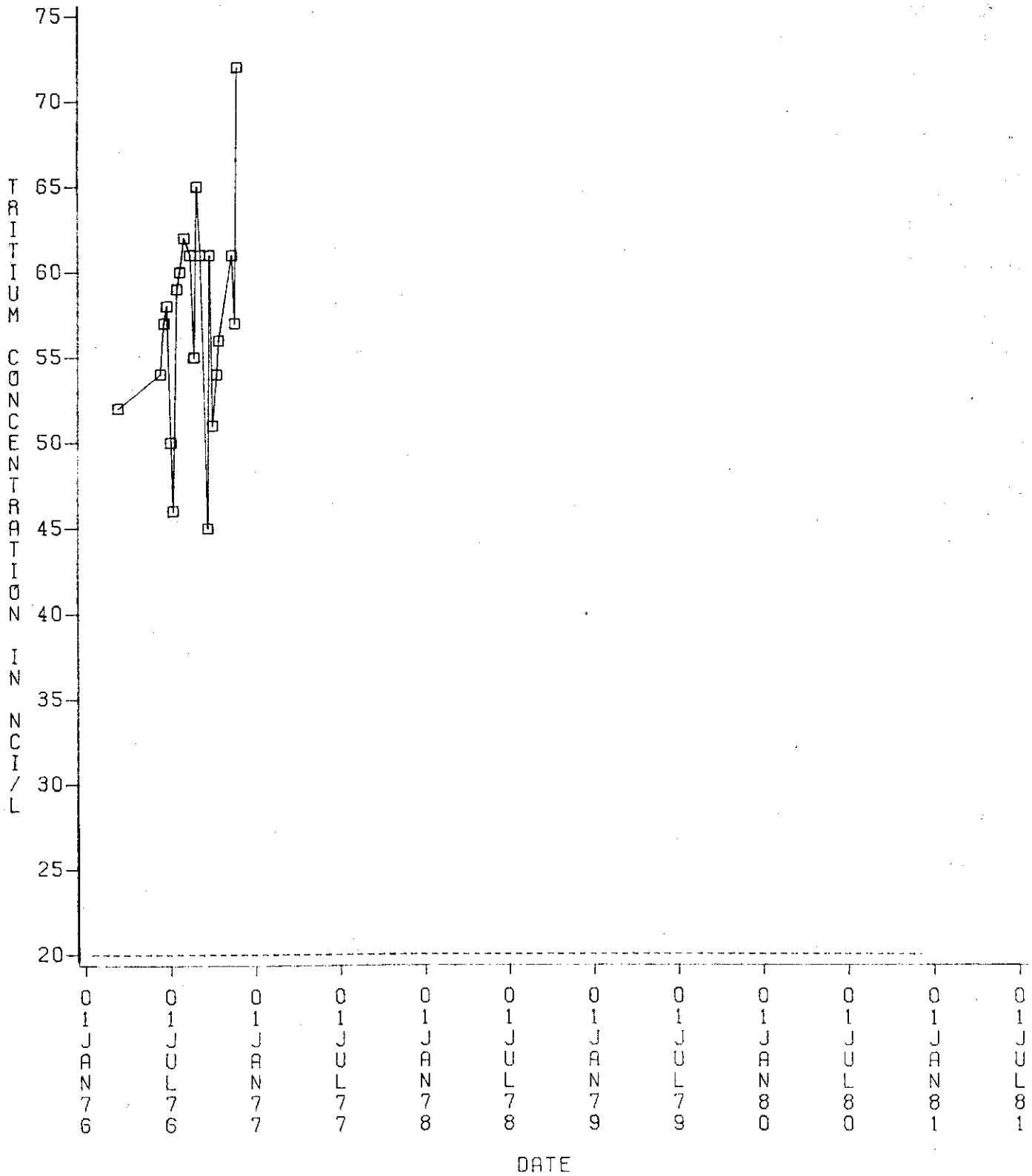
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 43 2

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 45 3



LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 45 3

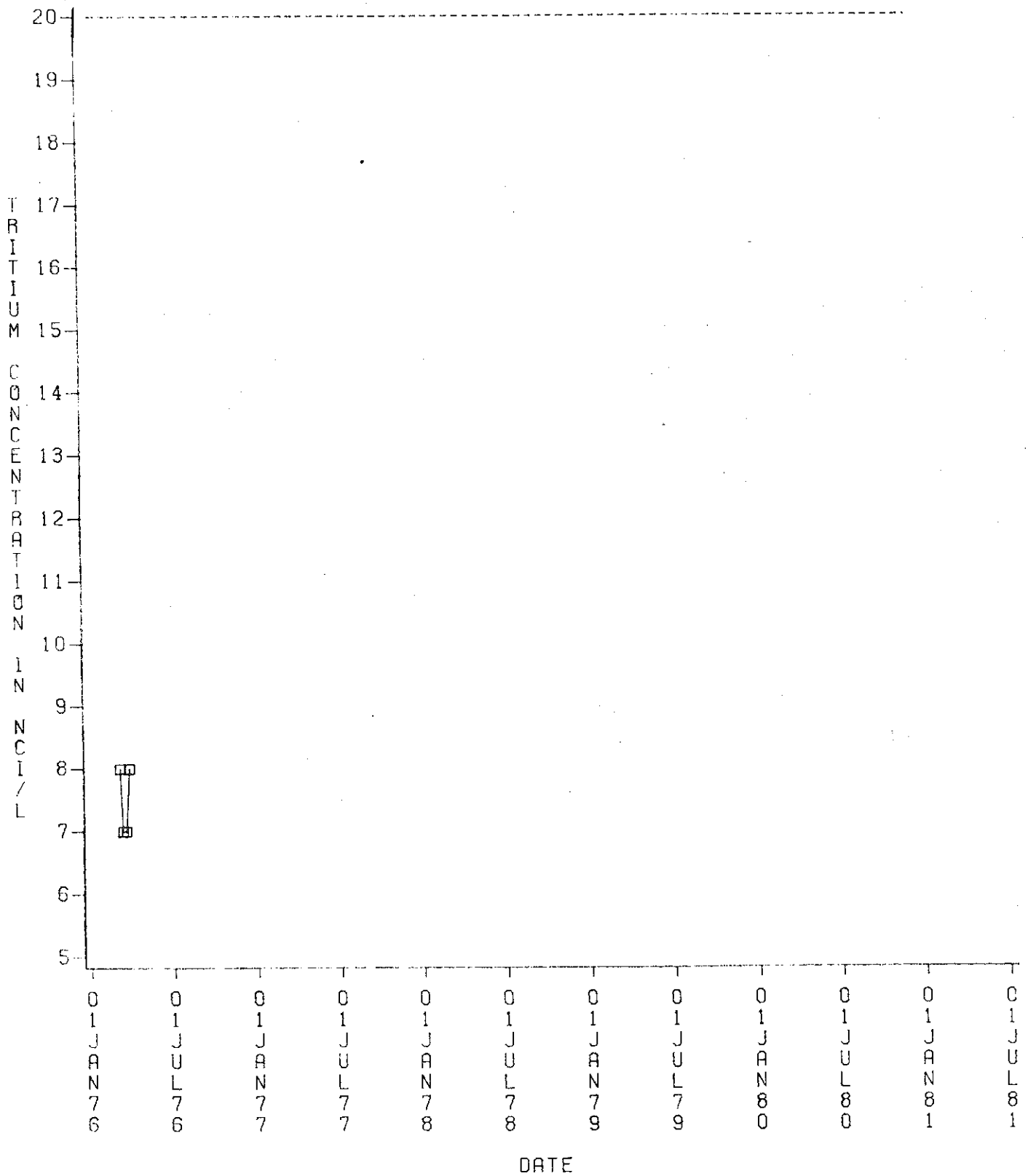
POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 46 1



150

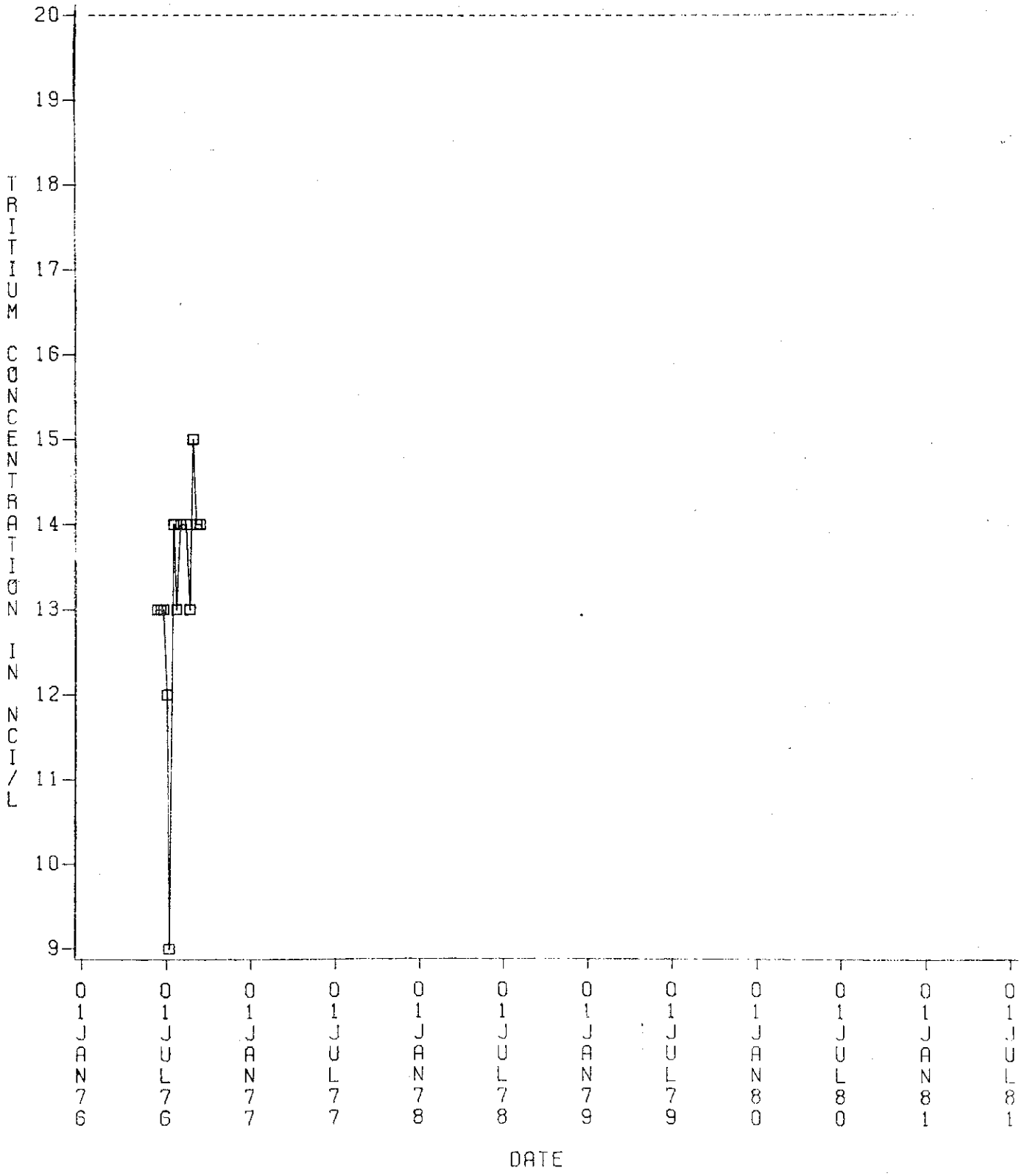
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 46 1

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 46 2



LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 46 2

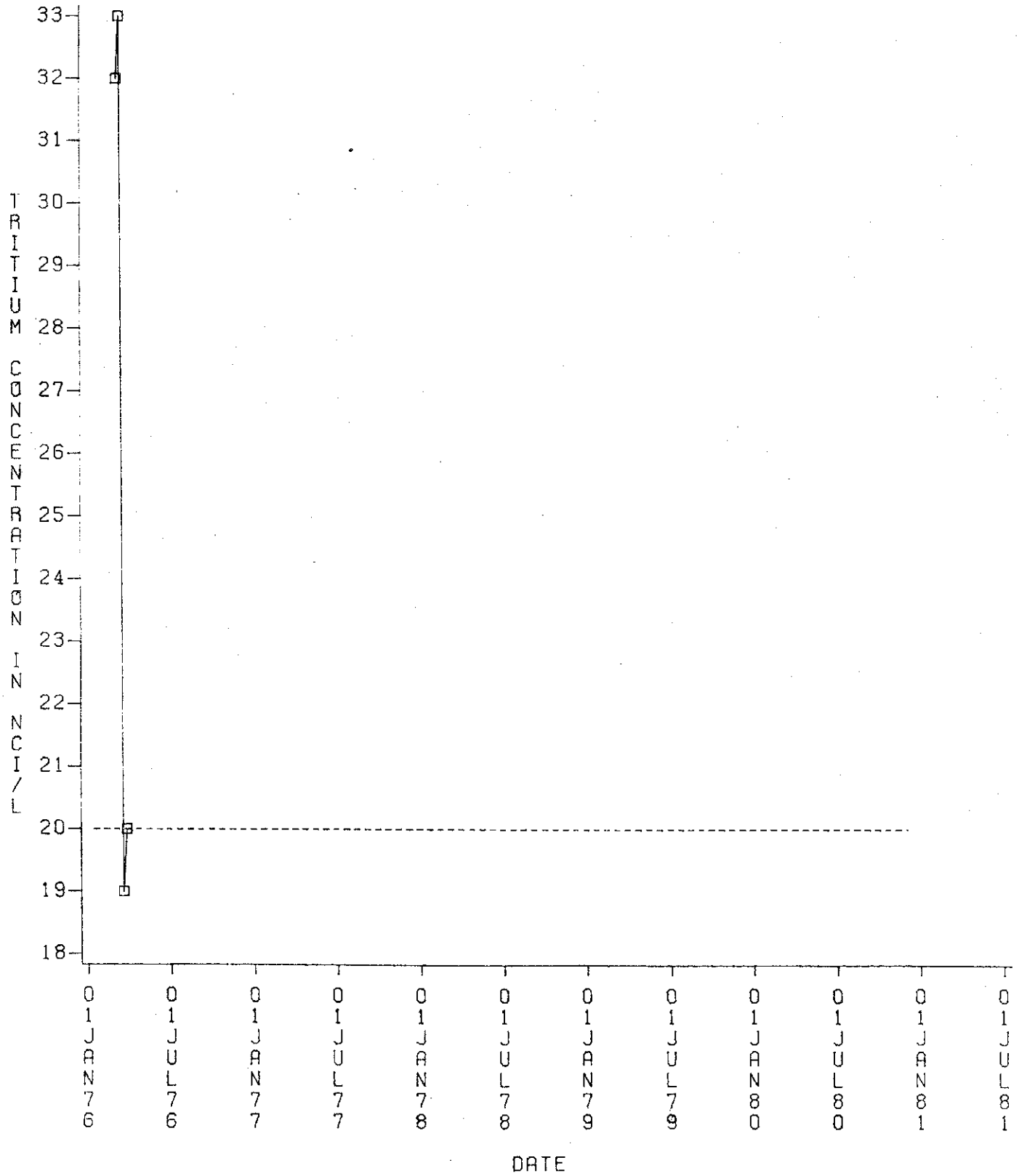
POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 52 1



152

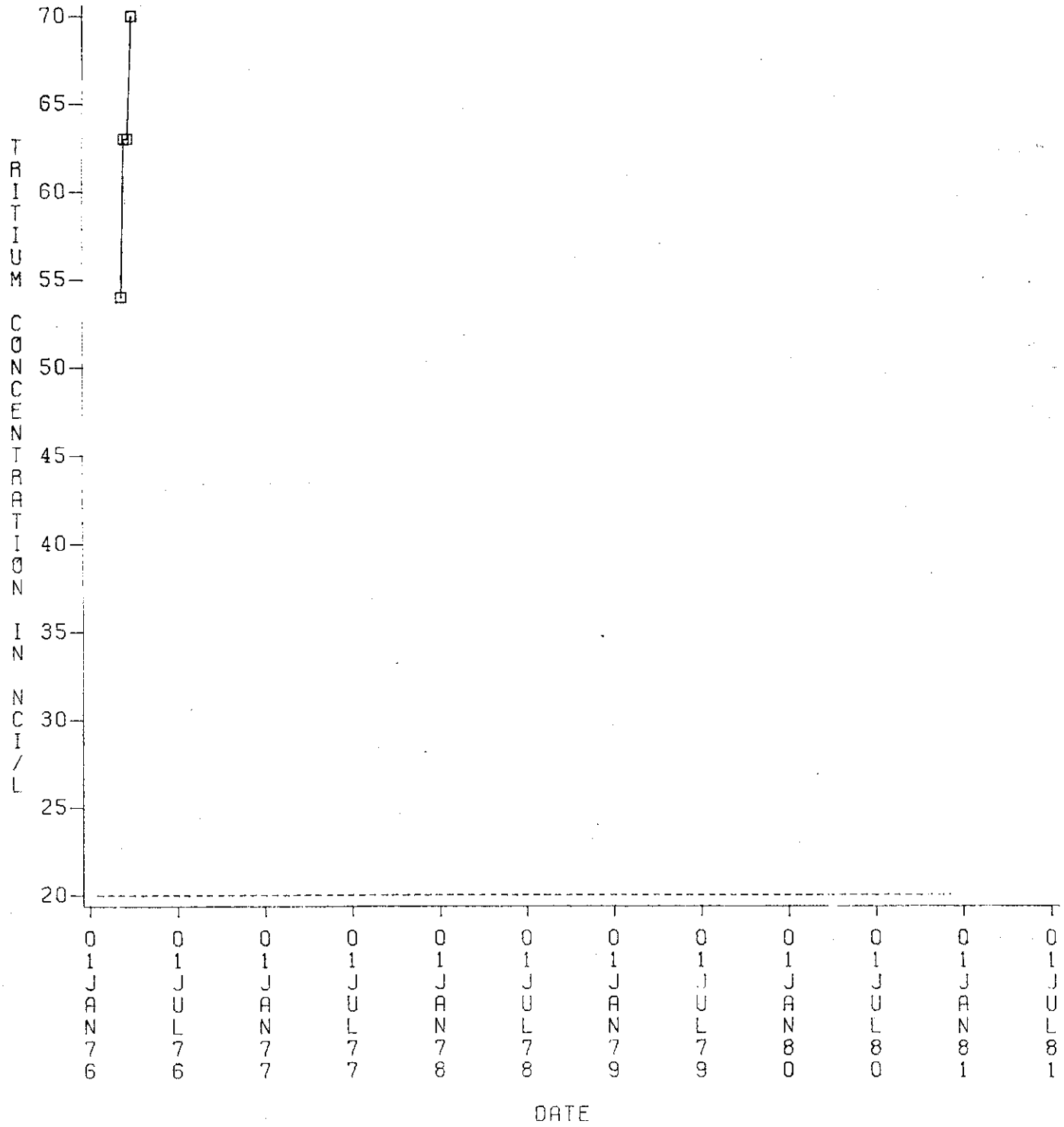
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 52 1

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 54 1



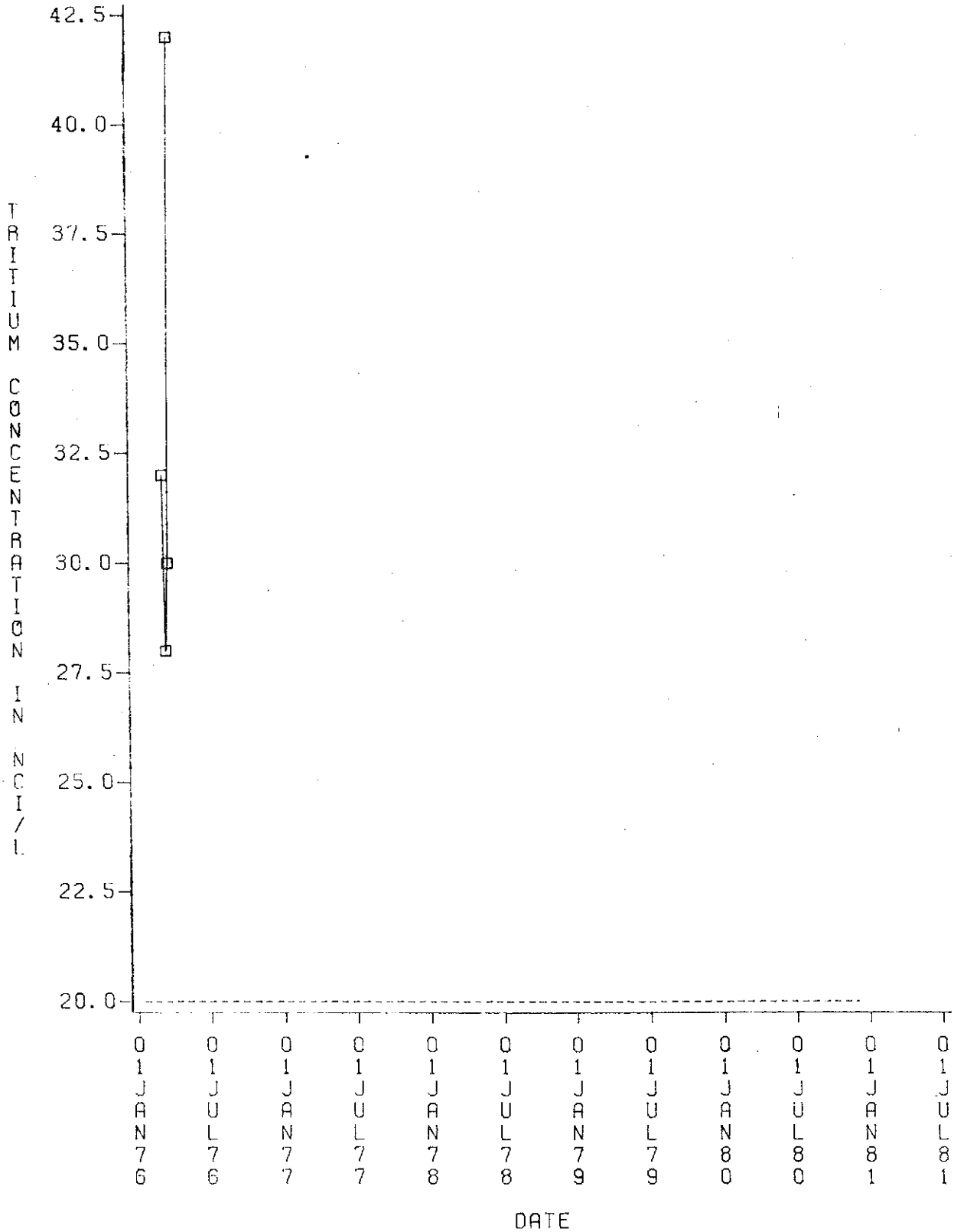
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 54 1

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 55 1



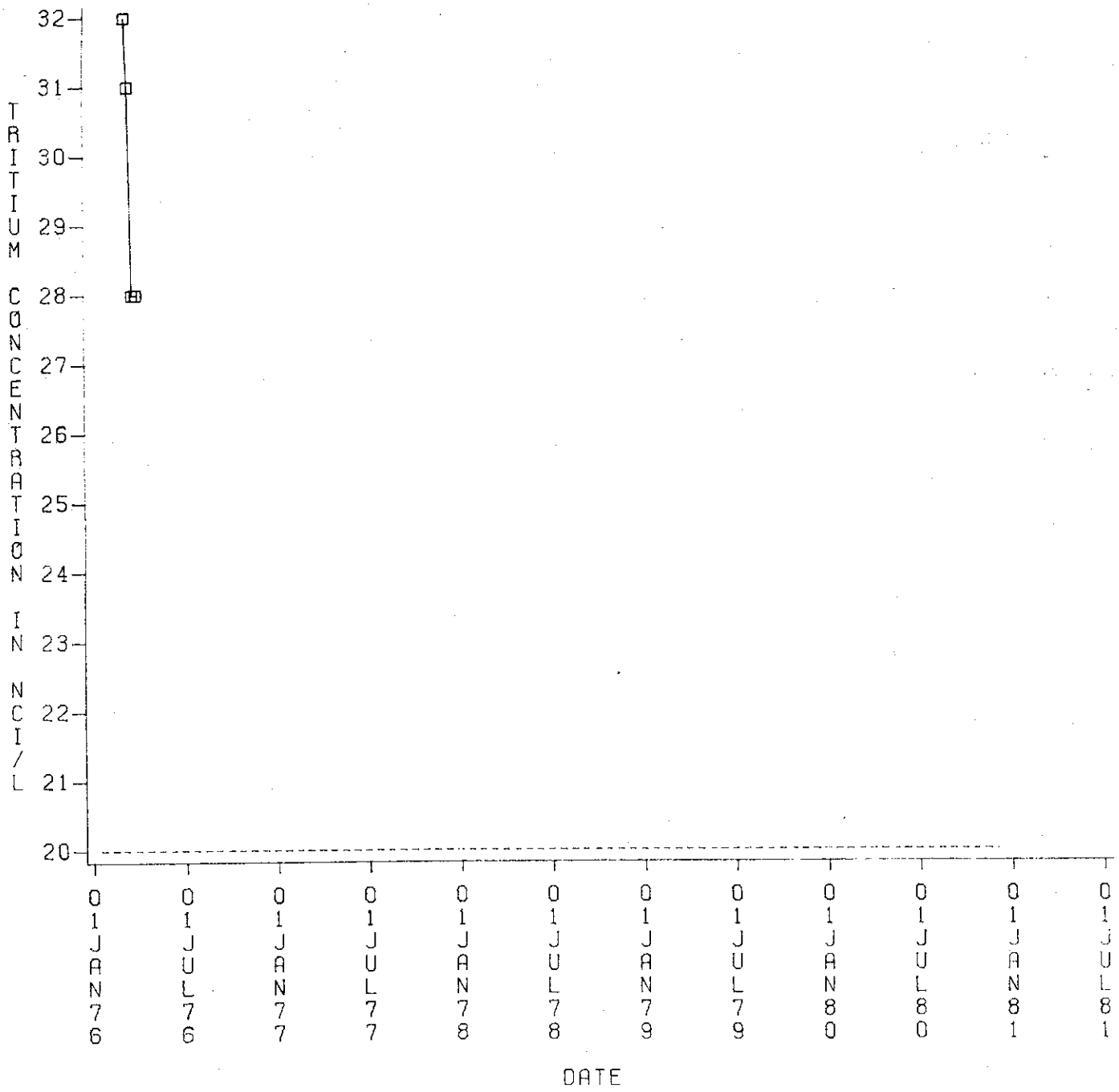
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 55 1

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 55 2



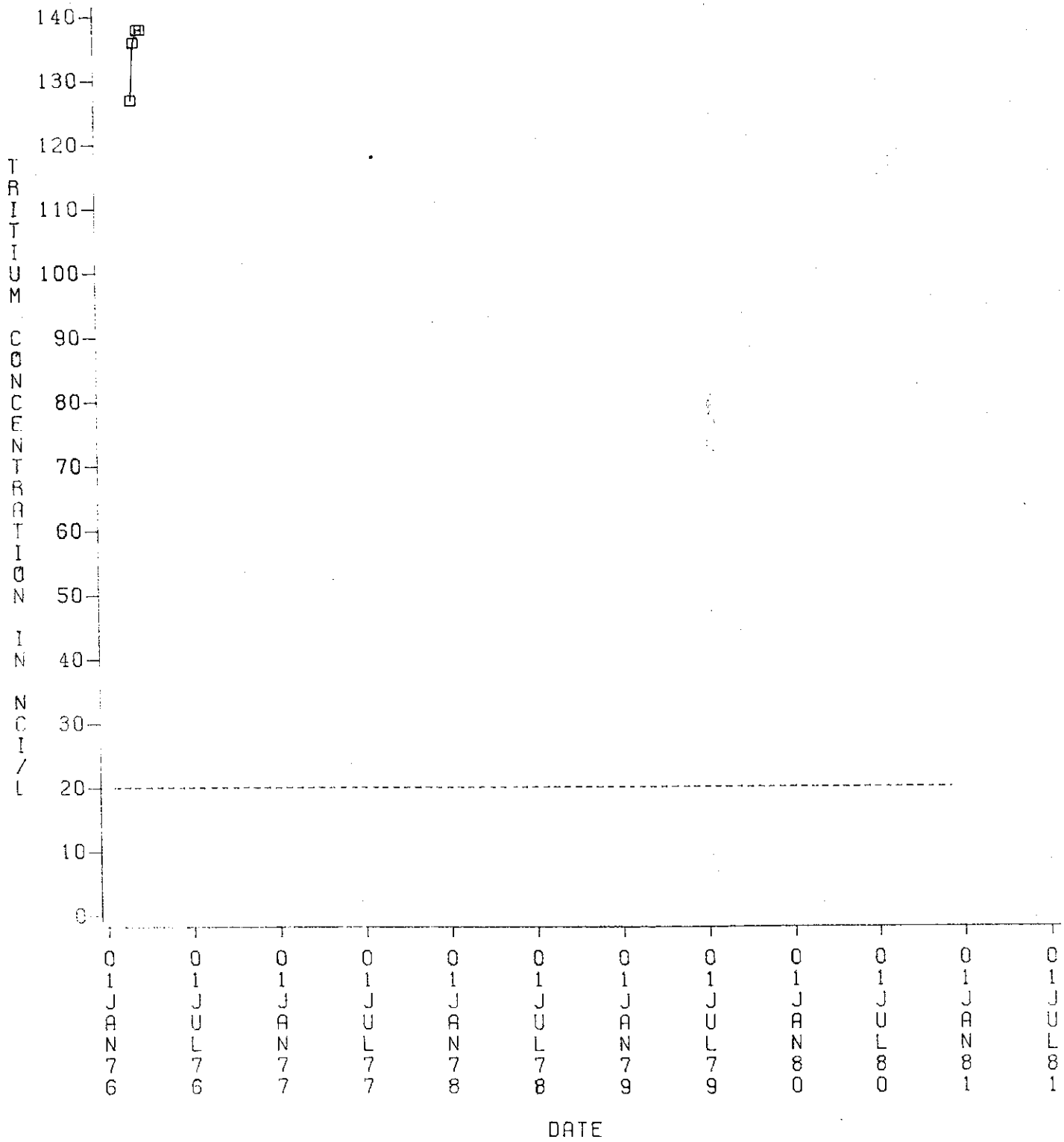
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 55 2

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 55 3



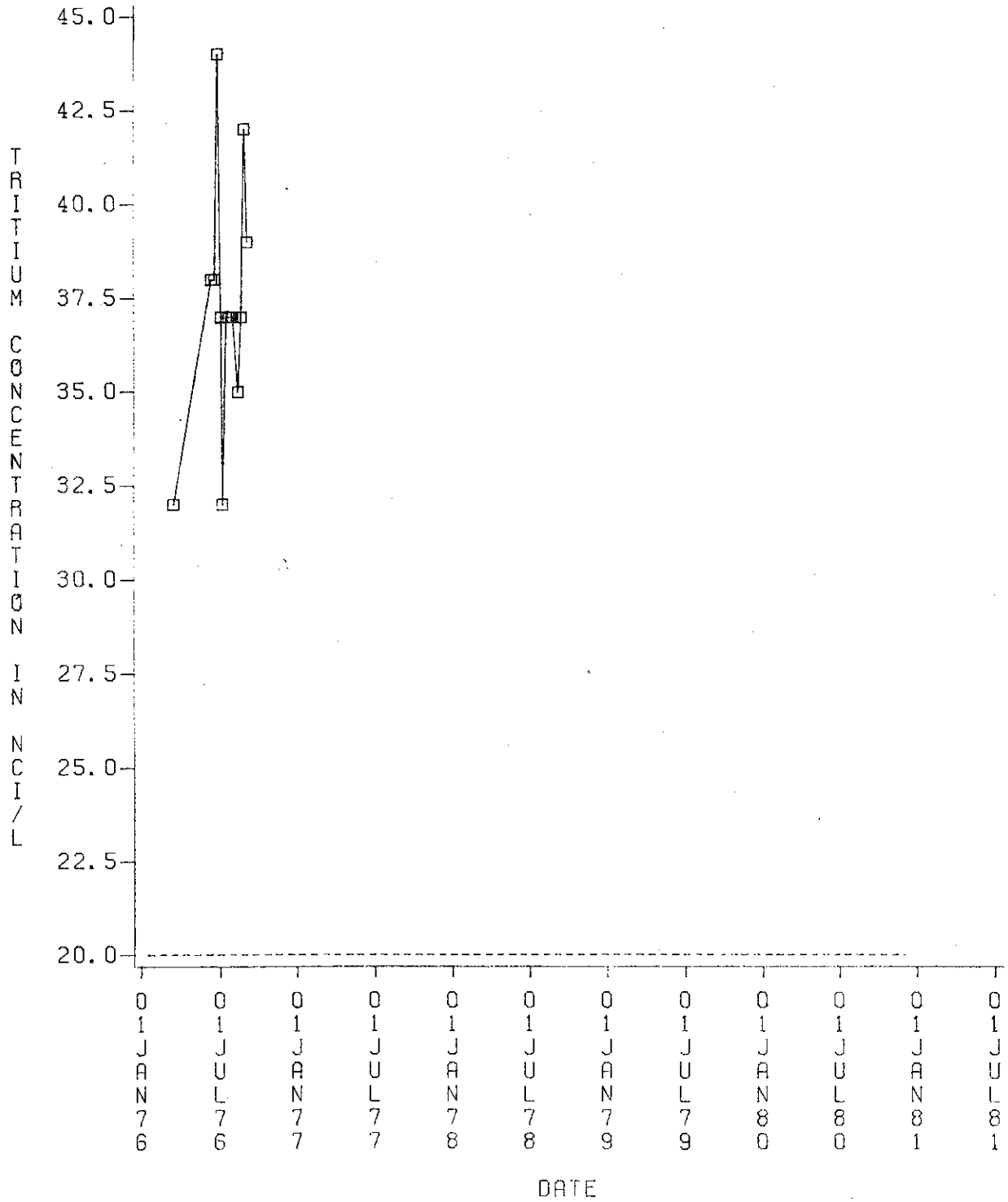
LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 55 3

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 55 4



LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 55 4

POTABLE WATER STANDARDS PROJECT – MOUND FACILITY
CONCENTRATION OF TRITIUM IN WELL 63 1



LEGEND: --- EPA STANDARD, ⌑ – ⌑ WELL 63 1

APPENDIX III

Effects of Pumping on Water Levels in the Buried Valley Aquifer

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=BUD'S_HOUSE ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
1	11OCT76	684.90	P	
2	18OCT76	682.73	P	
3	20OCT76	682.65	P	
4	25OCT76	682.57	P	
5	01NOV76	682.40	P	
6	08NOV76	683.07	N	
7	06DEC76	681.15	P	
8	13DEC76	681.82	P	
9	18JAN77	680.98	P	
10	24MAR77	684.69	N	
11	14APR77	686.47	N	
12	18APR77	682.65	P	STATIC WATER LEVELS
13	25APR77	681.32	P	
14	02MAY77	680.65	P	
15	16MAY77	681.48	P	MBG #2 & MOUND #1 ON 5-16
16	24MAY77	679.23	P	
17	31MAY77	678.57	P	
18	06JUN77	678.23	P	
19	13JUN77	677.98	P	
20	27JUN77	677.73	P	
21	11JUL77	677.82	P	MBG #2 OFF 6/30 - 7/5
22	18JUL77	677.48	P	
23	25JUL77	677.32	P	
24	01AUG77	677.40	P	
25	08AUG77	677.23	P	
26	15AUG77	677.48	P	
27	22AUG77	677.48	N	MBG #2 OFF 8/19-23
28	29AUG77	677.48	P	
29	05SEP77	677.23	P	
30	12SEP77	677.15	P	
31	19SEP77	677.48	P	
32	26SEP77	677.23	P	
33	10OCT77	678.57	P	MBG #2 OFF 10/10-16
34	17OCT77	677.82	P	
35	24OCT77	677.48	P	
36	30OCT77	677.40	P	
37	31OCT77	677.40	P	
38	07NOV77	677.15	P	
39	14NOV77	677.32	P	
40	22NOV77	677.65	P	MOUND #1 OFF 11/16-25
41	12DEC77	678.57	P	
42	13MAR78	680.90	N	
43	20MAR78	687.90	N	
44	27MAR78	688.10	N	

N=44

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=BUD'S_RENTAL ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
45	11OCT76	684.82	P	
46	18OCT76	681.82	P	
47	28OCT76	681.65	P	
48	01NOV76	681.40	P	
49	08NOV76	681.98	N	
50	06DEC76	681.15	P	
51	24MAR77	683.45	N	
52	18APR77	684.32	P	STATIC WATER LEVELS
53	25APR77	683.07	P	
54	02MAY77	682.40	P	
55	16MAY77	683.15	P	MBG #2 & MOUND #1 ON 5-16
56	24MAY77	680.98	P	
57	31MAY77	680.40	P	
58	06JUN77	680.07	P	
59	13JUN77	679.90	P	
60	27JUN77	679.57	P	
61	11JUL77	679.65	P	MBG #2 OFF 6/30 - 7/5
62	18JUL77	679.32	P	
63	25JUL77	679.15	P	
64	01AUG77	679.23	P	
65	08AUG77	679.07	P	
66	15AUG77	679.32	P	
67	22AUG77	679.32	N	MBG #2 OFF 8/19-23
68	29AUG77	679.32	P	
69	05SEP77	679.07	P	
70	12SEP77	678.98	P	
71	19SEP77	679.23	P	
72	26SEP77	679.15	P	
73	03OCT77	679.23	P	
74	10OCT77	680.23	P	MBG #2 OFF 10/10-16
75	17OCT77	679.65	P	
76	24OCT77	679.32	P	
77	31OCT77	679.23	P	
78	07NOV77	678.98	P	
79	14NOV77	679.15	P	
80	21NOV77	679.57	P	
81	22NOV77	679.57	P	MOUND #1 OFF 11/16-25
82	12DEC77	680.40	P	
83	13MAR78	682.70	N	
84	20MAR78	689.60	N	
85	27MAR78	689.70	N	

N=41

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=BUD'S_WELL_1 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
86	11OCT76	684.95	P	
87	11OCT76	684.80	P	JUST BEFORE MBG #2 STARTED
88	18OCT76	683.95	P	
89	25OCT76	683.87	P	
90	18APR77	687.00	P	STATIC WATER LEVELS
91	25APR77	686.03	P	
92	02MAY77	685.28	P	
93	16MAY77	685.95	P	MBG #2 & MOUND #1 ON 5-16
94	24MAY77	684.12	P	
95	31MAY77	683.53	P	
96	06JUN77	683.12	P	
97	13JUN77	682.95	P	
98	27JUN77	682.78	P	
99	11JUL77	682.78	P	MBG #2 OFF 6/30 - 7/5
100	18JUL77	682.53	P	
101	25JUL77	682.28	P	
102	01AUG77	682.37	P	
103	08AUG77	682.20	P	
104	15AUG77	682.45	P	
105	22AUG77	682.45	N	MBG #2 OFF 8/19-23
106	29AUG77	682.45	P	
107	05SEP77	682.28	P	
108	12SEP77	682.12	P	
109	19SEP77	682.37	P	
110	26SEP77	682.28	P	
111	03OCT77	682.45	P	
112	10OCT77	683.45	P	MBG #2 OFF 10/10-16
113	17OCT77	682.78	P	
114	24OCT77	682.53	P	
115	31OCT77	682.45	P	
116	07NOV77	682.20	P	
117	14NOV77	682.28	P	
118	22NOV77	682.62	P	MOUND #1 OFF 11/16-25
119	12DEC77	683.70	P	
120	13MAR78	685.70	N	

N=35

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=BUD'S_WELL_2 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
121	11OCT76	684.87	P	
122	11OCT76	.685.60	P	JUST BEFORE MBG #2 STARTED
123	18OCT76	684.95	P	
124	25OCT76	684.20	P	
125	18APR77	686.90	P	STATIC WATER LEVELS
126	25APR77	686.20	P	
127	02MAY77	685.62	P	
128	16MAY77	685.95	P	MBG #2 & MOUND #1 ON 5-16
129	24MAY77	684.62	P	
130	31MAY77	684.03	P	
131	06JUN77	683.70	P	
132	13JUN77	683.53	P	
133	27JUN77	683.37	P	
134	11JUL77	683.37	P	MBG #2 OFF 6/30 - 7/5
135	18JUL77	683.12	P	
136	25JUL77	682.95	P	
137	01AUG77	682.95	P	
138	08AUG77	682.87	P	
139	15AUG77	683.03	P	
140	22AUG77	683.03	N	MBG #2 OFF 8/19-23
141	29AUG77	683.12	P	
142	05SEP77	682.95	P	
143	12SEP77	682.87	P	
144	19SEP77	683.03	P	
145	26SEP77	682.95	P	
146	03OCT77	683.12	P	
147	10OCT77	683.70	P	MBG #2 OFF 10/10-16
148	17OCT77	683.37	P	
149	24OCT77	683.12	P	
150	31OCT77	683.03	P	
151	07NOV77	682.87	P	
152	14NOV77	682.73	P	
153	12DEC77	684.28	P	
154	13MAR78	685.60	N	

N=34

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=BUD'S_WELL_3 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
155	11OCT76	685.62	P	
156	11OCT76	685.60	P	JUST BEFORE MBG #2 STARTED
157	18OCT76	684.95	P	
158	25OCT76	684.87	P	
159	18APR77	687.70	P	STATIC WATER LEVELS
160	25APR77	686.78	P	
161	02MAY77	686.20	P	
162	16MAY77	686.03	P	MBG #2 & MOUND #1 ON 5-16
163	24MAY77	685.20	P	
164	31MAY77	684.62	P	
165	06JUN77	684.28	P	
166	13JUN77	684.12	P	
167	27JUN77	683.95	P	
168	11JUL77	683.95	P	MBG #2 OFF 6/30 - 7/5
169	18JUL77	683.70	P	
170	25JUL77	683.53	P	
171	01AUG77	683.53	P	
172	08AUG77	683.45	P	
173	15AUG77	683.62	P	
174	22AUG77	683.62	N	MBG #2 OFF 8/19-23
175	29AUG77	683.62	P	
176	05SEP77	683.45	P	
177	12SEP77	683.37	P	
178	19SEP77	683.62	P	
179	26SEP77	683.53	P	
180	03OCT77	683.70	P	
181	10OCT77	684.20	P	MBG #2 OFF 10/10-16
182	17OCT77	683.95	P	
183	24OCT77	683.70	P	
184	31OCT77	683.62	P	
185	07NOV77	683.45	P	
186	14NOV77	683.37	P	
187	22NOV77	682.03	P	MOUND #1 OFF 11/16-25
188	22NOV77	683.62	P	MOUND #1 OFF 11/16-25
189	12DEC77	684.78	P	
190	13MAR78	686.65	N	

N=36

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

LOCATION OF WELL=JIM'S_WELL

OBS	DATE	AQ_LEVL	CHAR	REMARKS
191	11OCT76	682.92	P	
192	11OCT76	682.92.	P	JUST BEFORE MBG #2 STARTED
193	20OCT76	682.06	P	
194	20OCT76	682.06	P	
195	27OCT76	681.00	P	
196	03NOV76	680.70	P	
197	03NOV76	680.70	P	MBG #2 STOPPED 11/3-25
198	05NOV76	681.78	N	
199	05NOV76	681.78	N	
200	10NOV76	682.34	N	
201	24NOV76	682.34	N	
202	24NOV76	682.34	N	
203	28NOV76	682.08	P	
204	01DEC76	682.08	P	
205	01DEC76	682.08	P	
206	09DEC76	681.38	P	
207	09DEC76	681.38	P	
208	15DEC76	681.18	P	
209	15DEC76	681.18	P	
210	22DEC76	681.04	P	
211	22DEC76	681.04	P	
212	29DEC76	680.95	P	
213	29DEC76	680.95	P	
214	05JAN77	680.74	P	
215	05JAN77	680.74	P	
216	12JAN77	680.62	P	
217	12JAN77	680.62	P	
218	19JAN77	680.45	P	
219	19JAN77	680.65	P	
220	20JAN77	680.61	P	
221	20JAN77	680.61	P	MBG #2 OFF
222	21JAN77	680.80	N	
223	21JAN77	680.80	N	
224	23JAN77	680.76	N	
225	23JAN77	681.00	N	
226	26JAN77	681.27	N	
227	26JAN77	681.27	N	
228	02FEB77	681.35	N	
229	02MAR77	682.60	N	
230	16MAR77	683.80	N	
231	16MAR77	683.80	N	
232	24MAR77	684.36	N	
233	08APR77	686.80	N	
234	12APR77	686.49	N	
235	14APR77	686.25	N	
236	18APR77	685.73	P	STATIC WATER LEVELS
237	20APR77	685.40	P	PUMP STOPPED BRIEFLY
238	22APR77	685.07	P	
239	25APR77	684.68	P	
240	27APR77	684.43	P	
241	05MAY77	684.01	P	MBG #2 OFF 5/11-16
242	16MAY77	684.69	P	MBG #2 & MOUND #1 ON 5-16
243	18MAY77	683.77	P	
244	20MAY77	683.35	P	
245	25MAY77	682.72	P	
246	01JUN77	681.99	P	
247	15JUN77	681.42	P	

248	07JUL77	680.53	P	MBG #2 OFF 6/30 - 7/5
249	20JUL77	680.87	P	
250	03AUG77	680.88	P	
251	18AUG77	681.11	P	
252	01SEP77	681.00	P	MBG #2 OFF 8/19-23
253	19SEP77	681.12	P	
254	13OCT77	688.92	N	
255	28OCT77	681.12	P	
256	22NOV77	681.05	P	
257	05JAN78	684.82	P	
258	19JAN78	684.17	P	
259	03FEB78	684.78	P	MBG #2 OFF 1/26 - 6/28
260	15FEB78	684.83	N	MOUND #1 OFF 2/6 - 9/7
261	20MAR78	690.98	N	
262	05APR78	688.64	N	
263	19APR78	687.07	N	
264	09MAY78	686.58	N	
265	24MAY78	686.40	N	
266	08JUN78	685.49	N	
267	17AUG78	682.64	P	
268	13SEP78	681.69	P	
269	16NOV78	680.60	P	
270	12DEC78	683.01	P	
271	17JAN79	683.99	P	
272	17MAR79	678.53	P	
273	16MAY79	683.61	P	
274	14JUN79	682.90	P	
275	20JUL79	681.40	P	
276	18OCT79	680.82	P	
277	14NOV79	679.77	P	
278	21MAR80	684.42	P	WELLS BH & BR TO CONTINUOUS USE 03 01 80
279	20AUG80	683.73	P	RAINFALL THIS SUMMER IS ABOVE NORMAL
280	15SEP80	680.07	P	
281	20NOV80	680.82	P	MBG 2 TURNED OFF 10_23_80 FOR 2 WEEKS
282	18JAN81	680.32	P	MOUND 3 ON, MOUND 1 DOWN FOR REPAIRS

N=92

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=MOUND_WELL_1 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
283	20JAN77	673.14	P	MBG #2 OFF
284	21JAN77	673.29	N	
285	23JAN77	673.52	N	
286	26JAN77	673.80	N	
287	18APR77	678.45	P	STATIC WATER LEVELS
288	20APR77	678.30	P	PUMP STOPPED BRIEFLY
289	22APR77	677.86	P	
290	25APR77	677.31	P	
291	27APR77	677.31	P	
292	15FEB78	677.25	N	MOUND #1 OFF 2/6 - 9/7
293	20MAR78	683.45	N	
294	05APR78	681.57	N	
295	19APR78	679.78	N	
296	09MAY78	675.81	N	
297	24MAY78	679.01	N	
298	08JUN78	678.55	N	
299	17AUG78	675.16	P	
300	14JUN79	675.33	P	
301	18DEC79	675.96	P	
302	14FEB80	675.83	P	BUD'S RENTAL & HOUSE TO DOM. USE 01 31 80

N=20

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=MOUND_WELL_2 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
303	20JAN77	672.98	P	MBG #2 OFF
304	21JAN77	673.20	N	
305	23JAN77	673.46	N	
306	26JAN77	673.38	N	
307	18APR77	678.19	P	STATIC WATER LEVELS
308	20APR77	678.06	P	PUMP STOPPED BRIEFLY
309	22APR77	677.54	P	
310	25APR77	677.50	P	
311	27APR77	677.05	P	
312	25MAY77	674.76	P	
313	01JUN77	674.08	P	
314	15JUN77	673.40	P	
315	07JUL77	672.53	P	MBG #2 OFF 6/30 - 7/5
316	20JUL77	672.76	P	
317	03AUG77	672.75	P	
318	18AUG77	673.09	P	
319	13OCT77	673.70	N	
320	22DEC77	678.95	P	
321	05JAN78	677.45	P	
322	03FEB78	676.90	P	MBG #2 OFF 1/26 - 6/28
323	15FEB78	677.30	N	MOUND #1 OFF 2/6 - 9/7
324	20MAR78	683.55	N	
325	05APR78	681.70	N	
326	19APR78	679.83	N	
327	09MAY78	678.89	N	
328	24MAY78	678.96	N	
329	08JUN78	675.85	N	
330	17AUG78	674.62	P	
331	13SEP78	673.69	P	
332	16NOV78	672.75	P	
333	12DEC78	674.89	P	
334	17JAN79	676.32	P	
335	15MAR79	680.40	P	
336	16MAY79	675.71	P	
337	14JUN79	675.33	P	
338	14NOV79	672.50	P	
339	14FEB80	676.10	P	BUD'S RENTAL & HOUSE TO DOM. USE 01 31 80
340	17JUN80	677.50	N	MBG#2 OFF 06/15/80 FOR TWO WEEKS
341	15SEP80	673.06	P	

N=39

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=MOUND_WELL_3 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
342	20JAN77	673.25	P	MBG #2 OFF
343	21JAN77	673.34	N	
344	23JAN77	673.53	N	
345	26JAN77	673.15	N	
346	18APR77	677.95	P	STATIC WATER LEVELS
347	20APR77	677.87	P	PUMP STOPPED BRIEFLY
348	22APR77	677.47	P	
349	25APR77	677.50	P	
350	27APR77	676.80	P	
351	25MAY77	674.87	P	
352	01JUN77	673.95	P	
353	15JUN77	673.53	P	
354	07JUL77	673.35	P	MBG #2 OFF 6/30 - 7/5
355	20JUL77	672.58	P	
356	03AUG77	672.70	P	
357	18AUG77	673.03	P	
358	13OCT77	673.72	N	
359	22DEC77	679.20	P	
360	05JAN78	678.02	P	
361	03FEB78	677.27	P	MBG #2 OFF 1/26 - 6/28
362	15FEB78	677.30	N	MOUND #1 OFF 2/6 - 9/7
363	20MAR78	683.75	N	
364	05APR78	681.82	N	
365	19APR78	679.82	N	
366	09MAY78	679.29	N	
367	24MAY78	675.98	N	
368	08JUN78	678.97	N	
369	17AUG78	675.50	P	
370	13SEP78	674.45	P	
371	16NOV78	673.41	P	
372	12DEC78	680.75	P	
373	17JAN79	682.50	P	
374	15MAR79	686.27	P	
375	16MAY79	683.60	P	
376	14JUN79	683.92	P	
377	18DEC79	679.77	P	
378	21MAR80	665.50	P	WELLS BH & BR TO CONTINUOUS USE 03 01 80
379	17JUN80	677.67	N	MBG#2 OFF 06/15/80 FOR TWO WEEKS
380	15SEP80	673.27	P	

N=39

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=OBS_WELL_1 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
381	11OCT76	680.50	P	JUST BEFORE MBG #2 STARTED
382	12OCT76	678.84	P	
383	14OCT76	679.51	P	
384	16OCT76	679.15	P	
385	18OCT76	679.02	P	
386	20OCT76	678.95	P	
387	22OCT76	678.86	P	
388	27OCT76	678.79	P	
389	03NOV76	678.36	P	MBG #2 STOPPED 11/3-25
390	24NOV76	680.05	N	
391	26NOV76	680.00	P	MBG #2 ON 11/26 - 1/20
392	28NOV76	679.09	P	
393	01DEC76	678.70	P	
394	09DEC76	675.96	P	
395	15DEC76	675.14	P	
396	22DEC76	675.20	P	
397	29DEC76	674.95	P	
398	05JAN77	674.63	P	
399	12JAN77	674.28	P	
400	19JAN77	673.65	P	
401	21JAN77	678.28	N	
402	23JAN77	678.85	N	
403	02FEB77	679.10	N	
404	18APR77	683.46	P	STATIC WATER LEVELS
405	20APR77	682.81	P	PUMP STOPPED BRIEFLY
406	22APR77	682.71	P	
407	25APR77	681.79	P	
408	27APR77	681.48	P	
409	05MAY77	681.06	P	MBG #2 OFF 5/11-16
410	16MAY77	681.77	P	MBG #2 & MOUND #1 ON 5-16
411	18MAY77	681.14	P	
412	20MAY77	680.69	P	
413	25MAY77	679.90	P	
414	01JUN77	679.18	P	
415	07JUL77	678.78	P	MBG #2 OFF 6/30 - 7/5
416	03AUG77	677.73	P	
417	01SEP77	677.80	P	MBG #2 OFF 8/19-23
418	13OCT77	679.87	N	
419	22NOV77	677.93	P	
420	05JAN78	681.98	P	
421	03FEB78	682.40	P	MBG #2 OFF 1/26 - 6/28
422	15FEB78	682.26	N	MOUND #1 OFF 2/6 - 9/7
423	05APR78	686.46	N	
424	09MAY78	684.12	N	
425	08JUN78	683.11	N	

N=45

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

LOCATION OF WELL=OBS_WELL_1A

OBS	DATE	AQ_LEVL	CHAR	REMARKS
426	09SEP76	681.18	P	STATIC LEVEL, MBG #2 STARTED
427	09SEP76	679.73	P	STATIC LEVEL, MBG #2 STARTED
428	10SEP76	679.15	P	
429	11SEP76	678.97	P	
430	12SEP76	678.67	P	
431	13SEP76	678.46	P	MBG #2 STOPPED
432	14SEP76	679.90	N	
433	15SEP76	680.80	N	
434	16SEP76	680.90	N	
435	17SEP76	681.00	N	
436	11OCT76	681.20	P	JUST BEFORE MBG #2 STARTED
437	11OCT76	681.20	P	
438	12OCT76	679.20	P	
439	14OCT76	678.42	P	
440	16OCT76	678.14	P	
441	18OCT76	677.88	P	
442	20OCT76	677.75	P	
443	22OCT76	677.70	P	
444	27OCT76	677.64	P	
445	03NOV76	677.03	P	MBG #2 STOPPED 11/3-25
446	05NOV76	679.10	N	
447	10NOV76	680.55	N	
448	24NOV76	680.07	N	
449	26NOV76	679.48	P	MBG #2 ON 11/26 - 1/20
450	28NOV76	677.82	P	
451	01DEC76	677.06	P	
452	09DEC76	675.96	P	
453	15DEC76	677.81	P	
454	05JAN77	677.42	P	
455	20JAN77	677.36	P	MBG #2 OFF
456	26JAN77	679.14	N	
457	02FEB77	679.32	N	
458	02MAR77	680.43	N	
459	16MAR77	681.65	N	
460	06APR77	684.36	N	
461	18APR77	683.68	P	STATIC WATER LEVELS
462	20APR77	682.19	P	PUMP STOPPED BRIEFLY
463	22APR77	681.82	P	
464	25APR77	680.66	P	
465	27APR77	680.27	P	
466	05MAY77	679.88	P	MBG #2 OFF 5/11-16
467	16MAY77	682.20	P	MBG #2 & MOUND #1 ON 5-16
468	18MAY77	680.12	P	
469	20MAY77	679.38	P	
470	25MAY77	678.40	P	
471	01JUN77	677.54	P	
472	15JUN77	677.56	P	
473	07JUL77	677.01	P	MBG #2 OFF 6/30 - 7/5
474	20JUL77	675.47	P	
475	03AUG77	675.20	P	
476	18AUG77	675.19	P	
477	01SEP77	675.00	P	MBG #2 OFF 8/19-23
478	19SEP77	677.62	P	
479	13OCT77	679.71	N	
480	28OCT77	675.15	P	
481	22NOV77	674.45	P	
482	22DEC77	682.78	P	
483	05JAN78	680.58	P	

484	19JAN78	679.94	P	
485	03FEB78	682.65	P	MBG #2 OFF 1/26 - 6/28
486	15FEB78	682.68	N	MOUND #1 OFF 2/6 - 9/7
487	20MAR78	688.64	N	
488	05APR78	686.78	N	
489	19APR78	684.81	N	
490	09MAY78	684.60	N	
491	24MAY78	684.08	N	
492	08JUN78	683.24	N	
493	17AUG78	678.00	P	
494	13SEP78	677.18	P	
495	16NOV78	675.18	P	
496	12DEC78	680.60	P	
497	17JAN79	680.00	P	
498	16MAY79	679.45	P	
499	14JUN79	676.89	P	
500	20JUL79	686.43	P	
501	18OCT79	677.77	P	
502	14NOV79	674.77	P	
503	18DEC79	679.00	P	
504	14FEB80	677.06	P	BUD'S RENTAL & HOUSE TO DOM. USE 01 31 80
505	21MAR80	678.14	P	WELLS BH & BR TO CONTINUOUS USE 03 01 80
506	17JUN80	681.85	N	MBG#2 OFF 06/15/80 FOR TWO WEEKS
507	20AUG80	677.93	P	RAINFALL THIS SUMMER IS ABOVE NORMAL
508	15SEP80	675.02	P	
509	16OCT80	672.02	P	
510	20NOV80	669.43	P	MBG 2 TURNED OFF 10_23_80 FOR 2 WEEKS
511	19DEC80	675.18	P	MBG 2 OFF 10-23 TO 11-6, 12-3 TO 12-17-80
512	18JAN81	671.10	P	MOUND 3 ON, MOUND 1 DOWN FOR REPAIRS

N=87

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

LOCATION OF WELL=OBS_WELL_2

OBS	DATE	AQ_LEVL	CHAR	REMARKS
513	09SEP76	680.85	P	STATIC LEVEL, MBG #2 STARTED
514	09SEP76	680.08	P	STATIC LEVEL, MBG #2 STARTED
515	10SEP76	680.00	P	
516	11SEP76	679.27	P	
517	12SEP76	679.25	P	
518	13SEP76	678.79	P	MBG #2 STOPPED
519	14SEP76	680.07	N	
520	15SEP76	683.06	N	
521	16SEP76	680.63	N	
522	17SEP76	680.79	N	
523	11OCT76	680.93	P	JUST BEFORE MBG #2 STARTED
524	11OCT76	680.93	P	
525	12OCT76	679.50	P	
526	14OCT76	677.67	P	
527	16OCT76	678.37	P	
528	18OCT76	678.10	P	
529	20OCT76	678.04	P	
530	22OCT76	677.99	P	
531	27OCT76	677.78	P	
532	03NOV76	677.41	P	MBG #2 STOPPED 11/3-25
533	05NOV76	679.19	N	
534	10NOV76	680.39	N	
535	24NOV76	680.40	N	
536	26NOV76	680.34	P	MBG #2 ON 11/26 - 1/20
537	28NOV76	678.51	P	
538	01DEC76	677.79	P	
539	09DEC76	676.98	P	
540	15DEC76	676.14	P	
541	22DEC76	676.13	P	
542	29DEC76	675.95	P	
543	05JAN77	675.67	P	
544	12JAN77	675.34	P	
545	19JAN77	674.81	P	
546	20JAN77	677.56	P	MBG #2 OFF
547	21JAN77	678.50	N	
548	23JAN77	679.14	N	
549	26JAN77	679.40	N	
550	02FEB77	679.53	N	
551	18APR77	683.96	P	STATIC WATER LEVELS
552	20APR77	682.89	P	PUMP STOPPED BRIEFLY
553	22APR77	683.06	P	
554	25APR77	681.33	P	
555	27APR77	681.01	P	
556	05MAY77	680.53	P	MBG #2 OFF 5/11-16
557	16MAY77	682.73	P	MBG #2 & MOUND #1 ON 5-16
558	18MAY77	680.88	P	
559	20MAY77	680.15	P	
560	25MAY77	679.45	P	
561	01JUN77	678.33	P	
562	15JUN77	677.49	P	
563	07JUL77	677.95	P	MBG #2 OFF 6/30 - 7/5
564	20JUL77	677.40	P	
565	03AUG77	676.09	P	
566	18AUG77	676.20	P	
567	01SEP77	675.99	P	MBG #2 OFF 8/19-23
568	19SEP77	678.01	P	

569	13OCT77	680.19	N	
570	28OCT77	676.16	P	
571	22NOV77	675.46	P	
572	22DEC77	683.52	P	
573	05JAN78	681.27	P	
574	19JAN78	680.67	P	
575	03FEB78	682.90	P	MBG #2 OFF 1/26 - 6/28
576	15FEB78	682.81	N	MOUND #1 OFF 2/6 - 9/7
577	20MAR78	689.07	N	
578	05APR78	687.04	N	
579	19APR78	685.10	N	
580	09MAY78	684.61	N	
581	24MAY78	684.40	N	
582	08JUN78	683.57	N	
583	17AUG78	678.65	P	
584	13SEP78	677.87	P	
585	16NOV78	676.13	P	
586	12DEC78	680.74	P	
587	17JAN79	680.57	P	
588	15MAR79	684.60	P	
589	16MAY79	680.11	P	
590	14JUN79	678.25	P	
591	20JUL79	677.55	P	
592	18OCT79	678.48	P	
593	14NOV79	676.48	P	
594	18DEC79	679.69	P	
595	14FEB80	678.27	P	BUD'S RENTAL & HOUSE TO DOM. USE 01 31 80
596	21MAR80	679.52	P	WELLS BH & BR TO CONTINUOUS USE 03 01 80
597	17JUN80	682.32	N	MBG#2 OFF 06/15/80 FOR TWO WEEKS
598	20AUG80	678.82	P	RAINFALL THIS SUMMER IS ABOVE NORMAL
599	15SEP80	674.40	P	
600	16OCT80	674.23	P	
601	20NOV80	670.90	P	MBG 2 TURNED OFF 10_23_80 FOR 2 WEEKS
602	19DEC80	676.90	P	MBG 2 OFF 10-23 TO 11-6, 12-3 TO 12-17-80
603	18JAN81	672.57	P	MOUND 3 ON, MOUND 1 DOWN FOR REPAIRS

N=91

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

LOCATION OF WELL=OBS_WELL_3

OBS	DATE	AQ_LEVL	CHAR	REMARKS
604	09SEP76	680.70	P	STATIC LEVEL, MBG #2 STARTED
605	09SEP76	679.91	P	STATIC LEVEL, MBG #2 STARTED
606	10SEP76	679.94	P	
607	11SEP76	679.16	P	
608	12SEP76	678.85	P	
609	13SEP76	678.85	P	MBG #2 STOPPED
610	14SEP76	679.84	N	
611	15SEP76	680.40	N	
612	15SEP76	680.49	N	
613	17SEP76	680.50	N	
614	11OCT76	680.73	P	JUST BEFORE MBG #2 STARTED
615	12OCT76	679.40	P	
616	14OCT76	678.52	P	
617	16OCT76	678.25	P	
618	18OCT76	678.07	P	
619	20OCT76	677.95	P	
620	22OCT76	677.85	P	
621	27OCT76	677.71	P	
622	03NOV76	677.40	P	MBG #2 STOPPED 11/3-25
623	05NOV76	679.08	N	
624	10NOV76	680.12	N	
625	24NOV76	680.18	N	
626	26NOV76	680.10	P	MBG #2 ON 11/26 - 1/20
627	28NOV76	678.44	P	
628	01DEC76	677.60	P	
629	09DEC76	676.80	P	
630	15DEC76	676.12	P	
631	22DEC76	675.97	P	
632	29DEC76	675.88	P	
633	05JAN77	675.60	P	
634	12JAN77	675.36	P	
635	19JAN77	675.11	P	
636	20JAN77	677.25	P	MBG #2 OFF
637	21JAN77	678.25	N	
638	23JAN77	678.87	N	
639	26JAN77	678.80	N	
640	02FEB77	679.34	N	
641	18APR77	683.74	P	STATIC WATER LEVELS
642	20APR77	682.80	P	PUMP STOPPED BRIEFLY
643	22APR77	682.82	P	
644	25APR77	681.13	P	
645	27APR77	680.84	P	
646	05MAY77	680.33	P	MBG #2 OFF 5/11-16
647	16MAY77	682.50	P	MBG #2 & MOUND #1 ON 5-16
648	18MAY77	680.70	P	
649	20MAY77	679.98	P	
650	25MAY77	678.77	P	
651	01JUN77	678.15	P	
652	15JUN77	677.40	P	
653	07JUL77	687.84	P	MBG #2 OFF 6/30 - 7/5
654	20JUL77	686.36	P	
655	03AUG77	676.03	P	
656	18AUG77	676.24	P	
657	01SEP77	676.04	P	MBG #2 OFF 8/19-23
658	19SEP77	677.65	P	
659	13OCT77	680.04	N	
660	28OCT77	676.08	P	
661	22NOV77	675.11	P	WELL DRY

662	22DEC77	683.45	P	
663	05JAN78	681.09	P	
664	19JAN78	680.62	P	
665	03FEB78	682.65	P	MBG #2 OFF 1/26 - 6/28
666	15FEB78	682.62	N	MOUND #1 OFF 2/6 - 9/7
667	20MAR78	688.82	N	
668	05APR78	686.78	N	
669	19APR78	684.86	N	
670	09MAY78	684.37	N	
671	24MAY78	684.16	N	
672	08JUN78	683.37	N	
673	17AUG78	678.55	P	
674	13SEP78	677.74	P	
675	13SEP78	676.00	P	
676	12DEC78	680.62	P	
677	17JAN79	680.54	P	
678	15MAR79	684.40	P	
679	21MAR80	679.67	P	WELLS BH & BR TO CONTINUOUS USE 03 01 80

N=76

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=OBS_WELL_4 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
680	09SEP76	680.47	P	STATIC LEVEL, MBG #2 STARTED
681	09SEP76	680.15	P	STATIC LEVEL, MBG #2 STARTED
682	11SEP76	680.07	P	
683	12SEP76	679.90	P	
684	13SEP76	679.80	P	
685	14SEP76	680.45	P	
686	14SEP76	671.94	N	
687	15SEP76	680.60	N	
688	16SEP76	680.73	N	
689	17SEP76	680.81	N	
690	11OCT76	680.96	P	JUST BEFORE MBG #2 STARTED
691	11OCT76	680.96	P	
692	12OCT76	680.20	P	
693	14OCT76	679.74	P	
694	16OCT76	679.52	P	
695	18OCT76	679.40	P	
696	20OCT76	679.40	P	
697	22OCT76	679.24	P	
698	27OCT76	678.90	P	
699	03NOV76	678.85	P	
700	03NOV76	673.85	P	MBG #2 STOPPED 11/3-25
701	05NOV76	679.53	N	
702	10NOV76	680.33	N	
703	24NOV76	680.40	N	
704	26NOV76	680.35	P	MBG #2 ON 11/26 - 1/20
705	28NOV76	679.52	P	
706	01DEC76	678.96	P	
707	09DEC76	678.63	P	
708	15DEC76	678.26	P	
709	22DEC76	678.19	P	
710	29DEC76	678.05	P	
711	05JAN77	677.91	P	
712	12JAN77	677.76	P	
713	12JAN77	678.85	P	
714	12JAN77	678.85	P	
715	12JAN77	678.85	P	
716	19JAN77	677.55	P	
717	19JAN77	677.55	P	
718	20JAN77	678.21	P	MBG #2 OFF
719	21JAN77	678.74	N	
720	23JAN77	679.07	N	
721	26JAN77	679.35	N	
722	02FEB77	679.50	N	
723	02MAR77	680.70	N	
724	16MAR77	681.85	N	
725	06APR77	684.33	N	
726	18APR77	683.89	P	STATIC WATER LEVELS
727	20APR77	683.16	P	PUMP STOPPED BRIEFLY
728	22APR77	683.09	P	
729	25APR77	682.15	P	
730	27APR77	681.80	P	
731	05MAY77	681.33	P	MBG #2 OFF 5/11-16
732	16MAY77	682.67	P	MBG #2 & MOUND #1 ON 5-16
733	18MAY77	681.43	P	
734	20MAY77	680.90	P	
735	25MAY77	680.14	P	

736	01JUN77	679.42	P	
737	15JUN77	678.87	P	
738	07JUL77	679.14	P	MBG #2 OFF 6/30 - 7/5
739	20JUL77	678.30	P	
740	03AUG77	678.19	P	
741	18AUG77	678.33	P	
742	01SEP77	678.25	P	MBG #2 OFF 8/19-23
743	19SEP77	678.77	P	
744	13OCT77	680.17	N	
745	28OCT77	678.36	P	
746	22NOV77	678.52	P	
747	22DEC77	684.40	P	
748	05JAN78	682.57	P	
749	19JAN78	681.60	P	
750	03FEB78	682.95	P	MBG #2 OFF 1/26 - 6/28
751	15FEB78	687.67	N	MOUND #1 OFF 2/6 - 9/7
752	20MAR78	689.02	N	
753	05APR78	686.53	N	
754	19APR78	684.97	N	
755	09MAY78	684.52	N	
756	24MAY78	674.33	N	
757	08JUN78	683.50	N	
758	17AUG78	679.93	P	
759	13SEP78	679.23	P	
760	16NOV78	678.04	P	
761	12DEC78	681.10	P	
762	17JAN79	681.55	P	
763	15MAR79	686.10	P	
764	16MAY79	681.10	P	
765	14JUN79	679.85	P	
766	20JUL79	679.39	P	
767	18OCT79	679.18	P	
768	14NOV79	677.60	P	
769	18DEC79	680.52	P	
770	14FEB80	679.99	P	BUD'S RENTAL & HOUSE TO DOM. USE 01 31 80
771	21MAR80	677.10	P	WELLS BH & BR TO CONTINUOUS USE 03 01 80
772	17JUN80	682.27	N	MBG#2 OFF 06/15/80 FOR TWO WEEKS

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=OBS_WELL_4 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
773	20AUG80	681.27	P	RAINFALL THIS SUMMER IS ABOVE NORMAL
774	15SEP80	676.60	P	
775	16OCT80	677.43	P	
776	20NOV80	675.14	P	MBG 2 TURNED OFF 10_23_80 FOR 2 WEEKS
777	19DEC80	684.43	P	MBG 2 OFF 10-23 TO 11-6, 12-3 TO 12-17-80
778	18JAN81	676.85	P	MOUND 3 ON, MOUND 1 DOWN FOR REPAIRS

N=99

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

14:28 TUESDAY,

---------- LOCATION OF WELL=OBS_WELL_5 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
779	09SEP76	680.50	P	STATIC LEVEL, MBG #2 STARTED
780	09SEP76	680.42	P	STATIC LEVEL, MBG #2 STARTED
781	10SEP76	680.80	P	
782	11SEP76	680.56	P	
783	12SEP76	680.46	P	
784	13SEP76	680.37	P	MBG #2 STOPPED
785	14SEP76	680.57	N	
786	15SEP76	680.72	N	
787	16SEP76	680.78	N	
788	17SEP76	680.81	N	
789	11OCT76	680.95	P	JUST BEFORE MBG #2 STARTED
790	11OCT76	680.95	P	
791	12OCT76	680.65	P	
792	14OCT76	680.27	P	
793	16OCT76	680.15	P	
794	18OCT76	680.06	P	
795	20OCT76	679.96	P	
796	22OCT76	679.91	P	
797	27OCT76	679.75	P	
798	03NOV76	679.54	P	
799	03NOV76	679.54	P	MBG #2 STOPPED 11/3-25
800	05NOV76	679.85	N	
801	24NOV76	680.41	N	
802	26NOV76	680.45	P	MBG #2 ON 11/26 - 1/20
803	28NOV76	679.97	P	
804	01DEC76	679.70	P	
805	09DEC76	679.33	P	
806	15DEC76	679.13	P	
807	22DEC76	678.94	P	
808	29DEC76	679.08	P	
809	05JAN77	678.77	P	
810	12JAN77	678.63	P	
811	12JAN77	678.63	P	
812	19JAN77	678.46	P	
813	19JAN77	678.46	P	
814	20JAN77	678.69	P	MBG #2 OFF
815	21JAN77	678.94	N	
816	23JAN77	679.29	N	
817	26JAN77	679.42	N	
818	02FEB77	679.52	N	
819	18APR77	683.86	P	STATIC WATER LEVELS
820	20APR77	683.39	P	PUMP STOPPED BRIEFLY
821	22APR77	683.17	P	
822	25APR77	682.62	P	
823	27APR77	682.38	P	
824	05MAY77	681.87	P	MBG #2 OFF 5/11-16
825	16MAY77	682.69	P	MBG #2 & MOUND #1 ON 5-16
826	18MAY77	682.05	P	
827	20MAY77	681.62	P	
828	25MAY77	680.90	P	
829	01JUN77	680.20	P	
830	15JUN77	679.74	P	
831	07JUL77	679.79	P	MBG #2 OFF 6/30 - 7/5
832	20JUL77	679.16	P	
833	03AUG77	679.02	P	
834	18AUG77	679.26	P	
835	01SEP77	679.16	P	MBG #2 OFF 8/19-23

836	19SEP77	679.33	P	
837	13OCT77	680.32	N	
838	28OCT77	679.29	P	
839	22NOV77	679.42	P	
840	22DEC77	685.16	P	
841	05JAN78	682.98	P	
842	19JAN78	682.40	P	
843	03FEB78	683.05	P	MBG #2 OFF 1/26 - 6/28
844	03FEB78	681.10	P	MBG #2 OFF 1/26 - 6/28
845	15FEB78	683.18	N	MOUND #1 OFF 2/6 - 9/7
846	20MAR78	688.98	N	
847	05APR78	686.38	N	
848	19APR78	684.91	N	
849	09MAY78	684.55	N	
850	24MAY78	669.31	N	
851	08JUN78	683.53	N	
852	17AUG78	680.60	P	
853	13SEP78	679.97	P	
854	16NOV78	679.87	P	
855	12DEC78	681.30	P	
856	17JAN79	682.17	P	
857	15MAR79	686.44	P	
858	16MAY79	681.95	P	
859	14JUN79	680.81	P	
860	20JUL79	680.14	P	
861	18OCT79	680.10	P	
862	14NOV79	678.83	P	
863	18DEC79	681.27	P	
864	14FEB80	681.10	P	BUD'S RENTAL & HOUSE TO DOM. USE 01 31 80
865	21MAR80	682.66	P	WELLS BH & BR TO CONTINUOUS USE 03 01 80
866	17JUN80	682.43	N	MBG#2 OFF 06/15/80 FOR TWO WEEKS
867	20AUG80	681.60	P	RAINFALL THIS SUMMER IS ABOVE NORMAL
868	15SEP80	678.02	P	
869	16OCT80	677.10	P	
870	20NOV80	676.27	P	MBG 2 TURNED OFF 10_23_80 FOR 2 WEEKS
871	19DEC80	678.35	P	MBG 2 OFF 10-23 TO 11-6, 12-3 TO 12-17-80

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=OBS_WELL_5 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
872	18JAN81	678.14	P	MOUND 3 ON, MOUND 1 DOWN FOR REPAIRS

N=94

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=OBS_WELL_6 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
873	09SEP76	679.58	P	STATIC LEVEL, MBG #2 STARTED
874	09SEP76	679.58	P	STATIC LEVEL, MBG #2 STARTED
875	10SEP76	680.03	P	
876	11SEP76	680.04	P	
877	12SEP76	679.93	P	
878	13SEP76	679.95	P	MBG #2 STOPPED
879	14SEP76	679.90	N	
880	15SEP76	679.93	N	
881	16SEP76	679.90	N	
882	17SEP76	679.96	N	
883	11OCT76	679.98	P	JUST BEFORE MBG #2 STARTED
884	12OCT76	679.96	P	
885	14OCT76	679.87	P	
886	16OCT76	679.70	P	
887	18OCT76	679.70	P	
888	20OCT76	679.60	P	
889	20OCT76	679.60	P	
890	22OCT76	679.48	P	
891	27OCT76	679.35	P	
892	03NOV76	679.28	P	MBG #2 STOPPED 11/3-25
893	05NOV76	679.29	N	
894	10NOV76	679.35	N	
895	26NOV76	679.47	P	MBG #2 ON 11/26 - 1/20
896	28NOV76	679.42	P	
897	01DEC76	679.20	P	
898	09DEC76	678.93	P	
899	15DEC76	678.72	P	
900	05JAN77	678.35	P	
901	02FEB77	678.51	N	
902	18APR77	683.59	P	STATIC WATER LEVELS
903	20APR77	682.63	P	PUMP STOPPED BRIEFLY
904	22APR77	682.37	P	
905	25APR77	682.53	P	
906	27APR77	681.93	P	
907	05MAY77	681.52	P	MBG #2 OFF 5/11-16
908	16MAY77	682.47	P	MBG #2 & MOUND #1 ON 5-16
909	18MAY77	681.55	P	
910	20MAY77	681.26	P	
911	25MAY77	680.62	P	
912	01JUN77	680.01	P	
913	07JUL77	679.53	P	MBG #2 OFF 6/30 - 7/5
914	03AUG77	678.89	P	
915	01SEP77	679.12	P	MBG #2 OFF 8/19-23
916	13OCT77	679.54	N	
917	22NOV77	679.20	P	
918	24NOV77	679.48	N	
919	05JAN78	682.69	P	
920	05APR78	685.69	N	
921	09MAY78	683.79	N	
922	08JUN78	682.59	N	
923	15SEP80	678.20	P	

N=51

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=OBS_WELL_6A ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
924	09SEP76	680.25	P	STATIC LEVEL, MBG #2 STARTED
925	09SEP76	680.21	P	STATIC LEVEL, MBG #2 STARTED
926	10SEP76	680.68	P	
927	11SEP76	680.52	P	
928	12SEP76	680.35	P	
929	13SEP76	680.39	P	MBG #2 STOPPED
930	14SEP76	680.47	N	
931	15SEP76	680.64	N	
932	16SEP76	680.60	N	
933	17SEP76	680.30	N	
934	11OCT76	680.71	P	JUST BEFORE MBG #2 STARTED
935	11OCT76	680.71	P	
936	12OCT76	680.56	P	
937	14OCT76	680.25	P	
938	16OCT76	680.13	P	
939	18OCT76	680.10	P	
940	20OCT76	679.98	P	
941	22OCT76	679.84	P	
942	27OCT76	679.82	P	
943	03NOV76	679.65	P	MBG #2 STOPPED 11/3-25
944	05NOV76	679.74	N	
945	24NOV76	680.20	N	
946	26NOV76	680.25	P	MBG #2 ON 11/26 - 1/20
947	28NOV76	680.02	P	
948	01DEC76	679.74	P	
949	09DEC76	679.38	P	
950	15DEC76	679.20	P	
951	22DEC76	679.09	P	
952	28DEC76	678.97	P	
953	05JAN77	678.80	P	
954	12JAN77	678.67	P	
955	19JAN77	678.57	P	
956	20JAN77	678.66	P	MBG #2 OFF
957	21JAN77	678.85	N	
958	23JAN77	679.02	N	
959	26JAN77	679.26	N	
960	02FEB77	679.32	N	
961	02MAR77	680.53	N	
962	16MAR77	681.70	N	
963	06APR77	684.38	N	
964	18APR77	683.80	P	STATIC WATER LEVELS
965	20APR77	683.26	P	PUMP STOPPED BRIEFLY
966	22APR77	683.01	P	
967	25APR77	682.12	P	
968	27APR77	682.28	P	
969	05MAY77	681.91	P	MBG #2 OFF 5/11-16
970	16MAY77	681.80	P	MBG #2 & MOUND #1 ON 5-16
971	18MAY77	682.03	P	
972	20MAY77	681.66	P	
973	25MAY77	680.94	P	
974	01JUN77	680.30	P	
975	15JUN77	679.85	P	
976	07JUL77	680.00	P	MBG #2 OFF 6/30 - 7/5
977	20JUL77	679.71	P	
978	03AUG77	679.31	P	
979	18AUG77	679.36	P	
980	01SEP77	679.33	P	MBG #2 OFF 8/19-23

981	19SEP77	679.32	P	
982	13OCT77	680.13	N	
983	28OCT77	679.42	P	
984	22NOV77	679.45	P	
985	22DEC77	685.17	P	
986	05JAN78	683.00	P	
987	19JAN78	682.35	P	
988	03FEB78	682.80	P	MBG #2 OFF 1/26 - 6/28
989	15FEB78	682.59	N	MOUND #1 OFF 2/6 - 9/7
990	20MAR78	688.74	N	
991	05APR78	686.06	N	
992	19APR78	684.64	N	
993	09MAY78	684.20	N	
994	24MAY78	683.97	N	
995	08JUN78	683.16	N	
996	17AUG78	680.59	P	
997	13SEP78	679.90	P	
998	16NOV78	679.00	P	
999	12DEC78	681.35	P	
1000	17JAN79	682.24	P	
1001	15MAR79	686.40	P	
1002	16MAY79	681.99	P	
1003	14JUN79	681.12	P	
1004	20JUL79	680.32	P	
1005	18OCT79	680.03	P	
1006	14NOV79	678.87	P	
1007	18DEC79	681.07	P	
1008	14FEB80	681.24	P	BUD'S RENTAL & HOUSE TO DOM. USE 01 31 80
1009	21MAR80	682.87	P	WELLS BH & BR TO CONTINUOUS USE 03 01 80
1010	17JUN80	682.45	N	MBG#2 OFF 06/15/80 FOR TWO WEEKS
1011	20AUG80	681.78	P	RAINFALL THIS SUMMER IS ABOVE NORMAL
1012	16OCT80	679.28	P	
1013	20NOV80	676.45	P	MBG 2 TURNED OFF 10_23_80 FOR 2 WEEKS
1014	19DEC80	678.12	P	MBG 2 OFF 10-23 TO 11-6, 12-3 TO 12-17-80
1015	18JAN81	678.24	P	MOUND 3 ON, MOUND 1 DOWN FOR REPAIRS

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

N=92

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=OBS_WELL_7 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
1016	01DEC76	677.50	P	
1017	09DEC76	677.24	P	
1018	15DEC76	677.00	P	
1019	05JAN77	676.74	P	
1020	02FEB77	677.11	N	
1021	18APR77	681.14	P	STATIC WATER LEVELS
1022	20APR77	680.93	P	PUMP STOPPED BRIEFLY
1023	22APR77	680.68	P	
1024	25APR77	680.39	P	
1025	27APR77	680.12	P	
1026	05MAY77	679.70	P	MBG #2 OFF 5/11-16
1027	16MAY77	680.20	P	MBG #2 & MOUND #1 ON 5-16
1028	18MAY77	679.84	P	
1029	20MAY77	679.51	P	
1030	25MAY77	678.86	P	
1031	01JUN77	678.23	P	
1032	07JUL77	677.90	P	MBG #2 OFF 6/30 - 7/5
1033	03AUG77	677.23	P	
1034	01SEP77	676.90	P	MBG #2 OFF 8/19-23
1035	13OCT77	677.83	N	
1036	22NOV77	677.32	P	
1037	05JAN78	680.93	P	
1038	03FEB78	680.60	P	MBG #2 OFF 1/26 - 6/28
1039	05APR78	683.62	N	
1040	09MAY78	681.74	N	
1041	08JUN78	680.90	N	

N=26

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=OBS_WELL_8 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
1042	11OCT76	681.05	P	JUST BEFORE MBG #2 STARTED
1043	12OCT76	680.98	P	
1044	14OCT76	680.87	P	
1045	16OCT76	680.75	P	
1046	18OCT76	680.67	P	
1047	20OCT76	680.60	P	
1048	22OCT76	680.55	P	
1049	27OCT76	680.45	P	
1050	03NOV76	680.26	P	MBG #2 STOPPED 11/3-25
1051	05NOV76	680.25	N	
1052	10NOV76	680.49	N	
1053	24NOV76	680.46	N	
1054	28NOV76	680.44	P	
1055	01DEC76	680.31	P	
1056	09DEC76	680.03	P	
1057	15DEC76	679.82	P	
1058	05JAN77	679.34	P	
1059	02FEB77	679.59	N	
1060	18APR77	683.81	P	STATIC WATER LEVELS
1061	20APR77	683.61	P	PUMP STOPPED BRIEFLY
1062	22APR77	683.12	P	
1063	25APR77	683.12	P	
1064	27APR77	682.90	P	
1065	05MAY77	681.33	P	MBG #2 OFF 5/11-16
1066	16MAY77	682.77	P	MBG #2 & MOUND #1 ON 5-16
1067	18MAY77	682.55	P	
1068	20MAY77	682.22	P	
1069	25MAY77	681.65	P	
1070	01JUN77	681.03	P	
1071	07JUL77	680.60	P	MBG #2 OFF 6/30 - 7/5
1072	03AUG77	680.04	P	
1073	01SEP77	680.15	P	MBG #2 OFF 8/19-23
1074	13OCT77	680.62	N	
1075	22NOV77	680.30	P	
1076	05JAN78	683.75	P	
1077	03FEB78	683.28	P	MBG #2 OFF 1/26 - 6/28
1078	05APR78	686.57	N	
1079	09MAY78	684.69	N	
1080	08JUN78	683.52	N	

N=39

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=OBS_WELL_8A ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
1081	28NOV76	679.45	P	
1082	01DEC76	679.15	P	
1083	09DEC76	678.97	P	
1084	15DEC76	678.86	P	
1085	05JAN77	678.49	P	
1086	02FEB77	678.76	N	
1087	18APR77	682.76	P	STATIC WATER LEVELS
1088	20APR77	682.47	P	PUMP STOPPED BRIEFLY
1089	22APR77	680.96	P	
1090	25APR77	681.95	P	
1091	27APR77	681.67	P	
1092	05MAY77	682.51	P	MBG #2 OFF 5/11-16
1093	16MAY77	681.76	P	MBG #2 & MOUND #1 ON 5-16
1094	18MAY77	681.26	P	
1095	20MAY77	681.09	P	
1096	25MAY77	680.49	P	
1097	01JUN77	679.86	P	
1098	07JUL77	679.60	P	MBG #2 OFF 6/30 - 7/5
1099	03AUG77	679.04	P	
1100	01SEP77	679.08	P	MBG #2 OFF 8/19-23
1101	13OCT77	679.62	N	
1102	22NOV77	679.10	P	
1103	05JAN78	682.48	P	
1104	03FEB78	682.12	P	MBG #2 OFF 1/26 - 6/28
1105	05APR78	685.28	N	
1106	09MAY78	683.47	N	
1107	08JUN78	682.46	N	

N=27

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=WELL_19_4 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
1108	18APR77	854.76	P	STATIC WATER LEVELS, BEGAN PUMP MBG #2
1109	20APR77	854.76	P	PUMP STOPPED BRIEFLY
1110	22APR77	854.72	P	
1111	25APR77	854.73	P	
1112	27APR77	854.75	P	MBG #2 OFF 5/11-16
1113	25MAY77	854.75	P	MBG # 2 & MOUND # 1 ON 5/16
1114	01JUN77	854.74	P	
1115	06JUL77	854.81	P	MBG #2 OFF 6/30 - 7/5
1116	03AUG77	854.76	P	
1117	03AUG77	854.76	P	
1118	19OCT77	854.90	P	
1119	04JAN78	854.90	P	
1120	03FEB78	855.05	P	MBG #2 OFF 1/26 - 6/28
1121	06APR78	854.94	N	MOUND #1 OFF 2/6 - 9/7
1122	10MAY78	855.25	N	
1123	10MAY78	856.81	N	
1124	08JUN78	854.86	N	
1125	13SEP78	854.86	P	
1126	15MAR79	854.89	P	
1127	15SEP80	854.41	P	DRY

N=20

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=WELL_27_2 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
1128	18APR77	767.40	P	STATIC WATER LEVELS, BEGAN PUMP MBG #2
1129	20APR77	767.36	P	PUMP STOPPED BRIEFLY
1130	22APR77	767.24	P	
1131	25APR77	767.37	P	
1132	27APR77	767.36	P	MBG #2 OFF 5/11-16
1133	25MAY77	767.45	P	MBG # 2 & MOUND # 1 ON 5/16
1134	01JUN77	767.54	P	
1135	06JUL77	767.28	P	MBG #2 OFF 6/30 - 7/5
1136	03AUG77	767.30	P	
1137	19OCT77	767.81	P	
1138	04JAN78	767.61	P	
1139	03FEB78	767.42	P	MBG #2 OFF 1/26 - 6/28
1140	06APR78	767.70	N	MOUND #1 OFF 2/6 - 9/7
1141	08JUN78	767.80	N	
1142	13SEP78	767.78	P	
1143	15MAR79	767.30	P	
1144	18OCT79	765.87	P	
1145	15SEP80	765.47	P	

N=18

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=WELL_28_1 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
1146	18APR77	735.27	P	STATIC WATER LEVELS, BEGAN PUMP MBG #2
1147	20APR77	734.20	P	PUMP STOPPED BRIEFLY
1148	22APR77	735.12	P	
1149	25APR77	735.31	P	
1150	27APR77	735.20	P	MBG #2 OFF 5/11-16
1151	25MAY77	735.20	P	MBG # 2 & MOUND # 1 ON 5/16
1152	01JUN77	735.36	P	
1153	06JUL77	735.31	P	MBG #2 OFF 6/30 - 7/5
1154	03AUG77	735.29	P	
1155	19OCT77	735.45	P	
1156	04JAN78	735.49	P	
1157	03FEB78	735.45	P	MBG #2 OFF 1/26 - 6/28
1158	06APR78	735.42	N	MOUND #1 OFF 2/6 - 9/7
1159	10MAY78	735.39	N	
1160	08JUN78	735.63	N	
1161	13SEP78	735.64	P	
1162	15MAR79	736.00	P	
1163	18OCT79	734.03	P	
1164	15SEP80	733.68	P	

N=19

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=WELL_33_1 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
1165	18APR77	756.97	P	STATIC WATER LEVELS, BEGAN PUMP MBG #2
1166	20APR77	756.85	P	PUMP STOPPED BRIEFLY
1167	22APR77	756.87	P	
1168	25APR77	757.09	P	
1169	25MAY77	757.12	P	MBG # 2 & MOUND # 1 ON 5/16
1170	01JUN77	757.18	P	
1171	06JUL77	757.44	P	MBG #2 OFF 6/30 - 7/5
1172	03AUG77	757.44	P	
1173	19OCT77	757.68	P	
1174	04JAN78	757.48	P	
1175	03FEB78	757.28	P	MBG #2 OFF 1/26 - 6/28
1176	06APR78	758.30	N	MOUND #1 OFF 2/6 - 9/7
1177	10MAY78	757.35	N	
1178	08JUN78	757.53	N	
1179	13SEP78	757.64	P	
1180	15MAR79	767.85	P	
1181	15MAR79	757.85	P	
1182	18OCT79	755.97	P	
1183	15SEP80	757.92	P	

N=19

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=WELL_34_2 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
1184	18APR77	785.74	P	STATIC WATER LEVELS, BEGAN PUMP MBG #2
1185	20APR77	785.74	P	PUMP STOPPED BRIEFLY
1186	22APR77	786.08	P	
1187	25APR77	786.33	P	
1188	27APR77	786.10	P	MBG #2 OFF 5/11-16
1189	25MAY77	786.32	P	MBG # 2 & MOUND # 1 ON 5/16
1190	01JUN77	786.24	P	
1191	06JUL77	786.40	P	MBG #2 OFF 6/30 - 7/5
1192	03AUG77	786.17	P	
1193	19OCT77	787.99	P	
1194	04JAN78	788.65	P	
1195	03FEB78	787.90	P	MBG #2 OFF 1/26 - 6/28
1196	06APR78	800.30	N	MOUND #1 OFF 2/6 - 9/7
1197	06APR78	800.30	N	CONTAMINATED BY RUNOFF
1198	10MAY78	797.59	N	CONTAMINATED BY STORM RUNOFF
1199	08JUN78	800.15	N	
1200	13SEP78	786.80	P	
1201	15MAR79	793.30	P	
1202	18OCT79	792.73	P	
1203	15SEP80	.	P	GROUND WATER CONTAMINATED

N=20

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=WELL_36_1 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
1204	18APR77	737.23	P	STATIC WATER LEVELS, BEGAN PUMP MBG #2
1205	20APR77	737.22	P	PUMP STOPPED BRIEFLY
1206	22APR77	737.29	P	
1207	25APR77	737.41	P	
1208	27APR77	737.31	P	MBG #2 OFF 5/11-16
1209	25MAY77	736.10	P	MBG # 2 & MOUND # 1 ON 5/16
1210	01JUN77	735.71	P	
1211	06JUL77	736.61	P	MBG #2 OFF 6/30 - 7/5
1212	03AUG77	736.38	P	
1213	19OCT77	737.27	P	
1214	04JAN78	736.82	P	
1215	03FEB78	736.36	P	MBG #2 OFF 1/26 - 6/28
1216	06APR78	736.62	N	MOUND #1 OFF 2/6 - 9/7
1217	10MAY78	736.89	N	
1218	08JUN78	736.66	N	
1219	13SEP78	736.40	P	
1220	15MAR79	736.44	P	
1221	18OCT79	736.85	P	
1222	15SEP80	734.25	P	

N=19

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=WELL_37_1A ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
1223	09SEP76	677.80	P	STATIC LEVEL, MBG #2 STARTED
1224	09SEP76	677.78	P	STATIC LEVEL, MBG #2 STARTED
1225	11SEP76	676.67	P	
1226	12SEP76	676.37	P	
1227	13SEP76	676.13	P	MBG #2 STOPPED
1228	14SEP76	677.63	N	
1229	15SEP76	678.09	N	
1230	16SEP76	678.31	N	
1231	17SEP76	678.33	N	
1232	11OCT76	678.47	P	JUST BEFORE MBG #2 STARTED
1233	12OCT76	676.76	P	
1234	14OCT76	675.90	P	
1235	16OCT76	675.60	P	
1236	18OCT76	675.43	P	
1237	20OCT76	675.35	P	
1238	22OCT76	675.21	P	
1239	27OCT76	675.02	P	
1240	03NOV76	674.60	P	MBG #2 STOPPED 11/3-25
1241	05NOV76	676.35	N	
1242	10NOV76	677.85	N	
1243	24NOV76	677.93	N	
1244	28NOV76	675.80	P	
1245	01DEC76	674.83	P	
1246	09DEC76	674.28	P	
1247	15DEC76	673.19	P	
1248	22DEC76	673.15	P	
1249	29DEC76	673.00	P	
1250	05JAN77	672.58	P	
1251	12JAN77	672.18	P	
1252	19JAN77	671.99	P	
1253	20JAN77	674.55	P	MBG #2 OFF
1254	21JAN77	675.81	N	
1255	23JAN77	676.60	N	
1256	26JAN77	676.81	N	
1257	02FEB77	676.97	N	
1258	02MAR77	678.18	N	
1259	16MAR77	679.38	N	
1260	06APR77	682.10	N	
1261	18APR77	681.30	P	STATIC WATER LEVELS
1262	20APR77	680.43	P	PUMP STOPPED BRIEFLY
1263	22APR77	680.07	P	
1264	25APR77	678.62	P	
1265	27APR77	678.26	P	
1266	05MAY77	677.80	P	MBG #2 OFF 5/11-16
1267	16MAY77	680.15	P	MBG #2 & MOUND #1 ON 5-16
1268	18MAY77	678.37	P	
1269	20MAY77	677.40	P	
1270	25MAY77	676.32	P	
1271	01JUN77	675.50	P	
1272	15JUN77	674.66	P	
1273	07JUL77	675.76	P	MBG #2 OFF 6/30 - 7/5
1274	20JUL77	673.45	P	
1275	03AUG77	673.04	P	
1276	18AUG77	673.13	P	
1277	01SEP77	673.00	P	MBG #2 OFF 8/19-23
1278	19SEP77	674.86	P	
1279	13OCT77	675.66	N	

1280	28OCT77	672.92	P	
1281	22NOV77	672.45	P	
1282	22DEC77	680.82	P	
1283	05JAN78	675.72	P	
1284	03FEB78	680.27	P	MBG #2 OFF 1/26 - 6/28
1285	15FEB78	680.16	N	MOUND #1 OFF 2/6 - 9/7
1286	20MAR78	686.44	N	
1287	05APR78	683.96	N	
1288	19APR78	682.58	N	
1289	09MAY78	681.92	N	
1290	24MAY78	681.81	N	
1291	08JUN78	681.47	N	
1292	17AUG78	675.75	P	
1293	13SEP78	674.90	P	
1294	16NOV78	672.99	P	
1295	12DEC78	675.92	P	
1296	17JAN79	677.67	P	
1297	15MAR79	712.48	P	
1298	18OCT79	674.45	P	
1299	14NOV79	673.68	P	
1300	18DEC79	676.87	P	
1301	14FEB80	675.52	P	BUD'S RENTAL & HOUSE TO DOM. USE 01 31 80
1302	21MAR80	676.43	P	WELLS BH & BR TO CONTINUOUS USE 03 01 80
1303	17JUN80	679.85	N	MBG#2 OFF 06/15/80 FOR TWO WEEKS
1304	20AUG80	675.77	P	RAINFALL THIS SUMMER IS ABOVE NORMAL
1305	15SEP80	673.68	P	

N=83

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=WELL_42_1 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
1306	18APR77	743.45	P	STATIC WATER LEVELS, BEGAN PUMP MBG #2
1307	20APR77	743.34	P	PUMP STOPPED BRIEFLY
1308	22APR77	743.38	P	
1309	25APR77	743.22	P	
1310	27APR77	743.47	P	MBG #2 OFF 5/11-16
1311	25MAY77	743.48	P	MBG # 2 & MOUND # 1 ON 5/16
1312	01JUN77	743.51	P	
1313	06JUL77	743.49	P	MBG #2 OFF 6/30 - 7/5
1314	03AUG77	743.53	P	
1315	19OCT77	743.57	P	
1316	04JAN78	743.45	P	
1317	03FEB78	743.32	P	MBG #2 OFF 1/26 - 6/28
1318	06APR78	743.06	N	MOUND #1 OFF 2/6 - 9/7
1319	10MAY78	743.80	N	
1320	08JUN78	743.55	N	

N=15

POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=WELL_46_1 ----------

OBS	DATE	AQ_LEVL	CHAR	REMARKS
1321	20JAN77	678.71	P	MBG #2 OFF
1322	21JAN77	678.73	N	
1323	23JAN77	679.86	N	
1324	26JAN77	680.30	N	
1325	18APR77	684.89	P	STATIC WATER LEVELS, BEGAN PUMP MBG #2
1326	20APR77	684.04	P	PUMP STOPPED BRIEFLY
1327	22APR77	683.97	P	
1328	25APR77	682.65	P	
1329	27APR77	682.14	P	MBG #2 OFF 5/11-16
1330	25MAY77	680.40	P	MBG # 2 & MOUND # 1 ON 5/16
1331	01JUN77	679.84	P	
1332	15JUN77	679.35	P	
1333	03AUG77	679.54	P	
1334	18AUG77	679.39	P	
1335	19OCT77	680.07	P	
1336	22DEC77	684.57	P	
1337	05JAN78	682.52	P	
1338	03FEB78	683.72	P	MBG #2 OFF 1/26 - 6/28
1339	15FEB78	683.73	N	MOUND #1 OFF 2/6 - 9/7
1340	06APR78	687.60	N	MOUND #1 OFF 2/6 - 9/7
1341	10MAY78	685.50	N	

N=21

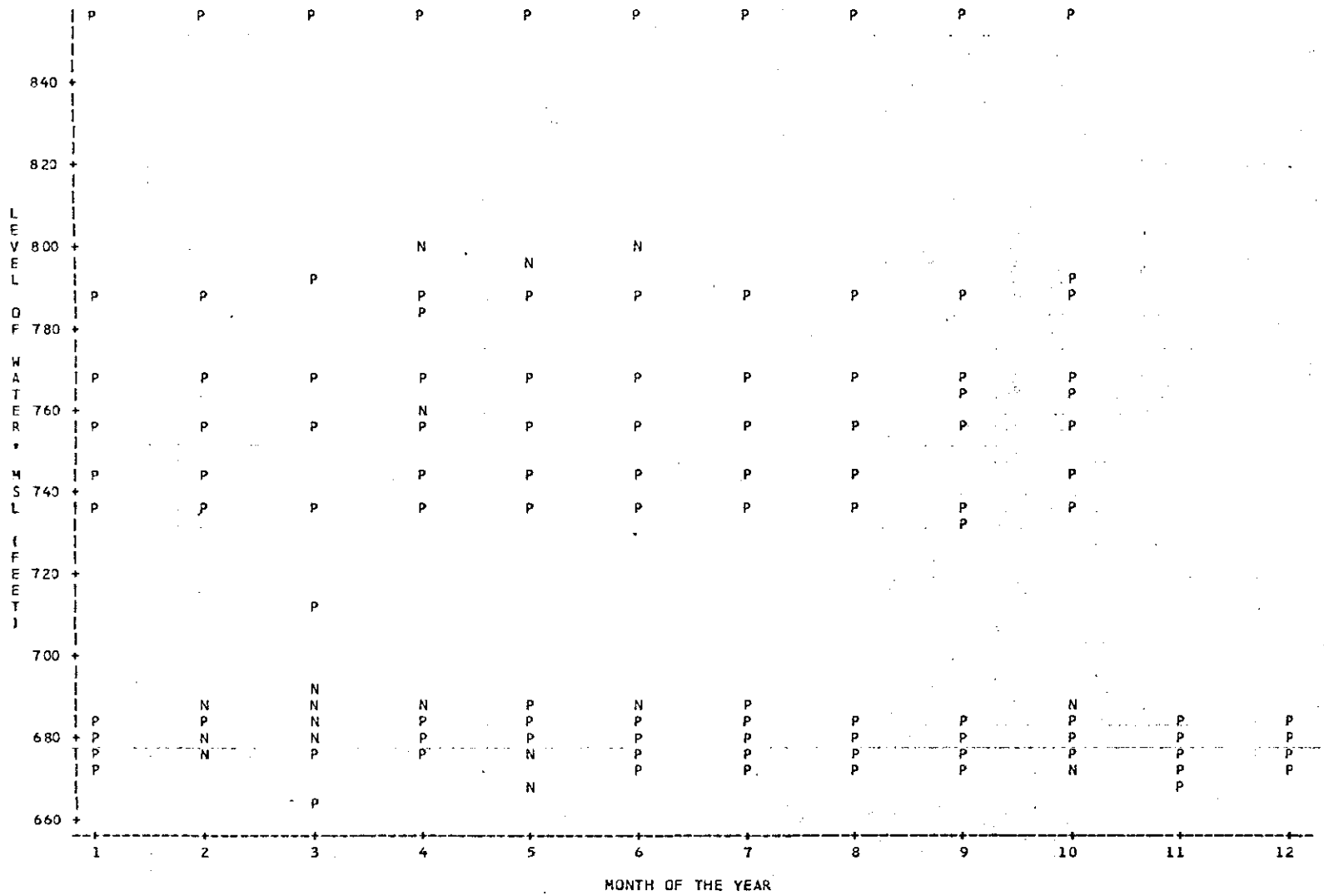
POTABLE WATER STANDARDS PROJECT - LEVELS OF WATER IN AQUIFER, MSL (FEET)

---------- LOCATION OF WELL=WELL_55_5 ----------

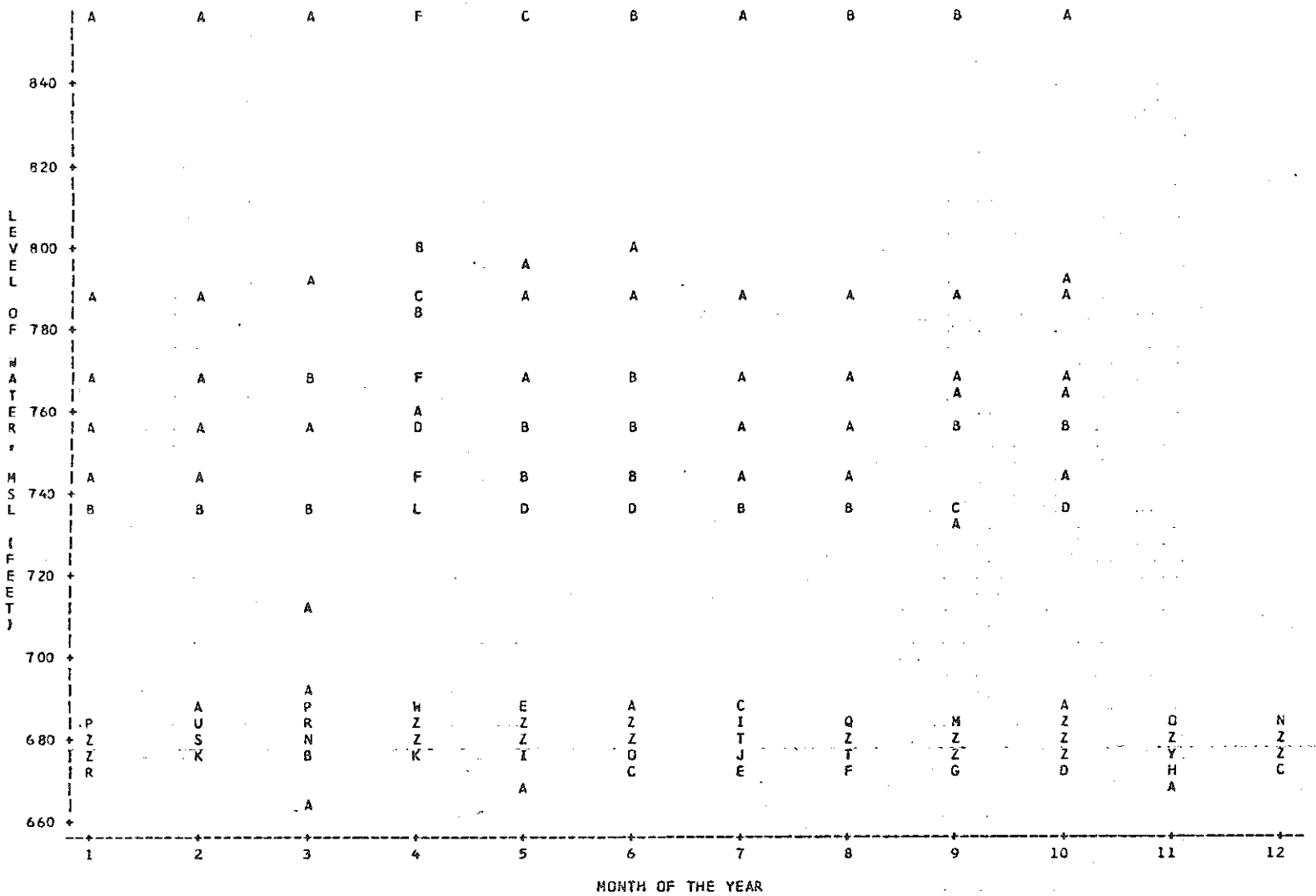
OBS	DATE	AQ_LEVL	CHAR	REMARKS
1342	18APR77	686.41	P	STATIC WATER LEVELS, BEGAN PUMP MBG #2
1343	20APR77	685.86	P	PUMP STOPPED BRIEFLY
1344	22APR77	685.47	P	
1345	25APR77	684.77	P	
1346	27APR77	684.47	P	MBG #2 OFF 5/11-16
1347	25MAY77	682.50	P	MBG # 2 & MOUND # 1 ON 5/16
1348	01JUN77	681.77	P	
1349	06JUL77	681.68	P	MBG #2 OFF 6/30 - 7/5
1350	03AUG77	680.49	P	
1351	19OCT77	681.75	P	
1352	04JAN78	684.70	P	
1353	03FEB78	685.17	P	MBG #2 OFF 1/26 - 6/28
1354	16FEB78	685.30	N	
1355	06APR78	689.30	N	MOUND #1 OFF 2/6 - 9/7
1356	10MAY78	686.97	N	
1357	08JUN78	686.17	N	
1358	13SEP78	681.24	P	
1359	15MAR79	685.20	P	
1360	15SEP80	673.55	P	

N=19

POTABLE WATER STANDARDS PROGRAM - LEVELS OF WATER IN AQUIFER, MSL (FEET)
PLOT OF AQUIFER WATER LEVEL ON MONTH OF THE YEAR



POTABLE WATER STANDARDS PROGRAM - LEVELS OF WATER IN AQUIFER, MSL (FEET)
PLOT OF AQUIFER WATER LEVEL ON MONTH OF THE YEAR



POTABLE WATER STANDARDS PROGRAM - LEVELS OF WATER IN AQUIFER, MSL (FEET)

ANALYSIS OF VARIANCE PROCEDURE

CLASS LEVEL INFORMATION

CLASS	LEVELS	VALUES
MON	12	1 2 3 4 5 6 7 8 9 10 11 12
CHAR	2	N P

NUMBER OF OBSERVATIONS IN DATA SET = 1360

NOTE: ALL DEPENDENT VARIABLES ARE CONSISTENT WITH RESPECT TO THE PRESENCE OR ABSENCE OF MISSING VALUES.
HOWEVER, ONLY 1359 OBSERVATIONS IN DATA SET CAN BE USED IN THIS ANALYSIS.

POTABLE WATER STANDARDS PROGRAM - LEVELS OF WATER IN AQUIFER, MSL (FEET)

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: AQ_LEVL LEVEL OF WATER, MSL (FEET)

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C.V.
MODEL	21	98215.90867984	4676.94803237	5.77	0.0001	0.083038	4.1348
ERROR	1337	1084568.91128457	811.19589475		STD DEV		AQ_LEVL MEAN
CORRECTED TOTAL	1358	1182784.81996441			28.48150092		688.81969831

SOURCE	DF	ANOVA SS	F VALUE	PR > F
MON	11	72647.01355076	8.14	0.0001
CHAR	1	64.34227920	0.08	0.7783
MON*CHAR	9	25504.55284989	3.49	0.0003

POTABLE WATER STANDARDS PROGRAM - LEVELS OF WATER IN AQUIFER, MSL (FEET)

ANALYSIS OF VARIANCE PROCEDURE

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE AQ_LEVL
LEVEL OF WATER, MSL (FEET)

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=1337 MS=811.196

GROUPING			MEAN	N	MON
	A		703.360391	179	4
	B		694.602833	60	3
	B				
	B		694.006374	91	6
	B				
C	B		691.188136	59	2
C	B				
C	B		691.177222	54	7
C	B				
C	B		690.998786	140	5
C	B				
C	B		689.178608	79	8
C	B				
C	B	D	685.842092	153	9
C	B	D			
C	B	D	685.498424	184	10
C		D			
C		D	683.098188	138	1
		D			
		D	679.203069	101	12
		D			
		D	678.946198	121	11

POTABLE WATER STANDARDS PROGRAM - LEVELS OF WATER IN AQUIFER, MSL (FEET)

ANALYSIS OF VARIANCE PROCEDURE

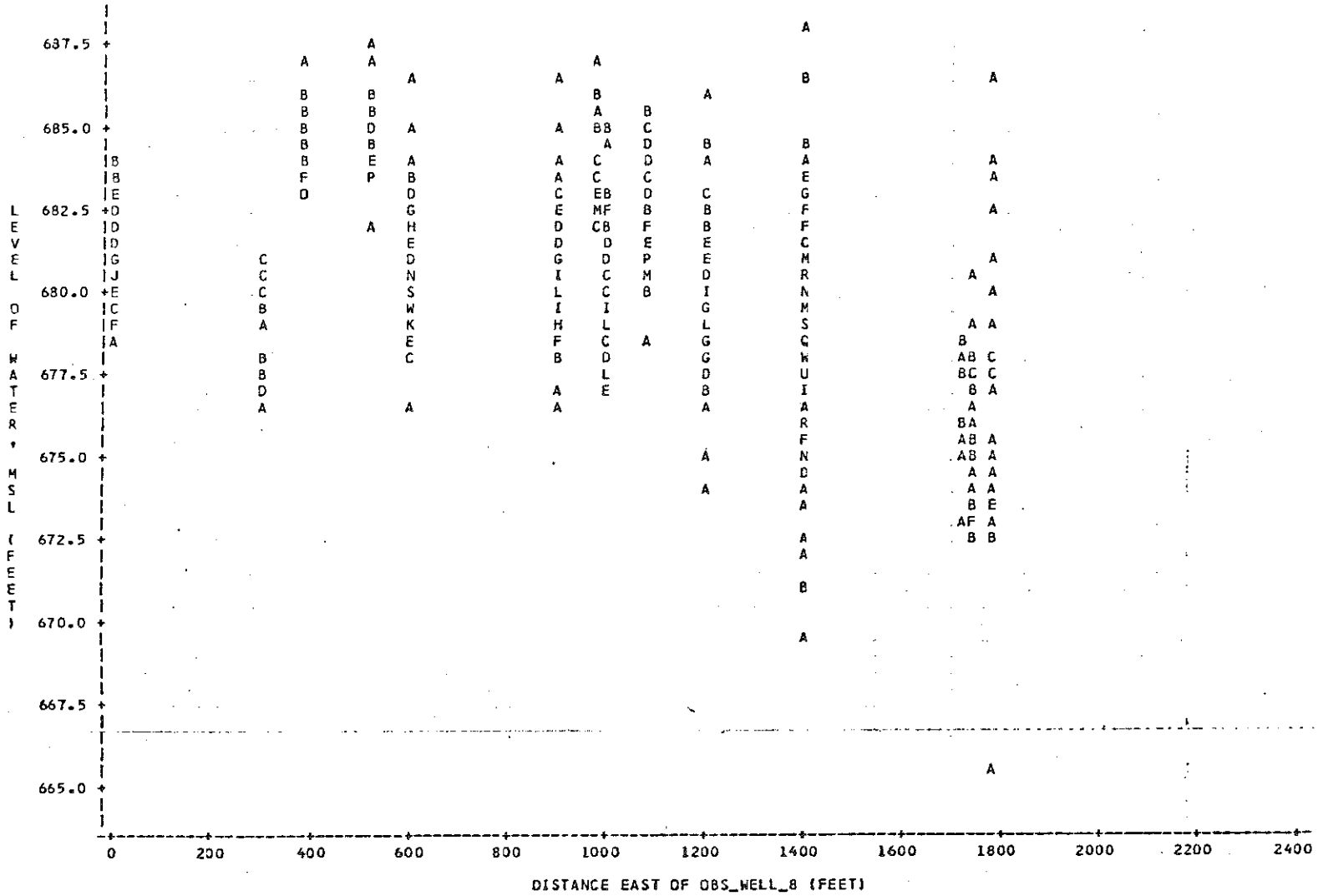
DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE AQ_LEVL
LEVEL OF WATER, MSL (FEET)

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

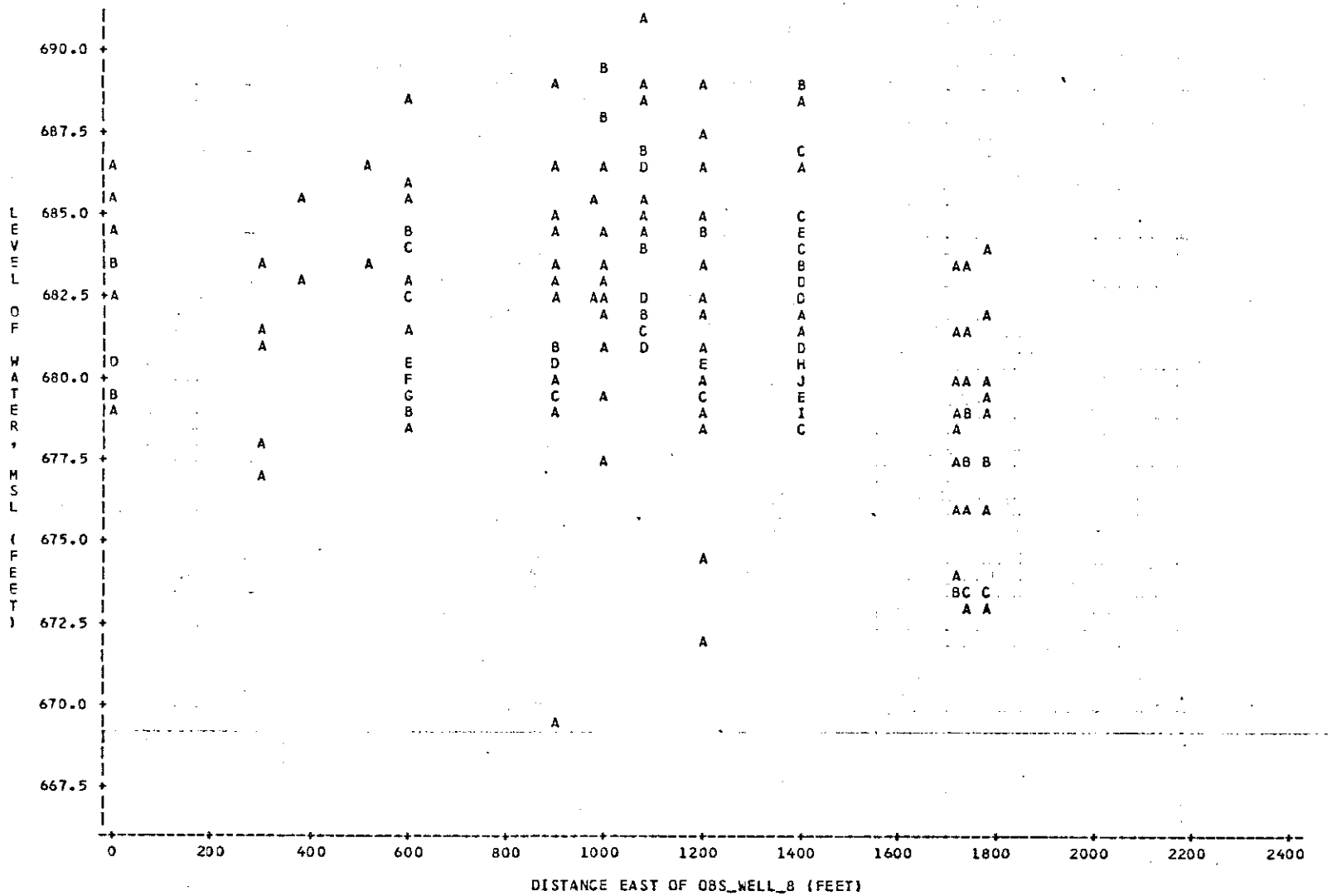
ALPHA LEVEL=.05 DF=1337 MS=811.196

GROUPING	MEAN	N	CHAR
A	688.935014	1061	P
A			
A	688.409128	298	N

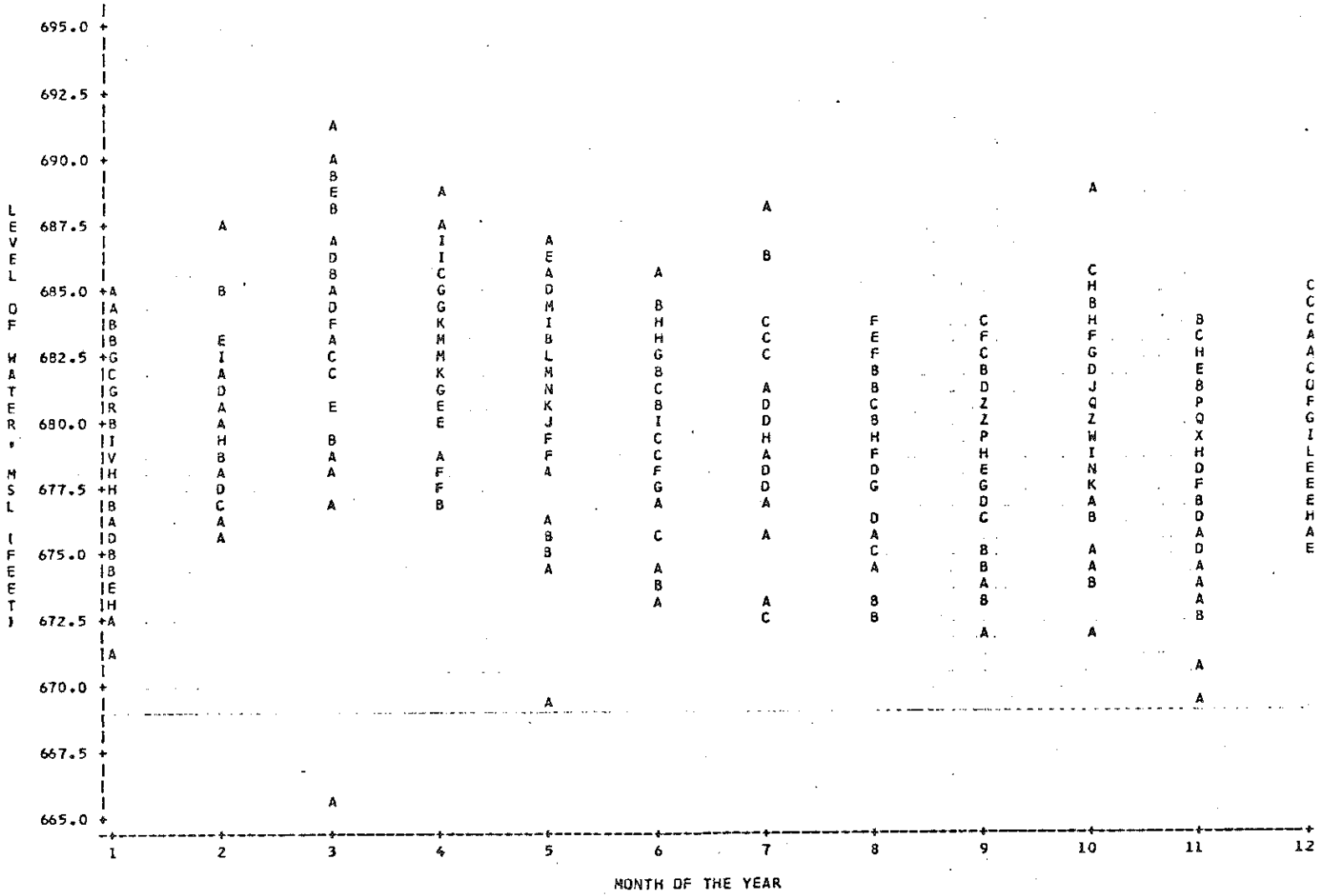
POTABLE WATER STANDARDS PROGRAM - LEVELS OF WATER IN AQUIFER, MSL (FEET)
PLOT OF AQUIFER WATER LEVEL ON DISTANCE EAST OF OBS_WELL_8 WHEN PUMPING
VALUES ARE PLOTTED FOR WELLS < 1800 FEET EAST OF OBS_WELL_8



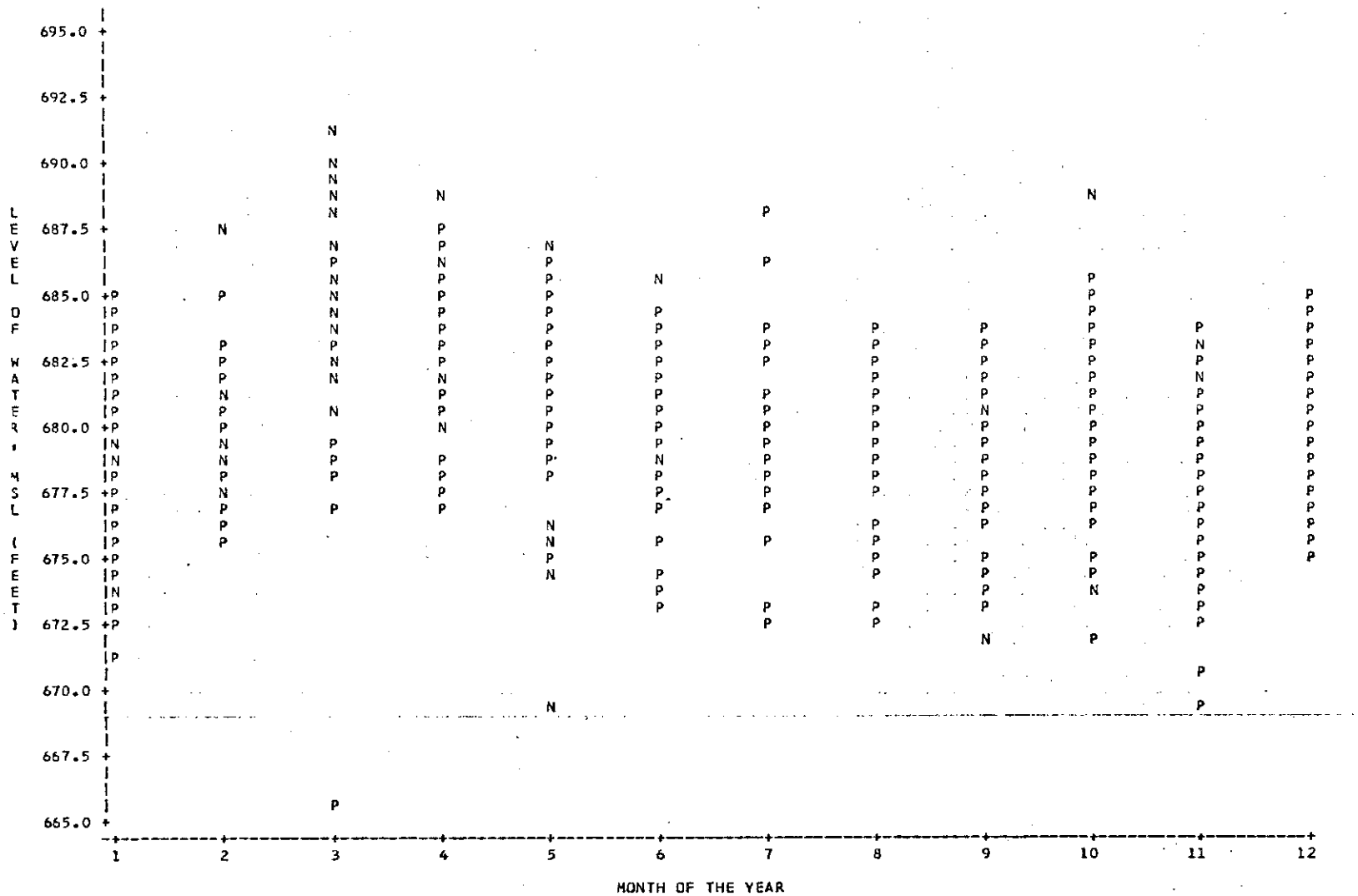
POTABLE WATER STANDARDS PROGRAM - LEVELS OF WATER IN AQUIFER, MSL (FEET)
PLOT OF AQUIFER WATER LEVEL ON DISTANCE EAST OF OBS_WELL_8 WHEN NOT PUMPING
VALUES ARE PLOTTED FOR WELLS < 1800 FEET EAST OF OBS_WELL_8



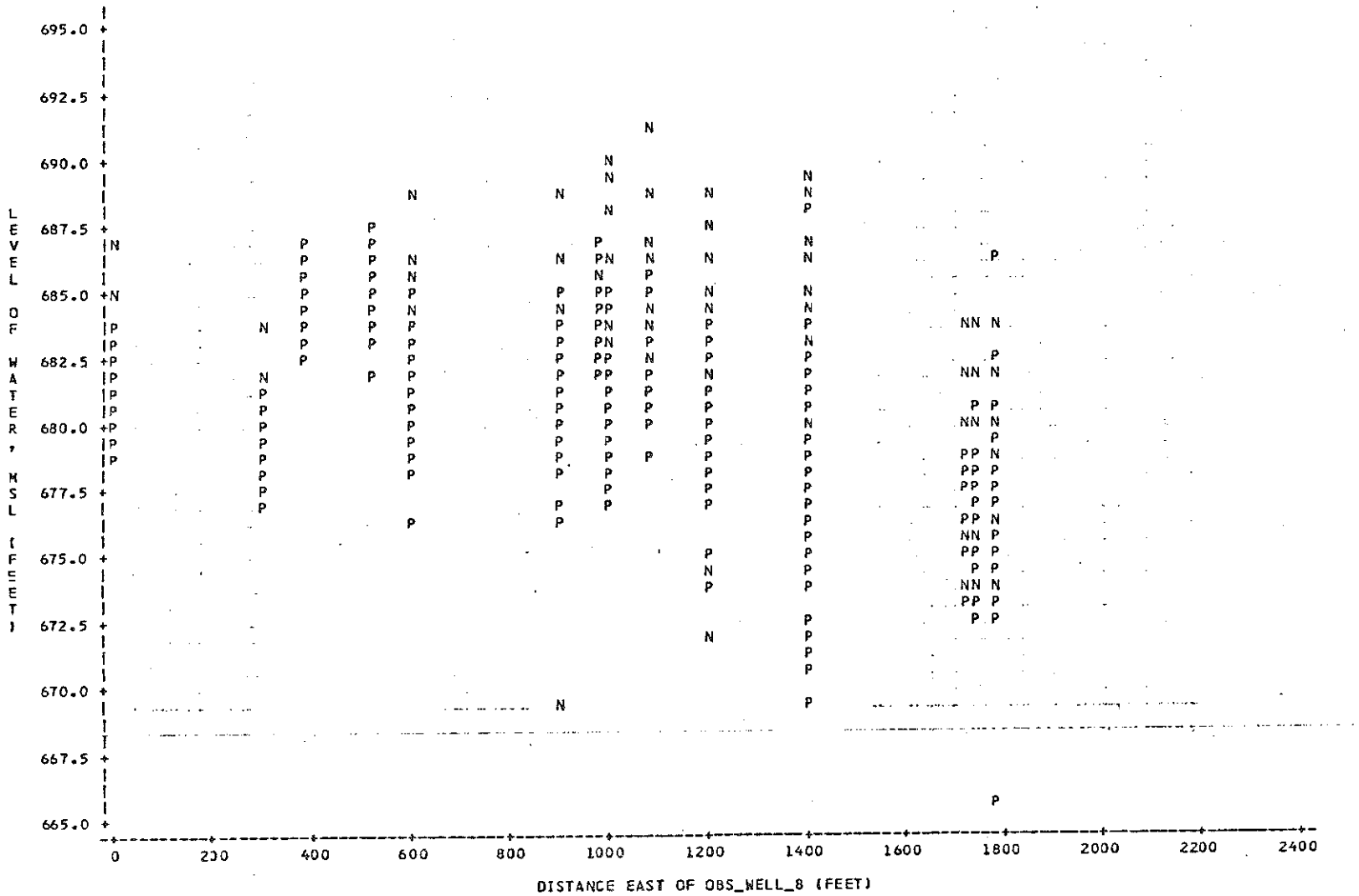
POTABLE WATER STANDARDS PROGRAM - LEVELS OF WATER IN AQUIFER, MSL (FEET)
PLOT OF AQUIFER WATER LEVEL ON MONTH OF YEAR, DISTANCE EAST OF OBS_WELL_8< 1800 FEET



POTABLE WATER STANDARDS PROGRAM - LEVELS OF WATER IN AQUIFER, MSL (FEET)
PLOT OF AQUIFER WATER LEVEL ON MONTH OF YEAR, DISTANCE EAST OF OBS_WELL_8< 1800 FEET



POTABLE WATER STANDARDS PROGRAM - LEVELS OF WATER IN AQUIFER, MSL (FEET)
CHARACTER P INDICATES THAT WELLS ARE PUMPING AND N INDICATES THAT WELLS ARE NOT PUMPING
VALUES ARE PLOTTED FOR WELLS < 1800 FEET EAST OF OBS_WELL_8



POTABLE WATER STANDARDS PROGRAM - LEVELS OF WATER IN AQUIFER, MSL (FEET)
ANALYSIS LIMITED TO WELLS LESS THAN 1800 FEET EAST OF OBS_WELL_8

ANALYSIS OF VARIANCE PROCEDURE

CLASS LEVEL INFORMATION

CLASS	LEVELS	VALUES
MON	12	1 2 3 4 5 6 7 8 9 10 11 12
CHAR	2	N P

NUMBER OF OBSERVATIONS IN DATA SET = 1107

POTABLE WATER STANDARDS PROGRAM - LEVELS OF WATER IN AQUIFER, MSL (FEET)
ANALYSIS LIMITED TO WELLS LESS THAN 1800 FEET EAST OF OBS_WELL_8

ANALYSIS OF VARIANCE PROCEDURE

DEPENDENT VARIABLE: AQ_LEVL LEVEL OF WATER, MSL (FEET)

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C.V.
MODEL	21	2775.70261818	132.17631515	17.83	0.0001	0.256599	0.4001
ERROR	1085	8041.55707103	7.41157334		STD DEV		AQ_LEVL MEAN
CORRECTED TOTAL	1106	10817.25968921			2.72242049		680.35090334

SOURCE	DF	ANOVA SS	F VALUE	PR > F
MON	11	2223.73783964	27.28	0.0001
CHAR	1	404.85749739	54.63	0.0001
MON*CHAR	9	147.10728115	2.21	0.0197

POTABLE WATER STANDARDS PROGRAM - LEVELS OF WATER IN AQUIFER, MSL (FEET)
ANALYSIS LIMITED TO WELLS LESS THAN 1800 FEET EAST OF OBS_WELL_8

ANALYSIS OF VARIANCE PROCEDURE

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE AQ_LEVL
LEVEL OF WATER, MSL (FEET)

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=1085 MS=7.41157

GROUPING			MEAN	N	MON
	A		683.924043	47	3
	B		682.814872	117	4
	C		681.627739	115	5
	D		680.601818	44	2
	D				
	D		680.308176	159	10
	D				
E	D		680.282754	69	6
E	D				
E	D	F	679.803182	44	7
E		F			
E		F	679.532677	127	9
E		F			
E		F	679.487826	92	12
E		F			
E	G	F	679.255781	64	8
	G	F			
	G	F	679.210973	113	11
	G				
	G		678.658793	116	1

POTABLE WATER STANDARDS PROGRAM - LEVELS OF WATER IN AQUIFER, MSL (FEET)
ANALYSIS LIMITED TO WELLS LESS THAN 1800 FEET EAST OF OBS_WELL_8

ANALYSIS OF VARIANCE PROCEDURE

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE AQ_LEVL
LEVEL OF WATER, MSL (FEET)

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=1085 MS=7.41157

GROUPING	MEAN	N	CHAR
A	681.491235	243	N
B	680.030185	864	P

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TID-4500, UC-41 (246)

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6/19

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
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FEB 4 1980

REGIONAL AIR
POLLUTION
CONTROL AGENCY

FEB 01 1980

Mr. William T. Burkhart, Supervisor
Regional Air Pollution Control Agency
451 West Third Street
Dayton, Ohio 45402

Dear Mr. Burkhart:

RENEWAL APPLICATION FOR A PERMIT TO OPERATE AN
AIR CONTAMINANT SOURCE

As requested in a letter from T. E. Crepeau to J. F. Stevens of my staff dated January 11, 1980, I am enclosing a completed form AP-PS-1101 for the operation of our boiler 155871.

In a telecon with Mr. John Paul of your staff on January 17, 1980, it was agreed that there is no need for the Appendix B information.

If you have questions concerning this application, please contact J. F. Stevens as indicated on the form.

Sincerely,

Harry N Hill

Harry N Hill
Area Manager

JFS:HW

Enc:
cy AP-PS-1101

Ohio Environmental Protection Agency

Renewal Application for a Permit to Operate

an Air Contaminant Source

Mound Facility	Jack Stevens
Facility Name	Person to Contact
Mound Road	P. O. Box 66
Facility Address	Mailing Address
Miamisburg Montgomery 45342	Miamisburg Ohio 45342
City County Zip	City State Zip
0857091196B001	513-865-3597
Application No. (see attached Notice)	Telephone Area Number

1. Complete and attach one of the following appendices most appropriate to the air contaminant source. Only one appendix may accompany this application.

   (Check one)
   - ____Appendix A, Process
   - ____Appendix B, Fuel-Burning Equipment
   - ____Appendix C, Incinerator
   - ____Appendix D, Surface Coating or Printing Operation
   - ____Appendix E, Storage Tank or Loading Facility

2. Description of Source (same as used on appendix): Oil-Gas Fired Boiler

3. Your Identification for Source (same as used on appendix): 155871

I, being the individual specified in OAC 3745-35 of the rules of the Ohio Environmental Protection Agency, hereby apply for a Permit to Operate OAC 3745-35-02 for the air contaminant source described herein.

FEB 4 1980

REGIONAL AIR POLLUTION CONTROL AGENCY

Signature of Officer or Owner*

Area Manager,

Title

Date

* As per OAC 3745-35-02(B)(1) (Permit to Operate)
See Instructions On Other Side

AP-PS-1101
8/11/77

Instructions for Completing Renewal Application

(Form AP-PS-1101)

This is a renewal application for a "Permit to Operate an Air Contaminant Source" issued by the Ohio Environmental Protection Agency. Each and every item must be completed. An application cannot be considered unless this form is completed and signed and any required supplemental information is submitted. A separate "application" must be filed for each terminating Permit to Operate. Therefore, only one (1) appendix may accompany this form. Applicants are advised that they will be required to pay a fee upon issuance of a Permit to Operate as provided for in Ohio Administrative Code 3745-45.

An appendix is a technical information form to be completed by the applicant. See the following description of the appendices to determine which one should accompany the application.

Appendix A - Process: for sources not included in the other appendices.

Appendix B - Fuel Burning Equipment: for any furnace, boiler, apparatus, and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer.

Appendix C - Incinerator: for any equipment, machine, device, article, contrivance, structure, or part of a structure used to burn refuse or to process refuse material by burning other than by open burning.

Appendix D - Surface Coating Or Printing Operation: for a surface coating operation (not including metal plating) or printing operation.

Appendix E - Storage Tank Or Loading Facility: for a storage tank or a loading facility. A loading facility is a facility for loading liquid organic materials into vehicular or marine transports.

There are separate instructions with each appendix.

If more than one application form is to be submitted at one time, it is acceptable to use photocopies of an application form and appendix containing identical data entries; however, each renewal application form (AP-PS-1101) must contain an original signature.

The following sections of the Ohio Administrative Code 3745-35 are offered to provide the applicant with information regarding air contaminant sources and permits. A complete copy of OAC 3745-35 is available upon request.

OAC 3745-35-01(B)(1)	"Air Contaminant Source" shall mean any machine, device, apparatus, equipment, building, or other physical facility that emits or may emit any air pollutant.
OAC 3745-35-02	<u>Permit to Operate</u> <u>General Rule</u>. No person may cause, permit, or allow the operation or other use of any air contaminant source without applying for and obtaining a permit to operate from the Ohio EPA in accordance with the requirements of this rule, except as otherwise provided in OAC 3745-35-03 and OAC 3745-35-05.

<u>Signature On Application Form:</u>

OAC 3745-35-02(B)(1)	Applications for permits to operate shall be signed by the corporate President, or Vice President reporting directly to the President, or highest ranking corporate officer with offices located in the state; or by an equivalently responsible officer in the case of organizations other than corporations; or in other cases, by the source owner or operator; or in the case of political subdivisions, by the highest elected official of such subdivision. Such signature shall constitute affirmation that the statements made in the application are true and complete, complying fully with applicable state requirements; and shall subject the responsible official to liability under applicable state laws forbidding false or misleading statements.

RE 'UANCE

Ref. 26

Permit No. OH 0009857

Application No. OH 0009857

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act of 1977,

UNITED STATES DEPARTMENT OF ENERGY
(Mound Facility)

is authorized by the United States Environmental Protection Agency, Region V,

to discharge from a facility located at Mound Facility, Mound Road, Miamisburg, Ohio

to receiving waters named Great Miami River.

in accordance with effluent limitations. monitoring requirements and other conditions set forth in Part I hereof.

This permit and the authorization to discharge shall expire at midnight, June 30, 1984 . Permittee shall not discharge after the above date of expiration. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information, forms, and fees as are required by the Agency authorized to issue NPDES permits no later than 180 days prior to the above date of expiration.

This permit shall become effective 30 days from this date of signature. This permit supersedes NPDES permit number OH 0009857 dated June 10, 1975.

Signed this DEC 16 1980

Saulis Gardebrings
Director, Enforcement Division

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting until the expiration date of the permit, the permittee is authorized to discharge from outfall serial number 001A (Sanitary and Industrial Waste)

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS * kg/day		Other Units (mg/l)		MONITORING REQUIREMENTS	
.25 MGD	30 Day Avg	7 Day Avg	30 Day Avg.	7 Day Avg	Measurement Frequency	Sample Type
Total Flow (MGD)	-	-	-	-	Continuous	-
BOD_5	4.9	14.2	10 mg/l	15 mg/l	Twice Weekly	Composite
Total Suspended Solids	7.4	28.4	15 mg/l	30 mg/l	Twice Weekly	Composite
Fecal Coliform (N per 100 ml)	-	-	1000	2000	Twice Weekly	Grab

* Weight Limitations are based on a flow rate of 0.13 MGD (30 Day Avg.) and 0.25 MGD (7 Day Avg.)

The pH shall not be less than 6.5 nor greater than 9.0 and shall be monitored daily by a grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: At the sanitary treatment plant outlet prior to mixing with discharge 001B with subsequent discharge to the Great Miami River.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting until the expiration date of the permit, the permittee is authorized to discharge from outfall serial number 001-B (WD Discharge, S.P Cooling water, boiler blowdown, cooling tower blowdown, zeolite softener backwash and storm runoff)
Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS kg/day* Daily Avg	Daily Max.	Other Units (mg/l) Daily Avg.	Daily Max.	MONITORING REQUIREMENTS Measurement Frequency	Sample Type
Flow	-	-	-	-	Continuous	-
Suspended Solids (Oct. 1- March 31)	7.6	11.4	20	30	2 x Week	Composite
(April 1-Sept. 30)	7.6	19.0	20	50	2 x Week	Composite
Oil and Grease	-	-	-	10	1 x Month	Grab
COD	-	-	-	-	1 x Month	Composite
Dissolved Solids	-	-	-	-	1 x Month	Composite
Total Residual Chlorine	-	-		0.02 mg/l	2 x Week	Grab

Modification of this permit is required before the permittee is authorized to add new additives or any toxic chemicals to the cooling water. The permittee is required to submit a list of additives and toxic chemicals and their concentrations currently in use within 30 days of the effective date of this permit.

The pH shall not be less than 6.5 nor greater than 9.0 and shall be monitored 2 x Week by a grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at a point representative of the discharge prior to mixing with discharge 001-A and subsequent discharge to the Great Miami River.

*Quantities are based on a flow rate of 0.10 MGD

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting until the expiration date of the permit, the permittee is authorized to discharge from outfall serial number 001-C (Industrial Waste)

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	kg/day					
	Daily Avg	Daily Max	Daily Avg	Daily Max	Measurement Frequency	Sample Type
Cyanide				1.0 mg/l	weekly*	composite*
Chromium - total				0.5 mg/l	weekly*	composite*
Cadmium				0.1 mg/l	weekly*	composite*
Nickel				0.5 mg/l	weekly*	composite*
Copper				0.5 mg/l	weekly*	composite*

* The monitoring requirements for measurement frequency and sample type shall be monthly grab sample for one year from the effective date of the permit.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: At the plating shop outlet prior to mixing with the Sanitary Waste or other wastestreams and subsequent discharge via outfall 001-A to the Great Miami River.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting until the expiration date of the permit, the permittee is authorized to discharge from outfall serial number 002 (S.P. Cooling Water, boiler blowdown, cooling tower blowdown, zeolite softener backwash and storm runoff).
Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS kg/day *		Other Units (mg/l)		MONITORING REQUIREMENTS	
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow	-	-	-	-	Continuous	-
Suspended Solids	34	91	15	30	2 x Week	Composite
Dissolved Solids	3412	6065	1500	2000	2 x Month	Composite
Oil and Grease	-	-	-	10.0	1 x Month	Grab
Total Residual Chlorine	-	-		0.02 mg/l	2 x Week	Grab

* Quantities are based on a flow rate of 0.6 MGD daily avg. and 0.8 MGD daily max.

Modification of this permit is required before the permittee is authorized to add new additives or any toxic chemicals to the cooling water. The permittee is required to submit a list of additives and toxic chemicals and their concentrations currently in use within 30 days of the effective date of this permit.

The pH shall not be less than 6.5 nor greater than 9.0 and shall be monitored 2 x Month by a grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: At a point representative of the discharge prior to entering the Great Miami River.

PART I -

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date and lasting until the expiration date of the permit, the permittee is authorized to discharge from outfall serial number 003 and 004.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS kg/day		Other Units	(mg/l)	MONITORING REQUIREMENTS Measurement Frequency	Sample Type
Flow					Continuous	

This discharge is limited to uncontaminated ground water only. Discharge of any other water is not permitted.

The pH shall not be less than 6.5 nor greater than 9.0

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at a point representative of the discharge but prior to discharge to the Great Miami River.

PART I

B. OTHER REQUIREMENTS

This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

(1) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

(2) Controls any pollutant not limited in the permit.

The permit as modified or reissued, under this paragraph shall also contain any other requirements of the Act then applicable.

There shall be no discharge of polychlorinated biphenyl transformer fluids.

Permit monitoring reports shall be received no later than the 28th day of the second month following the end of the quarter.

DESCRIPTIVE INFORMATION

DISCHARGE 001-A

This discharge is from a secondary treatment plant treating sanitary waste and industrial waste. The flow rate is 0.13 MGD 30 day average and 0.25 MGD 7 day average.

DISCHARGE 001-B

This discharge contains waste effluent from WD discharge, single pass cooling water, boiler blowdown, cooling tower blowdown, zeolite softener backwash and storm runoff from main building complex. The flow rate is 0.1 MGD-average.

DISCHARGE 002

This discharge ditch contains waste effluent from boiler plant blowdown uncontaminated cooling water, cooling tower blowdown, zeolite softener backwash and storm runoff. The flow rate is 0.6 MGD daily average and 0.8 MGD daily maximum.

DISCHARGES 003 and 004

The discharges consist of untreated and unused groundwater directly from two wells (from aquifer) to the Great Miami River. The flow rate is 0.75 MGD each.

DISCHARGE 001-C

This discharge consists of secondary rinse solutions from a plating shop and is discharged to the influent of the sanitary waste treatment plant.

PART I

MONITORING AND REPORTING

1. Representative Sampling - Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Reporting - The permittee shall record monitoring results on Discharge Monitoring Report forms, using one such form for each discharge each month. The completed monthly forms shall be retained by permittee for a period of three months beginning with each calendar quarter, and the forms from those three months shall be mailed to USEPA no later than the 28th day of the following month; i.e. (a) January, February, March (submit April 28); (b) April, May, June (submit July 28); (c) July, August, September (submit October 28); October, November, December (submit January 28).

   The permittee shall retain a copy of all reports submitted. All reports shall be submitted to:

   U. S. Environmental Protection Agency
   Attention: Chief, Compliance Unit
   230 South Dearborn Street
   Chicago, Illinois 60604

   The permittee shall submit these monitoring reports to the state for information only.

3. Noncompliance Notification - If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Regional Administrator and the State with the following information, in writing, within five (5) days of becoming aware of such condition: (a) a description of the discharge; (b) cause of noncompliance; (c) the period of noncompliance, including exact dates and times; (d) if not corrected, the anticipated time the noncompliance is expected to continue, and (e) steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

4. Definitions

See Attachment A

5. Test Procedures - Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304(g) of the Act, under which such procedures may be required.

6. Recording of Results - For each measurement or sample taken pursuant to the requirements of this permit the permittee shall record the following information: (a) the exact place, date, and time of sampling; (b) the dates the analyses were performed; (c) the person(s) who performed the analyses; (d) the analytical techniques or methods used; and (e) the results of all required analyses.

7. Additional Monitoring by Permittee - If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form (EPA No. 3320-1). Such increased frequency shall also be indicated.

8. Records Retention - All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Regional Administrator or the State Water Pollution Control Agency.

PART II - A. MANAGEMENT REQUIREMENTS

1. Change in Discharge - All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. Facilities Operation
See Attachment A

3. Adverse Impact - The permittee shall take all reasonable steps to minimize any adverse impact to navigable waters resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

4. Bypassing -
See Attachment A

5. Removed Substances - Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

6. Power Failures - In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either: (a) in accordance with the Schedule of Compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities; or, if no date implementation appears in Part I, (b) halt, reduce or otherwise control production and/or all discharges upon the reduction, loss, or failure of one or more of the primary sources of power to the wastewater control facilities.

B. RESPONSIBILITIES

1. Right of Entry- The permittee shall allow the Regional Administrator or his authorized representatives, upon presentation of credentials: (a) to enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and (b) at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

2. Transfer of Ownership or Control - In the event of any changes in control or ownership of facilities from which the authorized discharges emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Regional Administrator and the State Water Pollution Control Agency.

3. Availability of Reports - Except for data determined to be confidential under Section 308 of the Act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State Water Pollution Control Agency and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act.

4. Permit Modification - After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following: (a) violation of any terms or conditions of this permit; (b) obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or (c) a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

5. Toxic Pollutants - Notwithstanding Part II, B-4 above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

6. Civil and Criminal Liability -
See Attachment A

7. Oil and Hazardous Substance Liability - Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

8. State Law - Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

9. Property Rights - The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

10. Severability - The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

ATTACHMENT A

PART I

4. Definitions

Daily discharge (NPDES) means the "discharge of a pollutant" measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Maximum daily discharge limitation (NPDES) means the highest allowable "daily discharge."

Average monthly discharge limitation (NPDES) means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average weekly discharge limitation (NPDES) means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

PART II A.

2. Proper operation and maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

ATTACHMENT A

PART II. A

4. Bypass and Upset

(a) Bypass

(1) Definitions

(i) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

(ii) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(2) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (a)(3) and (a)(4) of this section.

(3) Notice

(i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

(ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Paragraph 7 of this section (24-hour notice)

(4) Prohibition of bypass

(i) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

(A) Bypass was unavoidable to prevent losss of life, personal injury, or severe property damage;

(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if

the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(C) The permittee submitted notices as required under paragraph (a)(3) of this section.

(ii) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph (a)(4)(i) of this section.

(b) Upset.

(1) Definition.

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(2) Effect of an upset

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph (b)(3) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(3) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(i) An upset occurred and that the permittee can identify the specific causes(s)of the upset;

(ii) The permitted facility was at the time being properly operated; and

(iii)The permittee submitted notice of the upset within 24 hours.

(iv) The permittee complied with any remedial measures and has taken all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

(4) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

7. Twenty-Four Hour Reporting

The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

PART II. B

6. Civil and Criminal Liability

Except as provided in permit conditions on "Bypass and Upset" (Part II, A-4) and "Power Failure" (Part II, A-6), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

RECEIVED

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OFFICE OF THE DIRECTOR
OHIO EPA

JUN 10 1975

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. R. L. Wainwright, Manager
U.S. ERDA-Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

Re: NPDES Permit
No. OH 0009857

Dear Mr. Wainwright:

Your application OH 072 OYE 2 000538 for a National Pollutant Discharge Elimination System (NPDES) Permit has been processed in accordance with Sections 402 and 405 of the Federal Water Pollution Control Act Amendments of 1972, (86 Stat. 816; Public Law 92-500, 33 U.S.C. 1251 et seq.).

The enclosed NPDES Permit covers your sanitary waste and industrial waste treatment effluents which discharge to Great Miami River near Miamisburg, Ohio. All discharges from this facility shall be consistent with the terms and conditions of this permit.

Pursuant to the above regulations, we are informing all persons who submitted written comments on the proposed permit of our determination to issue the permit. This letter will serve as notice to such persons.

Very truly yours,

ORIGINAL SIGNED BY JAMES O. McDONALD
James O. McDonald, Director
Enforcement Division

Enclosures
Permit, two copies each
Reporting Forms

cc: Ohio Environmental Protection Agency, w/Permit

Permit No. OH 0009857

Application No. OH 072 OYE
2 000538

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AUTHORIZATION TO DISCHARGE UNDER THE

OHIO EPA

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq.; the "Act"),

UNITED STATES ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
DAYTON AREA OFFICE

is authorized by the United States Environmental Protection Agency, Region V,

to discharge from a facility located at Mound Laboratory
Mound Road, P.O. Box 66, Miamisburg, Ohio

to receiving waters named the Great Miami River

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof.

This permit shall become effective on the date of issuing authority's signature.

This permit and the authorization to discharge shall expire at midnight, May 15, 1980 . Permittee shall not discharge after the above date of expiration. In order to receive authorization to discharge beyond the above date of expiration, the permittee shall submit such information, forms, and fees as are required by the Agency authorized to issue NPDES permits no later than 180 days prior to the above date of expiration.

Nothing in this permit shall be deemed to supersede the requirements of the Atomic Energy Act of 1954, as amended, for the protection of the restricted data or other information or to compel the United States Energy Research and Development Administration to take any action not required by law.

Signed this JUN 10 1975

James O. McDonald
Director, Enforcement Division

RECEIVED
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PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning June 30, 1975 and lasting until June 30, 1977 the permittee is authorized to discharge from outfall serial number 001.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS kg/day (lbs/day)		Other Units (mg/l)		MONITORING REQUIREMENTS	
	Daily Avg	Daily Max	Daily Avg	Daily Max	Measurement Frequency	Sample Type
Flow (MGD)	-	-	.53	.92	Continuous	
BOD-5 Day	-	-	30	45	Weekly	Grab
Fecal Coliform Bacteria (1/100 ml)		-	200	400	Weekly	Grab
Suspended Solids	-	-	30	45	Weekly	Grab
Dissolved Oxygen	-	-	5	-	Weekly	Grab
Residual Chlorine*	-	-	-	0.8	Weekly	Grab
Oil & Grease (Freon Extractables)	-	-	-	10	Weekly	Grab
COD or TOC	-	-	-	-	Weekly	Grab

*Sample to be at Sanitary Treatment Plant discharge.

The pH shall not be less than 6.0 nor greater than 9.0 and shall be monitored twice weekly on a grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: Prior to mixing with the water of the Great Miami River.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning July 1, 1977 and lasting until May 15, 1980 the permittee is authorized to discharge from outfall serial number 001.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS kg/day (lbs/day) Daily Avg.	Daily Max	Other Units (mg/l) Daily Avg	Daily Max	MONITORING REQUIREMENTS Measurement ** Frequency	Sample Type
Flow (MGD)	-	-	.53	.92	Continuous	
BOD-5 Day	-	-	10	15	Twice Weekly	24-hr Composite
Suspended Solids	-	-	10	15	Twice Weekly	24-hr Composite
Dissolved Oxygen	-	-	5	-	Twice Weekly	Grab
Residual Chlorine*	-	-	-	0.5	Twice Weekly	Grab
Oil (Freon Extractables)	-	-	-	10	Twice Weekly	24-hr Composite
COD or TOC	-	-	-	-	Twice Weekly	24-hr Composite

**When compliance has been established to be well within Permit Limits, the Permittee may request the Administrator of Region V for a less frequent sampling schedule.

*Sample to be at Sanitary Treatment Plant discharge.

The pH shall not be less than 6.0 nor greater than 9.0 and shall be monitored daily on a grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: Prior to mixing with the water of the Great Miami River.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning June 30, 1975 and lasting until June 30, 1977 the permittee is authorized to discharge from outfall serial number 002.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS kg/day (lbs/day) Daily Avg	Daily Max	Other Units (mg/l) Daily Avg	Daily Max	MONITORING REQUIREMENTS Measurement Frequency	Sample Type
Flow (MGD)	-	-	.53*	-	Continuous	-
Suspended Solids Normal Flow	-	-	20	25	Twice Monthly	Grab
Storm Runoff	-	-	-	150	At Storm Flow	Grab
Dissolved Oxygen Oct-April	-	-	≥8	-	Twice Monthly	Grab
May-Sept	-	-	≥5	-	Twice Monthly	Grab
Residual Chlorine	-	-	-	0.1	Twice Monthly	Grab
Dissolved Solids	-	-	2000	3000	Twice Monthly	Grab
Oil & Grease (Freon Extractables)	-	-	-	10	Twice Monthly	Grab

*Does not include storm water runoff.

The pH shall not be less than 6.0 nor greater than 9.0 and shall be monitored twice weekly on a grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: Prior to mixing with the water of the Great Miami River.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning July 1, 1977 and lasting until May 15, 1980 the permittee is authorized to discharge from outfall serial number 002.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS kg/day (lbs/day) Daily Avg.	Daily Max	Other Units (mg/l) Daily Avg	Daily Max	MONITORING REQUIREMENTS Measurement * Frequency	Sample Type
Flow (MGD)	-	-	.53**	-	Continuous	
Suspended Solids Normal Flow	-	-	15	20	Twice Monthly	24-hr Composite
Storm Runoff	-	-	-	130	At Storm Flow	Grab
Dissolved Oxygen Oct-April	-	-	≥8	-	Twice Monthly	Grab
May-Sept	-	-	≥5	-	Twice Monthly	Grab
Dissolved Solids	-	-	1500	2000	Twice Monthly	24-hr Composite
Residual Chlorine	-	-	-	0.05	Twice Monthly	Grab
Oil & Grease (Freon Extractables)	-	-	-	10	Twice Monthly	24-hr Composite

*When compliance results have been established to be well within Permit limits, the Permittee may request Region V Administrator for a less frequent sampling.

**Does not include storm water runoff.

The pH shall not be less than 6.0 nor greater than 9.0 and shall be monitored twice weekly on grab samples.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: Prior to mixing with the water of the Great Miami River.

B. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Reporting

Monitoring results obtained during the previous three months shall be summarized and reported on a Discharge Monitoring Report Form (EPA No. 3320-1), postmarked no later than the 28th day of the month following the completed reporting period. The first report is due on July 28, 1975 . Duplicate signed copies of these, and all other reports required herein, shall be submitted to the Regional Administrator and the State at the following addresses:

U.S. Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois 60604
Attn: Chief, Federal Activities Branch

Ohio Environmental Protection Agency
Southwest District Office
40 South Main Street
Dayton, Ohio 45402

The report should be submitted to the State for informational purposes on a comity and cooperative basis to the extent permitted by security or other requirements.

3. Definitions

a. "Daily Average" Discharge

1. Weight Basis - The "daily average" discharge means the total discharge by weight during a calendar month divided by the number of days in the month that the production or commercial facility was operating. Where less than daily sampling is required by this permit, the daily average discharge shall be determined by the summation of the measured daily discharges by weight divided by the number of days during the calendar month when the measurements were made for one or more 8-hour work shifts.

2. Concentration Basis - The "daily average" concentration means the arithmetic average (weighted by flow value) of all the daily determinations of concentration made during a calendar month. Daily determinations of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the daily determination of concentration shall be the arithmetic average (weighted by flow value) of all the samples collected during the calendar day.

b. "Daily Maximum" Discharge

1. Weight Basis - the "daily maximum" discharge means the total discharge by weight during any calendar day.

2. Concentration Basis - the "daily maximum" concentration means the daily determination of concentration for any calendar day.

4. Test procedures

Test procedures for the analysis of pollutants shall conform to regulations published pursuant ot Section 304 (g) of the Act.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling;

b. The dates the analyses were performed;

c. The person(s) who performed the analyses;

d. The analytical techniques or methods used; and

e. The results of all required analyses.

6. Additional Monitoring by Permittee

If the permittee performs monitoring within the meaning of 40 CFR 125.1 (y), required per Part I, Section A, at more frequent intervals than are specified therefore in I. A. , the results thereof shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form (EPA No. 3320-1). Such increased frequency shall also be indicated.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Regional Administrator.

C. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

Progress Report (preliminary plans)	August 1, 1975
Report of Funding Progress	October 1, 1975
Final Funding	February 1, 1976
Commencement of Construction	June 1, 1976
Report of Construction Progress	December 1, 1976
Completion of Construction	June 1, 1977
Attainment of Operational Level	July 1, 1977

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncomplicance. In the latter case, the notice shall include the cause of non-compliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

PART II

A. MANAGEMENT REQUIREMENTS

1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported, within the meaning under Section 4 of OMB Circular A-10 and permissible under the Atomic Energy Act of 1954 as amended, by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the U. S. Environmental Protection Agency of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Regional Administrator and the State with the following information, in writing, within five (5) days of becoming aware of such condition:

a. A description of the discharge and cause of noncompliance; and

b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

The information should be submitted to the State for informational purposes only and to the extent permitted by security or other requirements.

3. Facilities Operation

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

4. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to navigable waters resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring in the vicinity of the licensed facility as may be necessary to determine the nature and impact of the noncomplying discharger

5. Bypassing

Any diversion from or bypass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life of severe property damage, or (ii) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the effluent limitations and prohibitions of this permit. The permittee shall promptly notify the Regional Administrator and the State in writing of each such diversion or bypass. The information should be submitted to the State for informational purposes only and to the extent permitted by security or other requirements.

6. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters in violation of this permit.

7. Power Failures

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

a. In accordance with the Schedule of Compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities;

b. Halt, reduce or otherwise control production and/or all discharges upon the reduction, loss, or failure of one or more of the primary sources of power to the wastewater control facilities.

B. RESPONSIBILITIES

1. Right of Entry

The permittee shall allow the Regional Administrator, or his authorized representatives, upon the presentation of credentials and subject to applicable security laws and regulations.

a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

2. Transfer of Ownership or Control

In the event of any changes in control or ownership of facilities from which the authorized discharges emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Regional Administrator and the State water pollution control agency. Information should be submitted to the State for informational purposes only and to the extent permitted by security or other requirements.

3. Availability of Reports

Except for data determined to be confidential under Section 308 of the Act and subject to applicable security laws and regulations, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State water pollution control agency and the Regional Administrator. Information should be submitted to the State for informational purposes only and to the extent permitted by security or other requirements. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act.

4. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

5. Toxic Pollutants

Notwithstanding Part II, B-4 above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

6. Civil and Criminal Liability

Except as provided in permit conditions on "Bypassing" (Part II, A-5) and "Power Failures" (Part II, A-7), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

7. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

8. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

9. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

10. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

PART III

OTHER REQUIREMENTS

Upon a final decision by the courts on the applicability of discharge limitations for radioactive wastes, this permit will be subject to modification to implement the requirements of FWPCA.

1. When the applicant has established compliance with the discharge limitations he may apply to the Regional Administrator for possible modification of the monitoring frequency for one or more parameters.

2. There shall be no discharge of polychlorinated biphenyl transformer fluids.

DESCRIPTIVE INFORMATION

Discharge 001

This discharge is from a secondary sanitary treatment plant at a flow rate of 120,000 gpd from a plant designed for 90,000 gpd. About .5 mgd of industrial and sanitary wastes are discharged per day.

Discharge 002

This discharge consists of storm water to the drainage ditch plus boiler plant blowdown, uncontaminated cooling water, cooling tower blowdown and zeolite softener backwash. The ditch flows to the Great Miami River.

Ref. 27

EPA Notification of Hazardous Waste Site

United States Environmental Protection Agency
Washington DC 20460

6/11/81

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981.

Please type or print in ink. If you need additional space, use separate sheets of paper. Indicate the letter of the item which applies.

OH #135 81 0609 OHS-000-001-235

A Person Required to Notify:

Enter the name and address of the person or organization required to notify.

Name: U. S. Department of Energy - Mound Facility
Street: Mound Road
City: Miamisburg, State: Ohio Zip Code: 45342

B Site Location:

Enter the common name (if known) and

OH6890008984

Name of Site: US DOE- Mound Facility
Street: Mound Road
City: Miamisburg County: Montgomery State: Ohio Zip Code: 45342

C Person to Contact:

Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form.

Name (Last, First and Title): Blauvelt, Richard - Waste Management Specialist
Phone: 513-865-3698

D Dates of Waste Handling:

Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

From (Year): 1965 To (Year): 1972

E Waste Type: Choose the option you prefer to complete

Option 1: Select general waste types and source categories. If you do not know the general waste types or sources, you are encouraged to describe the site in Item I—Description of Site.

General Type of Waste: Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

1. ☒ Organics
2. ☒ Inorganics
3. ☒ Solvents
4. ☐ Pesticides
5. ☐ Heavy metals
6. ☒ Acids
7. ☒ Bases
8. ☐ PCBs
9. ☐ Mixed Municipal Waste
10. ☒ Unknown
11. ☒ Other (Specify) R&D activities for DOE. All above are laboratory type quantities.

Source of Waste: Place an X in the appropriate boxes.

1. ☐ Mining
2. ☐ Construction
3. ☐ Textiles
4. ☐ Fertilizer
5. ☐ Paper/Printing
6. ☐ Leather Tanning
7. ☐ Iron/Steel Foundry
8. ☐ Chemical, General
9. ☐ Plating/Polishing
10. ☐ Military/Ammunition
11. ☐ Electrical Conductors
12. ☐ Transformers
13. ☐ Utility Companies
14. ☐ Sanitary/Refuse
15. ☐ Photofinish
16. ☐ Lab/Hospital
17. ☐ Unknown
18. ☐ Other (Specify)

Option 2: This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 3001 regulations (40 CFR Part 261).

Specific Type of Waste: EPA has assigned a four-digit number to each hazardous waste listed in the regulations under Section 3001 of RCRA. Enter the appropriate four-digit number in the boxes provided. A copy of the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site is located.

000685 JUN-9 81

JUN 11 1981

Form Approved
OMB No. 2000-0138
EPA Form 8900-1

63

Waste Quantity:

Place an X in the appropriate boxes to indicate the facility types found at the site.

In the "total facility waste amount" space give the estimated combined quantity (volume) of hazardous wastes at the site using cubic feet or gallons.

In the "total facility area" space, give the estimated area size which the facilities occupy using square feet or acres.

Facility Type

1. ☐ Piles
2. ☐ Land Treatment
3. ☒ Landfill
4. ☐ Tanks
5. ☐ Impoundment
6. ☐ Underground Injection
7. ☐ Drums, Above Ground
8. ☐ Drums, Below Ground
9. ☐ Other (Specify)

Total Facility Waste Amount

cubic feet 1000 Ft^3 C

gallons

Total Facility Area

square feet 20,000 Ft^2 S

acres

Known, Suspected or Likely Releases to the Environment:

Place an X in the appropriate boxes to indicate any known, suspected, x Unknown ☐ Known ☐ Suspected ☐ Likely ☐ None
or likely releases of wastes to the environment.

Note: Items H and I are optional. Completing these items will assist EPA and State and local governments in locating and assessing hazardous waste sites. Although completing the items is not required, you are encouraged to do so.

Sketch Map of Site Location: (Optional)

Sketch a map showing streets, highways, rivers or other prominent landmarks near the site. Place an X on the map to indicate the site location. Draw an arrow showing the direction north. You may substitute a road map showing the site location.

See attached.

Description of Site: (Optional)

Describe the history and present activity of the site. Give directions to the site and describe any nearby wells, rivers, lakes, or housing. Include such information as how waste was disposed of and where the waste came from. Provide any other information or comments which may help describe the site conditions.

(001)

Signature and Title:

Signature of authorized representative (e.g. plant managers, superintendents, or attorneys) of persons required to sign the form and provide a mailing address if different than address in A. For other persons providing information, the signature is optional. Check the boxes which best describe the relationship to the site of the person required to notify. If you are not required to notify, check "Other".

for Name Harry N Hill*, Area Manager, U.S. Dept. of Energy

Street Larry R. Baird+, Vice President Director, Mound Facility

City State Zip Code

Signature George R Martin Date 6-9-81

Larry R. Baird 6/8/81

☒ Owner, Present
☐ Owner, Past
☐ Transporter
☐ Operator, Present
☐ Operator, Past
☐ Other

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

June 9, 1981

U. S. EPA Region 5
Sites Notification
Chicago, Illinois 60604

Gentlemen:

Enclosed is a completed EPA Form 8900-1 for Mound Facility. Mound is operated by Monsanto Research Corporation for the U. S. Department of Energy under Contract No. DE-AC-04-76-DP-00053. These operations are covered by the Atomic Energy Act of 1954, as amended.

Although we are aware that our site's hazardous waste activities may not be covered by RCRA (exemption per Section 1006, RCRA dated October 21, 1976) we did submit a Part A Permit last November. It is our understanding that this filing would exempt us from submitting Form 8900-1. However, to assure compliance, we are making this protective filing.

Please direct any technical questions regarding the information on this form to the representative of our contractor, Monsanto Research Corporation, Richard K. Blauvelt, FTS 774-3698 or commercial (513) 865-3698.

If you have questions or require additional information please notify me at FTS 774-3271 or commercial (513) 865-3271.

Sincerely,

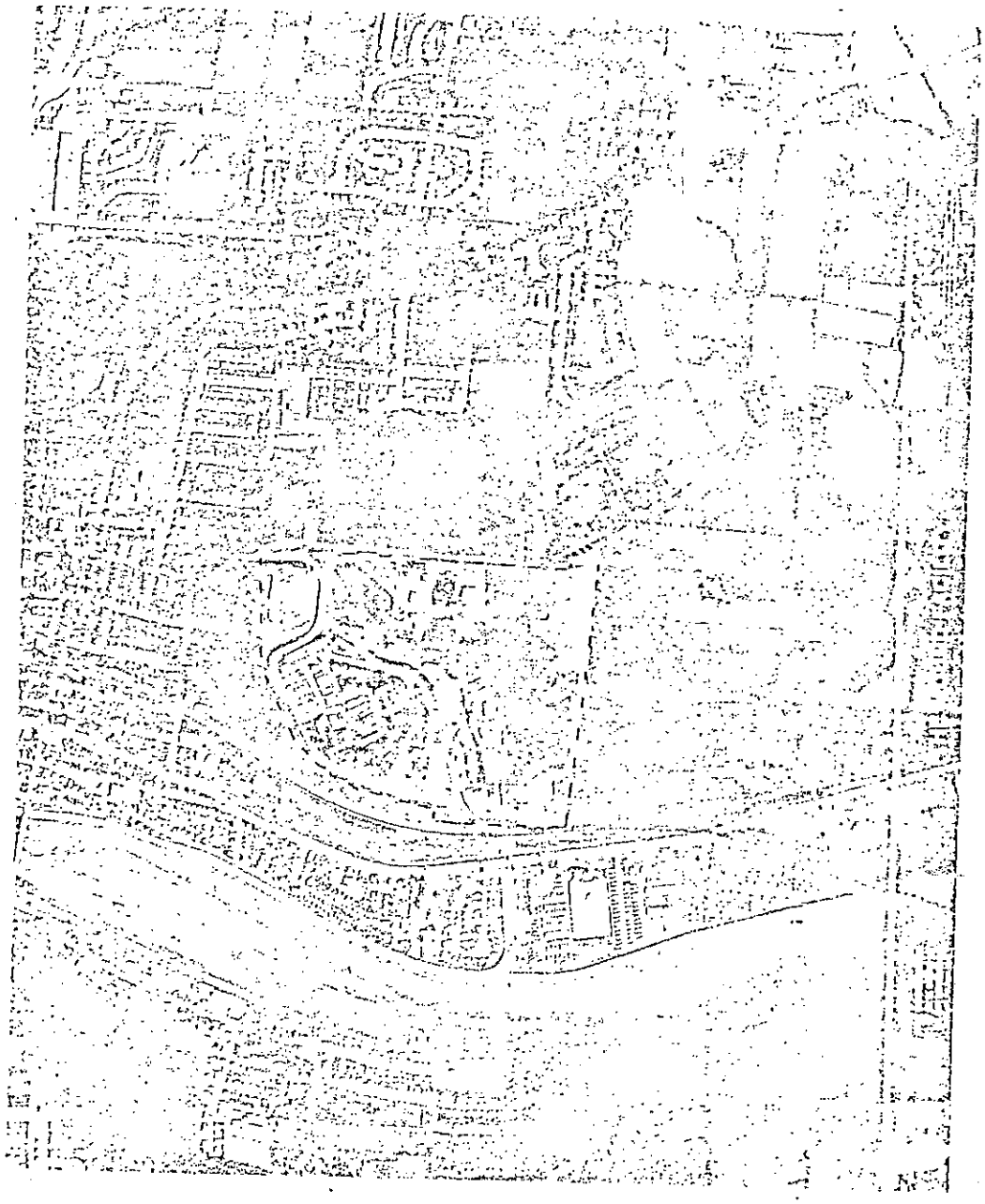
for Harry N Hill
Area Manager

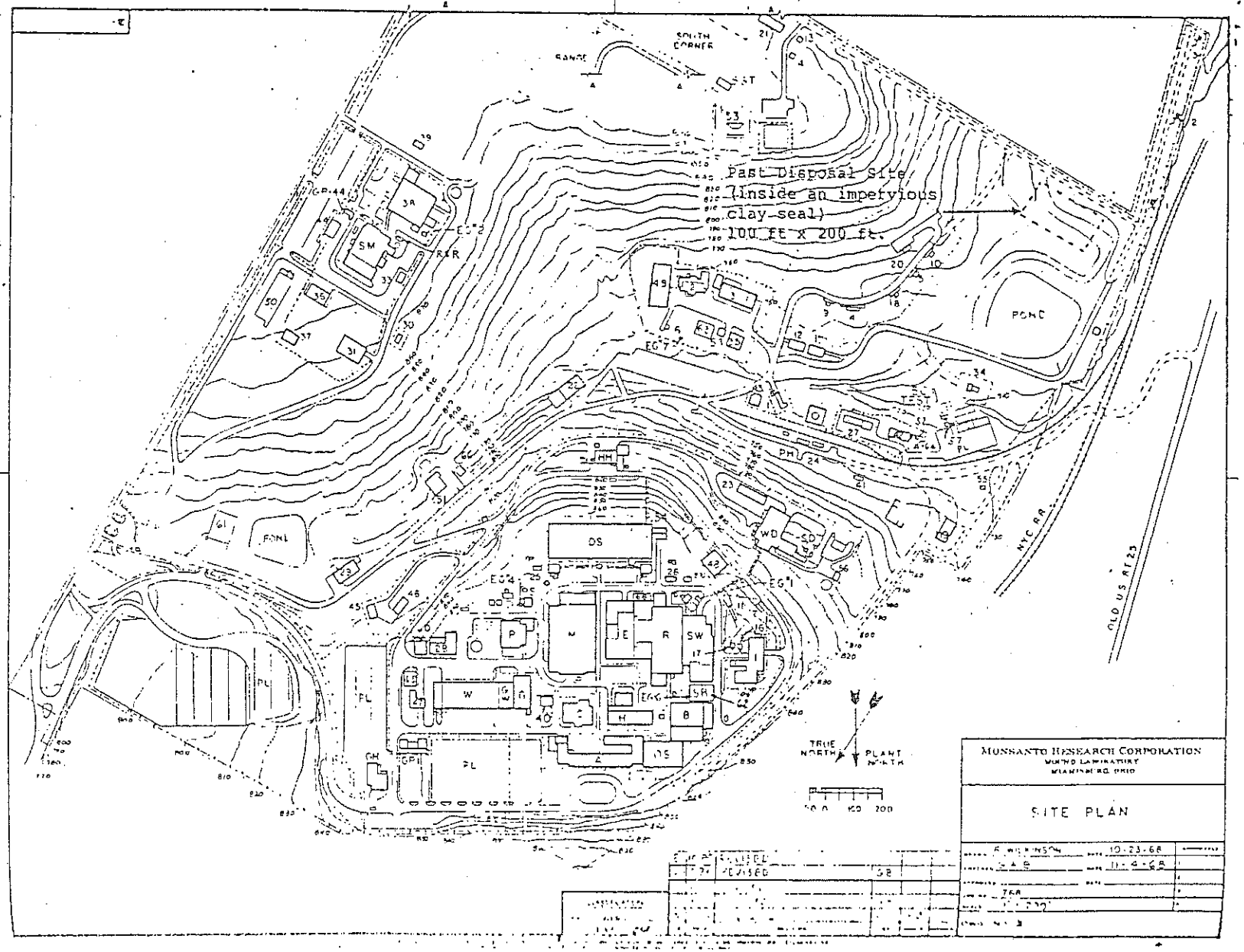
GRG/ts

Enclosure: as

cc: R. Y. Lowrey w/enclosure

JUN 11 1981




Past Disposal Site
(inside an impervious
clay-seal)
100 ft x 200 ft.
SOUTH CORNER
RANGE
POND
POND
NYC RR
OLD U.S. RT 25
TRUE NORTH
PLANT NORTH
MONSANTO RESEARCH CORPORATION
SITE PLAN

Monsanto

MOUND FACILITY
Operated for the United States
Department of Energy

June 9, 1981

Mr. Harry N Hill, Area Manager
U. S. Department of Energy
Dayton Area Office
P. O. Box 66
Miamisburg, Ohio 45342

Dear Mr. Hill:

EPA Form 8900-1

Enclosed you will find a copy of a completed EPA Form 8900-1 for Mound Facility. This filing is required of certain sites under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (a.k.a. Superfund). One of the primary aims of this legislation is to provide assistance in the cleanup of abandoned hazardous waste disposal sites. This notification represents an attempt to get a listing of all sites where hazardous wastes have been disposed of.

It is my understanding, from reading the filing instructions, that Mound Facility is exempt from filing since such information was provided to the EPA in our RCRA Part A Permit filed last November. Mr. James Bresson in DOE/ALO concurs with this position. However, Corporate lawyers in St. Louis are strongly urging that we file, based upon their interpretation of the guides. I have discussed this with Mr. Bresson and he does not object to making a protective filing.

Accordingly, please forward the enclosed form to the following address:

U. S. EPA Region 5
Sites Notification
Chicago, Illinois 60604

I would recommend that a certified mailing be used. A brief transmittal letter would be appropriate, which I would be happy to prepare. Please let me know if you have any questions.

Very truly yours,

Richard K. Blauvelt

Richard K. Blauvelt
Waste Management Specialist

Approved: M. L. Mullins

M. L. Mullins, Director
Administrative Services

RKB:ar
Enc.

JUN 11 1981

cc: Mr. Harry N Hill (2)

Monsanto Research Corporation P. O. Box 32 Miamisburg, Ohio 45342 (513) 866-7444

a subsidiary of Monsanto Company

NOTIS REPORT #4

LISTING BY FACILITY
REGION: 05 STATE: OH

NOTIFICATION ID NO.	SITE NAME SITE STREET SITE CITY SITE COUNTY EPA SITE ID NO.		REQUIRED NOTIFIER NAME REQUIRED NOTIFIER STREET REQUIRED NOTIFIER CITY (CONTACT NAME/TITLE) (CONTACT PHONE)	STATE	ZIP	NOTIFIER STATUS (PRES OWN, PAST OWN PRES OP, PAST OP TRANSPORTER, VOLUNTEER)
OHS000021235	MOUND FACILITY MOUND RD. MIAMISBURG MONTGOMERY OH6890008984	45342	U.S. DEPARTMENT OF ENERGY-MOUND FACILITY MOUND RD. MIAMISBURG (BLAUVELT RICHARD WASTE MGT SPE) (513-865-3698)	OH	45342	PRES OWN PRES OP

DATES OF WASTE HANDLING: 1965 TO 1972

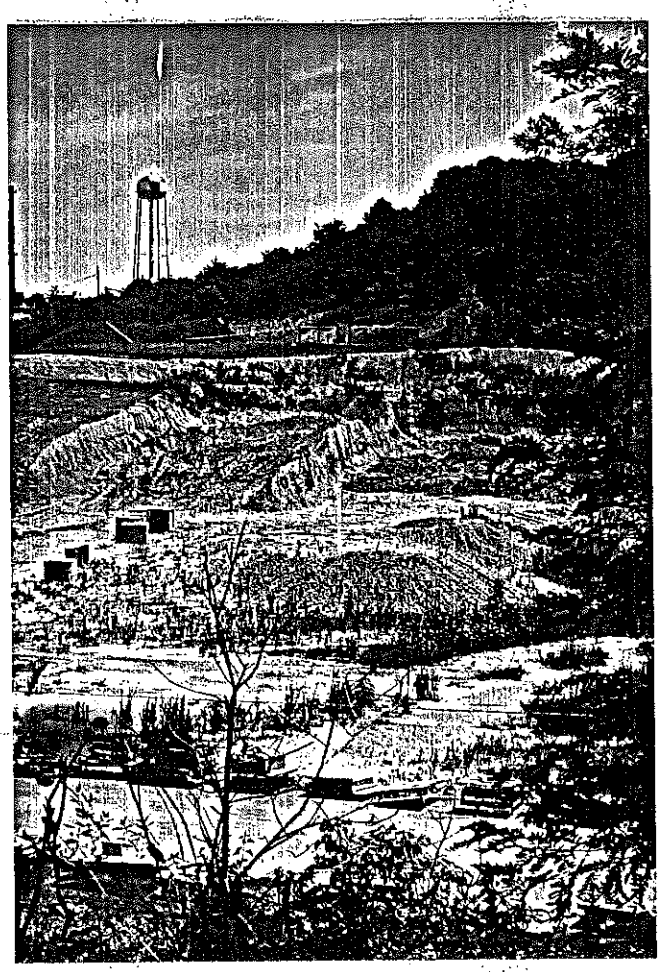
RELEASES TO THE ENVIRONMENT:

WASTE AMOUNT: 1,000 CU FT AREA: 20,000 SQ FT MAP PRESENT: YES FORM TYPE: 8900-1

NOTIF. POSTMARKED DATE: 81/06/09 SIGNATURE PRESENT: YES DATE OF LAST UPDATE: 82/01/19

TYPE OF FACILITY	TYPES OF WASTES	SOURCES OF WASTE
LANDFILL	ORGANICS INORGANICS SOLVENTS ACIDS BASES OTHER	

COMMENTS	SEQ NO.
REFERENCE TO CONTACT: BLAUVELT, RICHARD	1
WASTE MANAGEMENT SPECIALIST/MOUND IS	2
OPERATED BY MONSANTO RESEARCH CORP FOR	3
THE US DOE UNDER CONTRACT #DE-AC-04-76-	4
DP-00053. THESE OPERATIONS ARE COVERED	5
BY THE ATOMIC ENERGY ACT OF 1954, AS	6
AMENDED. A RCRA PART A WAS SUBMITTED	7
LAST NOVEMBER.	8



Ref. 28

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

JUL 26 1982

Mr. Arnold E. Leder
U. S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604

Dear Mr. Leder:

DISCHARGE MONITORING REPORT: APRIL-JUNE 1982
NPDES PERMIT NO. OH 0009857

Attached is a copy of Mound's NPDES report for the period April 1 through June 30, 1982.

As reported during the second quarter of 1982, Mound's effluents exceeded maximum discharge limits ten times: pH and residual chlorine exceptions (discharge 001-B); copper and 3 nickel exceptions (discharge 001-C); and 4 suspended solids exceptions (discharge 002). Additionally, the average limit for suspended solids from discharge 002 was exceeded in April, May and June. Storm runoff from rain was the primary cause of the suspended solids exceptions mentioned above.

It is our opinion that these exceptions did not adversely affect health or environment.

Sincerely,

H. N. Hill

Harry N Hill
Area Manager

DSI:HW
Attachment: 1 cy
cc: J. R. Roeder, DOE/AL, w/cy
Ohio EPA, w/cy
D. E. Patterson, DOE/Hqs, w/cy

RECEIVED
JUL 27 1982
Environmental Protection Agency
SOUTHWEST DISTRICT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM COMMENTS

DISCHARGE MONITORING REPORT

FACILITY NAME: Department of Energy

ADDRESS: P.O. Box 66, Miamisburg, Ohio 45342

PHONE: FTS 774-4020

COMMENTS

(1-2)	(4-10) PERMIT NUMBER	(11-18) DIS	LATITUDE	LONGITUDE
01	0009857	001- A		

REPORTING PERIOD. FROM (20-21) YEAR 82 (22-23) MO 04 (24-25) DAY 01 TO (26-27) YEAR 82 (28-29) MO 04 (30-31) DAY 30

PARAMETER		(3 card only) (38-46) MINIMUM	QUANTITY (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(62-63) NO EX	(4 card only) (38-46) MINIMUM	CONCENTRATION (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(62-63) NO EX	(64-68) FREQUENCY OF ANALYSIS	(69-70) SAMPLE TYPE
FLOW 00050	REPORTED							0.10	0.13	MGD		"CONT"	NA
	PERMIT CONDITION												
BOD5 00310	REPORTED		1.2	2.4	kg/day			3.2	5.4	mg/1		"2/7"	COMP.
	PERMIT CONDITION		4.9	14.2				10.	15.				
SUSPENDED SOLIDS 00017	REPORTED		3.4	4.2	kg/day			8.9	10.8	mg/1		"2/7"	COMP.
	PERMIT CONDITION		7.4	28.4				15.	30.				
FECAL COLIFORM 055	REPORTED							57	360	N/100ml		"2/7"	GRAB
	PERMIT CONDITION							1000.	2000.				
pH 00400	REPORTED						7.6		7.9	pH units		"5/5"	GRAB
	PERMIT CONDITION						6.5		9.0				
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												

PRINCIPAL EXECUTIVE OFFICER	TITLE OF THE OFFICER	DATE
	Area Manager	82 01 21 3

I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.

SIGNATURE OF PRINCIPLE EXECUTIVE OFFICER OR AUTHORIZED AGENT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM COMMENTS

DISCHARGE MONITORING REPORT

Department of Energy
P.O. Box 66, Miamisburg, Ohio 45342
FTS 774-4020

COMMENTS

PERMIT NUMBER	DIS	LATITUDE	LONGITUDE
G009857	001- A		

REPORTING PERIOD: FROM 82 05 01 (YEAR MO DAY) TO 82 05 31 (YEAR MO DAY)

PARAMETER		QUANTITY MINIMUM	QUANTITY AVERAGE	QUANTITY MAXIMUM	UNITS	NO EX	CONCENTRATION MINIMUM	CONCENTRATION AVERAGE	CONCENTRATION MAXIMUM	UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
FLOW 50050	REPORTED							0.12	0.13	MGD		"CONT"	NA
	PERMIT CONDITION												
BOD_5 00310	REPORTED		1.7	1.8	kg/day			3.8	4.2	mg/1		"2/7"	COMP.
	PERMIT CONDITION		4.9	14.2				10.	15.				
SUSPENDED SOLIDS 00517	REPORTED		4.6	5.1	kg/day			10.8	12.5	mg/1		"2/7"	COMP.
	PERMIT CONDITION		7.4	28.4				15.	30.				
FECAL COLIFORM 55	REPORTED							221	1700	N/100ml		"2/7"	GRAB
	PERMIT CONDITION							1000.	2000.				
pH 00400	REPORTED						7.5		7.9	pH units		"5/5"	GRAB
	PERMIT CONDITION						6.5		9.0				
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												

PRINCIPAL EXECUTIVE OFFICER	TITLE OF THE OFFICER	DATE
Harry N.	Area Manager	82 07 23

I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM COMMENTS

DISCHARGE MONITORING REPORT

Department of Energy
P.O. Box 66, Miamisburg, Ohio 45342
FTS 774-4020

COMMENTS

PERMIT NUMBER	DIS	LATITUDE	LONGITUDE
0009857	001- A		

REPORTING PERIOD: FROM 82 06 01 (YEAR MO DAY) TO 82 06 30 (YEAR MO DAY)

PARAMETER		QUANTITY MINIMUM	QUANTITY AVERAGE	QUANTITY MAXIMUM	QUANTITY UNITS	NO. EX	CONCENTRATION MINIMUM	CONCENTRATION AVERAGE	CONCENTRATION MAXIMUM	CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
FLOW 50050	REPORTED							0.10	0.11	MGD		"CONT"	NA
	PERMIT CONDITION												
BOD_5 00310	REPORTED		0.9	1.8	kg/day			2.4	4.1	mg/1		"2/7"	COMP.
	PERMIT CONDITION		4.9	14.2				10.	15.				
SUSPENDED SOLIDS 00547	REPORTED		2.5	4.4	kg/day			7.9	10.5	mg/1		"2/7"	COMP.
	PERMIT CONDITION		7.4	28.4				15.	30.				
FECAL COLIFORM 00 55	REPORTED							116	856	N/100ml		"2/7"	GRAB
	PERMIT CONDITION							1000.	2000.				
pH 00400	REPORTED						7.4		8.0	pH units		"5/5"	GRAB
	PERMIT CONDITION						6.5		9.0				
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												

NAME OF PRINCIPAL EXECUTIVE OFFICER	TITLE OF THE OFFICER	DATE	
[illegible] Larry N (FIRST MI)	Area Manager (TITLE)	82 01 23 (YEAR MO DAY)	*I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.*

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM COMMENTS

DISCHARGE MONITORING REPORT

FACILITY NAME: Department of Energy

ADDRESS: P.O. Box 66, Miamisburg, Ohio 45342

PHONE: FTS 774-4020

COMMENTS

Exception: 4-15-82 pH (9.3 pH units)

(2-3) 11 / 01

(4-16) PERMIT NUMBER: 0009857

(17-19) DIS: 001- B

LATITUDE | LONGITUDE

REPORTING PERIOD: FROM (20-21) YEAR 82 (22-23) MO 04 (24-25) DAY 01 TO (26-27) YEAR 82 (28-29) MO 04 (30-31) DAY 30

PARAMETER		(3 card only) (38-46) QUANTITY MINIMUM	(48-53) AVERAGE	(54-61) MAXIMUM	(62-63) UNITS	NO EX	(4 card only) (38-46) CONCENTRATION MINIMUM	(48-53) AVERAGE	(54-61) MAXIMUM	(62-63) UNITS	NO EX	(64-68) FREQUENCY OF ANALYSIS	(68-70) SAMPLE TYPE
FLOW 50050	REPORTED							0.06	0.12	MGD		"CONT"	NA
	PERMIT CONDITION												
SUSPENDED SOLIDS 00547	REPORTED		4.0	13.1	kg/day			16.2	49.3	mg/1		"2/7"	COMP.
	PERMIT CONDITION		7.6	19.				20.	50.				
OIL & GREASE 00553	REPORTED								2.1	mg/1		"1/30"	GRAB
	PERMIT CONDITION								10				
COD 00335	REPORTED								18	mg/1		"1/30"	COMP.
	PERMIT CONDITION												
DISSOLVED SOLIDS	REPORTED								925	mg/1		"1/30"	COMP.
	PERMIT CONDITION												
RESIDUAL CHLORINE 50060	REPORTED						< 0.02		< 0.02	mg/1		"2/7"	GRAB
	PERMIT CONDITION								0.02				
pH 00400	REPORTED						7.5		9.3	pH units	1	"2/7"	GRAB
	PERMIT CONDITION						6.5		9.0				
	REPORTED												
	PERMIT CONDITION												

NAME OF PRINCIPAL EXECUTIVE OFFICER: H. [illegible] N

TITLE OF THE OFFICER: Area Manager

DATE: 8 2 0 4 2 3

I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM COMMENTS

DISCHARGE MONITORING REPORT

Department of Energy

P.O. Box 66, Miamisburg, Ohio 45342

FTS 774-4020

COMMENTS

Exception: 5-27-82 Residual Chlorine 0.05 mg/l

01	0009857	001- B		
	PERMIT NUMBER	DIS	LATITUDE	LONGITUDE

REPORTING PERIOD: FROM 82 05 01 (YEAR MO DAY) TO 82 05 31 (YEAR MO DAY)

PARAMETER		QUANTITY MINIMUM	QUANTITY AVERAGE	QUANTITY MAXIMUM	UNITS	NO EX	CONCENTRATION MINIMUM	CONCENTRATION AVERAGE	CONCENTRATION MAXIMUM	UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
FLOW 50050	REPORTED							0.10	0.23	MGD		"CONT"	NA
	PERMIT CONDITION												
SUSPENDED SOLIDS 00547	REPORTED		5.4	12.5	kg/day			18.2	33.0	mg/l		"2/7"	COMP.
	PERMIT CONDITION		7.6	19.				20.	50.				
OIL & GREASE 00153	REPORTED								2.3	mg/l		"1/30"	GRAB
	PERMIT CONDITION								10				
COD 00340	REPORTED								47	mg/l		"1/30"	COMP.
	PERMIT CONDITION												
DISSOLVED SOLIDS	REPORTED								9367	mg/l		"1/30"	COMP.
	PERMIT CONDITION												
RESIDUAL CHLORINE 50060	REPORTED						< 0.02		0.05	mg/l	1	"2/7"	GRAB
	PERMIT CONDITION								0.02				
pH 00400	REPORTED						8.1		8.9	pH units		"2/7"	GRAB
	PERMIT CONDITION						6.5		9.0				
	REPORTED												
	PERMIT CONDITION												

NAME OF PRINCIPAL EXECUTIVE OFFICER	TITLE OF THE OFFICER	DATE
[illegible] N (FIRST, MI)	Area Manager (TITLE)	82 07 23 (YEAR MO DAY)

I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.

SIGNATURE OF PRINCIPLE EXECUTIVE OFFICER OR AUTHORIZED AGENT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM COMMENTS

DISCHARGE MONITORING REPORT

Department of Energy
P.O. Box 66, Miamisburg, Ohio 45342
FTS 774-4020

COMMENTS

PERMIT NUMBER	DIS	LATITUDE	LONGITUDE
0009857	001- B		

REPORTING PERIOD: FROM 82 06 01 (YEAR MO DAY) TO 82 06 30 (YEAR MO DAY)

PARAMETER		QUANTITY MINIMUM	QUANTITY AVERAGE	QUANTITY MAXIMUM	UNITS	NO EX	CONCENTRATION MINIMUM	CONCENTRATION AVERAGE	CONCENTRATION MAXIMUM	UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
FLOW 50050	REPORTED							0.07	0.14	MGD		"CONT"	NA
	PERMIT CONDITION												
SUSPENDED SOLIDS 00547	REPORTED		4.4	9.3	kg/day			13.9	23.3	mg/1		"2/7"	COMP.
	PERMIT CONDITION		7.6	19.				20.	50.				
OIL & GREASE 00153	REPORTED								4.0	mg/1		"1/30"	GRAB
	PERMIT CONDITION								10				
COD 00340	REPORTED								53	mg/1		"1/30"	COMP.
	PERMIT CONDITION												
DISSOLVED SOLIDS	REPORTED								6135	mg/1		"1/30"	COMP.
	PERMIT CONDITION												
RESIDUAL CHLORINE 50060	REPORTED						< 0.02		< 0.02	mg/1		"2/7"	GRAB
	PERMIT CONDITION								0.02				
pH 00400	REPORTED						7.3		8.8	pH units		"2/7"	GRAB
	PERMIT CONDITION						6.5		9.0				
	REPORTED												
	PERMIT CONDITION												

PRINCIPAL EXECUTIVE OFFICER	TITLE OF THE OFFICER	DATE
NAME: Gary N. Bailey	Area Manager	82 07 23

I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.

SIGNATURE OF PRINCIPLE EXECUTIVE OFFICER OR AUTHORIZED AGENT

DISCHARGE MONITORING REPORT

NAME: Department oE Energy

ADDRESS: P.O. Box 66, Miamisburg,Ohio 45342

PHONE: FTS 774-4020

COMMENTS

Exceptions: 4-7-82 Copper - 0.67 mg/1

4-20-82 Nickel - 2.2 mg/1

(1-6)	(7-14)		
0 0 9 3 5 7	0 0 1 - C		
PERMIT NUMBER	O.S	LATITUDE	LONGITUDE

REPORTING PERIOD: FROM (20-21) (22-23) (24-25) 8 2 0 4 0 1 (YEAR MO DAY) TO (26-27) (28-29) (30-31) 8 2 0 4 3 0 (YEAR MO DAY)

PARAMETER		QUANTITY (3 card only) (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(62-63) NO EX	CONCENTRATION (4 card only) (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(62-63) NO EX	(64-68) FREQUENCY OF ANALYSIS	(69-70) SAMPLE TYPE
COPPER 01020	REPORTED								0.06	mg/1		" 1/7 "	COMP.
	PERMIT CONDITION								1.0				
CHROMIUM 01034	REPORTED								0.18	mg/1		" 1/7 "	COMP.
	PERMIT CONDITION								0.5				
CADMIUM 01027	REPORTED								0.08	mg/1		" 1/7 "	COMP.
	PERMIT CONDITION								0.1				
NICKEL 01067	REPORTED								2.2	mg/1	1	" 1/7 "	COMP.
	PERMIT CONDITION								0.5				
ZINC 01042	REPORTED								0.68	mg/1	1	" 1/7 "	COMP.
	PERMIT CONDITION								0.5				
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												

PRINCIPAL EXECUTIVE OFFICER	TITLE OF THE OFFICER	DATE
Harry N (FIRST MI)	Area Manager (TITLE)	8 2 0 7 2 3 (YEAR MO DAY)

I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

PAGE OF

DISCHARGE MONITORING REPORT

Department of Energy
P.O. Box 66, Miamisburg, Ohio 45342
FTS 774-4020

COMMENTS

Exceptions: 5-20-82 Nickel - 0.95 mg/l
5-28-82 Nickel - 0.61 mg/l

PERMIT NUMBER	DIS	LATITUDE	LONGITUDE
0009857	001- C		

REPORTING PERIOD FROM 8 2 05 01 (YEAR MO DAY) TO 8 2 05 31 (YEAR MO DAY)

PARAMETER		QUANTITY MINIMUM	QUANTITY AVERAGE	QUANTITY MAXIMUM	UNITS	NO EX	CONCENTRATION MINIMUM	CONCENTRATION AVERAGE	CONCENTRATION MAXIMUM	UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
CYANIDE 00720	REPORTED								0.05	mg/l		" 1/7 "	COMP.
	PERMIT CONDITION								1.0				
CHROMIUM 01034	REPORTED								0.37	mg/l		" 1/7 "	COMP.
	PERMIT CONDITION								0.5				
CADMIUM 01027	REPORTED								0.08	mg/l		" 1/7 "	COMP.
	PERMIT CONDITION								0.1				
NICKEL 01067	REPORTED								0.95	mg/l	2	" 1/7 "	COMP.
	PERMIT CONDITION								0.5				
COPPER 01042	REPORTED								0.41	mg/l		" 1/7 "	COMP.
	PERMIT CONDITION								0.5				
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												

PRINCIPAL EXECUTIVE OFFICER	TITLE OF THE OFFICER	DATE (YEAR MO DAY)	I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT
N	Area Manager	8 2 0 7 2 3		

DISCHARGE MONITORING REPORT

Department of Energy
P.O. Box 66, Miamisburg, Ohio 45342
FTS 774-4020

COMMENTS

PERMIT NUMBER	DIS	LATITUDE	LONGITUDE
0009857	001- C		

REPORTING PERIOD: FROM 82 06 01 (YEAR MO DAY) TO 82 06 30 (YEAR MO DAY)

PARAMETER		QUANTITY MINIMUM	QUANTITY AVERAGE	QUANTITY MAXIMUM	QUANTITY UNITS	NO EX	CONCENTRATION MINIMUM	CONCENTRATION AVERAGE	CONCENTRATION MAXIMUM	CONCENTRATION UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
CADMIUM 01027	REPORTED								< 0.04	mg/1		" 1/7 "	COMP.
	PERMIT CONDITION								1.0				
CHROMIUM 01034	REPORTED								0.12	mg/1		" 1/7 "	COMP.
	PERMIT CONDITION								0.5				
LEAD 01051	REPORTED								0.05	mg/1		" 1/7 "	COMP.
	PERMIT CONDITION								0.1				
NICKEL 01067	REPORTED								0.21	mg/1		" 1/7 "	COMP.
	PERMIT CONDITION								0.5				
COPPER 01042	REPORTED								0.17	mg/1		" 1/7 "	COMP.
	PERMIT CONDITION								0.5				
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												

PRINCIPAL EXECUTIVE OFFICER	TITLE OF THE OFFICER	DATE
H N (FIRST MI)	Area Manager (TITLE)	82 07 23 (YEAR MO DAY)

I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM COMMENTS

DISCHARGE MONITORING REPORT

FACILITY NAME: Department of Energy

ADDRESS: P.O. Box 66, Miamisburg, Ohio 45342

PHONE: FTS 774-4020

COMMENTS

Exception: Average Suspended Solids
18.7 mg/1 & 44.4 kg/day

(1-16) PERMIT NUMBER: 0009857

(17-19) DIS: 002

LATITUDE: | LONGITUDE: .

REPORTING PERIOD. FROM (20-21) YEAR 82 (22-23) MO 04 (24-26) DAY 01 TO (26-27) YEAR 82 (28-29) MO 04 (30-31) DAY 30

(32-37) PARAMETER		(3 card only) (38-45) QUANTITY MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(62-63) NO EX	(4 card only) (38-45) CONCENTRATION MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(62-63) NO EX	(64-69) FREQUENCY OF ANALYSIS	(68-70) SAMPLE TYPE
FLOW 50050	REPORTED							0.57	1.46	MGD		"CONT."	NA
	PERMIT CONDITION												
SUSPENDED SOLIDS 00547	REPORTED		44.4	82.5	kg/day			18.7	25.3	mg/1		"2/7"	Comp.
	PERMIT CONDITION		34	91				15	30				
DISSOLVED SOLIDS	REPORTED		1154	1321	kg/day			800	895	mg/1		"2/30"	Comp.
	PERMIT CONDITION		3412	6065				1500	2000				
OIL & GREASE	REPORTED								0.7	mg/1		"1/30"	Grab
	PERMIT CONDITION								10				
RESIDUAL CHLORINE 50060	REPORTED						< 0.02		< 0.02	mg/1		"2/7"	Grab
	PERMIT CONDITION								0.02				
pH 00400	REPORTED						8.1		8.3	pH units		"2/30"	Grab
	PERMIT CONDITION						6.5		9.0				
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												

NAME OF PRINCIPAL EXECUTIVE OFFICER	TITLE OF THE OFFICER	DATE			
Larry N	Area Manager	82	07	23	
FIRST MI	TITLE	YEAR	MO	DAY	

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SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM COMMENTS

DISCHARGE MONITORING REPORT

NAME: Department of Energy

ADDRESS: P.O. Box 66, Miamisburg, Ohio 45342

PHONE: FTS 774-4020

COMMENTS

Exceptions: 5-25-82 Suspended solids 51.7 mg/1 & 111. kg/day

Average Suspended Solids 18.1 mg/1 & 36.1 kg/day

(1-5)	(4-10) PERMIT NUMBER	(11-19) OIS	LATITUDE	LONGITUDE
01	0009857	002		

REPORTING PERIOD: FROM (20-21) YEAR 82, (22-23) MO 05, (24-26) DAY 01 TO (26-27) YEAR 82, (28-29) MO 05, (30-31) DAY 31

(32-37) PARAMETER		(3 card only) (38-45) QUANTITY MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(62-63) NO EX	(4 card only) (38-45) CONCENTRATION MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(62-63) NO EX	(64-68) FREQUENCY OF ANALYSIS	(69-70) SAMPLE TYPE
FLOW	REPORTED							0.57	1.07	MGD		"CONT."	NA
00060	PERMIT CONDITION												
SUSPENDED	REPORTED		36.1	111	kg/	1		18.1	51.7	mg/1	1	"2/7"	Comp.
00547 SOLIDS	PERMIT CONDITION		34	91	day			15	30				
DISSOLVED	REPORTED		2533	3112	kg/			1264	1442	mg/1		"2/30"	Comp.
SOLIDS	PERMIT CONDITION		3412	6065	day			1500	2000				
OIL & GREASE	REPORTED								1.1	mg/1		"1/30"	Grab
00 3	PERMIT CONDITION								10				
TOTAL	REPORTED						< 0.02		< 0.02	mg/1		"2/7"	Grab
CHLORINE 50060	PERMIT CONDITION								0.02				
pH	REPORTED						8.4		8.5	pH		"2/30"	Grab
00400	PERMIT CONDITION						6.5		9.0	units			
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												

PRINCIPAL EXECUTIVE OFFICER	TITLE OF THE OFFICER	DATE
Harry N (FIRST, MI)	Area Manager (TITLE)	82 05 23 (YEAR MO DAY)

I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM COMMENTS

DISCHARGE MONITORING REPORT

Department of Energy
P.O. Box 66, Miamisburg, Ohio 45342
FTS 774-4020

Average Suspended Solids
26.9 mg/1 & 109 kg/day

Exceptions: 6-2-82 Suspended Solids
55 mg/1 & 374 kg/day

6-8-82 Suspended Solids
43 mg/1 & 232 kg/day

6-17-82 Suspended Solids
99.7 kg/day

PERMIT NUMBER	DIS	LATITUDE	LONGITUDE
0009857	002		

REPORTING PERIOD. FROM 82 06 01 (YEAR MO DAY) TO 82 06 30 (YEAR MO DAY)

PARAMETER		QUANTITY MINIMUM	QUANTITY AVERAGE	QUANTITY MAXIMUM	UNITS	NO EX	CONCENTRATION MINIMUM	CONCENTRATION AVERAGE	CONCENTRATION MAXIMUM	UNITS	NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
FLOW 50050	REPORTED							0.87	1.80	MGD		"CONT."	NA
	PERMIT CONDITION												
SUSPENDED SOLIDS 00547	REPORTED		109	374	kg/day	3		26.9	55.0	mg/1	2	"2/7"	Comp.
	PERMIT CONDITION		34	91				15	30				
DISSOLVED SOLIDS	REPORTED		3126	3427	kg/day			1425	1435	mg/1		"2/30"	Comp.
	PERMIT CONDITION		3412	6065				1500	2000				
OIL & GREASE 00556	REPORTED								2.4	mg/1		"1/30"	Grab
	PERMIT CONDITION								10				
RESIDUAL CHLORINE 50060	REPORTED						< 0.02		< 0.02	mg/1		"2/7"	Grab
	PERMIT CONDITION								0.02				
pH 00400	REPORTED						8.0		8.3	pH units		"2/30"	Grab
	PERMIT CONDITION						6.5		9.0				
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												

NAME OF PRINCIPAL EXECUTIVE OFFICER	TITLE OF THE OFFICER	DATE
Harry N (FIRST MI)	Area Manager (TITLE)	82 07 23 (YEAR MO DAY)

I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM COMMENTS

DISCHARGE MONITORING REPORT

NAME: Department of Energy

ADDRESS: P.O. Box 66, Miamisburg, Ohio 45342

PHONE: FTS 774-4020

COMMENTS

Water was pumped 9 days from DISCHARGE 003 during April 1982.

No water was pumped from DISCHARGE 004 during April 1982.

(1-7)	(8-15) PERMIT NUMBER	(17-19) DIS	LATITUDE	LONGITUDE
011	0009857	003 & 004		

REPORTING PERIOD: FROM (20-21) YEAR 82 (22-23) MO 04 (24-26) DAY 01 TO (28-27) YEAR 82 (28-29) MO 04 (30,31) DAY 30

PARAMETER		QUANTITY (3 card only) (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(62-63) NO EX	CONCENTRATION (4 card only) (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(62-63) NO EX	(64-68) FREQUENCY OF ANALYSIS	(68-70) SAMPLE TYPE
DISCHARGE 003	REPORTED												
	PERMIT CONDITION												
FLOW 50050	REPORTED							0.75	0.75	MGD		"CONT"	NA
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
DISCHARGE 004	REPORTED												
	PERMIT CONDITION												
FLOW 50050	REPORTED							0.00	0.00	MGD		"CONT"	NA
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												

NAME OF PRINCIPAL EXECUTIVE OFFICER	TITLE OF THE OFFICER	DATE			
Harry N	Area Manager	82	01	23	I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.
FIRST MI	TITLE	YEAR	MO	DAY	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM COMMENTS

DISCHARGE MONITORING REPORT

FACILITY NAME: Department of Energy

ADDRESS: P.O. Box 66, Miamisburg, Ohio 45342

PHONE: FTS 774-4020

PERMIT NUMBER (4-10)	DIS (12-18)	LATITUDE	LONGITUDE
0009857	003 & 004		

REPORTING PERIOD FROM (20-21) (22-23) (24-26): 82 05 01 (YEAR MO DAY) TO (26-27) (28-29) (30-31): 82 05 31 (YEAR MO DAY)

COMMENTS

Water was pumped 24 days from DISCHARGE 003 during May 1982.

No water was pumped from DISCHARGE 004 during May 1982.

PARAMETER (32-37)		QUANTITY (3 card only) MINIMUM (38-45)	AVERAGE (46-53)	MAXIMUM (54-61)	UNITS	NO. EX (62-63)	CONCENTRATION (4 card only) MINIMUM (38-45)	AVERAGE (46-53)	MAXIMUM (54-61)	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
DISCHARGE 003	REPORTED												
	PERMIT CONDITION												
FLOW 50050	REPORTED							0.75	0.75	MGD		"CONT"	NA
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
DISCHARGE 004	REPORTED												
	PERMIT CONDITION												
FLOW 50050	REPORTED							0.00	0.00	MGD		"CONT"	NA
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												

PRINCIPAL EXECUTIVE OFFICER	TITLE OF THE OFFICER	DATE			
Harry N	Area Manager	82	07	13	I certify that I am familiar with the information contained in this report, and that to the best of my knowledge and belief such information is true, complete, and accurate.
NAME	TITLE	YEAR	MO	DAY	

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM COMMENTS

DISCHARGE MONITORING REPORT

Department of Energy

P.O. Box 66, Miamisburg, Ohio 45342
FTS 774-4020

COMMENTS

Water was pumped 14 days from DISCHARGE 003 during June 1982.

No water was pumped from DISCHARGE 004 during June 1982.

PERMIT NUMBER	DIS	LATITUDE	LONGITUDE
0009857	003 & 004		

REPORTING PERIOD FROM YEAR 82 MO 06 DAY 01 TO YEAR 82 MO 06 DAY 30

PARAMETER		QUANTITY MINIMUM	QUANTITY AVERAGE	QUANTITY MAXIMUM	QUANTITY UNITS	QUANTITY NO EX	CONCENTRATION MINIMUM	CONCENTRATION AVERAGE	CONCENTRATION MAXIMUM	CONCENTRATION UNITS	CONCENTRATION NO EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
DISCHARGE 003	REPORTED												
	PERMIT CONDITION												
FLOW 50050	REPORTED							0.75	0.75	MGD		"CONT"	NA
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
DISCHARGE 004	REPORTED												
	PERMIT CONDITION												
FLOW 50050	REPORTED							0.00	0.00	MGD		"CONT"	NA
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												
	REPORTED												
	PERMIT CONDITION												

NAME OF PRINCIPAL EXECUTIVE OFFICER	TITLE OF THE OFFICER	DATE	
Harry N (FIRST MI)	Area Manager (TITLE)	82 06 13 (YEAR MO DAY)	*I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete, and accurate.*

SIGNATURE OF PRINCIPLE EXECUTIVE OFFICER OR AUTHORIZED AGENT

PAGE OF

CONTACT REPORT Ref. 29

WHERE: Mound Laboratory

ATTENDED: Dan Carfagno
Donna Lee

DATE: 10-4-83

The purpose of this meeting was to inspect the air contaminate sources and discuss deliquent permit applications. The results are as follows:

B001 - gas-oil fired boiler - operating with no VEs.

B002-5 - no longer operating - the last of these is to be removed soon by King Wrecking Co.; we are checking into the asbestos removal.

B006 - new boiler should be operating this winter. We have not received a PTI application but Dan promised we'd have it by the end of November.

P001 - Miscellaneous grinding equipment - operating with no VEs.

P002 - machining equipment - M building - operating with no VEs.

P003 - Miscellaneous maintenance equipment - building 33 - this source is on the other hill; Dan did not think it was in operation; he's supposed to let us know if it's been dismantled.

P004 - Carpentry shop - operating with no VEs.

P005 - Oil burn structure for testing - this source has not operated in a couple of years. It is used to test shipping containers by submitting them to a 15-minute gas fire. This is required for nuclear waste containers to prevent a spill in case of a transportation accident.

R001 - Paint Shop Booth - this is a very small source; utilizes only 2 gallons/day of coating. The permit application should be in our office by the end of this month.

This facility has no significant source of air pollution. Their problem is in filling out and returning permit applications. DOT must sign off on these applications, however, this process only takes about 2 weeks. I will continue to remind Dan of the importance of this paperwork.

Note: Fire Training Exercise is planned for Friday, October 7, 1983.

This source could become a significant air pollution source if EPA enacts low level radiation standards.

/nlm

OhioEPA

Ref. 30

APPENDIX K

SURFACE COATING LINE

FOR OHIO EPA USE ONLY

PTI APPL. NO. _____
APS APP. NO. _____
DATE RECEIVED _____

Facility name and address: Mound
Mound Road
Miamisburg, Ohio 45342

GENERAL INFORMATION

10/9/83

2. Type of surface coating line (check only one):

- ☐ Automobile or light duty truck coating (at assembly plant)
- ☐ Can coating
- ☐ Coil coating (except at can manufacturing plant)
- ☐ Paper coating
- ☐ Fabric coating
- ☐ Vinyl coating
- ☐ Metal furniture coating
- ☐ Magnet wire coating
- ☐ Large appliance coating
- ☒ Other (describe) Paint Spray Booth

3. Company name or i.d. of coating line Paint Spray Booth
Month and year installed 6/61 Month and year initially operated 6/61

4. Description of equipment and operations included in coating line:
Water Wash Paint Spray Booth
Spray Paint Miscellaneous Equipment and Material

5. A PROCESS FLOW DIAGRAM MUST BE INCLUDED WITH THIS APPENDIX. Show entry and exit points of all materials and finished products. Label all materials including airborne contaminants and other waste materials. Lable the process equipment, control equipment, and stacks/vents.

6. Check the method of coating and complete the accompanying data:

a) ☒ Spray; Type: ☒ Air Gun ☐ Air less ☐ Electrostatic ☐ Other describe _____

b) ☐ Electrodeposition/Tank dimensions (ft) _____ (l x w x h) /Capacity (gallons) _____

c) ☐ Dip Tank/Tank dimensions (ft) _____ (l x w x h) /Capacity (gallons) _____

d) ☐ Flow coating

e) ☐ Roll coating/Type: ☐ Recessed Image ☐ Raised Image ☐ Not applicable ☐ No. of coating rollers _____

f) ☐ Brush g) ☐ Other (describe) _____

7. Coating operation is: ☒ Manual ☐ Automatic

8. If coating line includes a spray booth, complete this item:

a) Booth's exhaust is equipped with:
☒ Water wash (complete item 8b)
☐ Exhaust filters (complete item 8c)
☒ Baffles
☐ Other (describe) _____
☐ No means of paint particle filtration

b) Water wash: Is water recirculated: ☒ Yes ☐ No
Is a chemical added to the water? ☒ Yes ☐ No
Is material reclaimed from the wash water? ☐ Yes ☒ No
Describe method for disposal of waste materials? Sanitary Sewer

c) Exhaust filters:

Type of material Fiberglass Aluminum
Other (describe) _____
Filter size (inches): Length _____ Width _____ Thickness _____
No. of filters _____, No. of filter changes per year _____

9. Temperature of coating material as applied Ambient °F. Temperature of oven _____ °F.

10. This item applies to coating lines governed by both OAC 3745-21-07 and OAC 3745-21-09. When a coating line complies with the applicable requirements of OAC 3745-21-09, the requirements of OAC 3745-21-07 are deemed to not apply. For a coating line not in compliance with OAC 3745-21-09, the requirements of OAC 3745-21-07 continue to apply, except in situations where there exists a conflict between compliance with OAC 3745-21-07 and achieving compliance with OAC 3745-21-09. In those situations, the Director of the Ohio EPA, under OAC 3745-21-07 (A)(2)(b), may exempt the coating line from the requirements of OAC 3745-21-07, if it can be adequately demonstrated to him that there exists a conflict as described. Check the box at the end of this item if supporting information is being provided with this appendix to request the Director to determine that the requirements of OAC 3745-21-07 are not to apply pursuant to OAC 3745-21-07 (A)(2)(b). ☐

PRODUCTION AND MATERIAL USAGE

11. Indicate year for items (12), (13), and (14): 1983

12. Normal operating schedule: 4 hrs/day, 5 days/wk, 52 wks/year.

13. Parts, materials or products being coated (complete a thru e below)

a) Description of parts, materials, or products: Miscellaneous
b) Average amount coated per hour: _____
c) Maximum amount coated per hour: _____
d) Total amount coated per year: _____
e) Percent coated by season: Winter 25 %, Spring 25 %, Summer 25 %, Fall 25 %
(Dec-Feb) (Mar-May) (Jun-Aug) (Sept-Nov)

14. Coating materials: complete the table below (use additional pages or photocopies of this page as needed)

COATING MATERIAL (name or i.d.)	TYPE OF COATING[a] (code)	SOLVENT ADDED IN-HOUSE[b] (yes/no)	DATA ON COATING MATERIAL AS EMPLOYED[c]					OPTIONAL DATA[f]
			DENSITY (lbs/gal)	VOC CONTENT[d] (lbs/gal)	SOLIDS CONTENT[e] (% by vol)	WATER CONTENT (% by vol)	ANNUAL USAGE (gallons)	COATING MATERIAL USAGE RATE (amount and units)
Enamel	99X	No					195	
Lacquer	99X	Yes					65	

Maximum Gallons Used Per Hour 0.5 gal Per Day 2 gal

a TYPE OF COATING: Refer to page K-4 for the proper code to be entered in this column.

b SOLVENT ADDED IN-HOUSE: If the coating material is formulated with solvents at this facility or thinned with solvents prior to usage, enter YES. If the coating material is used as received with no addition of solvents, enter NO.

c DATA ON COATING MATERIAL AS EMPLOYED: Report the density, VOC content, solids content, water content, and annual usage of the coating material as employed or applied. Any solvents, thinners, viscosity reducers, etc. added to the coating material are to be included in the final material being reported.

d VOC CONTENT: The volatile organic compound (VOC) content is determined according to the appropriate test procedures specified in OAC 3745-21-10 (B), which include ASTM D 1644-59, ASTM D 1475-60, ASTM D 2369-73 and Federal Standard 141A, Method 4082.1.

e SOLIDS CONTENT: The solids content consists of any material which is not volatile organic or water (e.g. pigment, resin, etc.)

OPTIONAL DATA, COATING MATERIAL USAGE RATE: This column is optional and need not be completed unless required by the Ohio EPA or determined necessary by the facility. This column is used to relate the coating material usage to sq. ft. coated or number of items coated (e.g. 1.2 gallons/1000 sq. ft., 1800 sq. ft./gallon, 0.75 gallons/1000 cans, etc.)

LISTING OF CODES FOR TYPE OF COATING MATERIAL

CODE	TYPE OF COATING MATERIAL
	Automobile or light duty truck coating (at assembly plant)
1A	- Prime coat
1B	- Topcoat
1C	- Final repair
	Can coating, two-piece can
2A	- Exterior basecoat
2B	- Overvarnish
2C	- Interior body spray
2D	- Additional interior coating
2E	- Exterior bottom end
2F	- End sealing
	Can coating, three-piece can
2G	- Interior basecoat
2H	- Exterior basecoat
2I	- Overvarnish
2J	- Interior body spray
2K	- Side seam
2L	- End Sealing
	Coil coating
3A	- Prime coat
3B	- Topcoat
3C	- Single-coat
	Paper coating
4A	- General paper coating
4B	- Adhesive coating on pressure sensitive product
4C	- Plastic coating
4D	- Metal foil coating
5A	Fabric coating
6A	Vinyl coating
	Metal Furniture coating
7A	- Prime coat
7B	- Topcoat
7C	- Single-coat
8A	Magnet wire coating
	Large appliance coating
9A	- Prime coat
9B	- Topcoat
9C	- Single-coat
9D	- Lacquer for repair of scratches and nicks
99X	Other, not elsewhere classified

CONTROL EQUIPMENT

15. Type of control equipment: None

Incineration/Temp. _____ °F/Thermal or Catalytic (circle one)
Adsorption, describe _____
Condensation, describe _____
Other, describe _____

16. Manufacturer _____ Model No. _____ Month/Year Installed _____

17. Control efficiency estimates: Estimates below are based on

Design data Emission tests, date of test _____
Other (describe) _____

Pollutant	% Vented to Control Device	% Efficiency of Control Device	Overall % Reduction [a]	Emission Rate [b] (indicate units)

[a] Overall % Reduction is (% Vented to Control)(% Efficiency of Control)/100%

[b] Emission Rate from control equipment (e.g. in ppm, lbs/hour, etc.)

STACK DATA

18. Identify each stack and vent associated with the coating line in (a) below and complete the information (use extra sheet if needed)

	1	2	3	4	5	6
a) Stack or vent i.d.	36 in.					
b) Height above ground (ft)	23.5 ft.					
c) Height above roof (ft)	3 ft.					
d) Shape (rectangular or round)	round					
e) Cross sectional area (ft^2)	7.1					
f) At maximum operation: - Flow rate (acfm)	12,000					
- Temperature (°F)	Ambient					
g) At normal operation: - Flow rate (acfm)	12,000					
- Temperature (°F)	Ambient					

19. Continuous monitoring equipment: [ ] Yes [X] No
If yes, identify stack or vent _____
Type _____ Manufacturer _____
Make or model _____ Pollutant monitored _____

20. Emission data: Emissions from this source have been determined and such data is included with this appendix: [ ] Yes [X] No
If yes, check method: [ ] Stack Test
[ ] Material balance
[ ] Published emission factor
[ ] Other (describe) _____

Completed by D. G. Carfagno Date 10-4-83

Ref. 31

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

RECEIVED
FEB 6 1984
REGIONAL AIR
POLLUTION
CONTROL AGENCY

FEB 0 3 1984

Ms. Donna Lee
Regional Air Pollution Control Agency
451 W. Third Street
P. O. Box 972
Dayton, Ohio 45422

Dear Ms. Lee:

AIR POLLUTION PERMITS

Per telephone conversation between yourself and Mr. David Ingle, Dayton Area Office, we have completed the attached air pollution permit forms. The forms attached are:

1. Application for a Permit to Operate and Appendix K for a Paint Spray Booth.

2. Application for a Permit to Install and Appendix B for the New Boiler at the Power House. This boiler replaces four boilers which were previously registered with the Ohio EPA. The application numbers of the boilers which were removed are: B002, B003, B004, and B005.

In addition, please be advised that Building 33 - Maintenance Shop has been dismantled and your records should be updated to show this. The application number for that shop is P003.

Also attached is a check for $30.00 to cover the $15.00 application fee for each of the two permits.

If any further information is required, please contact David S. Ingle, DAO Safety Manager, 865-3597.

Sincerely,

R. M. Munson

R. M. Munson
Acting Area Manager

Attachments: as stated

TO:
MOUND LABORATORY
MOUND RD.
MIAMISBURG OHIO 45342

FOR:

APPLICATION NO	0857091196 R001
EQUIPMENT DESCRIPTION	WATER WASH SPRAY BOOTH
COMPANY ID	PAINT SHOP BOOTH
ISSUE DATE	03/30/84
EFFECTIVE DATE	03/30/84

(SEE ENCLOSED LETTER FOR EXPLANATION)

DIRECTOR

OHIO ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR A PERMIT TO OPERATE
AN AIR CONTAMINANT SOURCE

FOR OHIO EPA USE ONL

APS APPL NO _____
DATE RECEIVED _____

Mound
Facility Name

David S. Ingle
Person to Contact

Mound Road
Facility Address

P. O. Box 66
Mailing Address

Miamisburg | Montgomery | 45342
City | County | Zip

Miamisburg | Ohio
City | State

513 | 865-4020
Telephone | Area | Number

513 | 865-3597
Telephone | Area | Number

0857091196R001
(Application No., if this is a renewal application)

1. Complete and attach any of the following appendices most appropriate to the air contam source. In addition, a compliance time schedule form is to be attached when applicabl Check as appropriate the following:

____Appendix A, Process
____Appendix B, Fuel-Burning Equipment
____Appendix C, Incinerator
____Appendix D, Surface Coating or Printing Operation
____Appendix E, Storage Tank
____Appendix H, Gasoline Dispensing Facility
____Appendix J, Loading Rack at Bulk Gasoline Plant or Terminal
_X_Appendix K, Surface Coating Line or Printing Line
____Appendix L, Solvent Metal Cleaning
____Appendix M, Fugitive Dust Emission So
_____ (Specify Appendix No.)
____Appendix N, Rubber Tire Manufacturing
____Appendix O, Dry Cleaning Facility
____Appendix P, Synthesized Pharmaceutica Manufacturing
____Other Appendix _____
____Compliance Time Schedule

2. Description of Source (same as used on appendix): Water Wash Paint Spray Booth

3. Your Identification for Source (same as used on appendix): Paint Spray Booth

I, being the individual specified in Rule 3745-35-02(B) of the Ohio Administrative Code, he apply for a Permit to Operate the air contaminant source(s) described herein. As required, following additional documents are submitted as part of this application (describe all atta ments):

Appendix K

RECEIVED
FEB 6 1984
REGIONAL AIR POLLUTION CONTROL AGENCY

PAID
Amount 15.00 Date 2/6/84
Check # 53242 Date 1/31/84

J. M. Manson
Authorized Signature*

Acting Area Mgr
Title

2/3/84
Date

*Pursuant to OAC Rule 3745-35-02(B) (Permit to Operate).

Instructions for Completion of a Permit to Operate or Variance Application

These instructions concern the completion of application materials for a Permit to Operate or a Variance for air contaminant sources. An application cannot be considered unless the application form is completed and signed and any required supplemental information is submitted. Pursuant to Section 3745.11(G) of the Ohio Revised Code (ORC), any person applying for a permit to operate, permit to install, or variance must pay a non-refundable application fee of $15.00. This fee must be submitted at the time of application. Make checks payable to the Treasurer of the State of Ohio. Unless otherwise provided for by rule, a separate application must be filed for each air contaminant source. Therefore, only one (1) appendix may accompany this form. Applicants are advised that they will be required to pay a fee upon approval of their application for a Permit to Operate or Variance as provided for in Section 3745.11(B) of the ORC.

An appendix is a technical information form to be completed by the applicant. From the following description of the appendices, determine which should accompany your application.

Appendix A - Process: for sources not included in the other appendices.

Appendix B - Fuel-Burning Equipment: for any furnace, boiler, apparatus, and all appurtenances thereto, used in the process of burning fuel with the primary purpose of producing heat or power by indirect heat transfer.

Appendix C - Incinerator: for any equipment, machine, device, article, contrivance, structure or part of a structure used to burn refuse or to process refuse material by burning other than by open burning.

Appendix D - Surface Coating or Printing Operation: for a surface coating operation not included under Appendix K or for a printing operation.

Appendix E - Storage Tank: a storage tank for petroleum liquids.

Appendix H - Gasoline Dispensing Facility: any site where gasoline is dispensed to motor vehicle gasoline tanks from stationary storage tanks.

Appendix J - Loading Rack at a Bulk Gasoline Plant or Terminal: an operation for transferring gasoline to a delivery vessel.

Appendix K - Surface Coating Line: a coating line consists of one or more coating applicators, flash-off areas or ovens to be used for the following: an automobile or light-duty truck assembly plant; can manufacturing; coil-coating; fabric coating; large appliance coating; magnet wire coating; metal furniture coating; paper coating; vinyl coating.

Appendix L - Solvent Metal Cleaning: an operation employing solvent for cleaning metal surfaces; wipe-cleaning is excluded.

General:

- M1-1 - Plant Roadways and Parking Areas
- M1-2 - Aggregate Storage Piles
- M1-3 - Material Handling
- M1-4 - Mineral Extraction

Iron and Steel Mills:

- M2-1 - Coke Manufacturing
- M2-2 - Iron Production
- M2-3 - Steel Manufacture

M3 - Lime Plants
M4 - Power Plants
M5 - Grain Terminals
M6 - Country Grain Elevators
M7 - Gray Iron Foundries
M8 - Steel Foundries
M9 - Glass Manufacturing Plants
M10 - Fiberglass Manufacturing
M11 - Secondary Aluminum Processing Plants
M12 - Fertilizer Mixing/Blending Plants
M13 - Cement Manufacturing and Blending Plants
M14 - Ferroalloy Production
M15 - Metal Salvage Operations
M16 - Pulp and Paper Mills
M17 - Woodworking Operations
M18 - Aggregate Processing Plants
M19 - Coal Processing Plants
M20 - Brick and Related Clay Product Manufacturing Plants
M21 - Asphaltic Concrete Plants
M22 - Concrete Batching Plants
M23 - Sandblasting Operations
M24 - Petroleum Refineries
M25 - Agricultural Chemical Manufacturing Plants
M26 - Bulk Gasoline Terminals and Plants
M27 - Carbon Black Plants
M28 - Municipal Incineration
M29 - Salt Processing Operations
M30 - Galvanizing Plants

(continued on reverse side)

Appendix N - Rubber Tire Manufacturing
Appendix O - Dry Cleaning Facility
Appendix P - Synthesized Pharmaceutical Manufacturing

There are separate instructions with each appendix. If more than one application form is to be submitted at one time, it is acceptable to use photocopies of these forms containing identical data entry; however, each application must contain an original signature.

The following Sections of Chapter 3745-35 of the Ohio Administrative Code provide the applicant with information regarding air contaminant sources, permits to operate and variances. A complete copy of OAC Rule 3745-35 is available upon request.

OAC Rule 3745-35-01(B)(1) "Air Contaminant Source" shall mean any machine, device, apparatus, equipment, building, or other physical facility that emits or may emit any air pollutant.

OAC Rule 3745-35-02(A) Except as otherwise provided in Paragraph (H) of this rule and in rules 3745-35-03 and 3745-35-05 of the Administrative Code, no person may cause, permit, or allow the operation or other use of any air contaminant source without applying for and obtaining the permit to operate from the Ohio environmental protection agency in accordance with the requirements of this rule.

OAC Rule 3745-35-03(A) No person shall cause, permit, or allow the operation or other use of any air contaminant source that emits any air pollutant in violation of any applicable air pollution control law, unless a variance has been applied for and obtained from the director for such source, pursuant to the provisions of this rule. No variance from any rule of the director adopted under Chapter 3704. of the revised code may be issued except pursuant to this rule.

Signature on Application Form:

OAC Rule 3745-35-02(B)(1) Applications for permits to operate shall be signed, in the case of a corporation, by a principal executive officer of at least the level of vice president, or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the emission described in the application originates.
(2) Applications for permits to operate shall be signed, in the case of a partnership, by a general partner.
(3) Applications for permits to operate shall be signed, in the case of sole proprietorship, by the proprietor.
(4) Applications for permits to operate shall be signed, in the case of municipal, state, federal or other governmental facility, by the principal executive officer, the ranking elected official, or other duly authorized employee.

OAC Rule 3745-35-03(D)(1) Applications for variances shall be signed in the case of a corporation, by a principal executive officer or at least the level of vice president, or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the emission described in the application originates.
(2) Applications for variances shall be signed in the case of a partnership, by a general partner.
(3) Applications for variances shall be signed in the case of a sole proprietorship, by the proprietor.
(4) Applications for variances shall be signed in the case of a municipal, state, federal or other government facility, by the principal executive officer, the ranking elected official, or other duly authorized employee.

Ref. 32

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

APR 02 1984

Ohio EPA
Southwest District Office
7 E. 4th Street
Dayton, Ohio 45402

Gentlemen:

OEPA Permit No. 1I000005*AD, Application No. OH0009857

Attached, for your action, are completed NPDES Forms 1 and 2C in support of subject application. We regret the delay in transmitting subject application. However, as you are aware, we did not receive permit application forms until late in December 1983. The subsequent sampling analysis has taken three months.

Points of contact for this application are David S. Ingle, U. S. Department of Energy, Dayton Area Office, (513) 865-3597 and Mr. Dan Carfagno, Monsanto Research Corporation, (513) 865-3931.

Sincerely,

Harry N Hill

Harry N Hill
Area Manager

Attachments: Forms 1 & 2C

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved. OMB No. 2000-0474. Expires 3-31-84

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F 0 H 0 0 0 9 8 5 7

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill—in area*(s)* below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold—faced terms.**

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)		X	
C. Is this a facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	X		
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)		X	
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)		X	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP Mound

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*: 2 Ingle, David, Safety Manager

B. PHONE *(area code & no.)*: 513 865 3597

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX: 3 P. O. Box 66

B. CITY OR TOWN: 4 Miamisburg

C. STATE: OH

D. ZIP CODE: 45342

RECEIVED
APR 06 1984
Ohio Environmental Protection Agency

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: 5 Mound Road

B. COUNTY NAME: Montgomery

C. CITY OR TOWN: 6 Miamisburg

D. STATE: OH

E. ZIP CODE: 45342

F. COUNTY CODE *(if known)*:

PAID
Amount $15.00 Date 3-30-84
Check # 01077 Date 3-29-84

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
3489 (specify) Ordnance and Accessories	7391 (specify) Research and Development Laboratories
C. THIRD	**D. FOURTH**
(specify)	(specify)

VIII. OPERATOR INFORMATION

A. NAME: U.S. DEPARTMENT OF ENERGY

B. Is the name listed in Item VIII-A also the owner? [X] YES [ ] NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL, S = STATE, P = PRIVATE, M = PUBLIC (other than federal or state), O = OTHER (specify)
Answer: F (specify)

D. PHONE (area code & no.): A 513 865 3597

E. STREET OR P.O. BOX: P.O. BOX 66

F. CITY OR TOWN: MIAMISBURG

G. STATE: OH

H. ZIP CODE: 45342

IX. INDIAN LAND

Is the facility located on Indian lands? [ ] YES [X] NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	N	OH0009857
B. UIC (Underground Injection of Fluids)	U	
C. RCRA (Hazardous Wastes)	R	FOH6890008984
D. PSD (Air Emissions from Proposed Sources)	P	
E. OTHER (specify)	9	085709119 6B001 (specify) Air Permit
E. OTHER (specify)	9	085709119 6P004 (specify) Air Permit

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

Federal Facility primarily engaged in the manufacture of ordnance and accessories.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

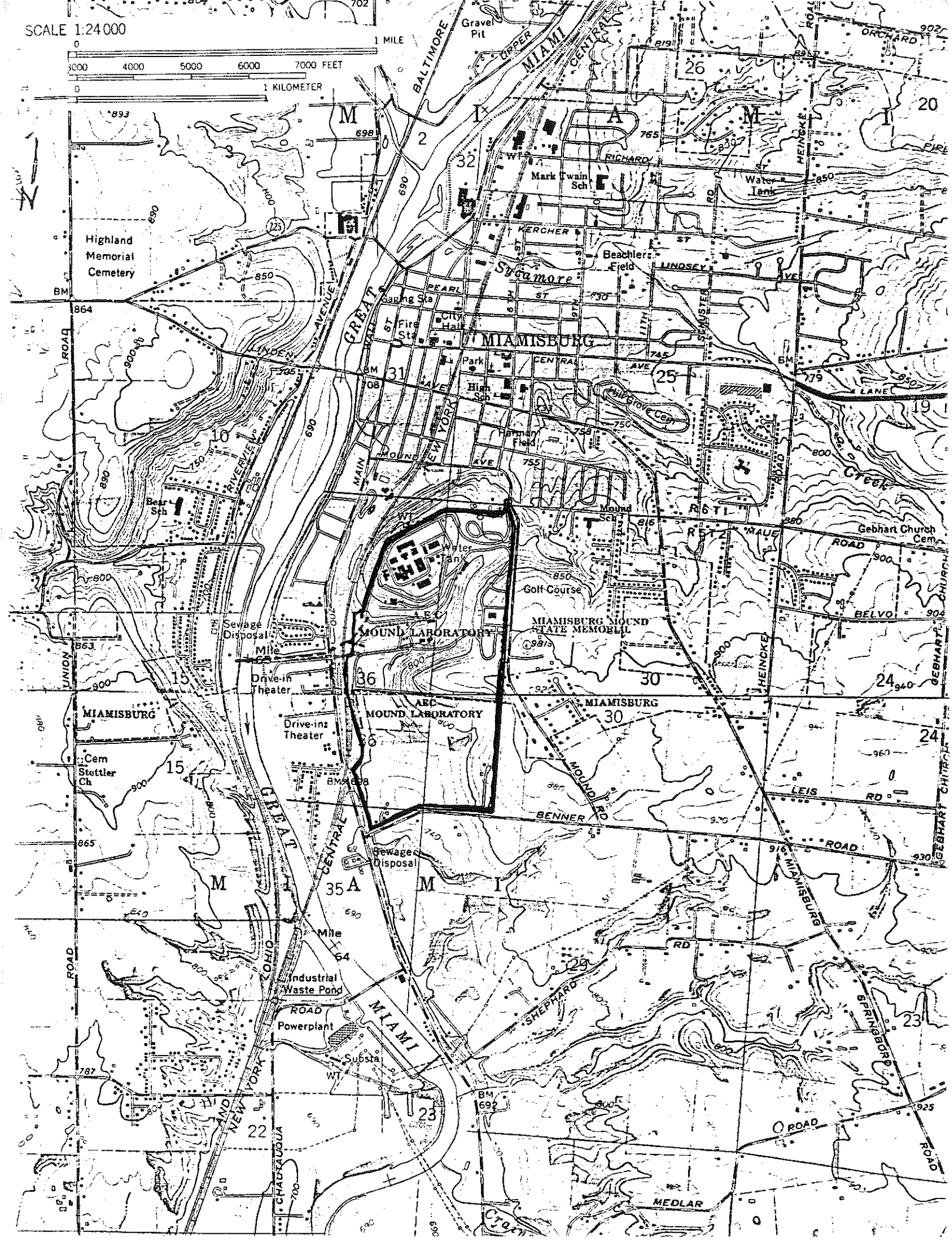
A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
Harry N Hill, Area Manager	Harry N Hill	APR 02 1984

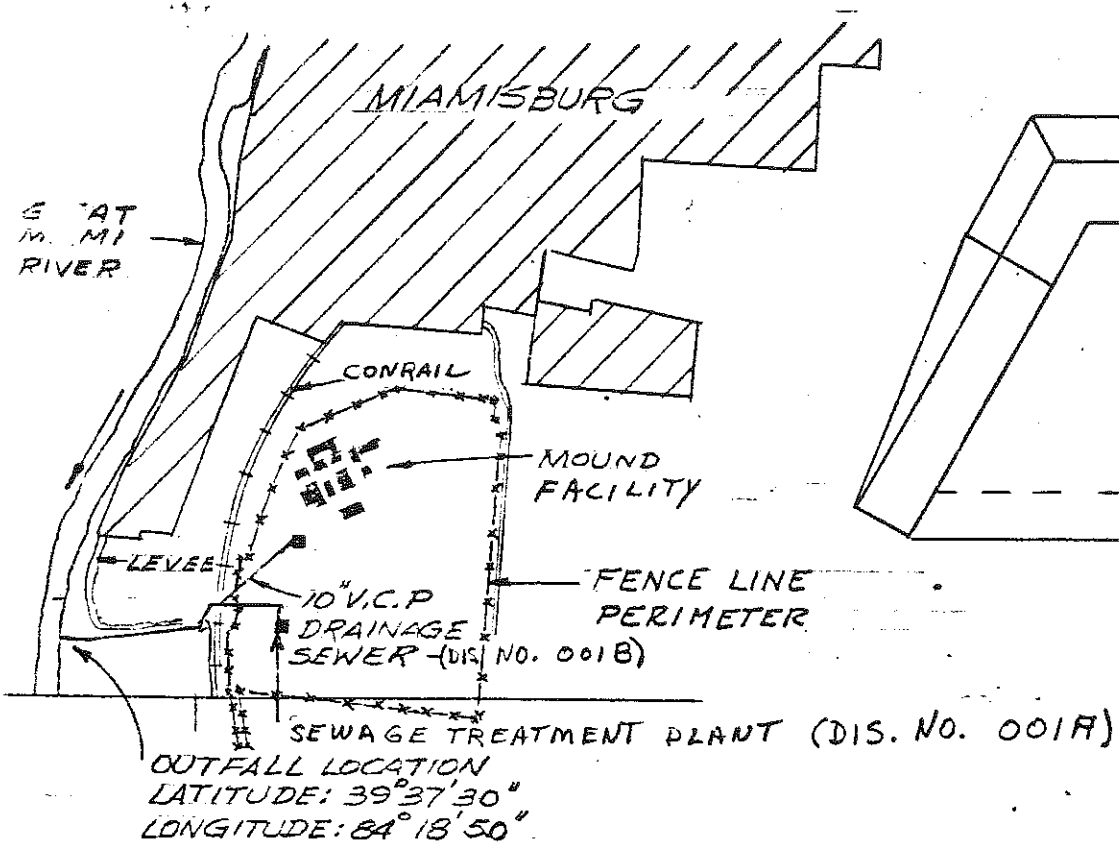
COMMENTS FOR OFFICIAL USE ONLY

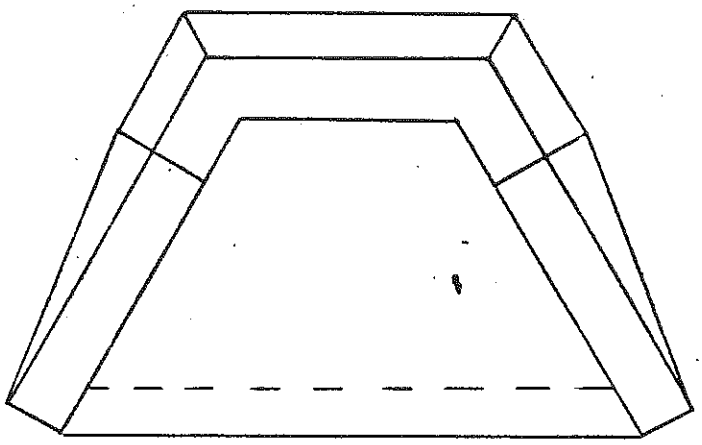
CONTINUED

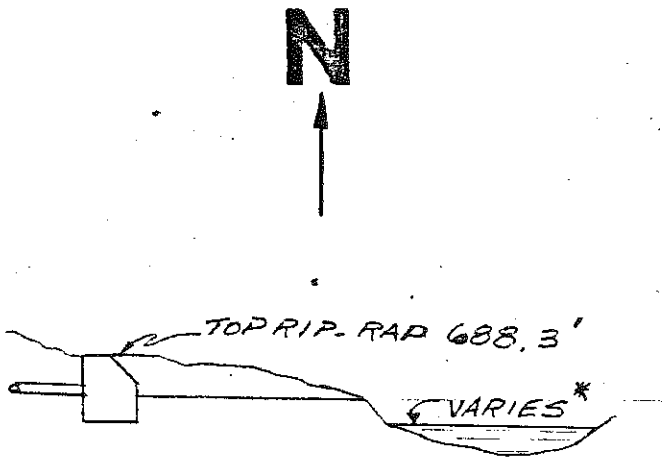
X. EXISTING ENVIRONMENTAL PERMITS

0857091196 R001	Air Permit
0857091196 P001	Air Permit
0857091196 P002	Air Permit
0857091196 P005	Air Permit


SCALE 1:24 000
1 MILE
7000 FEET
1 KILOMETER
Gravel Pit
BALTIMORE
UPPER
MIAMI
CENTRAL
ORCHARD
Highland Memorial Cemetery
Mark Twain Sch
Water Tank
RICHARD
KERCHER
Beachler Field
LINDSEY
Sycamore
PEARL
Gaging Sta
Fire Sta
City Hall
MIAMISBURG
Park
High Sch
CENTRAL AVE
Hill Grove Cem
Harman Field
MOUND AVE
NEW YORK
MAIN
GREAT
LINDEN
AVENUE
RIVERVIEW
Bear Sch
Mound Sch
Gebhart Church Cem
Golf Course
MIAMISBURG MOUND STATE MEMORIAL
MOUND LABORATORY
AEC
Sewage Disposal
Mile
Drive-in Theater
MIAMISBURG
Cem
Stettler Ch
BENNER
ROAD
MOUND RD
LEIS RD
HEINCKE
BELVO
GEBHART
UNION
Industrial Waste Pond
Powerplant
Substa
OHIO
SHEPHARD
SPRINGBORO
MEDLAR
CHAUTAUQUA
Creek

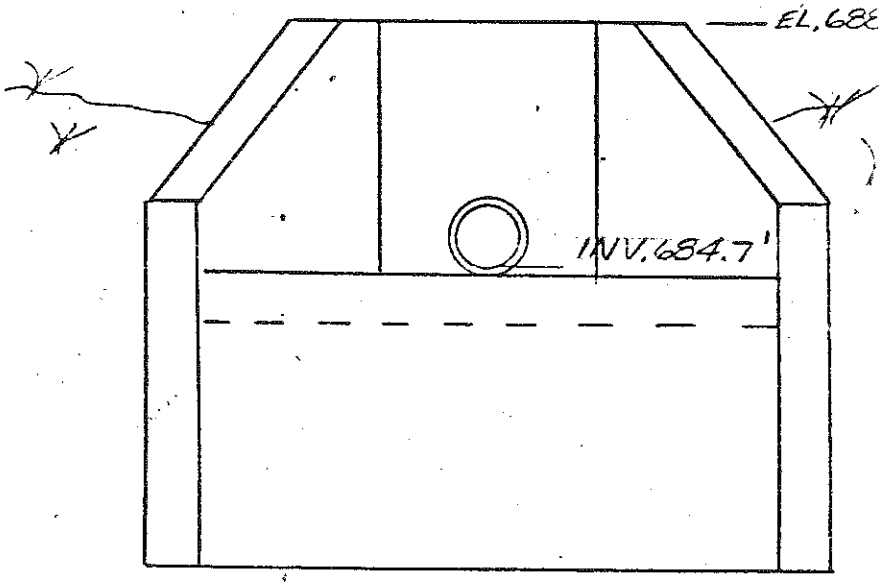






* EL. 683.0 TO COVERED AT FLOOD STAGE.

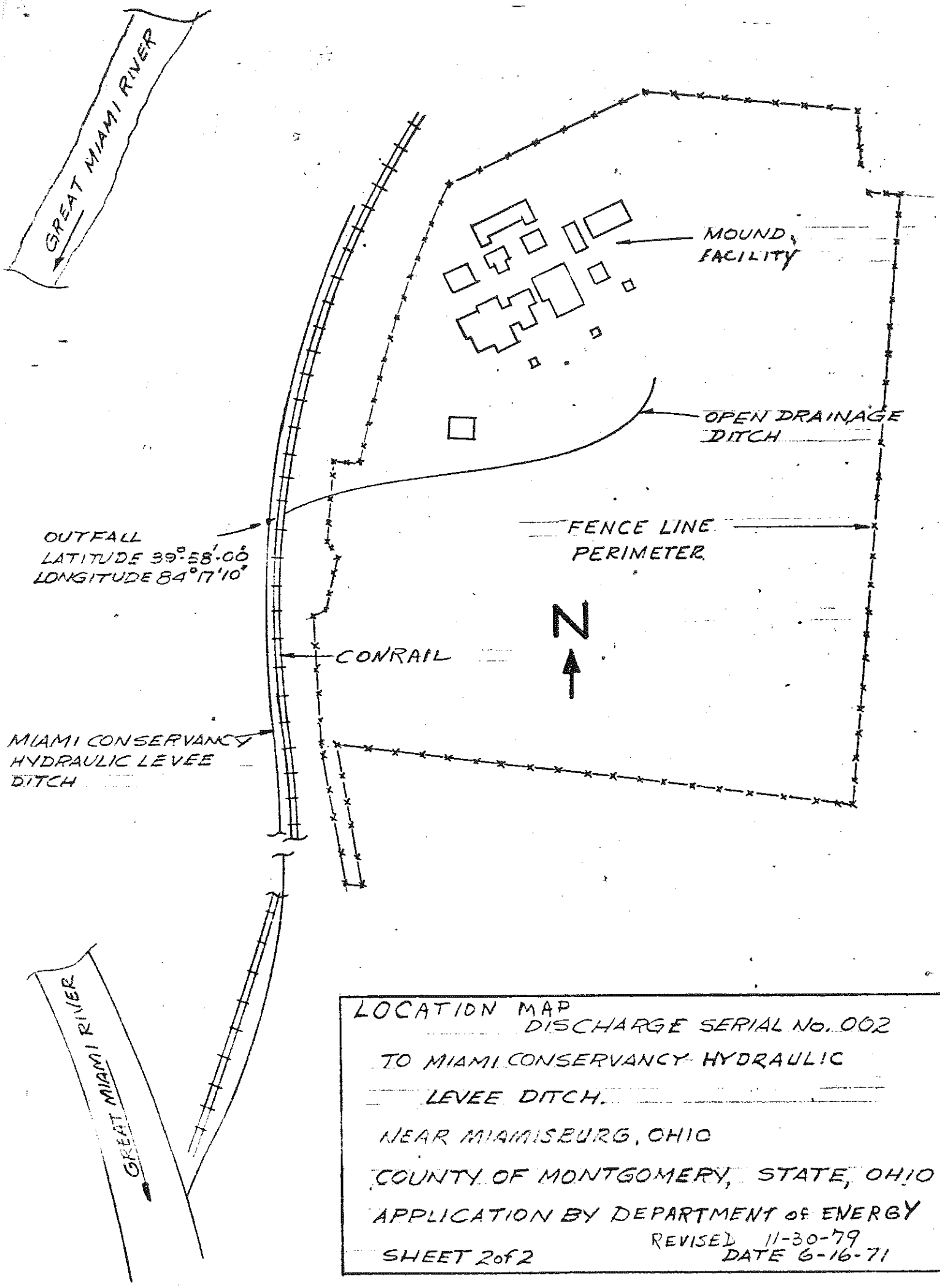
PROFILE



HEADWALL

LOCATION MAP
DISCHARGE SERIAL No. 001A + 001B
TO GREAT MIAMI RIVER
NEAR MIAMISBURG, OHIO
COUNTY OF MONTGOMERY, STATE, OHIO
APPLICATION BY DEPARTMENT of ENERGY

REVISED 11-30-79
SHEET 1 of 1
DATE 6-16-71



LOCATION MAP
DISCHARGE SERIAL No. 002
TO MIAMI CONSERVANCY HYDRAULIC
LEVEE DITCH.
NEAR MIAMISBURG, OHIO
COUNTY OF MONTGOMERY, STATE, OHIO
APPLICATION BY DEPARTMENT of ENERGY
REVISED 11-30-79
SHEET 2 of 2
DATE 6-16-71

Please print or type in the unshaded areas only.

EPA I.D. NUMBER (copy from Item 1 of Form 1): OH 000 9857

Form Approved
OMB No. 2000-0059
Approval expires 3-31-84

FORM 2C NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE 1. DEG.	2. MIN.	3. SEC.	C. LONGITUDE 1. DEG.	2. MIN.	3. SEC.	D. RECEIVING WATER (name)
001A	39	37	30	84	18	50	Great Miami River
001B	39	37	30	84	18	50	Great Miami River
002	39	38	00	84	17	10	Great Miami River

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined *(e.g., for certain mining activities)*, provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (list)	2. OPERATION(S) CONTRIBUTING FLOW a. OPERATION (list)	b. AVERAGE FLOW (include units)	3. TREATMENT a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
001A	Domestic Water Usage	0.09 MGD	Sanitary Treatment Plant	1-M	1-L
			24 hr - Retention Time	3-A	1-U
	Electroplating Shop	6,000 gal/day	Sludge Packaged & Shipped	2-F	5-A
			for Burial as Radioactive Waste	5-H	5-Q
001B	Utility OP'NS: Single Pass	0.04 MGD			
	Cooling, Boiler Blowdown,				
	Cooling Tower Blowdown Zeolite				
	Softener Backwash				
	Storm Water	0.04 MGD			
	WD Building	60,000 gal/wk	Radioactive Waste Treatment	2-C	1-G
			Plant	1-U	2-A
			XX-A Bone Char Adsorption	1-V	2-K
			XX-B Sludge Solidification	XX-A	1-N
				XX-B	5-Q
			Solidified Sludge Packaged		
			& Shipped for Burial as Radioactive Waste		
002	Single Pass Cooling	0.41 MGD			
	Water, Cooling Tower				
	Blowdown, Zeolite Softener				
	Backwash				
	Stormwater	0.25 MG	Retention Basin System	1-U	5-H
			& Overflow Pond	5-Q	
			Sludge Packaged & Shipped		
			for Burial as Radioactive Waste		

OFFICIAL USE ONLY *(effluent guidelines sub-categories)*

CONTINUED FROM THE FRONT

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?

☐ YES *(complete the following table)* ☐ NO *(go to Section III)*

1. OUTFALL NUMBER *(list)*	2. OPERATION(s) CONTRIBUTING FLOW *(list)*	3. FREQUENCY a. DAYS PER WEEK *(specify average)*	3. FREQUENCY b. MONTHS PER YEAR *(specify average)*	4. FLOW a. FLOW RATE *(in mgd)* 1. LONG-TERM AVERAGE	4. FLOW a. FLOW RATE *(in mgd)* 2. MAXIMUM DAILY	4. FLOW b. TOTAL VOLUME *(specify with units)* 1. LONG TERM AVERAGE	4. FLOW b. TOTAL VOLUME *(specify with units)* 2. MAXIMUM DAILY	4. FLOW c. DU[illegible] AT[illegible] *(in da[illegible])*
001B	Wd Building	2	12	0.03	0.03	30,000 gal	30,000 gal	0.1

III. MAXIMUM PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

☒ YES *(complete Item III-B)* ☐ NO *(to to Section IV)*

B. Are the limitations in the applicable effluent guideline expressed in terms of production *(or other measure of operation)*?

☐ YES *(complete Item III-C)* ☒ NO *(go to Section IV)*

C. If you answered "Yes" to Item III-B, list the quantity which represents an actual measurement of your maximum level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. MAXIMUM QUANTITY a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. *(specify)*	2. AFFECTED OUTFALLS *(list outfall numbers)*

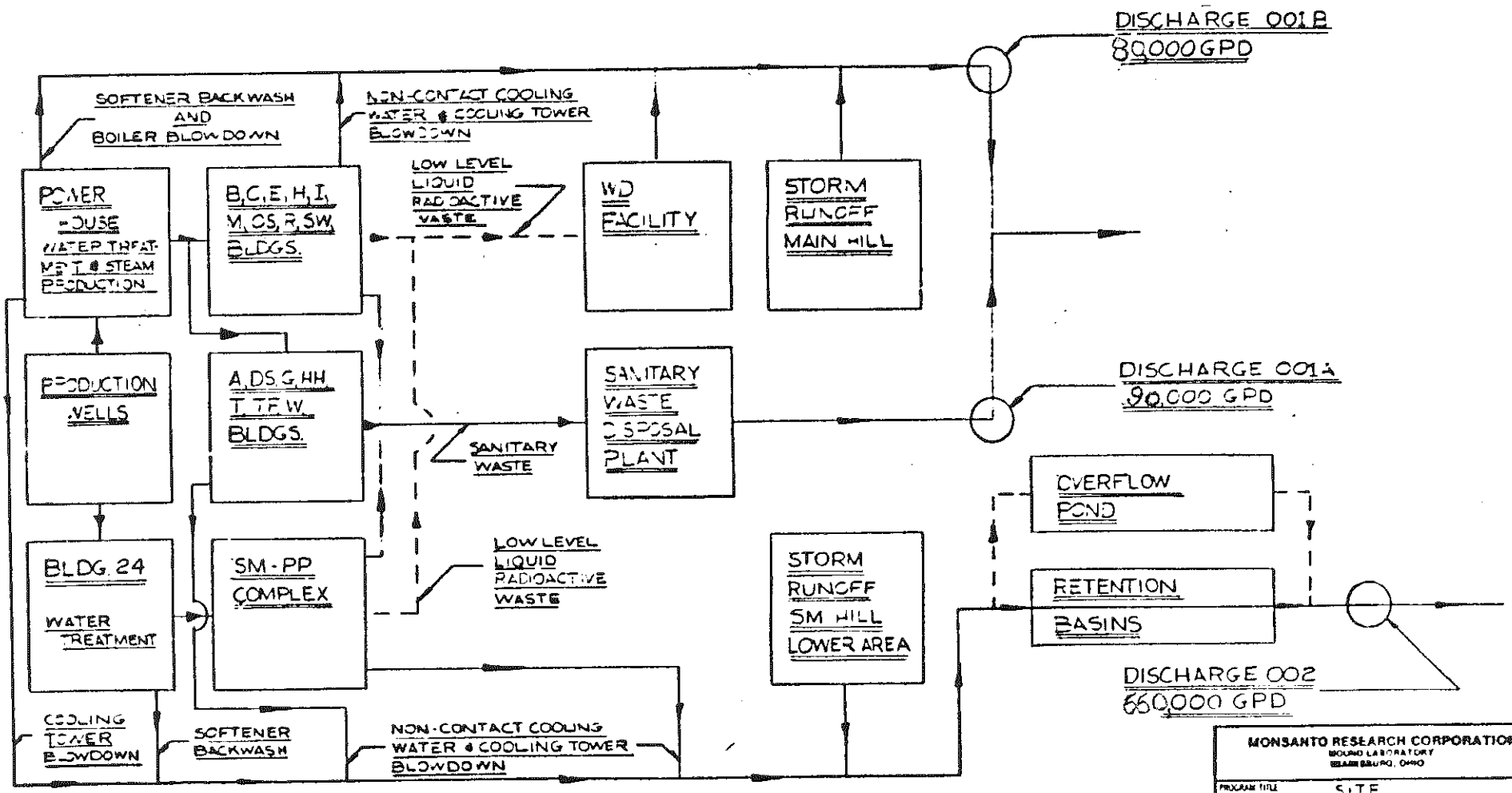
IV. IMPROVEMENTS

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

☐ YES *(complete the following table)* ☒ NO *(go to Item IV-B)*

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS a. NO.	2. AFFECTED OUTFALLS b. SOURCE OF DISCHARGE	3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE a. REQUIRED	4. FINAL COMPLIANCE DATE b. PROJECTED

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs *(or other environmental projects which may affect your discharges)* you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction. ☐ MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED



MONSANTO RESEARCH CORPORATION
MOUND LABORATORY
MIAMISBURG, OHIO

PROGRAM TITLE: SITE

DRAWING TITLE: SCHEMATIC OF WATER FLOW

DWG. TYPE: FD

DWG. CLASSIFICATION

LEVEL & CAT. UNCL

BY GEB

TITLE

DATE 12-6-79

CODE IDENT. NO. 14065

DESIGNED PRUNNER DATE 6-79 PROJ. MGR.

CHECKED CARFAGNO DATE 2-6-79 ADM. ENG.

DESIGN ENG. DATE ENG. MGR.

APPD. DATE

SCALE NONE

W.O. NO.

A.O. NO. 10547

DWG. NO. FSC18974

REV	DATE	REVISION	BY	CHK	APPD	M
A	12-6-79	ORIG ISSUE	3 B	G B		

THIS DRAWING IS THE PROPERTY OF MONSANTO RESEARCH CORPORATION AND MUST BE RETURNED TO MOUND LABORATORY ... UPON REQUEST.

CONTINUED FROM PAGE 2

EPA I.D. NUMBER (copy from Item 1 of Form 1)
OH 000 9857

Form Approved
OMB No. 2000-0059
Approval expires 3-31-84

V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding — Complete one set of tables for each outfall — Annotate the outfall number in the space provided. NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

D. Use the space below to list any of the pollutants listed in Table 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
Asbestos	Utility restoration-insulation removal. Asbestos washing for removal of impurities prior to use as filler in plastic.	Uranium	Residual from past operations.
2,4-D, 2,4,5-T and 2,4,5-TP	From prior use of herbicides	Xlyene	Solvent in pre-mixed reagent - only minor spillage discharged.
Pyrethrins	Used in routine pesticide control.		
Styrene	Shipping containers are sprayed with fiberglass		

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

A. Is any pollutant listed in Item V-C a substance or a component of a substance which you do or expect that you will over the next 5 years use or manufacture as an intermediate or final product or byproduct?

☐ YES *(list all such pollutants below)* ☒ NO *(go to Item VI-B)*

B. Are your operations such that your raw materials, processes, or products can reasonably be expected to vary so that your discharges of pollutants may during the next 5 years exceed two times the maximum values reported in Item V?

☐ YES *(complete Item VI-C below)* ☒ NO *(go to Section VII)*

C. If you answered "Yes" to Item VI-B, explain below and describe in detail the sources and expected levels of such pollutants which you anticipate will be discharged from each outfall over the next 5 years, to the best of your ability at this time. Continue on additional sheets if you need more space.

CONTINUED FROM THE FRONT

VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☐ YES *(identify the test(s) and describe their purposes below)* ☒ NO *(go to Section VIII)*

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

☒ YES *(list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)* ☐ NO *(go to Section IX)*

A. NAME	B. ADDRESS	C. TELEPHONE (area code & no.)	D. POLLUTANTS ANALYZED (list)
Environmental Testing and Certification (ETC)	284 Raritan Center Parkway Edison, NJ 08837	201-225-5600	Volatile Organic Compounds GC/MS Acid Organic Compounds GC/MS Base/Neutral Compounds GC/MS Pesticides GC/MS Metals, Cyanide and Phenols
Pollution Control Science Lab	6015 Manning Road Miamisburg, OH 45342	513-866-5908	Total Organic Carbon Total Organic Nitrogen

IX. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE *(type or print)*	B. PHONE NO. *(area code & no.)*
Harry N Hill, Area Manager	513 865-3271
C. SIGNATURE Harry N Hill	D. DATE SIGNED APR 02 1984

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item I of Form 1)*: OH 000 9857

Form Approved
OMB No. 2000-0059
Approval expires 3-31-84

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO. 001A

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE *(if available)* (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	3. UNITS *(specify if blank)* a. CONCENTRATION	b. MASS	4. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	60.5	21.7	21.6	7.5	3.4	1.2	94	mg/l	kg/day			
b. Chemical Oxygen Demand *(COD)*	12	2.8					1	mg/l	kg/day			
c. Total Organic Carbon *(TOC)*	14	6.4					1	mg/l	kg/day			
d. Total Suspended Solids *(TSS)*	83	27	38	11.5	9.0	3.4	100	mg/l	kg/day			
e. Ammonia *(as N)*	< 0.1	< 0.02					1	mg/l	kg/day			
f. Flow	VALUE 0.16		VALUE 0.12		VALUE 0.09		Cont.	MGD	-	VALUE		
g. Temperature *(winter)*	VALUE 21		VALUE 14		VALUE 11		90	°C		VALUE		
h. Temperature *(summer)*	VALUE 24		VALUE 22		VALUE 21		90	°C		VALUE		
i. pH	MINIMUM 7.1	MAXIMUM 8.4	MINIMUM 7.7	MAXIMUM 7.8			247	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE *(if available)* (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X	< 3						1	mg/l				
b. Chlorine, Total Residual	X		0.2	0.05					1	mg/l	kg/day			
c. Color		X												
d. Fecal Coliform	X		24000	-	542	-	172	-	96	N/100 ml	-			
e. Fluoride (16984-48-8)		X	< 1						1	mg/l				
f. Nitrate–Nitrite *(as N)*	X		58	24					1	mg/l	kg/day			

CONTINUE ON REVERSE

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)		X	< 2						1	mg/l				
h. Oil and Grease	X		1.4	0.3					1	mg/l	kg/day			
i. Phosphorus (as P), Total (7723-14-0)		X	< 2						1					
j. Radioactivity														
(1) Alpha, Total	X		74	34	14	6.4	9.5	3.1	250	pCi/l	µCi/day			
(2) Beta, Total	X		18.2	8.4					1	pCi/l	µCi/day			
(3) Radium, Total		X												
(4) Radium 226, Total		X												
k. Sulfate (as SO_4) (14808-79-8)	X		111	46					1	mg/l	kg/day			
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants		X												
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)		X												
q. Boron, Total (7440-42-8)		X												
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X		100	0.04					1	µg/l	kg/day			
t. Magnesium, Total (7439-95-4)	X		12,000	4.5					1	µg/l	kg/day			
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

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PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, non–process wastewater outfalls, and non–required GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe to be absent. If you mark either columns 2-a or 2-b for any pollutant, you must provide the results of at least one analysis for that pollutant. Note that there are seven pages to this part; please review each carefully. Complete one table *(all seven pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	X			< 70											
2M. Arsenic, Total (7440-38-2)	X			< 5											
3M. Beryllium, Total, 7440-41-7)	X			< 5											
4M. Cadmium, Total (7440-43-9)	X			< 30											
5M. Chromium, Total (7440-47-3)	X			< 9											
6M. Copper, Total (7550-50-8)	X			220	0.07					1	µg/l	kg/day			
7M. Lead, Total (7439-97-6)	X			< 30											
8M. Mercury, Total (7439-97-6)	X			< 0.3											
9M. Nickel, Total (7440-02-0)	X			14	0.004					1	µg/l	kg/day			
10M. Selenium, Total (7782-49-2)	X			< 5.0											
11M. Silver, Total (7440-22-4)	X			14	0.004					1	µg/l	kg/day			
12M. Thallium, Total (7440-28-0)	X			< 5.0											
13M. Zinc, Total (7440-66-6)	X			160	0.05					1	µg/l	kg/day			
14M. Cyanide, Total (57-12-5)	X			28	0.008					1	µg/l	kg/day			
15M. Phenols, Total	X			63	0.02					1	µg/l	kg/day			
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	X			< 100						1	µg/l				
2V. Acrylonitrile (107-13-1)	X			< 100						"	"				
3V. Benzene (71-43-2)	X			< 10						"	"				
4V. Bis (*Chloromethyl*) Ether (542-88-1)	X			< 10						"	"				
5V. Bromoform (75-25-2)	X			< 10						"	"				
6V. Carbon Tetrachloride (56-23-5)	X			< 10						"	"				
7V. Chlorobenzene (108-90-7)	X			< 10						"	"				
8V. Chlorodibromomethane (124-48-1)	X			< 10						"	"				
9V. Chloroethane (75-00-3)	X			< 10						"	"				
10V. 2-Chloroethylvinyl Ether (110-75-8)	X			< 10						"	"				
11V. Chloroform (67-66-3)	X			< 10						"	"				
12V. Dichlorobromomethane (75-27-4)	X			< 10						"	"				
13V. Dichlorodifluoromethane (75-71-8)	X			51	0.016					"	"	kg/day			
14V. 1,1-Dichloroethane (75-34-3)	X			< 10						"	"				
15V. 1,2-Dichloroethane (107-06-2)	X			< 10						"	"				
16V. 1,1-Dichloroethylene (75-35-4)	X			< 10						"	"				
17V. 1,2-Dichloropropane (78-87-5)	X			< 10						"	"				
18V. 1,3-Dichloropropylene (542-75-6)	X			< 10						"	"				
19V. Ethylbenzene (100-41-4)	X			< 10						"	"				
20V. Methyl Bromide (74-83-9)	X			< 10						"	"				
21V. Methyl Chloride (74-87-3)	X			< 10						"	"				

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)	X			< 10						1	µg/l				
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X			< 10						"	"				
24V. Tetrachloroethylene (127-18-4)	X			< 10						"	"				
25V. Toluene (108-88-3)	X			< 10						"	"				
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X			< 10						"	"				
27V. 1,1,1-Trichloroethane (71-55-6)	X			< 10						"	"				
28V. 1,1,2-Trichloroethane (79-00-5)	X			< 10						"	"				
29V. Trichloroethylene (79-01-6)	X			< 10						"	"				
30V. Trichlorofluoromethane (75-69-4)	X			< 10						"	"				
31V. Vinyl Chloride (75-01-4)	X			< 10						"	"				
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	X			< 25						1	µg/l				
2A. 2,4-Dichlorophenol (120-83-2)	X			< 25						"	"				
3A. 2,4-Dimethylphenol (105-67-9)	X			< 25						"	"				
4A. 4,6-Dinitro-O-Cresol (534-52-1)	X			< 250						"	"				
5A. 2,4-Dinitrophenol (51-28-5)	X			< 250						"	"				
6A. 2-Nitrophenol (88-75-5)	X			< 25						"	"				
7A. 4-Nitrophenol (100-02-7)	X			< 25						"	"				
8A. P-Chloro-M-Cresol (59-50-7)	X			< 25						"	"				
9A. Pentachlorophenol (87-86-5)	X			< 25						"	"				
10A. Phenol (108-95-2)	X			< 25						"	"				
11A. 2,4,6-Trichlorophenol (88-06-2)	X			< 25						"	"				

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION — BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X			< 10						1	µg/l				
2B. Acenaphtylene (208-96-8)	X			"						"	"				
3B. Anthracene (120-12-7)	X			"						"	"				
4B. Benzidine (92-87-5)	X			"						"	"				
5B. Benzo *(a)* Anthracene (56-55-3)	X			"						"	"				
6B. Benzo *(a)* Pyrene (50-32-8)	X			"						"	"				
7B. 3,4-Benzo-fluoranthene (205-99-2)	X			"						"	"				
8B. Benzo *(ghi)* Perylene (191-24-2)	X			"						"	"				
9B. Benzo *(k)* Fluoranthene (207-08-9)	X			"						"	"				
10B. Bis *(2-Chloro-ethoxy)* Methane (111-91-1)	X			"						"	"				
11B. Bis *(2-Chloro-ethyl)* Ether (111-44-4)	X			"						"	"				
12B. Bis *(2-Chloro-isopropyl)* Ether (39638-32-9)	X			"						"	"				
13B. Bis *(2-Ethyl-hexyl)* Phthalate (117-81-7)	X			"						"	"				
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)	X			"						"	"				
15B. Butyl Benzyl Phthalate (85-68-7)	X			"						"	"				
16B. 2-Chloro-naphthalene (91-58-7)	X			"						"	"				
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	X			"						"	"				
18B. Chrysene (218-01-9)	X			"						"	"				
19B. Dibenzo *(a,h)* Anthracene (53-70-3)	X			"						"	"				
20B. 1,2-Dichloro-benzene (95-50-1)	X			"						"	"				
21B. 1,3-Dichloro-benzene (541-73-1)	X			"						"	"				

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)	X			< 10						1	µg/l				
23B. 3,3'-Dichlorobenzidine (91-94-1)	X			"						"	"				
24B. Diethyl Phthalate (84-66-2)	X			"						"	"				
25B. Dimethyl Phthalate (131-11-3)	X			"						"	"				
26B. Di-N-Butyl Phthalate (84-74-2)	X			"						"	"				
27B. 2,4-Dinitrotoluene (121-14-2)	X			"						"	"				
28B. 2,6-Dinitrotoluene (606-20-2)	X			"						"	"				
29B. Di-N-Octyl Phthalate (117-84-0)	X			"						"	"				
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)	X			"						"	"				
31B. Fluoranthene (206-44-0)	X			"						"	"				
32B. Fluorene (86-73-7)	X			"						"	"				
33B. Hexachlorobenzene (118-71-1)	X			"						"	"				
34B. Hexachlorobutadiene (87-68-3)	X			"						"	"				
35B. Hexachlorocyclopentadiene (77-47-4)	X			"						"	"				
36B. Hexachloroethane (67-72-1)	X			"						"	"				
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)	X			"						"	"				
38B. Isophorone (78-59-1)	X			"						"	"				
39B. Naphthalene (91-20-3)	X			"						"	"				
40B. Nitrobenzene (98-95-3)	X			"						"	"				
41B. N-Nitrosodimethylamine (62-75-9)	X			"						"	"				
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X			"						"	"				

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitrosodiphenylamine (86-30-6)	X			< 10						1	µg/l				
44B. Phenanthrene (85-01-8)	X			"						"	"				
45B. Pyrene (129-00-0)	X			"						"	"				
46B. 1,2,4 - Trichlorobenzene (120-82-1)	X			"						"	"				
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X	< 10						1	µg/l				
2P. α-BHC (319-84-6)			X	"						"	"				
3P. β-BHC (319-85-7)			X	"						"	"				
4P. γ-BHC (58-89-9)			X	"						"	"				
5P. δ-BHC (319-86-8)			X	"						"	"				
6P. Chlordane (57-74-9)			X	"						"	"				
7P. 4,4'-DDT (50-29-3)			X	"						"	"				
8P. 4,4'-DDE (72-55-9)			X	"						"	"				
9P. 4,4'-DDD (72-54-8)			X	"						"	"				
10P. Dieldrin (60-57-1)			X	"						"	"				
11P. α-Endosulfan (115-29-7)			X	"						"	"				
12P. β-Endosulfan (115-29-7)			X	"						"	"				
13P. Endosulfan Sulfate (1031-07-8)			X	"						"	"				
14P. Endrin (72-20-8)			X	"						"	"				
15P. Endrin Aldehyde (7421-93-4)			X	"						"	"				
16P. Heptachlor (76-44-8)			X	"						"	"				

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EPA I.D. NUMBER (copy from Item 1 of Form 1): OH 000 9857

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)			X	< 10						1	µg/l				
18P. PCB-1242 (53469-21-9)			X	"						"	"				
19P. PCB-1254 (11097-69-1)			X	"						"	"				
20P. PCB-1221 (11104-28-2)			X	"						"	"				
21P. PCB-1232 (11141-16-5)			X	"						"	"				
22P. PCB-1248 (12672-29-6)			X	"						"	"				
23P. PCB-1260 (11096-82-5)			X	"						"	"				
24P. PCB-1016 (12674-11-2)			X	"						"	"				
25P. Toxaphene (8001-35-2)			X	"						"	"				

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

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V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO. 001B

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (2) MASS	d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	4.2	1.4					1	mg/l	kg/day			
b. Chemical Oxygen Demand *(COD)*	120	20.4	120	20.4	29	8.8	12	mg/l	kg/day			
c. Total Organic Carbon *(TOC)*	< 3	< 0.57					1	mg/l	kg/day			
d. Total Suspended Solids *(TSS)*	40.7	23.5	19.2	9.4	12.0	4.2	98	mg/l	kg/day			
e. Ammonia *(as N)*	2.5	0.55					1	mg/l	kg/day			
f. Flow	VALUE 0.39		VALUE 0.16		VALUE 0.08		Cont.	MGD	-	VALUE		
g. Temperature *(winter)*	VALUE 12.5		VALUE		VALUE		1	°C		VALUE		
h. Temperature *(summer)*	VALUE		VALUE		VALUE			°C		VALUE		
i. pH	MINIMUM 7.2	MAXIMUM 9.4	MINIMUM 7.8	MAXIMUM 8.5			101	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X	< 3						1	mg/l				
b. Chlorine, Total Residual	X		0.2	0.05	0.02	0.01	< 0.02	< 0.006	99	mg/l	kg/day			
c. Color		X												
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)		X	< 1						1	mg/l				
f. Nitrate—Nitrite *(as N)*	X		16	5					1	mg/l	kg/day			

CONTINUE ON REVERSE

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)		X	< 2						1	mg/l				
h. Oil and Grease	X		64.0	23	64	23	3.7	1.1	12	mg/l	kg/day			
i. Phosphorus (as P), Total (7723-14-0)		X	< 2						1	mg/l				
j. Radioactivity														
(1) Alpha, Total	X		67	24	24	6.9	12	3.5	250	pCi/l	µCi			
(2) Beta, Total	X		18.9	6.8					1	pCi/l	µCi			
(3) Radium, Total		X												
(4) Radium 226, Total		X												
k. Sulfate (as SO_4) (14808-79-8)	X		66	22					1	mg/l	kg/day			
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants		X												
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)		X												
q. Boron, Total (7440-42-8)		X												
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X		400	0.12					1	µg/l	kg/day			
t. Magnesium, Total (7439-95-4)	X		120,000	34.9					1	µg/l	kg/day			
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

CONT[illegible] ON PAGE V-3

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PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, non—process wastewater outfalls, and non—required GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe to be absent. If you mark either columns 2-a or 2-b for any pollutant, you must provide the results of at least one analysis for that pollutant. Note that there are seven pages to this part; please review each carefully. Complete one table *(all seven pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)			X	< 70						1	µg/l				
2M. Arsenic, Total (7440-38-2)			X	< 5						1	"				
3M. Beryllium, Total, 7440-41-7)			X	< 5						1	"				
4M. Cadmium, Total (7440-43-9)			X	< 30						1	"				
5M. Chromium, Total (7440-47-3)			X	< 9						1	"				
6M. Copper, Total (7550-50-8)		X		25	0.005					1	"	kg/day			
7M. Lead, Total (7439-97-6)			X	< 30						1	"				
8M. Mercury, Total (7439-97-6)		X		1.0	0.0002					1	"	kg/day			
9M. Nickel, Total (7440-02-0)			X	< 6						1	"				
10M. Selenium, Total (7782-49-2)			X	< 5						1	"				
11M. Silver, Total (7440-22-4)			X	< 6						1	"				
12M. Thallium, Total (7440-28-0)			X	< 5						1	"				
13M. Zinc, Total (7440-66-6)			X	100	0.02					1	"	kg/day			
14M. Cyanide, Total (57-12-5)			X	< 25						1	"				
15M. Phenols, Total			X	< 50						1	"				
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION -- VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)			X	< 100						1	µg/l				
2V. Acrylonitrile (107-13-1)			X	< 100						1	"				
3V. Benzene (71-43-2)			X	< 10						1	"				
4V. Bis *(Chloromethyl)* Ether (542-88-1)			X	< 10						1	"				
5V. Bromoform (75-25-2)			X	< 10						1	"				
6V. Carbon Tetrachloride (56-23-5)			X	< 10						1	"				
7V. Chlorobenzene (108-90-7)			X	< 10						1	"				
8V. Chlorodibromomethane (124-48-1)			X	< 10						1	"				
9V. Chloroethane (75-00-3)			X	< 10						1	"				
10V. 2-Chloroethylvinyl Ether (110-75-8)			X	< 10						1	"				
11V. Chloroform (67-66-3)			X	< 10						1	"				
12V. Dichlorobromomethane (75-27-4)			X	< 10						1	"				
13V. Dichlorodifluoromethane (75-71-8)		X		65	0.013					1	"	kg/day			
14V. 1,1-Dichloroethane (75-34-3)			X	< 10						1	"				
15V. 1,2-Dichloroethane (107-06-2)			X	< 10						1	"				
16V. 1,1-Dichloroethylene (75-35-4)			X	< 10						1	"				
17V. 1,2-Dichloropropane (78-87-5)			X	< 10						1	"				
18V. 1,3-Dichloropropylene (542-75-6)			X	< 10						1	"				
19V. Ethylbenzene (100-41-4)			X	< 10						1	"				
20V. Methyl Bromide (74-83-9)			X	< 10						1	"				
21V. Methyl Chloride (74-87-3)			X	< 10						1	"				

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)			X	< 10						1	µg/l				
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			X	< 10						1	"				
24V. Tetrachloroethylene (127-18-4)			X	< 10						1	"				
25V. Toluene (108-88-3)			X	< 10						1	"				
26V. 1,2-Trans-Dichloroethylene (156-60-5)			X	< 10						1	"				
27V. 1,1,1-Trichloroethane (71-55-6)			X	< 10						1	"				
28V. 1,1,2-Trichloroethane (79-00-5)			X	< 10						1	"				
29V. Trichloroethylene (79-01-6)			X	< 10						1	"				
30V. Trichlorofluoromethane (75-69-4)			X	< 10						1	"				
31V. Vinyl Chloride (75-01-4)			X	< 10						1	"				
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)			X	< 25						1	"				
2A. 2,4-Dichlorophenol (120-83-2)			X	< 25						1	"				
3A. 2,4-Dimethylphenol (105-67-9)			X	< 25						1	"				
4A. 4,6-Dinitro-O-Cresol (534-52-1)			X	< 250						1	"				
5A. 2,4-Dinitrophenol (51-28-5)			X	< 250						1	"				
6A. 2-Nitrophenol (88-75-5)			X	< 25						1	"				
7A. 4-Nitrophenol (100-02-7)			X	< 25						1	"				
8A. P-Chloro-M-Cresol (59-50-7)			X	< 25						1	"				
9A. Pentachlorophenol (87-86-5)			X	< 25						1	"				
10A. Phenol (108-95-2)			X	< 25						1	"				
11A. 2,4,6-Trichlorophenol (88-06-2)			X	< 25						1	"				

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)			X	< 10						1	µg/l				
2B. Acenaphtylene (208-96-8)			X	"						1	"				
3B. Anthracene (120-12-7)			X	"						1	"				
4B. Benzidine (92-87-5)			X	"						1	"				
5B. Benzo *(a)* Anthracene (56-55-3)			X	"						1	"				
6B. Benzo *(a)* Pyrene (50-32-8)			X	"						1	"				
7B. 3,4-Benzo-fluoranthene (205-99-2)			X	"						1	"				
8B. Benzo *(ghi)* Perylene (191-24-2)			X	"						1	"				
9B. Benzo *(k)* Fluoranthene (207-08-9)			X	"						1	"				
10B. Bis *(2-Chloro-ethoxy)* Methane (111-91-1)			X	"						1	"				
11B. Bis *(2-Chloro-ethyl)* Ether (111-44-4)			X	"						1	"				
12B. Bis *(2-Chloro-isopropyl)* Ether (39638-32-9)			X	"						1	"				
13B. Bis *(2-Ethyl-hexyl)* Phthalate (117-81-7)			X	"						1	"				
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)			X	"						1	"				
15B. Butyl Benzyl Phthalate (85-68-7)			X	"						1	"				
16B. 2-Chloro-naphthalene (91-58-7)			X	"						1	"				
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)			X	"						1	"				
18B. Chrysene (218-01-9)			X	"						1	"				
19B. Dibenzo *(a,h)* Anthracene (53-70-3)			X	"						1	"				
20B. 1,2-Dichloro-benzene (95-50-1)			X	"						1	"				
21B. 1,3-Dichloro-benzene (541-73-1)			X	"						1	"				

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GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)			X	< 10						1	µg/l				
23B. 3,3'-Dichlorobenzidine (91-94-1)			X	"						1	"				
24B. Diethyl Phthalate (84-66-2)			X	"						1	"				
25B. Dimethyl Phthalate (131-11-3)			X	"						1	"				
26B. Di-N-Butyl Phthalate (84-74-2)			X	"						1	"				
27B. 2,4-Dinitrotoluene (121-14-2)			X	"						1	"				
28B. 2,6-Dinitrotoluene (606-20-2)			X	"						1	"				
29B. Di-N-Octyl Phthalate (117-84-0)			X	"						1	"				
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)			X	"						1	"				
31B. Fluoranthene (206-44-0)			X	"						1	"				
32B. Fluorene (86-73-7)			X	"						1	"				
33B. Hexachlorobenzene (118-71-1)			X	"						1	"				
34B. Hexachlorobutadiene (87-68-3)			X	"						1	"				
35B. Hexachlorocyclopentadiene (77-47-4)			X	"						1	"				
36B. Hexachloroethane (67-72-1)			X	"						1	"				
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)			X	"						1	"				
38B. Isophorone (78-59-1)			X	"						1	"				
39B. Naphthalene (91-20-3)			X	"						1	"				
40B. Nitrobenzene (98-95-3)			X	"						1	"				
41B. N-Nitrosodimethylamine (62-75-9)			X	"						1	"				
42B. N-Nitrosodi-N-Propylamine (621-64-7)			X	"						1	"				

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitrosodiphenylamine (86-30-6)			X	< 10						1	µg/l				
44B. Phenanthrene (85-01-8)			X	"						1	"				
45B. Pyrene (129-00-0)			X	"						1	"				
46B. 1,2,4 - Trichlorobenzene (120-82-1)			X	"						1	"				
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X	"						1	"				
2P. α-BHC (319-84-6)			X	"						1	"				
3P. β-BHC (319-85-7)			X	"						1	"				
4P. γ-BHC (58-89-9)			X	"						1	"				
5P. δ-BHC (319-86-8)			X	"						1	"				
6P. Chlordane (57-74-9)			X	"						1	"				
7P. 4,4'-DDT (50-29-3)			X	"						1	"				
8P. 4,4'-DDE (72-55-9)			X	"						1	"				
9P. 4,4'-DDD (72-54-8)			X	"						1	"				
10P. Dieldrin (60-57-1)			X	"						1	"				
11P. α-Endosulfan (115-29-7)			X	"						1	"				
12P. β-Endosulfan (115-29-7)			X	"						1	"				
13P. Endosulfan Sulfate (1031-07-8)			X	"						1	"				
14P. Endrin (72-20-8)			X	"						1	"				
15P. Endrin Aldehyde (7421-93-4)			X	"						1	"				
16P. Heptachlor (76-44-8)			X	"						1	"				

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION — PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)			X	< 10						1	µg/l				
18P. PCB-1242 (53469-21-9)			X	"						1	"				
19P. PCB-1254 (11097-69-1)			X	"						1	"				
20P. PCB-1221 (11104-28-2)			X	"						1	"				
21P. PCB-1232 (11141-16-5)			X	"						1	"				
22P. PCB-1248 (12672-29-6)			X	"						1	"				
23P. PCB-1260 (11096-82-5)			X	"						1	"				
24P. PCB-1016 (12674-11-2)			X	"						1	"				
25P. Toxaphene (8001-35-2)			X	"						1	"				

Ref. 33

NESHAP

MOUND FACILITY

June 7, 1984

At 3:00 p.m. received phone call from Helen Dancer at SCA Services reference to their needing a letter from us to take a load of asbestos waste from Mound facility to North Sanitary Landfill for disposal. I advised her that this is normally initiated by Mound personnel, not this agency. She was obviously in the middle and she advised that she would have their contact person at Mound, Dick Janowiecki, call me. I agreed, feeling it would be best to remind him directly of their past procedures.

At 4:00 p.m. Mr. Janowiecki called and advised that they had some asbestos in drums to be taken to the landfill. I reminded him of the procedures in the past where they generate the letter for the landfill, to which he seemed agreeable, recalling that the only notifications we have received in the last 6 months for jobs at Mound have been from Alloyd and that Alloyd normally arranges for the hauler. I asked who removed the asbestos and when. Mr. Janowiecki couldn't tell me (didn't know) who removed it but advised he believed it was back in January or February; at this point I became concerned. Mr. Janowiecki advised that he gets his information from the Industrial Hygiene Dept. there at Mound.

June 8, 1984

At 2:30 p.m. I called Bill Ross at Mound's Industrial Hygiene Dept. and inquired about the asbestos material. He basically confirmed the asbestos waste waiting to be hauled away but mentioned it being in bags. Mr. Ross also could not advise me who removed it or when or really how much there is; this also seems strange. I requested that he investigate this and call me back no later than Monday with at least the information on who removed the asbestos, where from, and how much.

At 3:30 p.m., Mr. Ross called back advising "would you believe we've got 16 drums here," referring to the asbestos waste. He further advised that their own peope did the removal job and believed it was material removed from a boiler and associated piping; at this point, however, we can't confirm who, with Mound facility Industrial Hygiene Dept., may have inspected the removal operation for compliance (if anyone).

I requested that Mr. Ross complete a letter or memo containing the basic letter of intent information for this material in question and sent it to this office. A (another) copy of the local HAPCR is being sent to Mr. Ross' attention, at his request.

At 3:50 p.m. a call was made to Helen at SCA who advised that the tentative arrangements are for the material to be picked up Tuesday morning (no exact times established) and hauled to North Sanitary Landfill before noon.

It is evident that, at a minimum, a violation of the reporting procedures has occurred. Due to the apparent time of the occurrence (January/February) and that we are working with Mound facility's own statements rather than physical evidence, I feel that a warning letter would be more appropriate than trying to cite them into court. I do feel that this violation leaves considerable question as to how the Mound facility handles their own inspections and may give reason for RAPCA making (or least trying to make) inspections there.

/nlm

→ JACK HEMP

INSPECTION SHEET

Demolition/Renovation of Building

1. Building location MOUND FACILITY City MIAMISBURG Twp. —
2. Building owner ~~[illegible]~~ DOE Address _____ Phone _____
3. Building description and approximate age —
4. ~~Wrecker~~/Renovator: Name MOUND PERSONNELL Address _____
5. Scheduled starting date ? SEE COMMENTS Completion date —
6. ~~Supervisor's~~ CONTACTS Name BILL ROSS Site phone no. 865 3421
7. Was RAPCA contacted for an inspection prior to actual demolition/renovation NO
8. This inspection is: Initial X ; Follow-up _____ ; During work _____ ; Result of complaint _____ ; Requested by _____
9. Permission to enter X Take samples _____ Given X Refused _____ By: Name BILL ROSS Reason _____
10. Employee accompanying inspector: Name BILL ROSS + DICK JANOWIECKI

Work Practices — SEE COMMENTS

11. Wetting performed _____ 12. Visible emission observed _____
13. Is water available at point of demolition _____
14. Is asbestos obviously present - in what form _____
15. Methods of removal/stripping _____
16. From upper levels, debris is being: Dropped _____ ; Lowered in closed _____ open _____ containers; via closed _____ open _____ chute; hand carried _____ ; Other _____
17. Method of holding for disposal _____
18. Method of transporting to disposal site _____

JAP-VHS
(not for file)

MOUND FACILITY

①

06-07-84 AT 3 PM RECEIVED PHONE CALL FROM HELEN DANCER AT SCA SERVICES REF TO THEIR NEEDING A LETTER FROM US TO TAKE A LOAD OF ASBESTOS WASTE FROM MOUND FACILITY TO NORTH SANITARY LANDFILL FOR DISPOSAL. I ADVISED HER THAT THIS IS NORMALLY INITIATED BY MOUND PERSONELL, NOT THIS AGENCY. SHE WAS OBVIOUSLY IN THE MIDDLE & SHE ADVISED THAT SHE WOULD HAVE THEIR CONTACT PERSON AT MOUND, ONE DICK JANOWIECKI CALL ME. I AGREED, FEELING IT WOULD BE BEST TO REMIND HIM DIRECTLY OF THEIR PAST PROCEDURES.

AT 4 PM MR JANOWIECKI CALLED & ADVISED THAT THEY HAD SOME ASBESTOS IN DRUMS TO BE TAKEN TO THE LANDFILL — I REMINDED HIM OF THE PROCEDURES IN THE PAST WHERE THEY GENERATE THE LETTER FOR THE LANDFILL, TO WHICH HE SEEMED AGREEABLE. RECALLING THAT THE ONLY NOTIFICATIONS WE HAVE RECEIVED IN THE LAST 6 MONTHS FOR JOBS AT MOUND HAVE BEEN FROM ALLOYD & THAT ALLOYD NORMALLY ARRANGES FOR THE HAULER, I ASKED WHO REMOVED THE ASBESTOS & WHEN. MR JANOWIECKI COULDN'T TELL ME (DIDN'T KNOW) WHO REMOVED IT BUT ADVISED HE BELIEVED IT WAS BACK IN JANUARY OR FEBRUARY. — AT THIS POINT I BECAME CONCERNED. MR JANOWIECKI ADVISED THAT HE GETS HIS INFORMATION FROM THE INDUSTRIAL HYGIENE DEPT THERE AT MOUND.

-08-84 AT 2^30 PM I CALLED BILL ROSS AT MOUNDS INDUSTRIAL HYGIENE DEPT & INQUIRED ABOUT THE ASBESTOS MATERIAL. HE BASICALLY CONFIRMED THE ASBESTOS WASTE WAITING TO BE HAULED AWAY BUT MENTIONED IT BEING IN BAGS. MR ROSS ALSO COULD NOT ADVISE ME WHO REMOVED IT OR WHEN OR REALLY HOW MUCH THERE IS - THIS ALSO SEEMS STRANGE. I REQUESTED THAT HE INVESTIGATE THIS & CALL ME BACK NO LATER THAN MONDAY WITH AT LEAST THE INFO ON WHO REMOVED THE ASBESTOS, WHERE FROM, & HOW MUCH.

AT 3^30 PM, MR ROSS CALLED BACK ADVISING "WOULD YOU BELIEVE WE'VE GOT 16 DRUMS HERE", REFERRING TO THE ASBESTOS WASTE. HE FURTHER ADVISED THAT THEIR OWN PEOPLE DID THE REMOVAL JOB & BELIEVED IT WAS MATERIAL REMOVED FROM A BOILER & ASSOC PIPING - AT THIS POINT, HOWEVER, WE CAN'T CONFIRM WHO, WITH MOUND FACILITY INDUSTRIAL HYGIENE DEPT, MAY HAVE INSPECTED THE REMOVAL OPERATION FOR COMPLIANCE (IF ANYONE).

I REQUESTED THAT MR ROSS COMPLETE A LETTER OR MEMO CONTAINING THE BASIC LETTER OF INTENT INFO FOR THIS MATERIAL IN-QUESTION & SEND SAME TO THIS OFFICE. A (ANOTHER) COPY OF THE LOCAL PAPER IS BEING SENT TO MR ROSS'S ATTENTION, AT HIS REQUEST.

AT 3^50 PM A CALL WAS MADE TO HELEN AT SCA WHO ADVISED THAT THE TENATIVE ARRANGEMENTS ARE FOR THE MATERIAL TO BE PICKED UP TUESDAY MORNING (NO EXACT TIMES ESTABLISHED) & HAULED TO NORTH SANITARY LANDFILL BEFORE NOON.

IT IS EVIDENT THAT, AT A MINIMUM, A VIOLATION OF THE REPORTING PROCEDURES HAS OCCURRED. DUE TO THE APPARENT TIME OF THE OCCURRANCE (JAN-FEB) AND THAT WE ARE WORKING WITH MOUND FACILITIES OWN STATEMENTS RATHER THAN PHYSICAL EVIDENCE I FEEL THAT A WARNING LETTER WOULD BE MORE APPROPRIATE THAN TRYING TO CITE THEM INTO COURT. I DO FEEL THAT THIS VIOLATION LEAVES CONSIDERABLE QUESTION AS TO HOW THE MOUND FACILITY HANDLES THEIR OWN INSPECTIONS & MAY GIVE REASON FOR RAPCA MAKING (OR AT LEAST TRYING TO MAKE) INSPECTIONS THERE.

Ref. 34

ENFORCEMENT REFERRAL

TO: Wastewater, Litigation Screening Committee
Division of Industrial Wastewater

11/19/84

FROM: (Name of District Engineer) Kendra H. Dearth
District/Local: SWDO

DATE: November 15, 1984

1. (a) Name of entity: U.S. DOE - Mound Facility

(b) Complete address of entity: P.O. Box 66, Miamisburg, Ohio 45342

(c) Telephone number of entity: (513) 865-3597*

(d) Name(s) of responsible entity personnel: David Ingle*-Safety Manager (DOE), Charles Friedman-Environmental Manager (Monsanto), Daniel Carfagno-Supervisor, Environmental Labs (Monsanto), Richard Neff-Mgr. Operational Safety (Monsanto), Harry N. Hill-Area Mgr. (DOE)

(e) Permit (license) status: Draft NPDES permit no. 1I000005*BX sent to Central Office - 11/9/84

2. Violation Description

(a) Location of violation (be specific): Stormwater runoff picks up suspended solids from construction sites and is routed to outfalls 602 and 002.

(b) Nature of violation. Include a brief description of violation, a statement of how long or how often violation has occurred, and environmental and/or health effects of violation.

Concentration of Suspended Solids has intermittently exceeded authorized limits in current permit (1I000005*AD) since it was issued 12/6/80. In

EPA 4001

(f) Are there extenuating circumstances which explain or justify the violation? Describe.

Yes: current permit should have been modified before it expired on 6/30/84 to change limits and delete loadings. The current solids concentration limits are inappropriate for the combination of storm runoff from that type of topography, softener backwash, boiler blowdown (602) and cooling tower blowdown. Also, loading limits do not take storm flow into account. No one from USEPA has visited this site. Unfortunately, cooling waters are routed through this same system which limits the settling capabilities in the basins. Most importantly, the current discharge is having no impact on the Great Miami River.

(g) Describe any possible measures to remedy the violation.

Installation of a complete new sewer system for cooling waters and upgrade of existing storm sewer. They have installed a sluice gate at the retention basins and are planning another to increase settling time; they've also paved, sodded and put stairs in to control erosion. A closed-loop cooling system at a major source will be completed next spring and closed storm sewers are being constructed to replace open ditches in some areas.

3. Request for Enforcement Action

(a) Name and phone number of all OEPA and local agency personnel responsible for or having information on this entity or violation:

Kendra H. Dearth, IWW-SWDO (513) 461-4670

(b) What type of enforcement action do you recommend?

None for now; I think after the sluice gate and closed loop cooling system are installed, they will be able to meet the proposed permit limits.

(c) Do you recommend this violation be made public? No

ADDENDUM

TECHNICAL FEASIBILITY AND ECONOMIC REASONABLENESS DETERMINATIONS

1. TECHNICAL FEASIBILITY:

A. Does the technology exist to abate the current acts of pollution? Yes, and all feasible methods are being employed.

B. Is the technology required of a specialized or innovative type? (If so, state the type and reasons for such.) Rerouting of cooling water entails construction of a complete new sewerage system; land is not available for expansion of solids retention basins.

2. ECONOMIC REASONABLENESS:

A. Is the recommended action reasonable considering the current economic status of the entity? Yes, they are using "local" funds to install the new sluice gate and closed-loop system. More extensive construction must be approved and funded through Congress.

B. Is the recommended action of a type which has been commonly employed to abate similar problems in the area? (Describe similar actions if applicable, if not, briefly note why the recommended procedure is needed.) Usually higher limits (as in the proposed permit) are given for storm runoff discharges. Mound is employing all of the usual means to control solids.

C. Will the recommended action result in an undue economic hardship on the entity? (Explain all extenuating circumstances.) No, not unless they are forced to reroute cooling waters - in which case, they have no control over Congressional funding.

D. Should a detailed economic analysis be performed on the situation? (If yes, give the reasons for your recommendation.) No

Signed: Kendra H. Dearth Date: 11/19/84

Approved: [illegible] (Section Chief) Date: 11-19-84

EPA 4001

Ref. 35

DRAFT

11/21/84

BEFORE THE
OHIO ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:

U. S. DOE-Mound Facility P. O. Box 66 Miamisburg, Ohio 453422	: : :	Director's Final Findings and Orders

Pursuant to Section 6111.03(H) of the Ohio Revised Code, the Director of the Ohio Environmental Protection Agency hereby makes the following Findings and issues the following Orders:

FINDINGS

1. Mound is engaged in the business of producing components for DOE weapons programs, producing stable isotopes and performing research for energy-related programs at their facility in Miamisburg, Ohio.

2. Mound currently holds NPDES Permit No. 1I000005*AD, effective December 16, 1980.

3. Since 1981 Mound has been doing extensive construction work at the facility. Because of the construction activity, the suspended solids being discharged at the facility are at an elevated level. Mound has taken numerous actions to decrease the level of suspended solids during rainfall events, including installation of a diversion gate in the main drainage ditch, repairs to broken sewer lines, installation of new closed storm sewer at Post 5 area, construction projects - enforcement of silt control with silt fences, curbing, straw bales, water diversion, and covering of exposed excavation, and use of a road sweeper.

4. These actions taken by Mound are recognized by the State as a good faith effort in attempting to control construction run off. Even with all these actions having been taken, Mound is still unable when it is raining to meet on a consistent basis the TSS limit in its NPDES permit.

ORDERS

1. This entity shall attain compliance with the final effluent limitations contained in draft renewal NPDES Permit No. 1I000005*BD, as reviewed by DOE, as expeditiously as practicable, and not later than the dates set forth in the following schedule:

a. Submit written report detailing all corrective action taken to date. _____

b. Copmplete installation of sluice gate at retention bsin. _____

c. Complete installation of closed-loop cooling system at Building 28 to reduce flow to outfall 10000005002. _____

d. Submit written report concerning completion status of items b and c. _____

e. Submit progress report evaluating effectiveness of mechanisms installed to control suspended solids to the Southwest District Office. _____

f. Attain compliance with final effluent limitatins contained in draft NPDES Permit No. 1I000005*BD. _____

g. If for some reason Mound is unable to attain compliance with the final effluent limitations contained in draft NPDES Permit No. 10000005*BD by _____, the State and Mound will meet to develop further corrective actions and develop compliance dates based upon intended plans.

_____ _____

Robert H. Maynard Date
Director

WAIVER

U. S. DOE-Mound Facility hereby consents to the entry of these Findings and Orders on the Director°s Journal and hereby waives any rights it may have to appeal the issuance of these Findings and Orders, in law or in equity. U. S. DOE-Mound Facility retains all rights it may have to object to or contest any allegation of violations of said document in any administrative or judicial hearing.

_____ _____

Authorized Representaive Date

ORDERS

1. This entity shall attain compliance with the final effluent limitations contained in draft renewal NPDES Permit No. 1I000005*BD, as reviewed by DOE, as expeditiously as practicable, and not later than the dates set forth in the following schedule:

a. Submit written report detailing all corrective action taken to date. _____

b. Copmplete installation of sluice gate at retention bsin. _____

c. Complete installation of closed-loop cooling system at Building 28 to reduce flow to outfall 10000005002. _____

d. Submit written report concerning completion status of items b and c. _____

e. Submit progress report evaluating effectiveness of mechanisms installed to control suspended solids to the Southwest District Office. _____

f. Attain compliance with final effluent limitatins contained in draft NPDES Permit No. 1I000005*BD. _____

g. If for some reason Mound is unable to attain compliance with the final effluent limitations contained in draft NPDES Permit No. 10000005*BD by _____, the State and Mound will meet to develop further corrective actions and develop compliance dates based upon intended plans.

_____ _____

Robert H. Maynard Date
Director

WAIVER

U. S. DOE-Mound Facility hereby consents to the entry of these Findings and Orders on the Director°s Journal and hereby waives any rights it may have to appeal the issuance of these Findings and Orders, in law or in equity. U. S. DOE-Mound Facility retains all rights it may have to object to or contest any allegation of violations of said document in any administrative or judicial hearing.

_____ _____

Authorized Representaive Date

Ref. 36

INTER-OFFICE COMMUNICATION

TO Robert H. Maynard, Director DATE November 21, 1984

FROM: Kendra H. Dearth through James C. Simpson, DWPC-SWDO

SUBJECT: U.S. DOE-Mound Facility

The Mound Facility, located in Miamisburg, Ohio, produces components for DOE weapons programs, produces stable isotopes and performs research for energy-related programs. This entity discharges process, cooling, and sanitary wastewater, as well as storm runoff to the Great Miami River under NPDES permit #1I000005*AD. When this permit expired on June 30, 1984, Mound applied for a renewal permit; a draft permit renewal was sent to Central Office on November 9, 1984.

This facility has intermittently exceeded the suspended solids limitations for outfalls 602 and 002 since the permit was issued December 16, 1980. During the past year, the violation frequency has increased due to extensive construction at the site. Although they have implemented numerous measures to control solids in storm runoff, they have been unable to meet what we consider to be inappropriate limits. Mound requested a modification of limits at 602 in 1977 and again in 1979, yet the USEPA did not incorporate this change and in fact, never even visited the site to evaluate the necessity of this action. Unfortunately, I failed to issue a modification before their existing permit expired; since the effluent quality was (and is) having no impact on the Great Miami River, I did not give the situation the priority perhaps I should have. The permit renewal I recently drafted includes the standard 30/45 mg/l concentrations and deletes loadings.

I feel the issuance of Findings and Orders will best serve our purpose in bringing Mound into compliance with the limitations contained in the draft permit. Referral to the A.G.'s Office would not accomplish this in a timely manner, if at all.

dkp

sent to Mike Savage 11/21/84

FORM GEN 1001

BEFORE THE
OHIO ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:

U.S. DOE - Mound Facility P.O. Box 66 Miamisburg, Ohio 45342	: : :	Director's Final Findings and Orders

Pursuant to Section 6111.03(H) of the Ohio Revised Code, the Director of the Ohio Environmental Protection Agency hereby makes the following Findings and issues the following Orders:

FINDINGS

1. Mound is engaged in the business of producing components for DOE weapons programs, producing stable isotopes and performing research for energy-related programs at their facility in Miamisburg, Ohio.

2. Due to the storm sewer system design, natural topography, and the extensive construction activity at the site, suspended solids are discharged to the Great Miami River in elevated concentrations.

3. Mound currently holds NPDES Permit No. 1I000005*AD, effective December 16, 1980.

4. This entity discharges total suspended solids to the Great Miami River in excess of that authorized by NPDES Permit No. 1I000005*AD, in violation of Section 6111.04, Ohio Revised Code.

5. A draft NPDES Permit No. 1I000005*BD was sent to Public Notice on _____.

6. This entity has implemented numerous control techniques to retain solids at each construction site.

7. It is necessary to require Mound to comply with all applicable environmental laws and regulations in order to safeguard the public health, safety, welfare, comfort and convenience.

8. It is technically feasible and economically reasonable to require Mound to comply with the Orders set forth below:

ORDERS

1. This entity shall attain compliance with the final effluent limitations contained in NPDES Permit No. 1I000005*BD as expeditiously as practicable, and not later than the dates set forth in the following schedule:

a.	Submit written report detailing all corrective action taken to date.	12/14/84
b.	Submit written progress report on installation of closed-loop cooling system at Buildings 60 and 28 to reduce flow to outfall 1I000005002.	2/1/85
c.	Complete installation of closed-loop cooling system.	3/15/85
d.	Submit written progress report on installation of sluice gate at retention basin.	4/1/85
e.	Complete installation of sluice gate.	5/15/85
f.	Submit progress report evaluating the effectiveness of mechanisms installed thus far to control suspended solids.	7/1/85
g.	Attain compliance with the final effluent limitations contained in NPDES Permit No. 1I000005*BD, or submit a Permit to Install application and three sets of detail plans for new construction and/or any remedial measures designed to meet these limitations. This submittal must include a compliance schedule subject to agency approval.	8/1/85

2. Reports and plans shall be sent to the Southwest District Office by the dates indicated.

Robert H. Maynard
Director

Date

WAIVER

U.S. DOE - Mound Facility hereby consents to the entry of these Findings and Orders on the Director's Journal and hereby waives any rights it may have to appeal the issuance of these Findings and Orders, in law or in equity.

Authorized Representative

Date

05-57-0677

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

Ref. 37

Mr. Tom Crepeau
Permits and Manifests Records Section
Division of Hazardous Materials Management
Ohio Environmental Protection Agency
361 E. Broad Street
Columbus, Ohio 43215

Dear Mr. Crepeau:

In response to a request from the Southwest District Office, Ohio EPA, we are submitting a revised RCRA Part A permit application. Included is a check payable to the Treasurer of the State of Ohio to cover required application fee.

Mound is currently operating under interim status on the basis of its submissionto the USEPA, Region V, of a Notification of Hazardous Waste Activity and a RCRA permit application on November 18, 1980. Compared to the 1980 application, this revised application contains updated and new information that describes current hazardous waste management at Mound.

If you have any questions, please contact D. S. Ingle, DAO Safety Manager, AC (513) 865-3597.

Sincerely,

Harry N Hill

Harry N Hill
Area Manager

Attachments: as stated

cc: David P. Duell, Ohio EPA/Dayton, w/cy
R. J. Janowiecki, MRC, w/o cy
R. A. Neff, MRC, w/o cy
A. S. Riser, ES&HD/AL, w/cy

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OHIO EPA
NOV 28 1984
DIV. of SOLID & HAZ. WASTE MGT.

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F O H 6 8 9 0 0 0 8 9 8 4

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

05-57-0677

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill—in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all Items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold—faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)		X	
C. Is this a facility which currently results in **discharges to waters of the U.S.** other than those described in A or B above? (FORM 2C)	X		
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)	X		
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)		X	
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)		X	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP U N I T E D S T A T E S D E P T O F E N E R G Y M O U N D

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*: 2 H I L L H A R R Y M A N A G E R D A O

B. PHONE *(area code & no.)*: 5 1 3 8 6 5 3 2 7 1

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX: 3 P O B O X 6 6

B. CITY OR TOWN: 4 M I A M I S B U R G

C. STATE: O H

D. ZIP CODE: 4 5 3 4 2

RECEIVED

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: 5 M O U N D R O A D

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DIV. of SOLID & HAZ. WASTE MGT.

B. COUNTY NAME: M O N T G O M E R Y

C. CITY OR TOWN: 6 M I A M I S B U R G

D. STATE: O H

E. ZIP CODE: 4 5 3 4 2

F. COUNTY CODE *(if known)*: 0 5 7

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
C 7 9711 (specify) NATIONAL SECURITY	C 7 (specify)
C. THIRD	**D. FOURTH**
C 7 (specify)	C 7 (specify)

VIII. OPERATOR INFORMATION

A. NAME: C 8 MONSANTO RESEARCH CORPORATION

B. Is the name listed in Item VIII-A also the owner? ☐ YES ☒ NO (66)

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC (other than federal or state)
O = OTHER (specify)

P (56) (specify)

D. PHONE (area code & no.): C A 513 865 4020

E. STREET OR P.O. BOX: POBOX 32

F. CITY OR TOWN: C B MIAMISBURG

G. STATE: OH

H. ZIP CODE: 45342

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO (52)

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): C 9 T N I OH0009857	**D. PSD** (Air Emissions from Proposed Sources): C 9 T P I
B. UIC (Underground Injection of Fluids): C 9 T U I	**E. OTHER** (specify): C 9 T I (specify)
C. RCRA (Hazardous Wastes): C 9 T R I	**E. OTHER** (specify): C 9 T I (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

Mound is an integrated research, development, and production facility performing work in support of Department of Energy weapons and energy programs, with emphasis on explosives and nuclear technology

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
Harry N Hill Manager DOE, Dayton Area Office	Harry N Hill	11-27-84

COMMENTS FOR OFFICIAL USE ONLY

C

SECTION XI - MAP

The topographic map in Figure 1 shows the boundary of Mound and the area beyond the property. The map was prepared from the U.S. Geological Survey Maps for Miamisburg, Ohio and Franklin, Ohio. The map includes the Great Miami River, which is located west of Mound, flows south, and is the major water supply in the vicinity of the site. Recently acquired acreage to the south of the original site is shown in Figure 2.

Liquid release points and offsite water sampling locations are shown in Figure 3 and Figure 4, which include water wells located near the facility.

Hazardous waste management facilities are shown in Figure 5.

No fluids are injected underground at this site.

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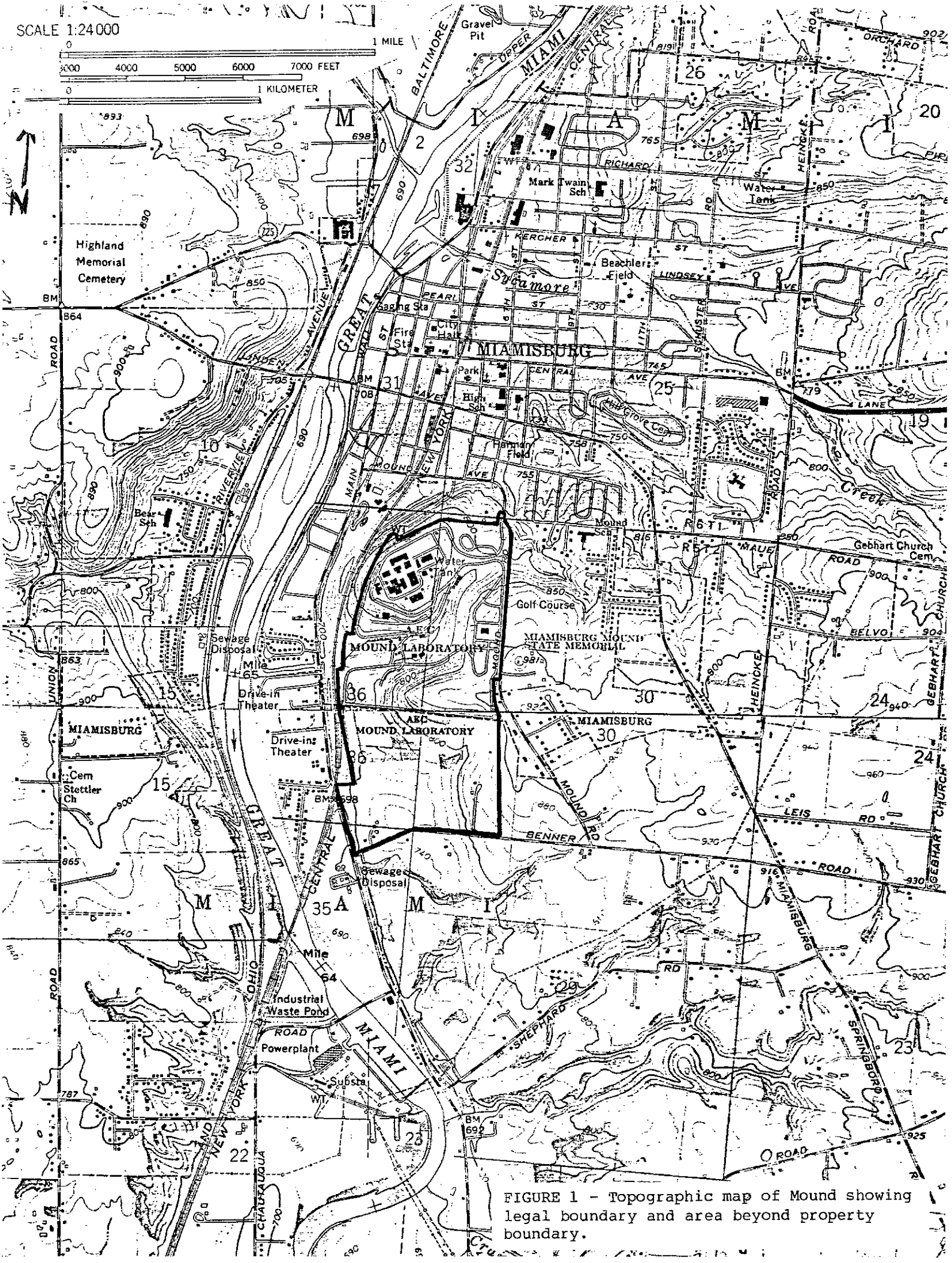

FIGURE 1 - Topographic map of Mound showing legal boundary and area beyond property boundary.

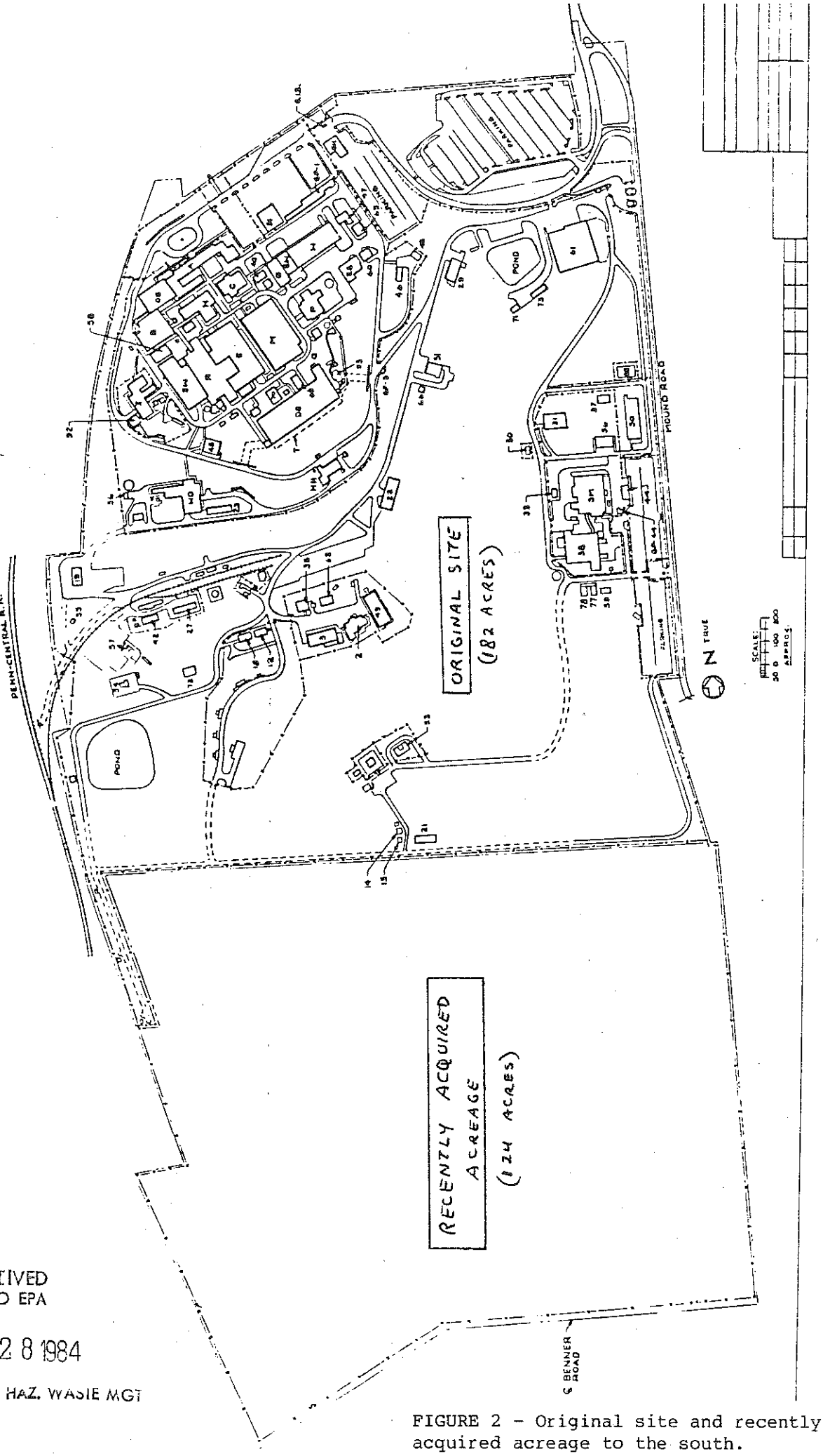

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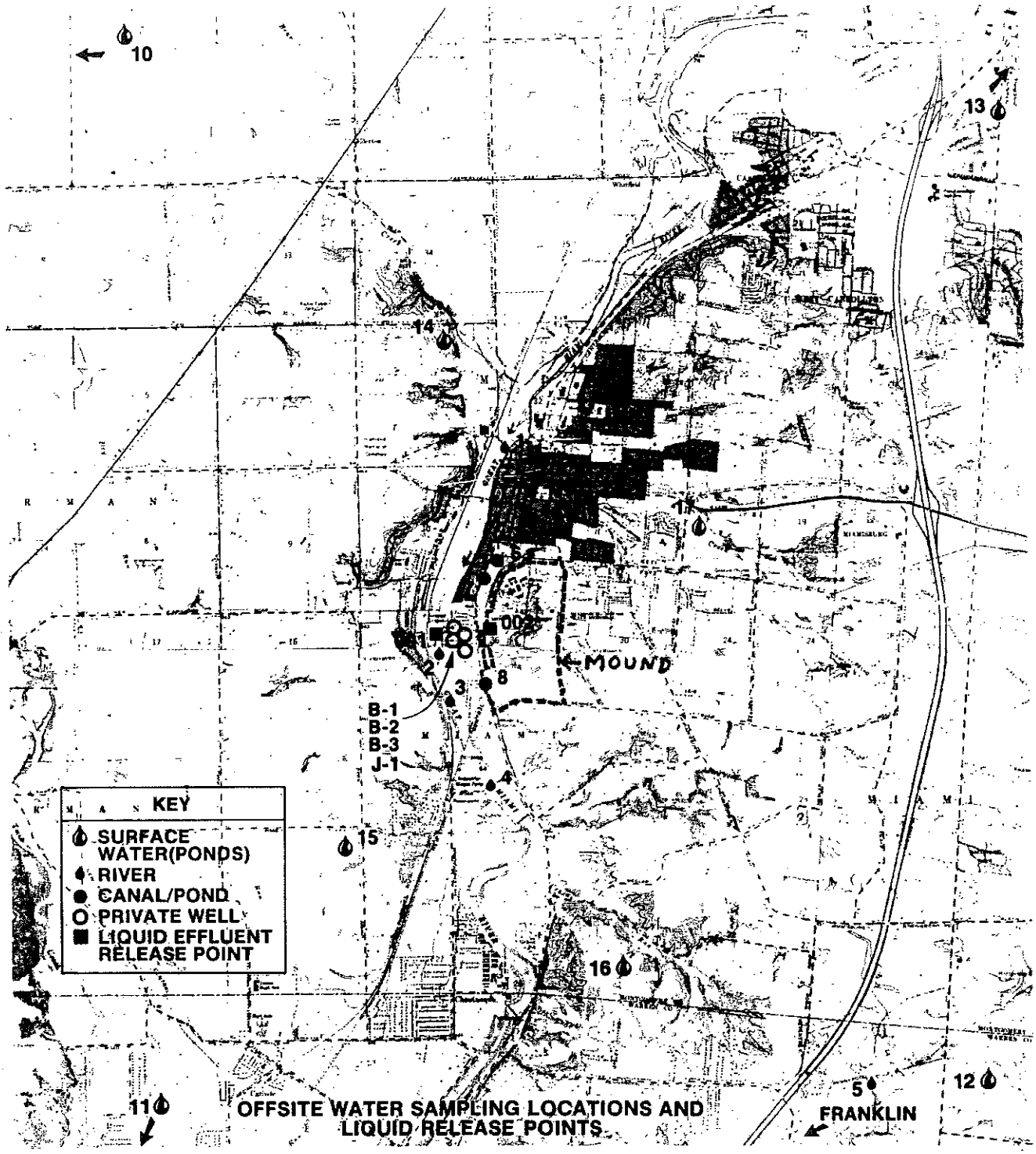
FIGURE 2 - Original site and recently acquired acreage to the south.



OVERLAY FOR BASE 2, MOUND

BASE 2

MAP COORDINATES
39° 37' 55"N, 84° 17' 15"W
(PLANT LOCATION)

(FROM ENVIRONMENTAL MONITORING REPORTS)
MOUND FACILITY AND VICINITY

N

METERS
0 500 1000 1500 2000 2500
0 2000 4000 6000 8000
FEET

PREPARED IN 1978
PREPARED IN 1976
FOR DOE
BY EG&G
(MAP DATED 1965)

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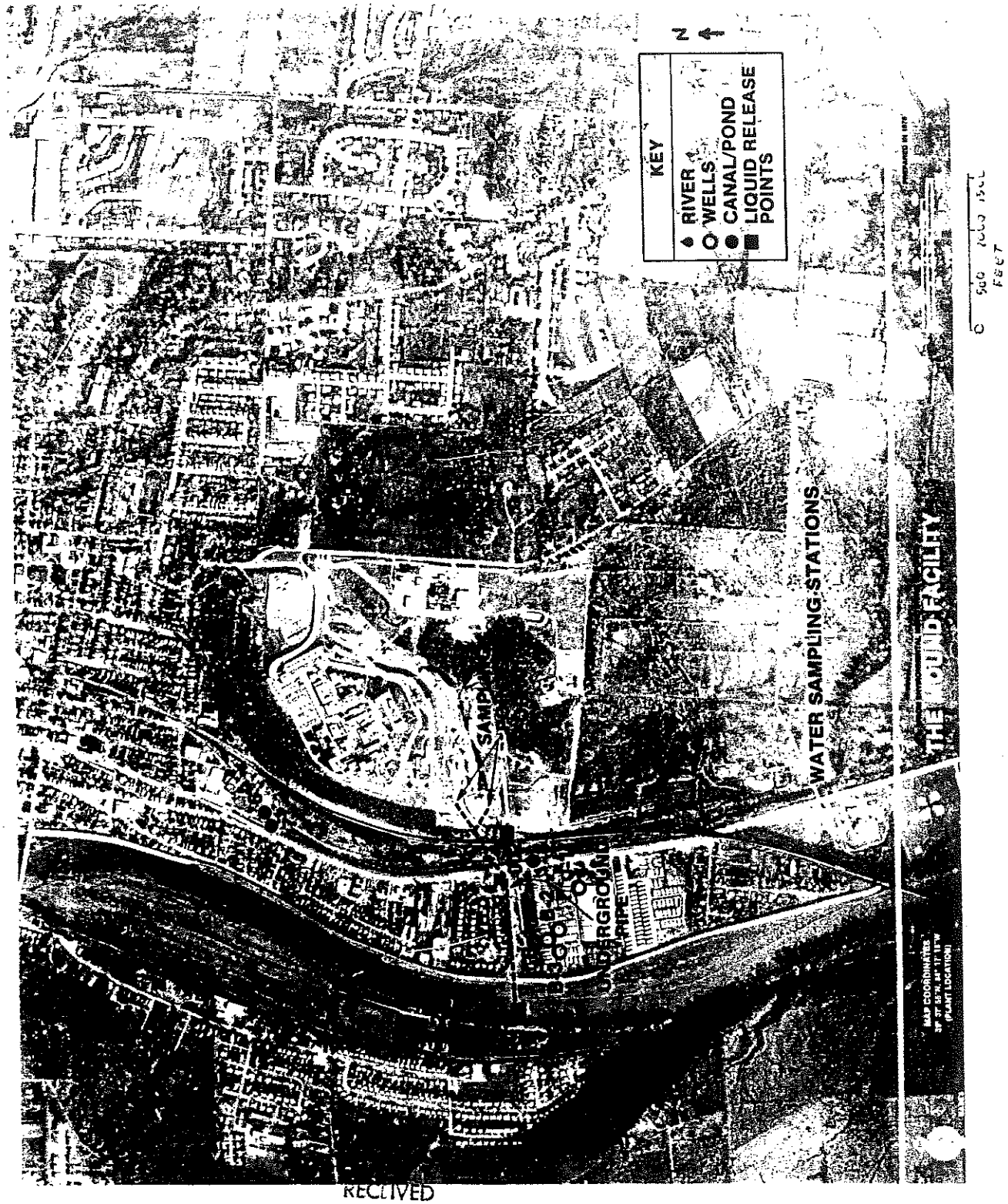
FIGURE 3 - Liquid release points and offsite water sampling locations.



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OHIO EPA

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DIV. of SOLID & HAZ. WASTE MGT

FIGURE 4 - Water sampling stations, wells, and liquid release points.

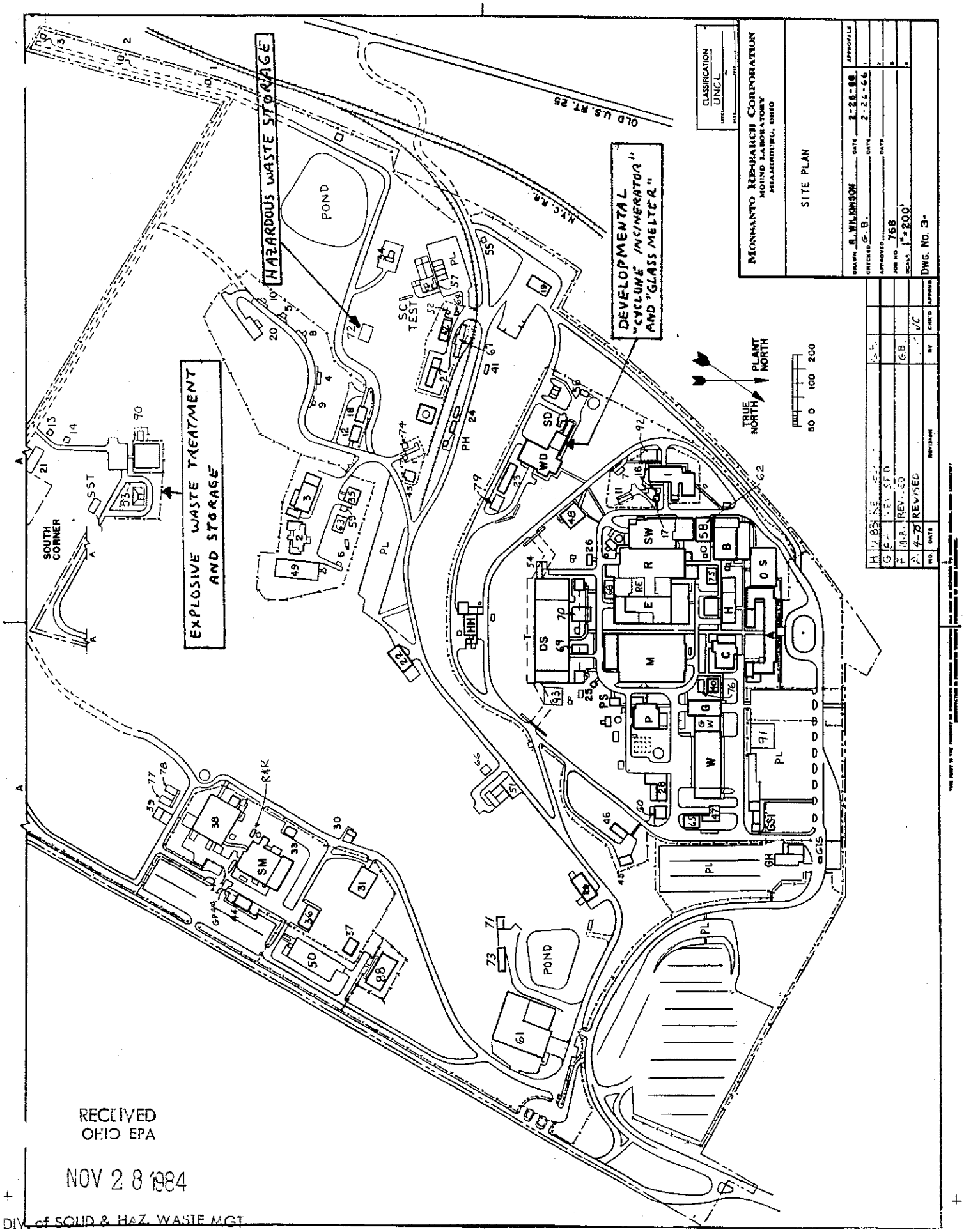

FIGURE 5 - Hazardous Waste Management Facilities.

Fill-in areas are spaced for elite type, i.e., 12 characters/inch).

FORM 3 RCRA

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

Form Approved OMB No. 158-S80004

I. EPA I.D. NUMBER

S F O H 6 8 9 0 0 0 8 9 8 4 T/A

1 2 13 14

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APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS
23	24 29	

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[ ] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)* 71

C 8 15 — YR. 73 74 — MO. 75 76 — DAY 77 78 — FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

[ ] 2. NEW FACILITY *(Complete item below.)* 71

YR. 73 74 — MO. 75 76 — DAY 77 78 — FOR NEW FACILITIES PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[X] 1. FACILITY HAS INTERIM STATUS 72

[ ] 2. FACILITY HAS A RCRA PERMIT 72

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code*(s)* in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

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UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U

UNIT OF MEASURE	UNIT OF MEASURE CODE
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H

UNIT OF MEASURE	UNIT OF MEASURE CODE
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

S C — DUP — T/A — C I

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	S 0 1	38,500	G		7				
2	T 0 3	(See III.C)			8				
3	T 0 4	(See III.C)			9				
4					10				

CONTINUE ON REVERSE

Continued from the front.

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

Code S01: Form 3 submitted in Nov. 1980 showed 19,250 gallons, which was based on a single stacking of drums. Head space and other facility features allow stacking drums two-high, which would be done only if necessary and with appropriate provisions for drum inspecti. Hence, maximum storage capacity of existing facility is 38,500 gallons.

Code T03: Explosives are treated in an "incinerator" on an occasional as-needed basis; estimated annual quantity: 300 pounds; process capacity: 12 pounds/burn.

A "cyclone incinerator" and a "glass melter" are developmental units available for hazardous waste treatment, but not presently used for that purpose. The incinerator includes a single-stage cyclonic combustion chamber, a wet off-gas treatment system, and a high-efficiency filter. The glass melter includes a refractory chamber with molten glass over which waste is burned, a wet off-gas treatment system, and a high efficiency filter. Each unit has a design capacity of 50 pounds/hour of dry solid waste.

Code T04: "Open Burning" of explosive-contaminated waste is conducted on an occasional as-needed basis; estimated annual quantity: 1000 pounds; process capacity: 40 pounds/day.
Detonators and pellets are treated in a "retort" (propane-fired kiln) on occasional as-needed basis; estimated annual quantity: 2000 pounds; process capacity: 0.33 pound/30 seconds.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. **EPA HAZARDOUS WASTE NUMBER** – Enter the four–digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four–digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. **ESTIMATED ANNUAL QUANTITY** – For each **listed waste** entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each **characteristic** or **toxic contaminant** entered in column A estimate the total annual quantity of all the non–listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. **UNIT OF MEASURE** – For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. **PROCESSES**

1. PROCESS CODES:
   For listed hazardous waste: For each **listed** hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non–listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate **all** the processes that will be used to store, treat, and/or dispose of all the non–listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER – Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* – A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non–listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

 CONTINUE ON PAGE 3

Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER *(enter from page 1)*: W 0 H 4 8 9 0 0 0 8 9 8 4 T/A C 1

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IV. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D001	66,000	P	S01	
2	F001				Included with above
3	F003				Included with above
4	F005				Included with above
5	D002	18,000	P	S01	
6	F007				Included with above
7	F009				Included with above
8	D003	4,000	P	T04	Also T03
9	D004	300	P	S01	
10	D005	300	P	S01	
11	D006	1,500	P	S01	
12	D007	500	P	S01	
13	D008	2,000	P	S01	
14	D009	12,000	P	S01	
15	D010	100	P	S01	
16	D011	20,000	P	S01	
17	F002	15,000	P	S01	
18	F003	20,000	P	S01	
19	F004	300	P	S01	
20	F005	5,000	P	S01	
21	F007	1,000	P	S01	
22	F008	1,000	P	S01	
23	F009	1,000	P	S01	
24	U158	1,500	P	S01	
25		50,000	P	S01	Periodic lab waste, primarily having D001,D002,D003,& EP toxicity characteristics,but also including listed wastes in small quantities depending on program requirements
26					

EPA Form 3510-3 (6-80)

CONTINUE ON REVERSE

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

Various programs are conducted at this site for the Department of Energy. The chemica used and the wastes generated are not always the same and cannot be accurately predictea. The hazardous wastes described herein represent our best estimate of the materials and quantities that could be generated at this site during the next year.

EPA I.D. NO. *(enter from page 1)*

S F O H 6 8 9 0 0 0 8 9 3 4 T/A C 6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground—level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).*

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
39 37 55 N	84 17 15 W

VIII. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*
S E United States Department of Energy, Mound	513-865-3271

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
C F P. O. Box 66	C G Miamisburg	OH	45342

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
Harry N Hill Manager, DOE, Dayton Area Office	Harry N Hill	11-27-84

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
Wylie B. Hogeman President, Monsanto Research Corp. Director, Mound	WB Hogeman	11/26/84

 CONTINUE ON PAGE 5

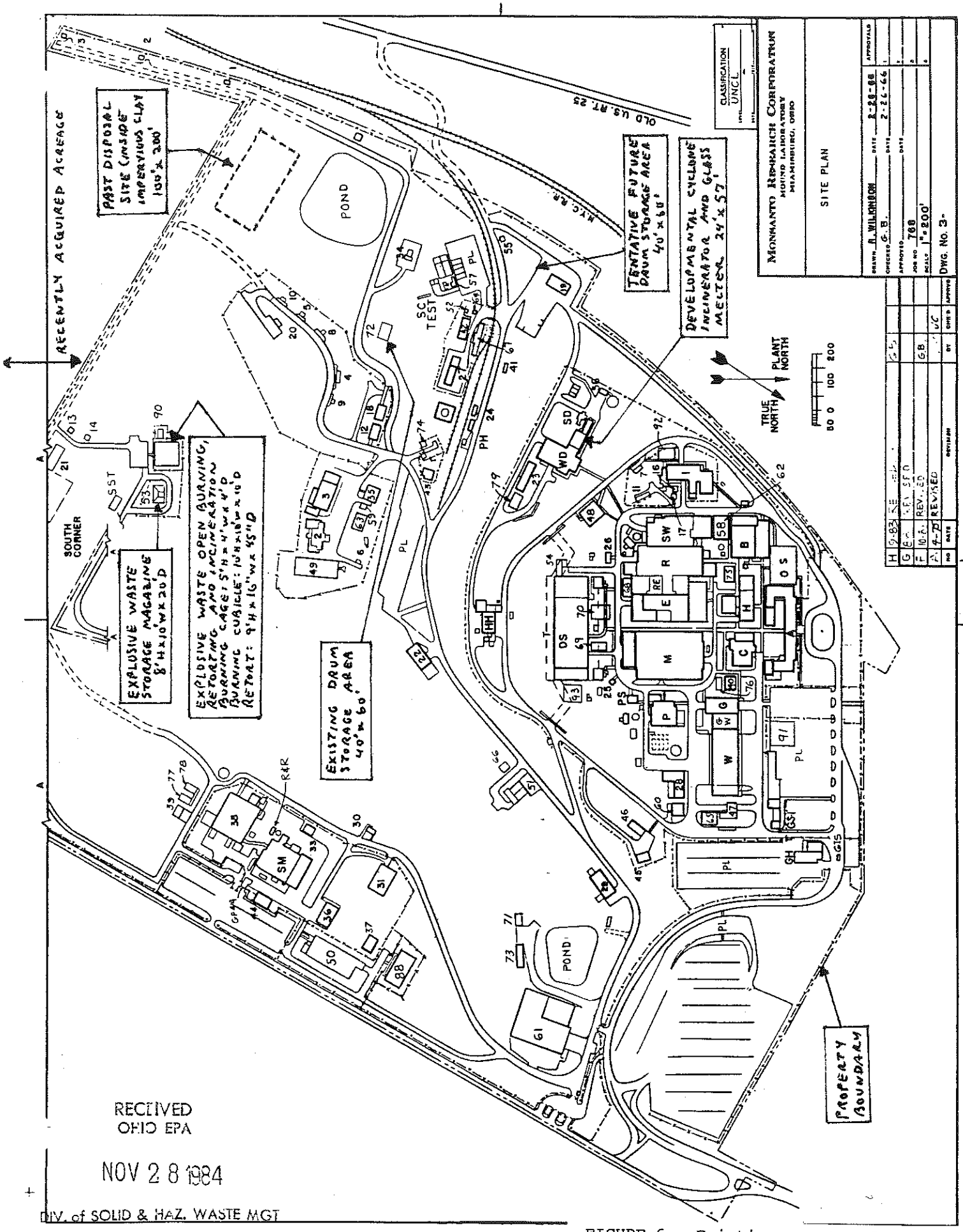

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FIGURE 6 - Existing, past and tentative future areas for hazardous waste storage treatment and disposal

FIGURE 7 - Photograph of hazardous waste container storage facility

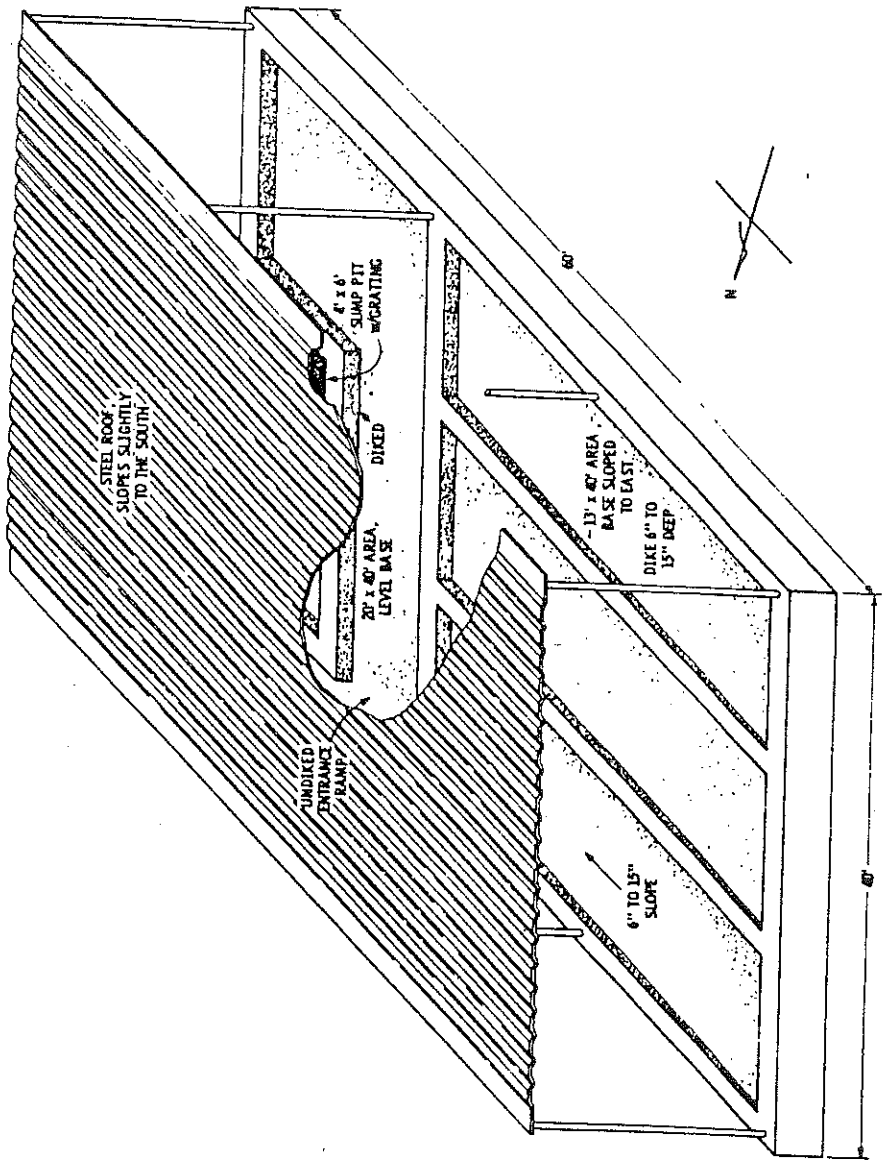

FIGURE 8 - Schematic diagram of existing hazardous waste container storage facility

Ref. 3B

Ohio EPA

Re: NPDES Permit 1I000005

Mr. Harry N. Hill
D.O.E.-Mound Facility
P.O. Box 66
Miamisburg, Ohio 45342

December 11, 1984

Dear Mr. Hill:

We are in receipt of your latest Self-Monitoring Report covering the month of October for the above-captioned facility. Our review indicates violations of NPDES permit conditions which are summarized below:

Outfall	Parameter	Date	Reported	Limts
002	Suspended Solids	10/23(max)	57.0 mg/1	30 mg/1
002	Suspended Solids	10/23(max)	142.6 kg/day	91 kg/day
002	Suspended Solids	Average	26.4 mg/1	15 mg/1
002	Suspended Solids	Average	66.9 kg/day	34 kg/day
602	Suspended Solids	10/26(max)	177 mg/1	30 mg/1
602	Suspended Solids	9/7(max)	60.4 kg/day	11.4 kg/day
602	Suspended Solids	Average	31.3 mg/1	20 mg/1
602	Suspended Solids	Average	16.3 kg/day	7.6 kg/day

Please be advised that failure to comply with the limitations of effluent characteristics, as well as the monitoring and reporting requirements specified in your NPDES permit, may be cause for enforcement action pursuant to the Ohio Revised Code, Chapter 6111.

I have received your letters of October 10 and 30, and December 3; no written response is required at this time.

As you are aware, I have met with facility representatives to negotiate the draft permit renewal and Findings and Orders and am awaiting Central Office review.

Southwest District Office
7 East Fourth Street, Dayton, Ohio 45402-2086
(513) 461-4670

Richard F. Celeste, Governor
Robert H. Maynard, Director

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

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Environmental Protection Agency
Southwest District Office

DEC 04 1984

Mr. James Simpson
Ohio Environmental Protection Agency
Southwest District Office
7 E. 4th Street
Dayton, Ohio 45402

Dear Mr. Simpson:

EXCEPTIONS TO MOUND PLANT NPDES PERMIT NO. OH 0009857

Our contractor has informed us that one of our effluent samples exceeded permit limits on the following dates:

Date	Parameter	Effluent Stream	Measured	Permit Limits
11-27-84	Suspended Solids	001B	42.7 mg/l	30. mg/l
11-30-84	Suspended Solids	001B	32.3 mg/l	30. mg/l

The most likely cause for these exceptions is pumping water from excavations at construction sites.

It is our opinion that no adverse impact on the water quality of the Great Miami River resulted from these exceptions.

Sincerely,

for Harry N Hill
Area Manager

cc: C. E. Garcia, ES&HD/AL
D. E. Patterson, DOE/Hqs.
C. S. Friedman, MRC

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

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Environmental Protection Agency
Section of Water Quality

Ms. Sandra Turner, Manager
Permit and Compliance Program Section
Ohio Environmental Protection Agency
P. O. Box 1049
Columbus, Ohio 43216

Dear Ms. Turner:

Attached are copies of Mound's NPDES reports for October 1984.

As previously reported, maximum limits for suspended solids were exceeded three times. The maximum limits were exceeded once at effluent 001B and twice at 002.

Suspended solids exceptions at discharge 002 are the result of storm runoff from 1.2 inches of rain. The exception at discharge 001B was caused by ground water pumped from a construction excavation. In addition, the suspended solids monthly average limits were exceeded for discharge 001B and 002 (mg/l and kg/day).

It is our opinion that no adverse impact on the water quality of the Great Miami River resulted from these exceptions.

Sincerely,

ORIGINAL SIGNED BY
G. R. Gartrell for
Harry N Hill
Area Manager

Attachments: 6 sets

cc: J. Simpson, Ohio EPA/Dayton, w/cys
C. Garcia, DOE/AL, w/cys
D. Patterson, DOE/Hqs, w/cys

Ref. 39

KHD dd

INTER-OFFICE COMMUNICATION

TO Robert H. Maynard, Director, thru Paul Flanigan, Acting Deputy Director DATE DEC 13 1984

FROM: Jennifer Tiell, Staff Attorney

SUBJECT: Final Findings and Orders to be Issued U.S. Department of Energy for the DOE Mound Facility, Miamisburg, Ohio

Attached for your approval are the above-referenced administrative enforcement orders which DWPC proposes to issue to secure eventual compliance with draft NPDES permit 1I000005*BD, a renewal permit. The renewal permit is scheduled to be issued at the end of December, 1984, and we wish to secure DOE's signature on the Waiver, your signature, and thereafter issue the Orders with the renewed permit.

The Mound Facility produces detonators for nuclear warheads and engages in other energy-related programs. It discharges process, cooling, and sanitary wastewater to the Great Miami River, as well as stormwater runoff.

The stormwater runoff is the cause of most of Mound's incidents of noncompliance with the suspended solids limitations in the expired permit. Mound has intermittently exceeded these limits at outfalls 602 and 002 since the expired permit was first issued in 1980. During the last year, violations have become more frequent due to extensive construction activity. Ohio EPA was authorized to act with respect to federal facilities until late in 1983 and prior to that time USEPA failed to undertake any actions to inspect the site, or evaluate DOE's request for an NPDES modification.

The NPDES permit which Ohio EPA proposes to renew will change the suspended solids limits at outfalls 002 and 602, and, more important, delete the loadings requirement at these outfalls. The current solids concentration limits are inappropriate for the combination of storm runoff from the area topography, softener backwash, boiler blowdown and cooling tower blowdown. The loading limits do not take stormwater flow into account in the expired permit.

The Findings and Orders require DOE to install a completely new closed loop cooling system and to upgrade the existing storm sewers. They have installed a sluice gate at the retention basins and the Order recognize this installation. Plans and a PTI application must be submitted for another sluice gate if more remedial measures are needed for compliance.

The attached Orders have been reviewed and approved by DOE. With your approval, we will submit the document to DOE for signature on the Waiver and return to you for signature.

these will be changed to delete mention of BD and use "attached draft" instead. also change report date to 1/15/85

cc: Andy Turner
Bob Phelps
Matt Tin
Mike Savage
Tom Winston, SWDO
Kendra Dearth, SWDO
Al Franks, PIC

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Environmental Protection Agency
SOUTHWEST DISTRICT

FORM GEN 1001

BEFORE THE

OHIO ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:

United States Department of Energy Mound Facility P.O. Box 66 Miamisburg, Ohio 45342	:	Director's Final Findings and Orders

Pursuant to Section 6111.03(H) of the Ohio Revised Code, the Director of the Ohio Environmental Protection Agency hereby makes the following Findings and issues the following Orders:

FINDINGS

1. The United States government's Department of Energy (hereinafter "DOE") is engaged in the business of producing components for DOE weapons programs, producing stable isotopes and performing research for energy-related programs at their Mound facility in Miamisburg, Ohio (hereinafter "Mound").

2. DOE currently holds NPDES Permit No. 1I000005*AD, effective from December 16, 1980 until the date of expiration on June 30, 1984. DOE timely applied to renew the NPDES Permit.

3. Due to the storm sewer system design, natural topography, and the extensive construction activity at the site, suspended solids are discharged to the Great Miami River in elevated concentrations by DOE.

4. DOE discharges total suspended solids to the Great Miami River in excess of that authorized by NPDES Permit No. 1I000005*AD, in violation of Section 6111.04 of the Ohio Revised Code.

5. A draft renewal of NPDES Permit No. 1I000005*BD was sent to Public Notice on _____.

6. DOE has implemented numerous control techniques to retain solids at each construction site.

7. ~~It is necessary to require~~ DOE agrees DOE to comply with all applicable environmental laws and regulations in order to safeguard the public health, safety, welfare, comfort and convenience.

8. It is technically feasible and economically reasonable to require DOE to comply with the Orders set forth below:

ORDERS

1. DOE shall attain compliance with the final effluent limitations contained in NPDES Permit No. 1I000005*BD as expeditiously as practicable, and not later than the dates set forth in the following schedule:

a.	Submit written report detailing all corrective action taken to date.	12/14/84
b.	Submit written progress report on installation of closed-loop cooling system at Buildings 60 and 28 to reduce flow to outfall 1I000005002.	2/01/85
c.	Complete installation of closed-loop cooling system.	3/15/85
d.	Submit written progress report on installation of sluice gate at retention basin.	4/01/85
e.	Complete installation of sluice gate.	5/15/85
f.	Submit progress report evaluating the effectiveness of mechanisms installed thus far to control suspended solids.	7/01/85
g.	Attain compliance with the final effluent limitations contained in NPDES Permit No. 1I000005*BD, or submit a Permit to Install application and three sets of detail plans for new construction and/or any remedial measures designed to meet these limitations. This submittal must include a compliance schedule subject to agency approval.	8/01/85

2. Reports and plans shall be sent to the Southwest District Office of Ohio EPA by the dates indicated.

Robert H. Maynard
Director

Date

WAIVER

United States Department of Energy - Mound Facility hereby consents to the entry of these Findings and Orders on the Director's Journal and hereby waives any rights it may have to appeal the issuance of these Findings and Orders, in law or in equity.

Authorized Representative

Date

Ref. 40

Robert Maynard
USDOE

Natural Resources Defense Council, Inc.

1350 NEW YORK AVENUE, N.W.
SUITE 300
WASHINGTON, D.C. 20005
202-783-7800

New York Office
122 EAST 42ND STREET
NEW YORK, N.Y. 10168
212 949-0049

Western Office
25 KEARNY STREET
SAN FRANCISCO, CALIF. 94108
415 421-6561

January 3, 1985

REGISTERED MAIL

Donald P. Hodel, Secretary
United States Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585

Wylie B. Hogeman, Director
Monsanto Mound Facility
P.O. Box 66
Miamisburg, Ohio 45342

JAN 9 1985

NOTICE OF INTENT TO FILE SUIT FOR
HAZARDOUS WASTE VIOLATIONS

Pursuant to Section 7002 of the Resource Conservation and Recovery Act, 42 U.S.C. §6972, you are hereby notified that the Natural Resources Defense Council (NRDC), on behalf of its members, intends to file suit against the United States Secretary and Department of Energy, Monsanto Research Corporation, and Monsanto Company, the persons responsible for violations of federal hazardous waste laws at the Mound Facility on Mound Road near Miamisburg, Ohio.

For your convenience, NRDC has set forth below the activities at the Mound Facility constituting these violations of law, the specific statutes and regulations violated by these activities, and the dates of these violations to the extent the dates are known.

1. 40 Code of Federal Regulations (C.F.R.) 270.10; 40 C.F.R. 270.1.

   Operation of the Mound Facility without a hazardous waste permit from November 19, 1980 to the present.

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Public Lands Institute: 1720 RACE STREET • DENVER, CO. 80206 • 303 377-9740

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2. 40 C.F.R. 264.35; 40 C.F.R. 265.35.

For an unknown period of time, but at least on December 2, 1983, failure to maintain aisle space between drums of hazardous waste adequate to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment.

3. 40 C.F.R. 264.51(a); 40 C.F.R. 265.51(a).; 40 C.F.R. 265.52.

From April 15, 1981 to the present, failure to have a contingency plan for the Mound Facility and failure to have a contingency plan which contains all of the contents required by 40 C.F.R. 264.52 and 40 C.F.R. 265.52.

4. 40 C.F.R. 264.53; 40 C.F.R. 265.53.

From April 15, 1981 to the present, failure to submit a copy of a contingency plan to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.

5. 40 C.F.R. 264.112(a)(4); 40 C.F.R. 265.112(a)(4).

From April 15, 1981 to an unknown date, failure to have a written closure plan which includes the expected year of closure and a schedule for final closure as required by these regulations.

6. 40 C.F.R. 270.10(e).

Failure to timely file Part A of hazardous waste permit applications.

7. 40 C.F.R. 270.11.

Failure to sign Part A of the applications for hazardous waste permits.

8. 40 C.F.R. 270.10; 270.13.

From April 9, 1981 to the present, failure to complete, sign, and submit hazardous waste permit applications as required by 40 C.F.R. 270.10 and 270.13.

9. 40 C.F.R. 270.13(i) and (j).

Failure to include in Part A of the hazardous waste permit applications all of the information required by the subparts of these rules.

10. 42 U.S.C. §6964.

The Secretary and Department of Energy have failed to insure compliance by Monsanto Research Corporation and Monsanto Company with the guidelines and purposes of the Resource Conservation and Recovery Act (i.e., 42 U.S.C. §§6901 et seq.), resulting in the violations listed in paragraphs 1 through 9 above.

Because the violations listed in paragraphs 1 through 10 are continuing, the lawsuit will incorporate the days of these violations occurring after the mailing of this notice.

Respectfully submitted,

Barbara A. Finamore
S. Jacob Scherr
Natural Resources Defense Council
1350 New York Avenue N.W., Suite 300
Washington, D.C. 20005
(202) 783-7800

Jane Bloom
Natural Resources Defense Council
122 East 42nd Street, 45th Floor
New York, New York 10168
(212) 949-0049

Attorneys for Natural Resources Defense Council

cc: Robert H. Maynard, Director, Ohio Environmental Protection Agency
William D. Ruckelshaus, Administrator, United States Environmental Protection Agency
Valdus Adamkus, Regional Administrator, Region V, United States Environmental Protection Agency
William French Smith, Attorney General of the United States
CT Corporation System, registered agent, Monsanto Research Corporation and Monsanto Company

Ref. 41

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OHIO EPA

JAN 24 1985

DIV. of SOLID & HAZ. WASTE MGT.

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

January 18, 1985

Mr. Tom Crepeau
Permits and Manifest Records Section
Division of Hazardous Materials Management
Ohio Environmental Protection Agency
361 E. Broad Street
Columbus, Ohio 43215

Dear Mr. Crepeau:

To provide space for new construction needed for a current DOE program we find it necessary to relocate our hazardous waste storage facility to another area on our site property. We expect to construct during 1985 a new storage facility equivalent in size to our existing unit. We plan to close the existing facility in accordance with the enclosed Closure Plan which is submitted for your review and approval. Your assistance in identifying the appropriate statutes and regulations that describe the compliance requirements for the construction and operation of the relocated facility will be appreciated.

Our present storage facility has been in use only since 1982 and we have observed no evidence of contamination of the structural materials. For these reasons we do not anticipate an extensive decontamination effort. However, we will complete any work necessary to achieve the stated performance standards.

Briefly stated, we will dismantle the structural steel and roof, and break up the concrete slab, which will be used for on-site landfill if no contamination is found during dismantling. A new concrete pad, having the same overall dimensions as the present facility, will be poured at the new location. The structural steel and roofing from the current facility will be installed on the new concrete pad. Side panels and floor grading will be added.

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Environmental ...
Southwest Dist. ...

Because we are relocating our waste storage facility and not phasing out the waste storage activity at this site, and because we must proceed soon with the construction of a new building at the site of our current storage facility, we must request your expeditious approval of our Closure Plan so that dismantling of the present facility can proceed promptly.

Due to the urgency of relocating this structure and since the construction of the relocated facility is of the same type, size, etc., we ask your consideration in waiving the need for a six-month notification/waiting period, local newspaper notification and public hearing. This request has been previously coordinated with Mr. Don Marshall, Southwest District Office, Ohio EPA.

We sincerely appreciate your cooperation in helping this facility respond in a timely manner to essential DOE program requirements. If you have any questions, please contact D. S. Ingle, DAO Safety Manager at (513) 865-3597.

Sincerely,

for R. M. Manson

Harry N Hill
Area Manager

Attachments: 2 cys Closure Plan

cc: D. Marshall, OEPA, w/cy
R. K. Blauvelt, MRC, w/o cy
R. A. Neff, MRC, w/o cy

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Environmental Protection Agency
SOUTHWEST DISTRICT

CLOSURE PLAN FOR BUILDING 72 STORAGE FACILITY

1. PROCEDURE

We plan to close and relocate the current hazardous waste storage facility (Bldg. 72) at Mound during 1985.

Performance Standard - The hazardous waste storage facility will be closed in a manner that minimizes the need for further maintenance and that controls, minimizes, or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste or constituents or decomposition products to the atmosphere, surface water, and ground water.

Facility Conditions - Hazardous wastes generated at the site are mostly combustible and flammable liquids and waste oils, although other liquid and solid wastes also are produced. Wastes are stored principally in 55-gallon drums.

The composition of virtually all hazardous waste generated at this site is known from process conditions; hence, hazardous waste characterization will be accomplished mostly by declaration instead of chemical analysis. If necessary, chemical analyses will be conducted to identify unknown wastes.

Upon receipt of approval of our Closure Plan, the closure schedule will be initiated. All hazardous waste in storage will be sent offsite for disposal or placed on skids temporarily in a limited access area until the relocated facility is ready for use. All of the closure activities described in this plan will be completed within six months.

Estimated Maximum Waste Inventory in Storage - Based on current and projected wastes generated at this site, we estimate a maximum inventory of 320,000 pounds of wastes in storage at any given time during the life of our storage facility.

Removal of Inventory - All hazardous waste to be shipped offsite for disposal will be sent to an EPA-approved facility. Containerized hazardous waste will be shipped from storage if the existing containers are deemed to be satisfactory for shipment. If the storage containers are defective, the wastes will be placed in a larger container of acceptable quality for transportation to an offsite disposal facility.

Decontamination of the Facility - Our container storage facility will be decontaminated at closure by removing all hazardous waste and residues from equipment and structures. We will complete to the extent necessary the steps listed below and described in subsequent paragraphs.

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SOUTHWEST DISTRICT

1. Identify which items are contaminated and determine the nature and extent of contamination

2. Select appropriate cleaning procedures including equipment and media

3. Decontaminate items, and collect and containerize cleaning fluids and residues for offsite disposal

4. Send for offsite disposal those items that cannot be properly decontaminated.

o Identification of Waste to be Removed

We will identify the items to be decontaminated from our knowledge of past storage practices and operations involving hazardous wastes. We will visually inspect the identified items to determine the nature and extent of contamination. If necessary, samples of contaminated waste will be taken and analyzed to identify or confirm waste composition or characteristics.

o Cleaning Media, Equipment and Procedures

We will refer to the CRC Handbook of Chemistry and Physics for information on solvents for specific waste compositions or components in order to select appropriate cleaning media for removing soluble wastes from items. Wastes soluble in water will be removed from items by flushing with water, then washing the items with soap and water. Organic solvents will be used as needed to dissolve and remove wastes from items; such items will then be washed with soap and water to remove any organic residues. Special cleaning liquids will be used if deemed necessary on the basis of unusual solubility characteristics of the waste involved. Acidic and basic wastes will be neutralized to convert them into a safe, deactivated state.

The following cleaning procedures are representative of those that will be used for decontamination of the storage facility and associated equipment at closure: 1) washing with soap and water, 2) solvent flushing, 3) hydraulic scouring and blasting, 4) steam blasting, and 5) manual or mechanical removal of waste. After decontamination, we will visually inspect all equipment, structures and surfaces for evidence of residual wastes. If none is found, the item will be considered to have been adequately decontaminated; if waste is evident, additional cleaning will be completed until the item passes the visual inspection test.

Cleaning will be completed using various types of equipment including 1) drums and other large containers for collecting waste fluids and residues, 2) any contaminated vessel, piping,

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etc., itself, 3) hoses, portable pumps and vacuum equipment, and 4) hand tools, shovels and earth-moving equipment for dirt removal. For example, small items (such as contaminated pumps) can be placed in a drum or large container for decontamination. If any installed equipment (such as piping and vessels) must be decontaminated in place; containers will be placed at the equipment outlet to collect cleaning fluids. If a large surface (such as the drum holding area) is to be cleaned, small dam-like structures or plastic overlays will be placed on the surfaces to control the flow of cleaning fluids, which will be removed from the surface by vacuum or mopping and placed into containers for disposal. All empty containers previously used for hazardous waste storage will be decontaminated for re-use or shipped offsite for disposal. Waste residues from the decontamination procedure also will be sent offsite for disposal.

We will determine the potential for penetration of waste into the concrete structure and the underlying and adjacent soil owing to leaks or spills. Cracks and damage to the diked enclosures will be carefully examined for evidence of penetration. If severe contamination is observed and found to be beyond the possibility of satisfactory decontamination, the concrete area will be broken into pieces, removed, and shipped off site for disposal in a landfill. If no contamination is found, the concrete will be removed and landfilled onsite. If contaminated soil is found below the pad or elsewhere, it will be excavated, containerized, and sent for offsite disposal. If necessary, soil samples will be taken and analyzed to determine contamination.

Items that cannot be properly decontaminated and contaminated disposable items will be enclosed and sent for offsite disposal probably by landfilling.

Personnel Safety Equipment

Personnel protective equipment and safety requirements during decontamination will be appropriate to protect against known or potential hazards. Equipment will be selected based on the type, concentration, possibilities, and routes of personnel exposure from the substances present. If the types of materials and possibilities of contact are unknown or not clearly identifiable, a more subjective determination will be made of personnel protective equipment required. Using the best available information, the appropriate level of protection will be selected from the Interior Standard Operating Safety Procedure provided by U.S. EPA (April 1981):

Level A - When the highest available level of respiratory, skin and eye contact protection is needed.

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SOUTHWEST DISTRICT

Level B - When the highest level of respiratory protection is needed, but exposure to small unprotected areas of the body is unlikely or concentrations are known to be within acceptable exposure standards.

Level C - When the type(s) and concentration(s) of respirable material are known, the material has adequate warning properties, or the material is reasonably assumed to be not greater than the protection factors associated with air-purifying respirators; and exposure to the few unprotected body areas is unlikely to cause harm.

Level D - When the site is positively identified as having no toxic hazards, the basic work uniform should be worn.

For example, Level A protection could be indicated if:

1. The type(s) and concentration(s) of toxic substances are known and any of the following conditions exist:

   - Atmospheres that are immediately dangerous to life and health
   - Known atmospheres or potential situations that would affect the skin or eyes or be absorbed into the body
   - Oxygen-deficient atmospheres with the above conditions.

2. The type(s) and/or potential concentration(s) of toxic substances are unknown.

3. Total vapor readings indicate 500 ppm to 1,000 ppm on instruments such as the photoionizer or organic vapor analyzer.

For Level A, the following personal protection equipment would be used: 1) positive pressure SCBA totally encapsulating suit, 2) inner chemical-resistant gloves, 3) chemical-protective boots, 4) outer chemical-resistant gloves, 5) cotton underwear, 6) hard hat, 7) disposable protective suit, gloves and boots, 8) coveralls, and 9) 2-way radio communications, Other equipment is prescribed by U.S. EPA for Levels B, C and D.

Personnel involved in decontamination procedures will practice good personal hygiene. Directives will be provided pertaining to the fit of respiratory protection equipment, corrective lenses, contact lenses, eating and smoking areas, and toilet facilities.

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SOUTHWEST DIVISION

Such personnel themselves will be decontaminated before leaving the work site, depending on the seriousness of the contamination. Impermeable clothing will be flushed with water before being removed by the person wearing it. Boots will be scrubbed with decontaminant or soap and water. Clothes will be placed in marked containers for laundering. Persons will shower completely using soap and water before donning clean street or work clothes. Waste waters from laundering and other activities will be treated as contaminated until proven otherwise.

Closure Certification - When closure of this hazardous waste storage facility has been completed, a registered professional engineer from the Mound staff will certify to the Ohio-EPA Administrator that closure at this site is complete.

2. SCHEDULE FOR CLOSURE

The following schedule includes the basic activities that would be completed at closure. All closure activities will be completed within six months after start.

Month After Start	Activity
1	Identify any unknown wastes.
1-2	Remove stored waste and ship for offsite disposal per EPA-approved closure plan.
2-3	Temporarily relocate any remaining hazardous waste to a limited access area until the relocated facility is ready for use.
3-4	Decontaminate structure and equipment by removing all hazardous waste and residue; collect and containerize cleaning fluids and residues.
4-5	Remove electrical service, roof, and concrete pad.
5-6	Dispose of all equipment, structures, and wastes/residues intended for discard.
6	Complete any remaining activities.
6	Submit certification to EPA that facility has been closed per specifications in approved closure plan.

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3. COST ESTIMATE FOR DEMOLITION OF BUILDING 72

Using the basic procedure outlined in this plan, the cost associated with such work is estimated to be $154,300, as shown in the following table. This cost may be less if contamination is found to be minimal or if decontaminated materials can be re-used instead of disposed of.

A. Removal of roof structural steel

1. Material -
   16 steel boxes 2' x 4' x 7' EPA approved — $16,000

2. Labor

a.	Welders	3 man-weeks	2,300
b.	Sheetmetal	2 man-weeks	1,500
c.	Laborers	4 man-weeks	2,600
d.	Forklift	1 man-week	800
e.	Driver	1 man-week	600

B. Removal of electrical services

1. Material -
   1 Steel box 4' x 4' x 7' — 2,000

2. Labor
   Electricians - 0.5 man-week — 400

C. Removal of concrete pads from area 60' x 40' with soil to depth of 6 inches to 1 foot (2400 ft^3).

1. Material
   48 steel boxes 2' x 4' x 7' EPA approved — 48,000

2. Labor

a.	Masons	4 man-weeks	3,000
b.	Backhoe Operator	2 man-weeks	1,500
c.	Laborers	8 man-weeks	5,100
d.	Welders	1 man-week	800
e.	Forklift Operator	1 man-week	800
f.	Driver	1 man-week	600
g.	Supervision	1 man-week	1,000

D. Restoration

Seed and Sod — 2,000

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E.	Other	
	Analytical Support	5,300
F.	Disposal Cost (including transportation)	29,000
G.	Subtotal Contingency (25%)	$ 31,000
	Total Cost	$154,300

(Revised 4/24/84)

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FEB 4 1985
Environmental
SOUTHW

Ref. 42

INTER-OFFICE COMMUNICATION

TO Dan Redman DATE February 4, 1985

FROM: Haydee Hetrick

SUBJECT: DOE Test Burn

On January 29, 1985, I attended the test burn at the Monsanto Research Laboratories, Mound facility. They have developed a molten glass incinerator for radioactive waste. This incinerator was tested for its potential applicability to hazardous waste treatment.

The test consisted of burning a mixture of:

91.0% Kerosene
2.3% Phenol
2.0% Carbon tetrachloride
2.4% Chlorobenzene
2.3% Scintillation fluid

The mixture was fed at 35 lbs/hr. They monitored and tested for CO, CO2, particulate and organic content (GC,MS). Results of the test should be available after approximately a month.

Incinerator

The incinerator is essentially a glass melter. It is lined with refractory material and burns propane gas to reach operating temperatures. The glass is maintained in the molten form by heating with electrodes. The electrodes are capable of a maximum output of 150 kw. Normal operation requires about 90 kw to maintain 2400-2500 °F in the furnace.

The furnace is equipped with pollution control equipment consistent of a caustic scrubber, an absorbent bed and a series of hyperfilters. See attached sketches.

The glass utilized is soda lime glass because it can accept more waste than the borosilicate type. The researchers determined that as they increased the waste load of the glass, it increased in durability. Waste loads higher than 30%, however, cause operational problems due to the large increase in viscosity. Soda lime is also a much cheaper glass.

Applications

From their radioisotope work, they determined that the system had several advantages:

1) provides long tern containment
2) handles low BTU waste
3) provides high radioisotope capture
4) cost is reasonable

On their test they obtained:

1) high capture of low volatile radioisotope
2) reasonable capture of high volatile radioisotope
3) that the feed composition affected the capture, wet feed improved radioisotope capture

FORM GEN 1001

The report summarizing this tests and results will be available soon.

Extrapolating these findings to hazardous waste they determined the following:

1) Operating temperatures are sufficiently high for organic destruction
2) Toxic metals or solid by-products may be bound in a matrix impervious to leacheate
3) The incinerator provides "long" residence time from the inlet to the outlet
4) It's suitable for continuous operation
5) The process provides high volume reduction
6) The incinerator can handle low BTU hard to burn chemicals.

Notes of Concern

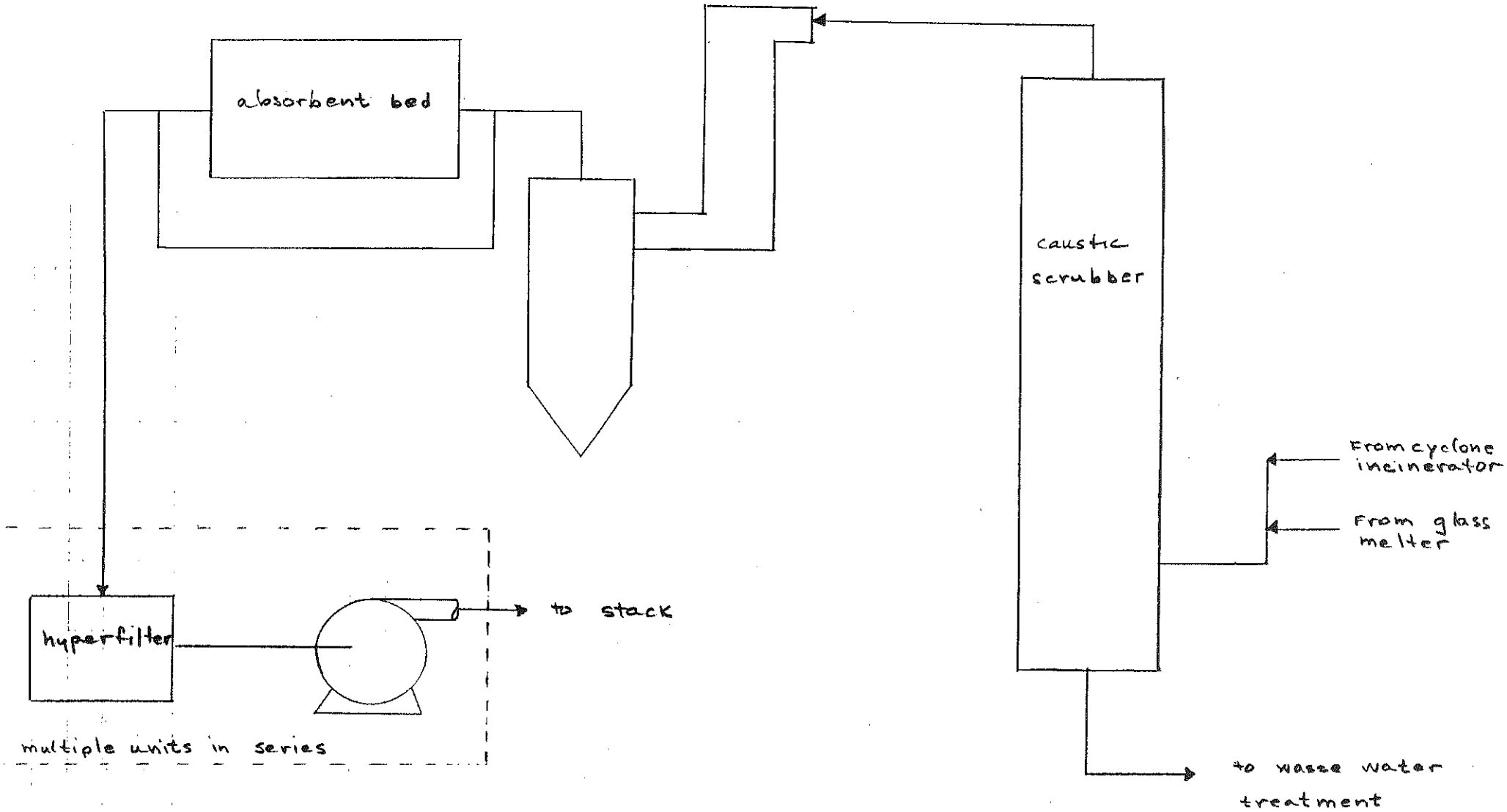
The Department of Energy has included this incinerator in their recently submitted Part A. However, when I inquired about the permits, Mr. Dotti told me that they did not want it permitted. He wants to be able to run all kinds of experiments in it.

However, if they plan to treat their waste in the incinerator they must get a permit. In addition, they will have to prepare a trial burn plan and have their test burns approved. Their test was not approved by neither OEPA nor the Regional Air Pollution Control Agency. Therefore, it may not be acceptable for the purpose of the permit.

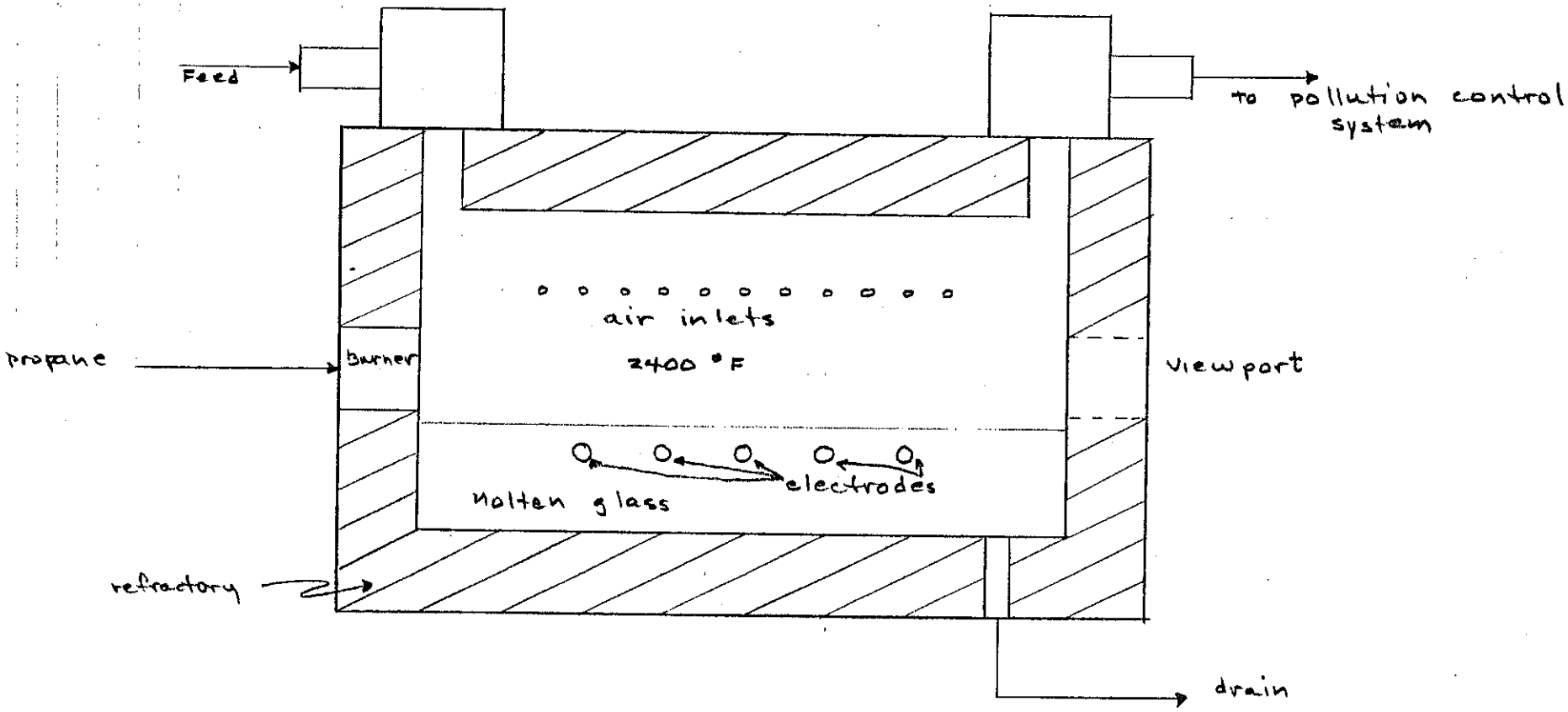
HH/jm

cc: Tom Carlisle
Randy Marshall
Don Marshall

1152T-2



sketch 1 : pollution control system



Sketch 2 : molten glass incinerator

Ref. 43

OhioEPA

Re: Director's Final Findings and Orders
NPDES Permit No. 1I000005

February 27, 1985

Mr. Harry N. Hill, Area Manager
United States Department of Energy
Mound Facility
P.O. Box 66
Miamisburg, Ohio 45342

Dear Mr. Hill:

Transmitted herewith is one certified copy of the Director's Final Findings and Orders in the referenced matter as entered in the Director's Journal.

Sincerely,

Sandra J. Kemper

Sandra J. Kemper, Manager
Permit and Compliance Program Section

SJK/klg

Certified Mail

cc: Mary G. Wilson, Attorney, U.S. Dept. of Energy
Andy Turner, Chief, DWPC
Bob Phelps/Mike Savage, IWW
Matt Tin, PWW
Tom Winston, SWDO
Kendra Dearth, SWDO
Al Franks, PIC

RECEIVED
FEB 28 1985
Environmental Protection Agency
SOUTHWEST DISTRICT

State of Ohio Environmental Protection Agency
361 E. Broad St., Columbus, Ohio 43216-1049, (614) 466-8565

Issue Date: Feb. 26, 1985
Effective Date: Feb. 26, 1985

BEFORE THE
OHIO ENVIRONMENTAL PROTECTION AGENCY

RECEIVED
FEB 28 1985

In the Matter of:

United States Department of Energy Mound Facility P.O. Box 66 Miamisburg, Ohio 45342	: : : :	Director's Final Findings and Orders

Pursuant to Section 6111.03(H) of the Ohio Revised Code, the Director of the Ohio Environmental Protection Agency (Ohio EPA) hereby makes the following Findings and issues the following Orders:

FINDINGS

1. The United States government's Department of Energy (hereinafter "DOE") is engaged in the business of producing components for DOE weapons programs, producing stable isotopes and performing research for energy-related programs at their Mound facility in Miamisburg, Ohio (hereinafter "Mound").

2. DOE currently holds NPDES Permit No. 1I000005*AD, effective from December 16, 1980 until the date of expiration on June 30, 1984. DOE timely applied to renew the NPDES Permit.

3. Due to the storm sewer system, natural topography, and the extensive construction activity at the site, total suspended solids are discharged via Outfalls 1I000005002 and 1I000005602 to the Great Miami River in elevated concentrations by DOE.

4. DOE discharges total suspended solids to the Great Miami River in excess of that authorized by NPDES Permit No. 1I000005*AD.

5. DOE has implemented numerous control techniques to retain solids at each construction site. Even with all those actions having been taken, Mound is still unable, when it is raining, to meet, on a consistent basis, the TSS limit in its NPDES permit.

6. It is the intent of the Ohio EPA to send to public notice for comment and to issue in accordance with Ohio regulations set forth in Chapter 3745-47 of the Ohio Administrative Code a renewal NPDES permit upon DOE's demonstration of compliance with Attachment A of these Findings and Orders and all terms and conditions of expired NPDES Permit No. 1I000005*AD not modified by Order #1 of these Findings and Orders.

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency.

By: Vivian Davis Date 2/26/85

Ohio Environmental Protection Agency
ENTERED DIRECTOR'S JOURNAL

FEB 26 1985

7. DOE agrees to comply with all applicable environmental laws and regulations in order to safeguard the public health, safety, welfare, comfort and convenience.

8. It is technically feasible and economically reasonable to require DOE to comply with the Orders set forth below:

ORDERS

1. DOE shall attain compliance with the total suspended solids limitations and monitoring requirements contained in ATTACHMENT A as expeditiously as practicable, but not later than the dates set forth in the following schedule:

a. Submit written report detailing all corrective action taken to date.	2/15/85
b. Submit written progress report on installation of closed-loop cooling system at Buildings 60 and 28 to reduce flow to outfall 1I000005002.	3/01/85
c. Complete installation of closed-loop cooling system at Buildings 60 and 28.	3/15/85
d. Submit written progress report on installation of sluice gate at retention basin.	4/01/85
e. Complete installation of sluice gate.	5/15/85
f. Submit progress report evaluating the effectiveness of mechanisms installed thus far to control suspended solids.	7/01/85
g. Attain compliance with the final total suspended solids limitations and monitoring requirements contained in ATTACHMENT A, or submit a Permit to Install application and three sets of detail plans for new construction and/or any remedial measures designed to meet these limitations. This submittal must include a compliance schedule subject to agency approval. In the event DOE obtains compliance with the Total Suspended Solids limitations in Attachment A prior to completing items (a) through (f) above, Ohio EPA will initiate the process for issuing a renewal NPDES permit by submitting for public notice a draft renewal NPDES permit. In addition, DOE agrees to continue to operate under the terms and conditions of expired NPDES Permit No. 1I000005*AD not modified by these Findings and Orders. In any event DOE agrees and is bound by these Findings and Orders to complete items (a) through (f) in accordance with the schedule set out in Order #1.	8/01/85

Ohio Environmental Protection Agency
ENTERED DIRECTOR'S JOURNAL

FEB 26 1985

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency.

By: Vivian Davis Date 2/26/85

2. Reports and plans shall be sent to the Southwest District Office of Ohio EPA by the dates indicated in Order #1.

Steven J. Grossman
Acting Director

Feb. 26, 1985
Date

WAIVER

United States Department of Energy - Mound Facility hereby consents to the entry of these Findings and Orders on the Director's Journal and hereby waives any rights it may have to appeal the issuance of these Findings and Orders, in law or in equity.

Authorized Representative

2-14-85
Date

Ohio Environmental Protection Agency
ENTERED DIRECTOR'S JOURNAL

FEB 26 1985

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency.

By: Vivian Davis Date 2/26/85

ATTACHMENT A

FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning with issuance of these Findings and Orders and lasting until a renewal NPDES Permit is issued, DOE is authorized to discharge in accordance with the following total suspended solids limitations and monitoring requirements from the following Outfalls: 1I000005602, 1I000005002.

EFFLUENT CHARACTERISTICS			DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
			Concentration Other Units (Specify)		Loading kg/day			
REPORTING Code	UNITS	PARAMETER	30 day	Daily	30 day	Daily	Meas. Freq.	Sample Type
00530	mg/l	Total Suspended Solids	30	45*	-	-	1/Week	24 hr. Composite

* Since samples shall be representative of normal, not storm flow conditions, the effluent limitation for Total Suspended Solids shall not apply to a discharge during a normal work week in which rain equal to or greater than 1/4 inch per day occurs for three or more days. The operator must maintain a standard National Weather Service rain-gage or its equivalent on the premises.

The operator must submit the following proof that the discharge or increase in the discharge was caused by the applicable precipitation event and that the sample of the discharge was collected during, or within 24 hours after, the applicable precipitation event.

1. Date, Duration (Time Begin/Time End) and total 24 hour accumulation (inches) of the precipitation event(s) which caused the discharge or increase in volume of the discharge.

2. Date and Time of sample collection.

This information should be included in the "Additional Remarks" Section of Ohio EPA Report Form EPA-SUR-1, or as an attachment to Form EPA-SUR-1.

2. See expired NPDES Permit No. 1I000005*AD for locations of effluent sampling.

Ohio Environmental Protection Agency
ENTERED DIRECTOR'S JOURNAL

FEB 26 1985

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency.

By: Vivian Davis Date 2/26/85

Ref. 44

RECEIV

JUN 17

REGION
POLLUTION
CONTROL AGENCY

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

May 1, 1985

RECEIVED

MAY 03 1985

REGIONAL AIR POLLUTION
CONTROL AGENCY

Ms. Donna Gorby Lee
Air Pollution Control Specialist
Abatement Unit
Regional Air Pollution Control Agency
451 W. Third Street
P.O. Box 972
Dayton, Ohio 45422

Dear Ms. Lee:

Regional Air Pollution Control Agency (RAPCA) Permits

Attached are completed Open Burning "permit applications" for Fire Fighter training and Explosives burning. Also attached is a map of the area showing location of these operations and Mound boundaries.

Our interpretation of your request pertaining to the glass melt furnace is that this should be considered a temporary source which is operated solely for the purpose of testing air contaminant pollution emissions so that a suitable control technology can be ascertained. We feel a temporary source such as this is exempt from the requirement for a permit to install a new source per regulation QAC 3745-31-03 (5). If, in the future, DOE decides to operate the glass melter routinely rather than for R&D purposes, permits to install and operate will be required and will be submitted to your office for review and approval.

There has been no copper-beryllium alloy machining since April of 1984 and no plans at this time to renew this operation. Accordingly we are not submitting the permit application as requested. Note: The machining facility where this alloy machining was performed has been moved from T Building to M Building. The exhaust air from this machining is not discharged to the environment, but is instead filtered and recirculated. Therefore, should a decision be made to renew this operation, we feel a permit to operate an air contaminant source is not required.

If you have any questions or need further information, please contact David S. Ingle, 865-3597.

Sincerely,

Harry N Hill

Harry N Hill
Area Manager

Attachments: as stated

cc: R. J. Grandfield, DAO, w/cy
R. A. Neff, MRC, w/cy
C. S. Friedman, MRC, w/cy
D. G. Carfagno, MRC, w/cy

REGIONAL AIR POLLUTION CONTROL AGENCY

Montgomery County Office
451 W. Third Street, P.O. Box 972
Dayton, Ohio 45422
Phone: 225-4435

OPEN BURNING PERMIT APPLICATION

Name of Applicant DOE/Mound Phone 865-3597

Mailing Address P.O. Box 66 (Street) Miamisburg, Ohio (City) 45342 (Zip Code)

Location of Burning Site Mound Facility - Explosive Burn Compound

Is this land being farmed? Yes ____ No X Township ____

Distance to nearest: Residence 1400 ft Roadway 1400 ft Structure 50 ft

PLEASE USE REVERSE SIDE TO DRAW A DIAGRAM showing location of the burning site with respect to neighbors, roadways. Label all roads.

Description of material to be burned: Scrap materials containing explosives and scrap explosives - maximum of 40 lb of explosives per burn

Preferred date(s) and time of burning Monday through Friday between 10:00 a.m. and 4:00 p.m. as needed.

Alternative disposal method(s) investigated, other than open burning Open burning is the only acceptable method specified by DOE/EU/06194-2

NOTE: Upon our receipt of your completed application, an agency representative will conduct an on-site inspection of the proposed material to be burned. Written correspondence and/or telephone communication will follow the site inspection. Permission to open burn is generally prohibited in incorporated areas.

In accordance with your instructions, if said application is approved, I will remit twenty-five dollars ($25) and hereby agree to abide by all of the conditions and provisions set forth by the issuance of the open burning permit.

6/14/85
DATE

Harry N Hill H. N. Hill
SIGNATURE OF APPLICANT

FOR OFFICIAL USE ONLY

____ Approved

____ Denied

$25 - PAYABLE UPON APPLICATION APPROVAL

Receipt Number ____

Remarks: ____

____
Date

____
Air Pollution Control Specialist

5-16-80

REGIONAL AIR POLLUTION CONTROL AGENCY
451 West Third St. - P.O. Box 972
Dayton, Ohio 45422

OPEN BURNING PERMIT APPLICATION - FIRE TRAINING EXERCISE

Name of Department DOE/Mound

Address Mound Road

Telephone 865-3597

Location Where Burning is to Occur Fire Fighter Training Facility

Description of Material to be Burned Diesel or unusable fuel, clean lumber, cardboard, paper

Total Number of Men and Departments Involved 15 Fire Fighters & 100 Brigade Members

Type of Training Fire Fighter Training

Equipment Standard Fire Fighter Apparatus

Date of Last Training Utilizing Open Burning 10/84

Description of Area: Size of Lot, Distance to Nearest Neighbor in all Directions, etc. (Use Other Side for Drawing) Approximately 300 A

2600' to north, 2200' to south, 2500' to east, 800' to west

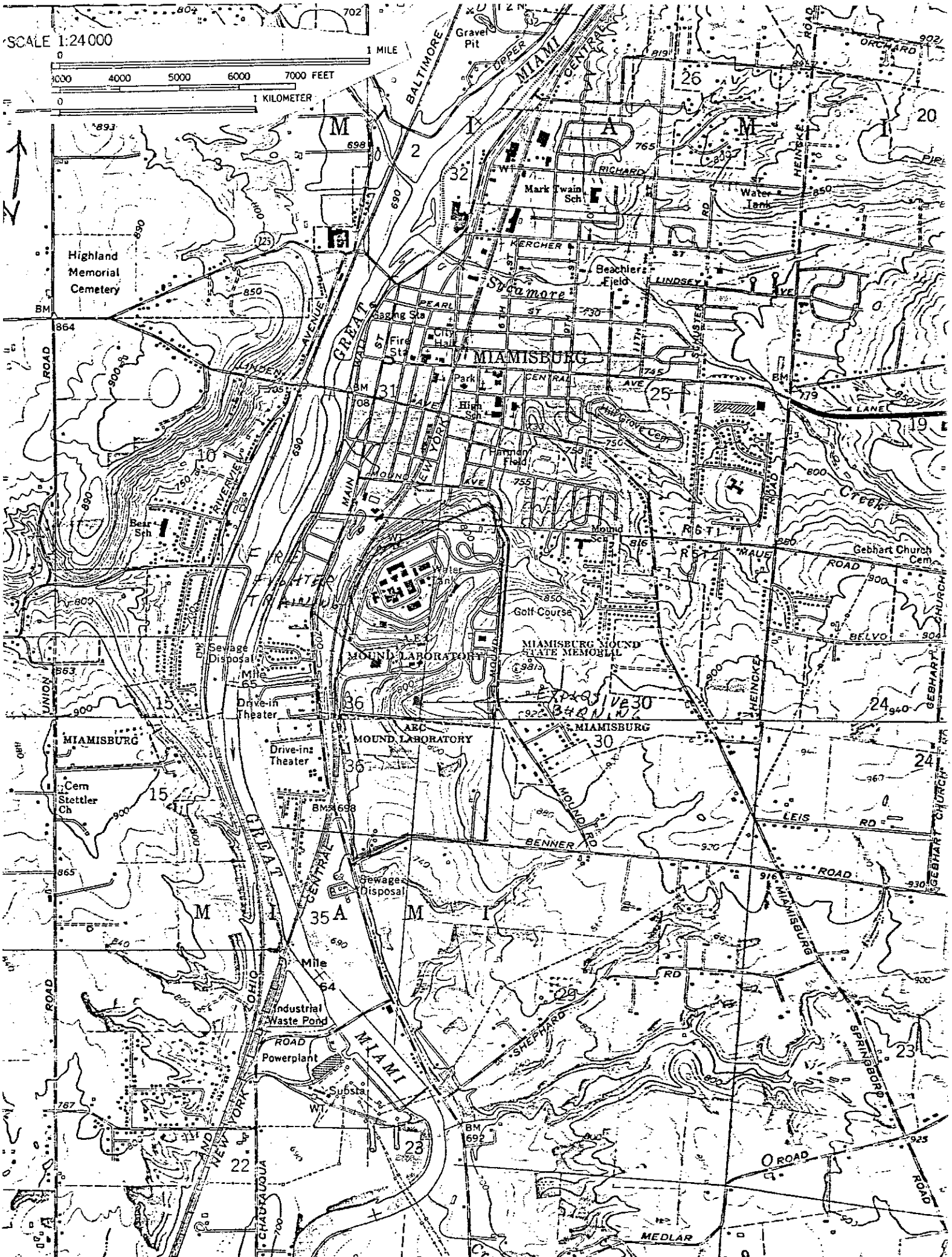
Date and Time Burning is to Occur Twice per week between 10:00 a.m. & 4:00 p.m.

Alternate Dates

THIS IS TO CERTIFY THAT THE ABOVE INFORMATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND THAT SUCH BURNING IS FOR INSTRUCTION IN METHODS OF FIRE FIGHTING AND RESEARCH ONLY AND NOT FOR THE PURPOSE OF DISPOSAL OR REMOVAL.

4/26/85
Date

David L. Keitz
Signature of Fire Chief


SCALE 1:24 000
1 MILE
7000 FEET
1 KILOMETER
Highland Memorial Cemetery
Gravel Pit
Mark Twain Sch
Water Tank
Beachler Field
Gaging Sta
City Hall
Fire Sta
MIAMISBURG
Park
High Sch
Hangman Field
Hargrove Cem
Bear Sch
Mound Sch
Gebhart Church Cem
Golf Course
MIAMISBURG MOUND STATE MEMORIAL
AEC MOUND LABORATORY
Sewage Disposal
Drive-in Theater
Cem Stettler Ch
Industrial Waste Pond
Powerplant
Substa
GREAT MIAMI
Sycamore Creek
BALTIMORE
UPPER
MIAMI
CENTRAL
ORCHARD
RICHARD
KERCHER
LINDSEY
PEARL
CENTRAL
LINDEN
AVENUE
RIVERVIEW
MAIN
MOUND
NEW YORK
HEINCKE
MAUE
ROAD
BELVO
LEIS
BENNER
MOUND RD
SHEPHARD
SPRINGBORO
MIAMISBURG
GEBHART
CHURCH
UNION
OHIO
CHAUTAUQUA
MEDLAR
Mile 65
Mile 64
BM 698
BM 692
BM 864
BM 779
EXPLOSIVE BARRIER

Ref. 45

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

IIO 00005

JUL 15 1985

Ms. Sandra Turner, Manager
Permit and Compliance Program Section
Ohio Environmental Protection Agency
P. O. Box 1049
Columbus, Ohio 43216

Dear Ms. Turner:

Attached are copies of Mound's NPDES reports for June, 1985.

There was one exception as previously reported in discharge 001A. Fecal coliform for the week of 06/17-06/21 was 4700 N/100 ml as a geometric mean. The mean for the following week was only 50 N/100 ml and 560 N/100 ml for tne entire month of June.

It is our opinion that no adverse impact on the water quality of the Great Miami River resulted from these exceptions.

Sincerely,

James A. Morley
Area Manager

Attachments: 6 sets

cc: J. Simpson, Ohio EPA/Dayton, w/cys
C. Garcia, DOE/AL, w/cys
D. Patterson, DOE/Hqs, w/cys

RECEIVED

JUL 16 PM 1 48

✓ FILE TECHNICAL RECORDS
H&E Rep SWDO

~~Recvd~~ Fed 0105

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

MAR 25 1983

M

Mr. Arnold E. Leder
U. S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604

Dear Mr. Leder:

EXCEPTIONS TO MOUND PLANT NPDES PERMIT NO. OH 0009857

Our contractor has informed us that one of our effluent samples exceeded permit limits on the following dates:

Date	Parameter	Effluent Stream	Measured Conc.	Measured Qty.	Max. Allowed by Permit Conc.	Max. Allowed by Permit (Qty.(kg/day)
3-15-83	Suspended Solids	002	32 mg/1	56 kg/day	30 mg/1	91 kg/day
3-17-83	Suspended Solids	002	93 mg/1	169 kg/day	30 mg/1	91 kg/day

No unusual events were found to cause the March 15 Suspended Solids exception. The 002 discharge was slightly above the 30 mg/1 limit, however, the quantity of Suspended Solids was significantly below the 91 kg/day limit.

Suspended Solids in discharge 002 exceeded both the quantity and concentration limit on March 17. This exception was related to the failure of a check valve which allowed the SM water tower to be overfilled. Approximately 30 thousand gallons overflowed from the water tower which washed additional mud and solids into discharge 002.

We do not believe these exceptions represent any hazard to the health or environment.

Sincerely,

Harry N Hill

Harry N Hill
Area Manager

DSI:HW
cc: Ohio EPA
R. L. Miller, DOE/AL
D. E. Patterson, DOE/Hqs.

26 APR 1983

Re: NPDES Permit Number OPA00006

February 19, 1985

Village of Tuscarawas
Board of Public Affairs
Tuscarawas Plant
P.O. Box 388
Tuscarawas, Ohio 44682

Attention: Ben McGarry

Enclosed are revised EPA-4500 Monthly Operating Report Forms that you requested for station code(s) OPA00006001 covering the month of Feburary.

If you have any questions regarding these forms, please contact:

Technical Records Unit
Ohio Environmental Protection Agency
Post Office Box 1049
Columbus, Ohio 43216

Thank you for your cooperation.

Sincerely,

Rosemary Colak

Rosemary Colak, Leader
Technical Applications Group
Permits & Compliance Programs Section

RC:klg

cc: Permit File
District A & C Representative

Enclosure: OPA00006001

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

February 15, 1985

$IO 00005

Ms. Sandra Turner, Manager
Permit and Compliance Program Section
Ohio Environmental Protection Agency
P. O. Box 1049
Columbus, Ohio 43216

Dear Ms. Turner:

Attached are copies of Mound's NPDES reports for January 1985.

There were no maximum limits exceeded in January 1985. The average concentration limit for suspended solids was exceeded at discharge 001A. The mass limit was not exceeded.

The primary cause of the elevated suspended solids concentration was the severe cold weather during the latter part of January which stressed the sanitary treatment plant.

It is our opinion that no adverse impact on the water quality of the Great Miami River resulted from these exceptions.

Sincerely,

Harry N Hill
Area Manager

Attachments: 6 sets

cc: J. Simpson, Ohio EPA/Dayton, w/cys
C. Garcia, DOE/AL, w/cys
D. Patterson, DOE/Hqs, w/cys

cc / Atc Rp
FILE

PERMITS AND COMPLIANCE
RECEIVED

Perm.

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

January 29, 1985

Ms. Sandra J. Turner, Chief
Technical Records
Permit and Compliance Program Section
Ohio Environmental Protection Agency
P. O. Box 1049
Columbus,Ohio 43216

Dear Ms. Turner:

Submission of Monthly Operating Reports for NPDES Permit
1I 000005*AD Montgomery County

This office has received and reviewed your letter of January 24, 1985, same subject. Our review indicated that the report in question was mailed to your office on January 18, 1985. Discussion between Ms. Martha Hart of your staff and Mr. David Ingle of my staff has revealed that subject reports were received in your office and, apparently a coding error was made in inputing the information into your data system. We feel this should satisfactorily resolve the question you asked in your letter.

If you have any questions or need further information, please feel free to contact myself or David Ingle, Safety Manager, DAO at (513) 865-3597.

Sincerely,

Harry N Hill

Harry N Hill
Area Manager

cc: H. L. Turner, MRC, w/cy ltr dtd 1-24-85
R. A. Neff, MRC, w/o cy
C. S. Friedman, MRC, w/o cy

RECEIVED

'85 JAN 31 AM 8 34

Re: NPDES Permit Number 1I000005

January 23, 1985

U.S. Department of Energy
Mound Facility
P.O. Box 66
Miamisburg, Ohio 45342

Attention: Dave Engle, Safety Manager

The enclosed package contains revised EPA-4500 Monthly Operating Report forms for station code 1I000005601 and 602 covering the period January thru June, 1985.

These forms reflect the addition of parameter 50050 MGD Flow and parameter 50060 Chlorine to your NPDES Permit and will supersede the forms previously sent by this office for the above mentioned station code(s).

If you have any questions regarding these forms, please contact:

Technical Records Unit
Ohio Environmental Protection Agency
Post Office Box 1049
Columbus, Ohio 43216

Thank you for your cooperation.

Sincerely,

Rosemary Colak

Rosemary Colak, Leader
Technical Applications Group
Permits and Compliance Section

RC:klg

cc: Permit File
District A & C Representative

Enclosure: 1I000005601 and 602

1 I 00005 J.L.

Permit

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

Ms. Sandra Turner, Manager
Permit and Compliance Program Section
Ohio Environmental Protection Agency
P. O. Box 1049
Columbus, Ohio 43216

Dear Ms. Turner:

Attached are copies of Mound's NPDES reports for October 1984.

As previously reported, maximum limits for suspended solids were exceeded three times. The maximum limits were exceeded once at effluent 001B and twice at 002.

Suspended solids exceptions at discharge 002 are the result of storm runoff from 1.2 inches of rain. The exception at discharge 001B was caused by ground water pumped from a construction excavation. In addition, the suspended solids monthly average limits were exceeded for discharge 001B and 002 (mg/l and kg/day).

It is our opinion that no adverse impact on the water quality of the Great Miami River resulted from these exceptions.

Sincerely,

Harry N Hill
Area Manager

Attachments: 6 sets

cc: J. Simpson, Ohio EPA/Dayton, w/cys
C. Garcia, DOE/AL, w/cys
D. Patterson, DOE/Hqs, w/cys

cc/ sent to District SW

IIO 00005

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

OCT 15 1984

601-125-50050
602-122-50060
123-70030

Ms. Sandra Turner, Manager
Permit and Compliance Program Section
Ohio Environmental Protection Agency
P. O. Box 1049
Columbus, Ohio 43216

Dear Ms. Turner:

Attached are copies of Mound's NPDES report for September 1984.

The maximum limits were exceeded nine times. Four suspended solids exceptions occurred at discharge 001B and three at 002. A residual chlorine exception and a pH exception occurred at discharge 001B. In addition, the monthly average limits were exceeded for discharge 001B and 002 (mg/l and kg/day).

Suspended solids exceptions are the result of storm runoff and erosion of exposed soil at the many construction sites. One suspended solids exception was the result of a ruptured fire line, which washed soil from the excavation site into the drainage ditch (002). The residual chlorine exception was due to softener backflushing. The pH exception is attributed to boiler blowdown.

It is our opinion that these exceptions had no adverse impact on the Miami River.

Sincerely,

for Harry N Hill
Area Manager

Attachments: 6 sets

cc: J. Simpson, Ohio EPA/Dayton, w/cys
C. E. Garcia, DOE/AL, w/cys
D. E. Patterson, DOE/Hqs., w/cys

HI 0 00005

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

SEP 13 '84

Ms. Sandra Turner, Manager
Permit and Compliance Program Section
Ohio Environmental Protection Agency
P. O. Box 1049
Columbus, Ohio 43216

Dear Ms. Turner:

Attached are copies of Mound's NPDES reports for August, 1984.

As previously reported, maximum limits for suspended solids (both mg/l and kg/day limits) were exceeded six times. Five of the exceptions occurred at discharge 002 and one at discharge 001B. In addition, the monthly average limits were exceeded for discharges 001B and 002 (mg/l and kg/day). Maximum limit exceptions are the result of storm runoff and erosion of exposed soil at the various onsite construction areas.

These exceptions are not felt to have significant hazards to the Miami River.

Sincerely,

for Harry N Hill
Area Manager

Attachments: 6 sets

cc: J. Simpson, Ohio EPA/Dayton, w/cys
C. Garcia, DOE/AL, w/cys
D. Patterson, DOE/Hqs, w/cys

Re: NPDES Permit Number 1I000005

July 19, 1984

Certified Mail

Mr. Arnie Leder
Compliance Unit, Enforcement Division
United States EPA, Region V
230 South Dearborn
Chicago, Illinois 60604

Dear Mr. Leder:

Enclosed please find a copy of the NPDES Compliance Inspection Report(Form 3560-3) prepared by the Ohio Environmental Protection Agency for:

U.S. Dept. of Energy
Mound Facility
P.O. Box 66
Miamisburg, Ohio 45342
Montgomery County
Ohio EPA Facility Number: 1I000005
NPDES Number: OH009857
Date of Report: July 2, 1984

If you have any questions regarding the enclosed, please feel free to contact me at (614) 466-8313.

Sincerely,

Rosemary Colak

Rosemary Colak, Leader
Technical Applications Group
Permits & Compliance Programs Section

RC/cmt

cc: Robert Phelps, Manager, Industrial Wastewater
Permit File

Enclosure: Compliance Inspection Report

State of Ohio Environmental Protection Agency
361 E. Broad St., Columbus, Ohio 43216-1049, (614) 466-8565

file

I 000005

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

JUL 1 1984

Ms. Sandra Turner, Manager
Permit and Compliance Program Section
Ohio Environmental Protection Agency
P. O. Box 1049
Columbus, Ohio 43216

Dear Ms. Turner:

Attached are copies of Mound's NPDES reports for June 1984.

As previously reported, maximum limits for suspended solids at effluent 001B were exceeded once in June. The maximum limits were exceeded twice at effluent 002 for suspended solids during the month. Additionally, the monthly average limits for suspended solids (mg/l and kg/day) were exceeded at both effluent 001B and effluent 002. All exceptions are attributable to storm runoff eroding exposed soil at several construction sites.

These exceptions are not felt to have significant hazards to the Miami River.

Sincerely,

Harry N Hill

Harry N Hill
Area Manager

Attachments: 6 sets

cc: J. Simpson, Ohio EPA/Dayton, w/cys
C. Garcia, DOE/AL, w/cys
D. Patterson, DOE/Hqs, w/cys

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

APR 12 1983

Ms. Sandra Turner
Manager, Permit and Compliance Program Section
Ohio Environmental Protection Agency
P. O. Box 1049
Columbus, Ohio 43216

Dear Ms. Turner:

EXCEPTION TO MOUND PLANT NPDES PERMIT NO. OH 0009857

Our contractor has informed us that one of our effluent samples exceeded permit limits on the following date:

Date	Parameter	Effluent Stream	Measured	Permit Limit
4-08-83	pH	001B	9.4	9.0

The pH exception was related to the startup of a new boiler (#6) at the Powerhouse. The elevated pH resulted from the discharge of boiler water containing approximately 200 pounds of an alkaline cleaning compound, Boil Out (Herbert-Verkamp-Calvert Chemical Co.). Sodium hydroxide is the primary constituent of the cleaning compound which elevated the pH of Discharge 001B.

We do not believe this exception represents any hazard to the health or environment.

Sincerely,

Harry N Hill

Harry N Hill
Area Manager

cc: Ohio EPA District Ofc, Dayton
R. L. Miller, OSD/DOE/AL
D. E. Patterson, OSD/DOEHqs.

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: OH 000 9857

Form Approved
OMB No. 2000-0059
Approval expires 3-31-84

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO. 002

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (2) MASS	d. NO. OF ANALYSES	3. UNITS *(specify if blank)* a. CONCENTRATION	3. UNITS b. MASS	4. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. a. (2) MASS	4. b. NO. OF ANALYSES
a. Biochemical Oxygen Demand (BOD)	2.0	10.4					1	mg/l	kg/day			
b. Chemical Oxygen Demand (COD)	6.0	31.1					1	mg/l	kg/day			
c. Total Organic Carbon (TOC)	3.8	19.7					1	mg/l	kg/day			
d. Total Suspended Solids (TSS)	184	1080	46	247	26.6	78.2	102	mg/l	kg/day			
e. Ammonia (as N)	0.5	2.6					1	mg/l	kg/day			
f. Flow	VALUE 1.55		VALUE 0.80		VALUE 0.66		Cont.	MGD	-	VALUE		
g. Temperature (winter)	VALUE 11.0		VALUE		VALUE		1	°C		VALUE		
h. Temperature (summer)	VALUE		VALUE		VALUE			°C		VALUE		
i. pH	MINIMUM 7.8	MAXIMUM 8.5	MINIMUM 8.0	MAXIMUM 8.2			38	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	2. b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. b. MASS	5. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. a. (2) MASS	5. b. NO. OF ANALYSES
a. Bromide (24959 67 9)		X	< 3						1	mg/l				
b. Chlorine, Total Residual	X		< 0.02	< 0.12	< 0.02	< 0.06	< 0.02	< 0.05	98	mg/l	kg/day			
c. Color		X												
d. Fecal Coliform		X												
e. Fluoride (16984 48 8)		X	< 1						1	mg/l				
f. Nitrate-Nitrite (as N)	X		11	58					1	mg/l	kg/day			

CONTINUE ON REVERSE

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK ('X') a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
h. Nitrogen (Total Organic as N)		X	< 2						1	mg/l				
i. Oil and Grease	X		0.9	2	0.9	2	0.4	1	12	mg/l	kg/day			
j. Phosphorus (as P), Total (7723-14-0)		X	< 2						1	mg/l				
l. Radioactivity														
(1) Alpha, Total	X		77	159	27	74	15	37	250	pCi/l	µCi/day			
(2) Beta, Total	X		18.7	39					1	pCi/l	µCi/day			
(3) Radium Total		X												
(4) Radium 226, Total		X												
k. Sulfate (as SO_4) (14808-79-8)	X		54	280					1	mg/l	kg/day			
j. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants		X												
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)		X												
q. Boron, Total (7440-42-8)		X												
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X		900	2.3					1	µg/l	kg/day			
t. Magnesium, Total (7439-95-4)	X		16,000	41					1	µg/l	kg/day			
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

CONTINUE ON PAGE V-3

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
OH 000 9857	002

Form Approved
OMB No. 2000-0059
Approval expires 3-31-84

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, non—process wastewater outfalls, and non—required GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe to be absent. If you mark either columns 2-a or 2-b for any pollutant, you must provide the results of at least one analysis for that pollutant. Note that there are seven pages to this part; please review each carefully. Complete one table *(all seven pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. Testing Required	b. Believe Present	c. Believe Absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
METALS, CYANIDE, AND TOTAL PHENOLS															
[illegible]			X	< 70						1	µg/l				
2M. Arsenic, Total (7440-38-2)			X	< 5						1	"				
3M. Beryllium, Total (7440-41-7)			X	< 5						1	"				
4M. Cadmium, Total (7440-43-9)			X	< 30						1	"				
5M. Chromium, Total (7440-47-3)			X	< 9						1	"				
6M. Copper, Total (7440-50-8)		X		25	0.03					1	"	kg/day			
7M. Lead, Total (7439-92-1)			X	< 30						1	"				
8M. Mercury, Total (7439-97-6)			X	< 0.3						1	"				
9M. Nickel, Total (7440-02-0)			X	< 6						1	"				
10M. Selenium, Total (7782-49-2)			X	< 5						1	"				
11M. Silver, Total (7440-22-4)			X	< 6						1	"				
12M. Thallium, Total (7440-28-0)			X	< 5						1	"				
13M. Zinc, Total (7440-66-6)		X		150	0.18					1	"	kg/day			
14M. Cyanide, Total (57-12-5)			X	< 25						1	"				
15M. Phenols, Total		X		69	0.08					1	"	kg/day			
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1746-01-6)			X	DESCRIBE RESULTS											

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TEST INCLUDED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)			X	<100						1	µg/l				
2V. Acrylonitrile (107-13-1)			X	<100						1	"				
3V. Benzene (71-43-2)			X	< 10						1	"				
4V. Bis (Chloromethyl) Ether (542-88-1)			X	"						1	"				
5V. Bromoform (75-25-2)			X	"						1	"				
6V. Carbon Tetrachloride (56-23-5)			X	"						1	"				
7V. Chlorobenzene (108-90-7)			X	"						1	"				
8V. Chlorodibromomethane (124-48-1)			X	"						1	"				
9V. Chloroethane (75-00-3)			X	"						1	"				
10V. 2-Chloroethylvinyl Ether (110-75-8)			X	"						1	"				
11V. Chloroform (67-66-3)			X	"						1	"				
12V. Dichlorobromomethane (75-27-4)			X	"						1	"				
13V. Dichlorodifluoromethane (75-71-8)			X	"						1	"				
14V. 1,1-Dichloroethane (75-34-3)			X	"						1	"				
15V. 1,2-Dichloroethane (107-06-2)			X	"						1	"				
16V. 1,1-Dichloroethylene (75-35-4)			X	"						1	"				
17V. 1,2-Dichloropropane (78-87-5)			X	"						1	"				
18V. 1,3-Dichloropropylene (542-75-6)			X	"						1	"				
19V. Ethylbenzene (100-41-4)			X	"						1	"				
20V. Methyl Bromide (74-83-9)			X	"						1	"				
21V. Methyl Chloride (74-87-3)			X	"						1	"				

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION — VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)			X	< 10						1	µg/l				
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			X	"						1	"				
24V. Tetrachloroethylene (127-18-4)			X	"						1	"				
25V. Toluene (108-88-3)			X	"						1	"				
26V. 1,2-Trans-Dichloroethylene (156-60-5)			X	"						1	"				
27V. 1,1,1-Trichloroethane (71-55-6)			X	"						1	"				
28V. 1,1,2-Trichloroethane (79-00-5)			X	"						1	"				
29V. Trichloroethylene (79-01-6)			X	"						1	"				
30V. Trichlorofluoromethane (75-69-4)			X	"						1	"				
31V. Vinyl Chloride (75-01-4)			X	"						1	"				
GC/MS FRACTION — ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)			X	< 25						1	"				
2A. 2,4-Dichlorophenol (120-83-2)			X	< 25						1	"				
3A. 2,4-Dimethylphenol (105-67-9)			X	< 25						1	"				
4A. 4,6-Dinitro-O-Cresol (534-52-1)			X	<250						1	"				
5A. 2,4-Dinitrophenol (51-28-5)			X	<250						1	"				
6A. 2-Nitrophenol (88-75-5)			X	< 25						1	"				
7A. 4-Nitrophenol (100-02-7)			X	"						1	"				
8A. P-Chloro M-Cresol (59-50-7)			X	"						1	"				
9A. Pentachlorophenol (87-86-5)			X	"						1	"				
10A. Phenol (108-95-2)			X	"						1	"				
11A. 2,4,6-Trichlorophenol (88-06-2)			X	"						1	"				

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. BELIEVED PRESENT	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION — BASE/NEUTRAL COMPOUNDS															
27B. Acenaphthene (83-32-9)			X	< 10						1	µg/l				
28. Acenaphthylene (208-96-8)			X	"						1	"				
29B. Anthracene (120-12-7)			X	"						1	"				
40. Benzidine (92-87-5)			X	"						1	"				
55. Benzo (a) Anthracene (56-55-3)			X	"						1	"				
56. Benzo (a) Pyrene (50-32-8)			X	"						1	"				
57. 3,4-Benzo fluoranthene (205-99-2)			X	"						1	"				
58. Benzo (ghi) Perylene (191-24-2)			X	"						1	"				
93. Benzo (k) Fluoranthene (207-08-9)			X	"						1	"				
108. Bis (2-Chloroethoxy) Methane (111-91-1)			X	"						1	"				
110. Bis (2-Chloroethyl) Ether (111-44-4)			X	"						1	"				
120. Bis (2-Chloroisopropyl) Ether (39638-32-9)			X	"						1	"				
13F. Bis (2-Ethylhexyl) Phthalate (117-81-7)			X	"						1	"				
14B. 4-Bromophenyl Phenyl Ether (101-55-3)			X	"						1	"				
15F. Butyl Benzyl Phthalate (85-68-7)			X	"						1	"				
16F. 2-Chloronaphthalene (91-58-7)			X	"						1	"				
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)			X	"						1	"				
18B. Chrysene (218-01-9)			X	"						1	"				
19F. Dibenzo (a,h) Anthracene (53-70-3)			X	"						1	"				
20B. 1,2-Dichlorobenzene (95-50-1)			X	"						1	"				
21B. 1,3-Dichlorobenzene (541-73-1)			X	"						1	"				

CONTINUE ON PAGE V-7

CONTINUED FROM PAGE V-6

OH 000 9857 | 002

Form Approved
OMB No. 2000-0059
Approval expires 3-31-84

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION — BASE/NEUTRAL COMPOUNDS (continued)															
22B. 1,4-Dichlorobenzene (106-46-7)			X	< 10						1	µg/l				
23B. 3,3' Dichlorobenzidine (91-94-1)			X	"						1	"				
24B. Diethyl Phthalate (84-66-2)			X	"						1	"				
25B. Dimethyl Phthalate (131-11-3)			X	"						1	"				
26B. Di-N Butyl Phthalate (84-74-2)			X	"						1	"				
27B. 2,4-Dinitrotoluene (121-14-2)			X	"						1	"				
28B. 2,6-Dinitrotoluene (606-20-2)			X	"						1	"				
29B. Di-N Octyl Phthalate (117-84-0)			X	"						1	"				
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)			X	"						1	"				
31B. Fluoranthene (206-44-0)			X	"						1	"				
32B. Fluorene (86-73-7)			X	"						1	"				
33B. Hexachlorobenzene (118-71-1)			X	"						1	"				
34B. Hexachlorobutadiene (87-68-3)			X	"						1	"				
35B. Hexachlorocyclopentadiene (77-47-4)			X	"						1	"				
36B. Hexachloroethane (67-72-1)			X	"						1	"				
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)			X	"						1	"				
38B. Isophorone (78-59-1)			X	"						1	"				
39B. Naphthalene (91-20-3)			X	"						1	"				
40B. Nitrobenzene (98-95-3)			X	"						1	"				
41B. N-Nitrosodimethylamine (62-75-9)			X	"						1	"				
42B. N-Nitrosodi-N-Propylamine (621-64-7)			X	"						1	"				

CONTINUED FROM FRONT

1. POLLUTANT AND CAS NUMBER (if available)	MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTA (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO OF ANALYSES
GC/MS FRACTION — BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitrosodiphenylamine (86-30-6)			X	< 10						1	µg/l				
44B. Phenanthrene (85-01-8)			X	"						1	"				
45B. Pyrene (129-00-0)			X	"						1	"				
46B. 1,2,4-Trichlorobenzene (120-82-1)			X	"						1	"				
GC/MS FRACTION — PESTICIDES															
1P. Aldrin (309-00-2)			X	"						1	"				
2P. α-BHC (319-84-6)			X	"						1	"				
3P. β-BHC (319-85-7)			X	"						1	"				
4P. γ-BHC (58-89-9)			X	"						1	"				
5P. δ-BHC [illegible]			X	"						1	"				
6P. Chlordane (57-74-9)			X	"						1	"				
7P. 4,4'-DDT (50-29-3)			X	"						1	"				
8P. 4,4'-DDE (72-55-9)			X	"						1	"				
9P. 4,4'-DDD (72-54-8)			X	"						1	"				
10P. Dieldrin [illegible]			X	"						1	"				
11P. α-Endosulfan (115-29-7)			X	"						1	"				
12P. β-Endosulfan (115-29-7)			X	"						1	"				
13P. Endosulfan Sulfate (1031-07-8)			X	"						1	"				
14P. Endrin (72-20-8)			X	"						1	"				
15P. Endrin Aldehyde [illegible]			X	"						1	"				
16P. Heptachlor (76-44-8)			X	"						1	"				

CONTINUE ON PAGE V-9

CONTINUED FROM PAGE V-8

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
OH 000 9857	002

Form Approved
OMB No. 2000-0059
Approval expires 3-31-84

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)			X	< 10						1	µg/l				
18P. PCB-1242 (53469-21-9)			X	"						1	"				
19P. PCB-1254 (11097-69-1)			X	"						1	"				
20P. PCB-1221 (11104-28-2)			X	"						1	"				
21P. PCB-1232 (11141-16-5)			X	"						1	"				
22P. PCB-1248 (12672-29-6)			X	"						1	"				
23P. PCB-1260 (11096-82-5)			X	"						1	"				
24P. PCB-1016 (12674-11-2)			X	"						1	"				
25P. Toxaphene (8001-35-2)			X	"						1	"				

Ref. 46

OhioEPA

Re: OEPA Permit No. 11000005*BD

September 30, 1985

U.S. Dept. of Energy
Mound Facility
P.O. Box 66
Miamisburg, Ohio 45342

Gentlemen:

Transmitted herewith is one copy of the final National Pollutant Discharge Elimination System permit referenced above.

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Board of Review pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed with the Environmental Board of Review within thirty (30) days after notice of the Director's action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency and the Environmental Law Division of the Office of the Attorney General within three (3) days of filing with the Board. An appeal may be filed with the Environmental Board of Review at the following address:

Environmental Board of Review
250 East Town Street
Room 101
Columbus, Ohio 43215

Sandra J. Kemper

Sandra J. Kemper, Manager
Permits and Compliance Section

SJK/jtr

Certified Mail

State of Ohio Environmental Protection Agency
361 E. Broad St., Columbus, Ohio 43216-1049, (614) 466-8565

57/SW

OEPA Permit No. 1IO00005*BD

Application No. OH0009857

Effective Date: September 30, 1985

Expiration Date: September 27, 1990

OHIO ENVIRONMENTAL PROTECTION AGENCY

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et. seq. hereinafter referred to as "the Act"), and the Ohio Water Pollution Control Act (Ohio Revised Code Section 6111),

U. S. Department of Energy
Mound Facility

is authorized by the Ohio Environmental Protection Agency, hereafter referred to as "Ohio EPA", to discharge from the wastewater treatment works located

at Mound Road, Miamisburg, Ohio

and discharging to the Great Miami River via storm sewer and Miami-Erie canal

in accordance with the conditions specified in Parts I, II and III of this permit.

This permit is conditioned upon payment of applicable fees as required by Section 3745.11 of the Ohio Revised Code.

This permit and the authorization to discharge shall expire at midnight on the expiration date shown above. In order to receive authorization to discharge beyond the above date of expiration, the permittee shall submit such information and forms as are required by the Ohio EPA no later than 180 days prior to the above date of expiration.

William W. Tyler
Director
Form EPA 4428

Ohio Environmental Protection Agency
Posted To Journal

SEP 30 1985

PART I, A – FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfall: 1IO00005001. SEE PART II, OTHER REQUIREMENTS, for location of effluent sampling.

EFFLUENT CHARACTERISTIC			DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
			Concentration Other Units(Specify)		Loading kg/day			
REPORTING Code	UNITS	PARAMETER	30 day	Daily	30 day	Daily	Meas. Freq.	Sample Type

The discharge is limited to wastewater from stations 1IO00005601, 1IO00005602, 1IO00005603, and 1IO00005604.

PART I, A – FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfall: 1IO00005601. SEE PART II, OTHER REQUIREMENTS, for location of effluent sampling.

EFFLUENT CHARACTERISTIC			DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
			Concentration Other Units(Specify)		Loading kg/day			
REPORTING Code	UNITS	PARAMETER	30 day	7-day avg.	30 day	Daily	Meas. Freq.	Sample Type
50050	MGD	Flow	–	–	–	–	Daily	24 Hour Total
50060	mg/l	Total Residual Chlorine (Summer Only)	–	0.5	–	–	Daily*	Grab
00310	mg/l	BOD_5	10	15	–	–	1/Week	24 Hour Composite
00530	mg/l	Total Suspended Solids	15	30	–	–	1/Week	24 Hour Composite
31616	Count /100ml	Fecal Coliform (Summer Only)	1000	2000	–	–	1/Week	Grab
00083	Units	Severity, Color	–	–	–	–	Daily*	Observation
01330	Units	Severity, Odor	–	–	–	–	Daily*	Observation
01350	Units	Severity, Turbidity	–	–	–	–	Daily*	Observation

*Except on days when the facility is not normally staffed. Report AN on the monthly report form for those days.

2. The pH (Reporting Code 00400) shall not be less than 6.5 S.U. nor greater than 9.0 S.U. and shall be monitored once each week by grab sample.

3. Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

4. See PART II, C, OTHER REQUIREMENTS.

PART I, A – FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfall: 1IO00005602. SEE PART II, OTHER REQUIREMENTS, for location of effluent sampling.

EFFLUENT CHARACTERISTIC			DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
			Concentration Other Units(Specify)		Loading kg/day			
REPORTING Code	UNITS	PARAMETER	30 day	Daily	30 day	Daily	Meas. Freq.	Sample Type
50050	MGD	Flow	–	–	–	–	Daily	24 Hour Total
00335	mg/l	COD	–	–	–	–	1/Week	24 Hour Composite
00530	mg/l	Total Suspended Solids	30	45*	–	–	1/Week	24 Hour Composite
00550	mg/l	Oil and Grease	–	10	–	–	1/Month	Grab

*Since samples shall be representative of normal, not storm flow conditions, the effluent limitation for Total Suspended Solids shall not apply to a discharge during a normal work week in which rain equal to or greater than 1/4 inch per day occurs for three or more days. The operator must maintain a standard National Weather Service rain-gauge or its equivalent on the premises.

The operator must submit the following proof that the discharge or increase in the discharge was caused by the applicable precipitation event and that the sample of the discharge was collected during, or within 24 hours after, the applicable precipitation event.

1. Date, Duration (Time Begin/Time End) and total 24 hour accumulation (inches) of the precipitation event(s) which caused the discharge or increase in volume of the discharge.

2. Date and Time of sample collection.

This information should be included in the "Additional Remarks" Section of Ohio EPA Report Form EPA-4500, or as an attachment to Form EPA-4500.

2. The pH (Reporting Code 00400) shall not be less than 6.5 S.U. nor greater than 9.5 S.U. and shall be monitored once each week by grab sample.

3. Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

4. See PART II, OTHER REQUIREMENTS.

PART I, A - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfall: 1IO00005603. SEE PART II, OTHER REQUIREMENTS, for location of effluent sampling.

EFFLUENT CHARACTERISTIC			DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
			Concentration Other Units(Specify)		Loading kg/day			
REPORTING Code	UNITS	PARAMETER	30 day	Daily	30 day	Daily	Meas. Freq.	Sample Type
00720	mg/l	Cyanide	0.65	1.0	-	-	2/Month	24 Hour Composite
01034	ug/l	Total Chromium	-	500	-	-	2/Month	24 Hour Composite
01027	ug/l	Cadmium	-	100	-	-	2/Month	24 Hour Composite
01067	ug/l	Nickel	-	500	-	-	2/Month	24 Hour Composite
01042	ug/l	Copper	-	500	-	-	2/Month	24 Hour Composite
82090	ug/l	Total Toxic Organics (TTO)	-	2,130*	-	-	1/Qtr.	See Part II, Item F

*This is a guideline-based limitation and is not an authorization to discharge toxic organic compounds at levels which cause or may cause water quality violations. The discharge of organic compounds at levels which cause or may cause water quality violations is prohibited.

2. The pH (Reporting Code 00400) shall not be less than 6.5 S.U. nor greater than 9.0 S.U. and shall be monitored 2/month by grab sample.

3. Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

4. See PART II, OTHER REQUIREMENTS.

PART I, A – FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfall: 1IO00005604 (formerly 003). SEE PART II, OTHER REQUIREMENTS, for location of effluent sampling.

EFFLUENT CHARACTERISTIC			DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
			Concentration Other Units(Specify)		Loading kg/day			
REPORTING Code	UNITS	PARAMETER	30 day	Daily	30 day	Daily	Meas. Freq.	Sample Type
50050	MGD	Flow	–	–	–	–	Daily	24 Hour Estimate

This discharge is limited to uncontaminated groundwater only; no other wastewater is permitted.

2. The pH (Reporting Code 00400) shall not be less than 6.5 S.U. nor greater than 9.0 S.U. and shall be monitored once each month by grab sample, when discharging.

3. Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

4. See PART II, OTHER REQUIREMENTS.

PART I, A – FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfall: 1IOOOOO5002. SEE PART II, OTHER REQUIREMENTS, for location of effluent sampling.

EFFLUENT CHARACTERISTIC			DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
			Concentration Other Units(Specify)		Loading kg/day			
REPORTING Code	UNITS	PARAMETER	30 day	Daily	30 day	Daily	Meas. Freq.	Sample Type
50050	MGD	Flow	–	–	–	–	Daily	24 Hour Total
00530	mg/l	Total Suspended Solids	30	45*	–	–	1/Week	24 Hour Composite

*Since samples shall be representative of normal, not storm flow conditions, the effluent limitation for Total Suspended Solids shall not apply to a discharge during a normal work week in which rain equal to or greater than 1/4 inch per day occurs for three or more days. The operator must maintain a standard National Weather Service rain-gauge or its equivalent on the premises.

The operator must submit the following proof that the discharge or increase in the discharge was caused by the applicable precipitation event and that the sample of the discharge was collected during, or within 24 hours after, the applicable precipitation event.

1. Date, Duration (Time Begin/Time End) and total 24 hour accumulation (inches) of the precipitation event(s) which caused the discharge or increase in volume of the discharge.

2. Date and Time of sample collection.

This information should be included in the "Additional Remarks" Section of Ohio EPA Report Form EPA-4500, or as an attachment to Form EPA-4500.

2. The pH (Reporting Code 00400) shall not be less than 6.5 S.U. nor greater than 9.0 S.U. and shall be monitored once each week by grab sample.

3. Samples taken in compliance with monitoring requirements specified above shall be taken at Sampling Stations described in Part II, OTHER REQUIREMENTS.

4. See PART II, OTHER REQUIREMENTS.

PART I, C. – SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with specified effluent limitations in accordance with the following schedule:

   A. Not Applicable.

PART II, OTHER REQUIREMENTS

A. Description of the location of the required sampling stations are as follows:

Sampling Station	Description of Location
1IO00005001	Discharge pipe to Great Miami River (RM 65.9)
1IO00005002	At retention basin discharge prior to Miami-Erie canal
1IO00005601	At treatment plant discharge, prior to mixing with 1IO00005602
1IO00005602	At sampling station prior to mixing with 1IO00005601
1IO00005603	At plating shop prior to discharge to sanitary sewer
1IO00005604	At well prior to discharge to storm sewer

B. In addition to the reporting required by the paragraph entitled "REPORTING" in Part III, General Conditions, monitoring results obtained during each month shall be summarized and reported on a Discharge Monitoring Report Form (EPA No. 3320-1 or T-40 as appropriate), to be received no later than the 15th of the next month. The original copy of the report form shall be signed and mailed to:

Ohio Environmental Protection Agency
Technical Records Section
Post Office Box 1049
Columbus, Ohio 43216

C. For Station 1IO00005601 severity units are required to be reported for color, odor, and turbidity. Report a number between 0 and 4 from the table below for each parameter. Interpolate between the descriptive phrases.

REPORTED VALUE *	SEVERITY DESCRIPTION	TURBIDITY	ODOR	COLOR
0	None	Clear	None	Colorless
1	Mild			
2	Moderate	Light Solids	Musty	Grey
3	Serious			
4	Extreme	Heavy Solids	Septic	Black

D. Permit limitations may be revised in order to meet water quality standards after a stream use determination and waste load allocation are completed and approved. This permit may be modified, or, alternatively, revoked and reissued, to comply with any applicable water quality effluent limitations.

PART II, OTHER REQUIREMENTS (Cont.)

E. In the event the permittee's operation shall require the use of cooling water treatment additives, written permission must be obtained from the Ohio Environmental Protection Agency. The permittee shall demonstrate that the use of the additive in the concentrations expected will not be harmful or inimical to aquatic life as determined by acute static bioassays.

F. Toxic Organic Pollutant Monitoring

At least two grab samples for volatile pollutants and either an 8-hour or a 24-hour composite sample for acid, base/neutral, and pesticide pollutants shall be obtained on each monitoring day. Wastewater samples shall be prepared and analyzed by GC-MS in accordance with U.S. EPA promugated methods 624 and 625 (October 1984). In addition to the quantitative analysis for Total Toxic Organics, a reasonable attempt shall be made to identify and quantify any additional substances indicated to be present in the extracts by peaks on the reconstructed gas chromatograms (total ion plots) more than 10 times higher than the adjacent peak-to-peak background noise. Identification shall be by reference to the EPA/NIH computerized library of mass spectra, with visual confirmation by an experienced analyst. Quantification may be an order-of-magnitude estimate based upon comparison with an internal standard. GC-MS analysis results are to be reported to the appropriate district office within sixty days of sampling. Along with the GC-MS results, the total amount of Total Toxic Organics (TTO) detected in the discharge is to be reported in the units of micrograms per liter (ug/l). Total Toxic Organics (TTO) is defined as the accumulation of organic pollutants below that are detected in the discharge at a level greater than 10 ug/l.

Acenaphthene
Acrolein
Acrylonitrile
Benzene
Benzidine
Carbon tetrachloride(tetrachloromethane)
Chlorobenzene
1,2,4-trichlorobenzene
Hexachlorobenzene
1,2-dichloroethane
1,1,1-trichloroethane
Hexachloroethane
1,1-dichloroethane
1,1,2-trichloroethane
1,1,2,2-tetrachloroethane
Chloroethane
Bis (2-chlorethyl) ether
2-chloroethyl vinyl ether (mixed)
N-nitrosodi-n-propylamine
Pentachlorophenol
Phenol
Bis (2-ethylhexyl) phthalate
Naphthalene
Nitrobenzene
2-nitrophenol
4-nitrophenol
2,4-dinitrophenol
4,6-dinitro-o-cresol
N-nitrosodimethylamine
N-nitrosodiphenylamine
Phenanthrene
1,2,5,6-dibenzanthracene (dibenzo(a,h) anthracene
2,3-o-phenylene pyrene (Indeno (1,2,3-cd) pyrene)
Pyrene
Tetrachloroethylene
Toluene
Trichloroethylene
Vinyl Chloride(chloroethylene)
Aldrin
Dieldrin
Chlordane (technical mixture and metabolites)

PART II, OTHER REQUIREMENTS (Cont.)

Butyl benzyl phthalate
Di-n-butyl phthalate
Di-n-octyl phthalate
Diethyl phthalate
Dimethyl phthalate
1,2-benzanthracene (benzo(a)anthracene)
(Benzo(a)pyrene)
3,4-benzopyrene
3,4-Benzofluoranthene (benzo(b) fluoranthene)
11,12-benzofluoranthene (benzo(k)fluoranthene)
Chrysene
Acenaphthylene
Anthracene

4,4-DDT
4,4-DDE (p,p-DDX)
4,4-DDD (p,p-TDE)
Alpha-endosulfan
Beta-endosulfan
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
(BHC-hexachlorocyclohexane)
Alpha-BHC
Beta-BHC
Gamma-BHC
Delta-BHC

After review of the results of the organic pollutant monitoring program, the Ohio EPA may propose effluent limitations for specific organic pollutants, or continue or modify the monitoring program as appropriate.

G. The Ohio EPA may propose to modify this permit to include a Best Management Practices (BMP) program requirement. A BMP would require the permitee to submit a toxic organic pollutant management plan to the Ohio EPA.

PART III - GENERAL CONDITIONS

1. DEFINITIONS

A. 1. The "daily load limitations" is the total discharge by weight during any calendar day. If only one sample is taken during a day, the weight of pollutant discharge calculated from it is the daily load.

2. The "daily concentration limitation" means the arithmetic average of all the determinations of concentration made during the day. If only one sample is taken during the day its concentration is the daily concentration. Coliform bacteria limitations compliance shall be determined using the geometric mean.

3. The "7-day load limitation" is the total discharge by weight during any 7-day period divided by the number of days in that 7-day period that the facility was in operation. If only one sample is taken in a 7-day period the weight of pollutant discharge calculated from it is the 7-day load. If more than one sample is taken during the 7-day period the 7-day load is calculated by determining the daily load for each day sampled, totaling the daily loads for the 7-day period and dividing by the number of days sampled.

4. The "7-day concentration limitation" means the arithmetic average of all the determinations of daily concentration limitation made during the 7-day period. If only one sample is taken during the 7-day period, its concentration is the 7-day concentration limitation for that 7-day period. Coliform bacteria limitations compliance shall be determined using the geometric mean.

5. The "30-day load limitation" is the total discharge by weight during any 30-day period divided by the number of days in the 30-day period that the facility was in operation. If only one sample is taken in a 30-day period the weight of pollutant discharge calculated from it is the 30-day load. If more than one sample is taken during one 30-day period the 30-day load is calculated by determining the daily load for each day sampled, totaling the daily loads for the 30-day period and dividing by the number of days sampled.

6. The "30-day concentration limitation" means the arithmetic average (weighted by flow) of all the determinations of daily concentration made during the 30-day period. If only one sample is taken during the 30-day period, its concentration is the 30-day concentration for that 30-day period. Coliform bacteria limitations compliance shall be determined using the geometric mean.

B. "85 percent removal limitations" means the arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.

C. 1. Absolute Limitations. Compliance with limitations having descriptions of "shall not be less than", "nor greater than", "shall not exceed", "minimum", or "maximum", shall be determined from any single value for effluent samples and/or measurements collected.

2. "Net concentration" shall mean the difference between the concentration of a given substance in a sample taken of the discharge and the concentration of the same substances in a sample taken at the intake which supplies water to the given process. For the purpose of this definition samples that are taken to determine the net concentration shall always be 24-hour composite samples made up of at least six increments taken at regular intervals throughout the plant day.

3. "Net load" shall mean the difference between the load of a given substance as calculated from a sample taken of the discharge and the load of the same substance in a sample taken at the intake which supplies water to given process. For purposes of this definition samples that are taken to determine the net loading shall always be 24-hour composite samples made up of at least six increments taken at regular intervals throughout the plant day.

D. 1. When Quarterly sampling frequency is specified, the sampling shall be done in the months of March, June, August and December.

2. When a Yearly sampling frequency is specified, the sampling shall be done in the month of September.

3. When semi-annual sampling frequency is specified, the sampling shall be done during the months of June and December.

4. Winter shall be considered to be the period from November 1 thru April 30.

5. Summer shall be considered to be the period from May 1 thru October 31.

E. 1. "MGD" means million gallons per day

2. "mg/l" means milligrams per liter

3. "ug/l" means micrograms per liter

F. "Reporting Code" is a five digit number used by the Ohio EPA in processing reported data. The reporting code does not imply the type of analysis used nor the sampling techniques employed.

G. "Bypass" means the intentional diversion of wastes from any portion of a treatment facility.

H. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

I. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

2. GENERAL EFFLUENT LIMITATIONS

The effluent shall, at all times, be free of substances:

A. In amounts that will settle to form putrescent, or otherwise objectionable, sludge deposits; or that will adversely affect aquatic life or water fowl;

B. Of an oily, greasy, or surface-active nature, and of other floating debris, in amounts that will form noticeable accumulations of scum, foam or sheen;

C. In amounts that will alter the natural color or odor of the receiving water to such degree as to create a nuisance;

D. In amounts that either singly or in combination with other substances are toxic to human, animal, or aquatic life;

E. In amounts that are conducive to the growth of aquatic weeds or algae to the extent that such growths become inimical to more desirable forms of aquatic life, or create conditions that are unsightly, or constitute a nuisance in any other fashion;

F. In amounts that will impair designated instream or downstream water uses.

3. FACILITY OPERATION AND QUALITY CONTROL

All wastewater treatment works shall be operated in a manner consistent with the following:

A. At all times, the permittee shall maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee necessary to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance predecures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when necessary to achieve compliance with conditions of the permit.

B. The permittee shall effectively monitor the operation and efficiency of treatment and control facilities and the quantity and quality of the treated discharge.

C. Maintenance of wastewater treatment works that results in degradation of effluent quality shall be scheduled during non-critical water quality periods and shall be carried out in a manner approved by the Ohio EPA as specified in the Paragraph in this PART III entitled, "UNAUTHORIZED DISCHARGES".

4. REPORTING

A. Monitoring data required by this permit shall be reported on the Ohio EPA report form (4500) on

a monthly basis. Individual reports for each sampling station for each month are to be received no later than the 15th day of the next month. The original plus first copy of the report form must be signed and mailed to:

OHIO EPA
RECORDS CONTROL GROUP
POST OFFICE BOX 1049
COLUMBUS, OHIO 43266-0558

B. If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified below, the results of such monitoring shall be included in the calculation and reporting of the values required in the reports specified above.

C. Analyses of pollutants not required by this permit, except as noted in the preceding paragraph, shall not be reported on Ohio EPA report form (4500) but records shall be retained as specified in the paragraph entitled "RECORDS RETENTION".

5. SAMPLING AND ANALYTICAL METHODS

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored flow. Test procedures for the analysis of pollutants shall conform to regulation 40 CFR 136, "Test Procedures For The Analysis of Pollutants". The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to insure accuracy of measurements.

6. RECORDING OF RESULTS

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

A. The exact place, date, and time of sampling;

B. The person(s) who performed the sampling or measurements;

C. The date and time the analyses were performed on those samples;

D. The person(s) who performed the analyses;

E. The analytical techniques or methods used; and

F. The results of all analyses and measurements

7. RECORDS RETENTION

The permittee shall retain all of the following records for the wastewater treatment works for a minimum of three years, including:

A. All sampling and analytical records (including internal sampling data not reported);

B. All original recordings for any continuous monitoring instrumentation;

C. All instrumentation, calibration and maintenance records; and

D. All plant operation and maintenance records.

E. All reports required by this permit.

F. Records of all data used to complete the application for this permit for a period of at least three years from the date of the sample, measurement, report or application.

These periods will be extended during the course of any unresolved litigation, or when so requested by the Regional Administrator or the Ohio EPA. The three year period for retention of records shall start from the date of sample, measurement, report or application.

8. AVAILABILITY OF REPORTS

Except for data determined by the Ohio EPA to be entitled confidential status, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the appropriate District Offices of the Ohio EPA. Both the Clean Water Act and Section 6111.05 Ohio Revised Code state that effluent data and receiving water quality data shall not be

considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in the Ohio Revised Code Section 6111.99.

9. DUTY TO PROVIDE INFORMATION

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

10. RIGHT OF ENTRY

The permittee shall allow authorized representatives of the Ohio EPA;

A. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit.

B. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit; and to inspect any monitoring equipment required in this permit.

C. To monitor at reasonable times the effluent or inspect any monitoring method required in this permit. "Reasonable times" for purposes of paragraph 10(c) includes 24-hour periods necessary for the purpose of monitoring over a 24-hour period.

D. To enter upon the permittee's premises to inspect at reasonable times any collection, treatment, pollution management, or discharge facilities required under the permit.

11. UNAUTHORIZED DISCHARGES

A. Unless specifically authorized in Part I and/or Part II of this permit, deliberate by-passing or diverting of wastewater from the treatment works is prohibited except when necessary:

1. To prevent loss of life, personal injury or severe property damage:
2. To prevent damage to treatment works or processes; or
3. To allow essential maintenance to be performed according to a schedule approved in writing by the Ohio EPA District Office.

B. While typical unauthorized discharges are those resulting from pipeline breaks, equipment malfunctions or failures, operator errors, accidents, process interruptions, or power failures, all unauthorized discharges shall be reported according to the following procedure:

1. Report within one hour of discovery to Ohio EPA by calling (toll free) 1-800-282-9378.

2. For these telephone reports the following information must be included:

a. the times at which the discharge occurred, and was discovered;
b. the approximate amount and the characteristics of the discharge;
c. the stream(s) affected by the discharge;
d. the circumstances which created the discharge;
e. the names and telephone numbers of the persons who have knowledge of these circumstances;
f. what remedial steps are being taken;
g. the names and telephone numbers of the persons responsible for such remedial steps.

3. These reports shall be confirmed in writing within five days of the discharge and submitted to the appropriate Ohio EPA District Office. This report should include the information required under "NONCOMPLIANCE NOTIFICATION".

C. Minor violations of the effluent limitations in Part I of this permit do not need to be reported under this paragraph.

12. NONCOMPLIANCE NOTIFICATION

A. Effluent Limitations:

If the permittee is unable to meet any effluent limitations specified in this permit, the permittee shall submit a written report to the appropriate Ohio EPA District Office within five days of becoming aware of the conditions. The report shall include the following:

1. The limitation(s) which has been violated;
2. The extent of the violation(s);
3. The cause of the violation(s);

4. The period of the violation(s) including exact dates and times;
5. If uncorrected, the anticipated time the violation(s) is expected to continue; and
6. Steps being taken to reduce, eliminate and/or prevent recurrence of the violation(s).

B. Compliance Schedule Events:

If the permittee is unable to meet any date for achieving an event, as specified in the Schedule of Compliance, the permittee shall submit a written report to the appropriate District Office of the Ohio EPA within five days of becoming aware of such situation. The report shall include the following:

1. The compliance event which has been or will be violated;
2. The cause of the violation;
3. The remedial action being taken
4. The probable date by which compliance will occur; and
5. The probability of complying with subsequent and final events as scheduled.

13. RESERVED

14. ADVERSE IMPACT

In the event of either an unauthorized discharge or a violation of effluent limitations, the permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment. This may include accelerated or additional monitoring to determine the extent of the impact of unauthorized discharge or the violation of limitations. If such additional monitoring is performed, the data collected shall be included in the written report submitted to the appropriate Ohio EPA District Office.

15. AUTHORIZED DISCHARGES

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than, or at a level in excess of, that authorized by this permit shall constitute a violation of the terms and conditions of this permit. Such a violations may result in the imposition of civil and/or criminal penalties as provided for in Section 309 of the Act, and Ohio Revised Code Sections 6111.09 and 6111.99

16. DISCHARGE CHANGES

The following changes must be reported to the appropriate Ohio EPA District Office as soon as practicable.

A. For all treatment works, any significant change in character of the discharge which the permittee knows or has reason to believe has occurred or will occur which would constitute cause for modification or revocation and reissuance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.' Notification of permit changes or anticipated noncompliance does not stay any permit condition.

B. For publicly owned treatment works:

1. Any proposed plant modification, addition and/or expansion that will change the capacity or efficiency of the plant;
2. The addition of any new significant industrial discharge; and
3. Changes in the quantity or quality of the wastes from existing tributary industrial discharges which will result in significant new or increased discharges of pollutants.

C. For non-publicly owned treatment works, any proposed facility expansions, production increases, or process modifications, which will result in new, different, or increased discharges o pollutants.

Following this notice, modifications to the permit may be made to reflect any necessary changes i permit conditions, including any necessary effluent limitations for any pollutants not identifie and limited herein. A determination will also be made as to whether a National Environmenta Policy Act (NEPA) review will be required. Sections 6111.44 and 6111.45, Ohio Revised Code require that plans for treatment works or improvements to such works be approved by the Directo of the Ohio EPA prior to initiation of construction.

D. In accordance with 40 CFR 122.42(a), all existing manufacturing, commercial mining, an silvicultural dischargers must notify the Director as soon as they know or have reason t believe:

1. That any activity has occurred or will occur which would result in the discharge of any toxic pollutant not limited in the permit if that discharge exceeds the highest of the "notification levels" specified in Sections 122.42(a)(1)(i) through 122.42(a)(1)(iv).

2. That they have begun or are expected to begin to use or manufacture as an intermediate or final product or by-product any toxic pollutant which was not reported in the permit application under 40 CFR 122.21(g)(9).

17. TOXIC POLLUTANTS

The permittee shall comply with effluent standards or prohibitions established under Section 307 (a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement. Following establishment of such standards or prohibitions, the Director shall modify this permit and so notify the permittee.

18. PERMIT MODIFICATION OR REVOCATION

A. After notice and opportunity for a hearing, this permit may be modified or revoked, by the Ohio EPA, in whole or in part during its term for cause including, but not limited to, the following:

1. violation of any terms or conditions of this permit;
2. obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
3. a change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

B. Pursuant to rule 3745-33-06, Ohio Administrative Code the permittee may at any time apply to the Ohio EPA for modification of any part of this permit. The filing of a request by the permittee for a permit modification or revocation does not stay any permit condition. The application for modification should be received by the appropriate Ohio EPA District Office at least ninety days before the date on which it is desired that the modification become effective. The application shall be made only on forms approved by the Ohio EPA.

19. TRANSFER OF OWNERSHIP OR CONTROL

This permit cannot be transferred or assigned nor shall a new owner or successor be authorized to discharge from this facility, until the following requirements are met:

A. The permittee shall notify the succeeding owner or successor of the existence of this permit by a letter, a copy of which shall be forwarded to the appropriate Ohio EPA District Office. The copy of that letter will serve as the permittee's notice to the Director of the proposed transfer. The copy of that letter shall be received by the appropriate Ohio EPA District Office sixty days prior to the proposed date of transfer;

B. A written agreement containing a specific date for transfer of permit responsibility and coverage between the current and new permittees (including acknowledgement that the existing permittee is liable for violations up to that date, and that the new permittee is liable for violations from that date on) shall be submitted to the appropriate Ohio EPA District Office within sixty days after receipt by the District Office of the copy of the letter from the permittee to the succeeding owner;

C. The Director does not exercise his right within thirty days after receipt of the written agreement to notify the current permittee and the new permittee of his or her intent to modify or revoke the permit and to require that a new application be filed; and

D. The new owner or successor receives written confirmation and approval of the transfer from the Director of the Ohio EPA.

20. OIL AND HAZARDOUS SUBSTANCE LIABILITY

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalities to which the permittee is or may be subject under Section 311 of the Act.

21. SOLIDS DISPOSAL

Collected screenings, slurries, sludges, and other solids shall be disposed of in such a manner as to prevent entry of those wastes into waters of the State.

22. CONSTRUCTION AFFECTING NAVIGABLE WATERS

This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any navigable waters.

23. CIVIL AND CRIMINAL LIABILITY

Except as exempted in the permit conditions on UNAUTHORIZED DISCHARGES or UPSETS, nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

24. STATE LAWS AND REGULATIONS

Nothing in this permit shall be construed to preclude the institution of any legal action nor relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Act.

25. PROPERTY RIGHTS

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, state, or local laws or regulations.

26. UPSET

The provisions of 40 CFR Section 122.41(n), dated September 26, 1984 relating to "Upset," are specifically incorporated herein by reference in their entirety. For definition of "upset", see Part 1, item I.

27. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

28. SIGNATORY REQUIREMENTS

All applications submitted to the Director shall be signed and certified in accordance with the requirements of OAC 3745-33-03.

All reports submitted to the Director shall be signed and certified in accordance with the requirements of 40 CFR Section 122.22 (b)(c), dated September 26, 1984.

29. OTHER INFORMATION

A. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

B. ORC 6111.99 provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall upon conviction, be punished by a fine of not more than $25,000 per violation.

C. ORC 6111.99, states that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $25,000 per violation.

D. ORC 6111.99 provides that any person who violates Sections 6111.04, 6111.042, 6111.05, or division (A) of Section 6111.07 of the Revised Code shall be fined not more than twenty-five thousand dollars or imprisioned not more than one year, or both.

30. NEED TO HALT OR REDUCE ACTIVITY

40 CFR 122.41(c), dated September 1, 1983, states that it shall not be a defense for permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with conditions of this permit.

STATEMENT OF NPDES PERMIT FEE DUE

Entity Name U.S. Dept. of Energy
Mound Facility

OEPA Permit No. 1I000005*BD
Effective Date September 30, 1985

Mailing Address P.O. Box 66
Miamisburg, Ohio 45342

Facility Location
Mound Road
Miamisburg, Ohio 45342

Permit fees for the above facility were computed in accordance with the following information and at rates established in Section 3745.11(C) of the Ohio Revised Code.

Outfall Number	Design Flow Discharge (GPD)	Rate $	Charges $
1I000005001	170,000	525.00	525.00
1I000005002	700,000	750.00	750.00

Fee Payment Due $ 1225.00

Please remit not later than fifteen days after the cited effective date of this permit. Make check payable to "Treasurer of the State of Ohio" and mail it to Permits Bookkeeper, Ohio Environmental Protection Agency, P.O. Box 1049, Columbus, Ohio, 43216-1049. Please enclose one copy of this statement with your payment.

Form EPA 4421

Donna
FYI

Ref. 47

ALLOYD ASBESTOS ABATEMENT CO.

5734 WEBSTER STREET
POST OFFICE BOX 14394
DAYTON, OHIO 45414
513/890-7900

RECEIVED
NOV 4 1985
REGIONAL AIR POLLUTION CONTROL AGENCY

October 31, 1985

Regional Air Pollution Control Agency
431 West Third Street
P.O. Box 972
Dayton, Ohio 45422

ATTN: Mr. Jack Hemp
RE: B Building, Monsanto Research Facility

Gentlemen:

Alloyd Asbestos Abatement Company, 5734 Webster Street in Dayton, Ohio has contracted to remove approximately 100 ft. of insulation from the refrigeration piping above the ceiling in "B" building at the Monsanto Research Facility in Miamisburg, Ohio.

We plan to remove the material on November 13-15, 1985 between the hours of 7:30 A.M. and 4:00 P.M.

Room 126 will be isolated as a change room, and access to the crawl space will be through a trap door in the ceiling of this room. The removal will be done by a two man team dressed in disposable coveralls with attached hoods, half-faced masks with dual-cartridge filters, gloves and shoe covers.

The material to be removed will be wetted with amended water and removed with hand tools, bagged in 6 mil labeled polyethylene bags and removed to the North Sanitary Landfill (Ohio E.P.A. permit #5) for disposal.

The area will be washed down with amended water, vacuumed and/or swept as necessary.

Pollution Control Science, Inc. at 6015 Manning Road in Miamisburg, Ohio has been retained to do the analytical work associated with this project.

ALLOYD ASBESTOS ABATEMENT CO.

5734 WEBSTER STREET
POST OFFICE BOX 14394
DAYTON, OHIO 45414
513/890-7900

Alloyd Asbestos Abatement Company cannot be responsible for any employees other than their own during the removal. Any person desiring to enter the work area must first obtain permission from Alloyd, be dressed in coveralls and mask and sign the log book upon entering and leaving the removal area.

Should there be any further questions, please advise.

Very truly yours,
ALLOYD ASBESTOS ABATEMENT CO., INC.

George Glaser

GEORGE GLASER

cc: Monsanto Research Facility
ATTN: Mr. William Ross

GG/je

REC'D APR 0 7 1988

Ref. 48

DRAFT

Preliminary Assessment Narrative

RECEIVED
MAR 26 1986
Environmental Protection Agency
SOUTHWEST DISTRICT

Date: December 9, 1985
Company: Mound Facility
I.D.#: OHD6890008984

The Mound Facility is owned by the U.S. Department of Energy and operated under contract by Monsanto Research Corporation. The facility is located on Mound Road in Miamisburg, Ohio just north of Benner Road and east of Dayton-Cincinnati Road. The Great Miami River flows east of the site. This facility is a research facility which manufactures detonators for nuclear warheads and fabricates radioisotopic heat sources for thermoelectric generators. Radionuclides used include plutonium and tritium.

Mound has an inactive landfill on site. It was only used when trash and laboratory chemicals were excavated from a hillside and transferred to the landfill which consists of a 10 ft. thick dish compacted with 100% clay (sidewalls present). The landfill was sealed with a clay cap. Drains were placed in and under the dish so leachate monitoring could be performed. Leachate was not noticeable. Vegetation presently covers the fill.

A spill of 225 curies of plutonium - 238 occurred in 1969 when a waste pipeline ruptured. Before soil clean up was complete, heavy rains washed an estimated 5 curies down the hillside and into the Miami-Erie Canal and two adjacent ponds in Miami Recreational Park. This off-site release was discovered by Mound during routine background environmental monitoring in 1974. An extensive environmental sampling program was undertaken by USEPA, Dames & Moore, Ohio EPA, and other consultants. Over 1700 analyses were performed on sediments, and water. An Ad Hoc Committee consisting of six environmental health specialists concluded that no public health treat was present. Monitoring is still conducted at the points of contamination.

Mound has also experienced problems with tritium in the drinking water. Mound's three wells and nearby off-site private and community wells were out of compliance since the new drinking water standard became effective in 1975 (20×10^{-6} uCi/ml). Mound has decreased tritium concentrations in the wells by pumping the contaminated groundwater out of the aquifer and by decreasing the amount of tritium discharged into the aquifer. Mound is still pumping the well and monitoring surrounding wells periodically to keep tritium concentrations within EPA drinking water standards.

The Mound facility is a complex site. No further investigations are required for the landfill but a high State priority and low FIT priority are recommended for the plutomium and tritium problems. The 1974 ^{238}Pu study needs to be reviewed and compared to new standards and knowledge of plutonium and its hazards. The present and future hazards of the ^{238}Pu in the canal and ponds also have to be re-analyzed.

Further studies are recommended for the tritium problem in order to determine the extent of contamination, the concentrations of tritium when pumping has ceased and the affects of tritium to the environment and human health.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE: OH | 02 SITE NUMBER: OHD890008984

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): US. DOE: Mound Facility

02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: Mound Rd. (P.O. Box 66)

03 CITY: Miamisburg

04 STATE: OH | 05 ZIP CODE: 45342 | 06 COUNTY: Montgomery | 07 COUNTY CODE: 113 | 08 CONG DIST: 03

09 COORDINATES LATITUDE: 39° 37' 44" | LONGITUDE: E 84° 17' 25"

Topo Map Quad # 146 NE

10 DIRECTIONS TO SITE (Starting from nearest public road): Site is just north of Benner and East of Dayton-Cincinnati Rd. and B&O railroad.

III. RESPONSIBLE PARTIES

01 OWNER (if known): U.S. Dept. of Energy

02 STREET (Business, mailing, residential): same as above

03 CITY:

04 STATE | 05 ZIP CODE | 06 TELEPHONE NUMBER: (513) 865-3698

07 OPERATOR (if known and different from owner): Safety Mgr. Dave Ingle-DOE/Monsanto Research Corp.

08 STREET (Business, mailing, residential): same as above

09 CITY:

10 STATE | 11 ZIP CODE | 12 TELEPHONE NUMBER: (513) 865-3597 / 865-3698

13 TYPE OF OWNERSHIP (Check one)

☐ A. PRIVATE ☒ B. FEDERAL: U.S. D.O.E. (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL

☐ F. OTHER: (Specify) ☐ G. UNKNOWN

OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

☐ A. RCRA 3001 DATE RECEIVED: / / (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: 6 / 11 / 81 (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON-SITE INSPECTION

☒ YES DATE: 6 / 25 / 85 (MONTH DAY YEAR)

☐ NO

Don Marshall

BY (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR

☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: (Specify)

CONTRACTOR NAME(S):

02 SITE STATUS (Check one)

☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION

1948 (BEGINNING YEAR) | Present (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Heavy Metals (Radioactive)
Radionuclides (Radioactive)

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Surface water (Population/Environment)
Ground water (Population/Environment)
Vapor Release (Population/Environment)

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)

☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect at time suitable to staff) ☐ D. NONE (No further action needed; complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT: Scott Shane

02 OF (Agency/Organization): OEPA

03 TELEPHONE NUMBER: (513) 449-6357

04 PERSON RESPONSIBLE FOR ASSESSMENT: Scott Shane

05 AGENCY: OEPA | 06 ORGANIZATION: | 07 TELEPHONE NUMBER: (513) 449-6357 | 08 DATE: 11 / 19 / 85 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
OH	OHD689000984

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [x] A. SOLID
- [ ] B. POWDER, FINES
- [ ] C. SLUDGE
- [ ] D. OTHER _____ (Specify)
- [ ] E. SLURRY
- [x] F. LIQUID
- [ ] G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS N/A
CUBIC YARDS N/A
NO. OF DRUMS N/A

03 WASTE CHARACTERISTICS (Check all that apply)

- [ ] A. TOXIC
- [ ] B. CORROSIVE
- [x] C. RADIOACTIVE
- [ ] D. PERSISTENT
- [ ] E. SOLUBLE
- [ ] F. INFECTIOUS
- [ ] G. FLAMMABLE
- [ ] H. IGNITABLE
- [ ] I. HIGHLY VOLATILE
- [ ] J. EXPLOSIVE
- [ ] K. REACTIVE
- [ ] L. INCOMPATIBLE
- [ ] M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	7-9	Ci	total amt. release off-site
IOC	INORGANIC CHEMICALS	↓	↓	↓ ↓ ↓
ACD	ACIDS	N/A	N/A	HNO_3 and Plutonium were trans-
BAS	BASES			ferred to waste disposal/building
MES	HEAVY METALS			by pipeline

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
Rad.	Plutonium-238	N/A	underground pipeline / waste disposal building	4.56	nCi/g
Rad.	Plutonium-239	N/A	" " Drum	7.9	pCi/g
Rad.	Tritium	N/A	" " "	2330x467	~~Ci/mo~~ in 1977
ACD	HNO_3 (nitric acid)	7693-37-2	" " "	4.6	ppm
Rad	Polonium 210	N/A	" " "	unk	unk
Rad	Protactinium-231	N/A	" " "	unk	unk
Rad	Uranium-234	N/A	" " "	unk	unk
Rad	Uranium-233	N/A	" " "	"	"
Rad	Uranium-235	N/A	" " "	"	"
Rad	Thorium-232	N/A	" " "	"	"
Rad	Radium-226	N/A	" " "	"	"
Rad	Actinium-227	N/A	" " "	"	"
Rad	Plutonium-242	N/A	" " "	4.0	pCi/g

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	Plutonium-238	N/A	FDS	Polonium-210	N/A
FDS	Plutonium-239	N/A	FDS	Radium-226	N/A
FDS	Tritium	N/A	FDS	Thorium-232	N/A
FDS	HNO_3 (nitric acid)	7693-37-2	FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

US DOE Mound Documents - Plutonium Study - Tritium Potable water study; WOTIS SE Annual Environment Reports 1974-1984, Environ Impact Statement, OEPA industrial wastewater file; Dangerous Properties of Industrial Material by Sax, Handbook of Chemistry and Physics by West; SWDO Emergency response file.
EIS for Mound (listing of rad-wastes)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: OH
02 SITE NUMBER: OHD980008784

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION
02 ☒ OBSERVED (DATE: 1975) ☐ POTENTIAL ☒ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 15,300
04 NARRATIVE DESCRIPTION
Effluent containing tritium was observed in Miamisburg and Mound wells. Concentrations in 1977 ranged from 19.4-59.0 uCi/ml in found offsite wells. Runoff containing tritium is also responsible for leaching into the ground water. Other community and private wells contained levels of tritium above DWS (drinking water standard)

01 ☐ B. SURFACE WATER CONTAMINATION
02 ☐ OBSERVED (DATE:) ☐ POTENTIAL ☒ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 15,300
04 NARRATIVE DESCRIPTION
Samples taken of the Miami-Erie Canal show levels of Plutonium-238 ranging from 26.0-45.0 uCi/ml ~~in 1977~~ for water and levels ranging 61.1-263.9 uCi/g in the sediment.

01 ☐ C. CONTAMINATION OF AIR
02 ☐ OBSERVED (DATE:) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED:
04 NARRATIVE DESCRIPTION
N/A

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS
02 ☐ OBSERVED (DATE:) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 8000
04 NARRATIVE DESCRIPTION
N/A

01 ☐ E. DIRECT CONTACT
02 ☐ OBSERVED (DATE:) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 8000
04 NARRATIVE DESCRIPTION
Pu concentrations in sediment ranged from 61.1-263.9 uCi/g in the south canal. Public access to the canal and pond are unrestricted.

01 ☐ F. CONTAMINATION OF SOIL
02 ☐ OBSERVED (DATE:) ☐ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: 1 mile (acres)
04 NARRATIVE DESCRIPTION
In 1969 about 225 Ci of ^{238}Pu was spilled on Mound's Hillside. 185 Ci were placed in metal drums, about 35 Ci of soil containing ^{238}Pu was also removed. About 5 Ci of Pu^{238} escaped, bound to sediment, to the Miami Erie canal and 2 adjacent ponds.

01 ☐ G. DRINKING WATER CONTAMINATION
02 ☐ OBSERVED (DATE:) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED:
04 NARRATIVE DESCRIPTION
See groundwater - section A.

01 ☐ H. WORKER EXPOSURE/INJURY
02 ☐ OBSERVED (DATE:) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED:
04 NARRATIVE DESCRIPTION
N/A

01 ☐ I. POPULATION EXPOSURE/INJURY
02 ☐ OBSERVED (DATE:) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED:
04 NARRATIVE DESCRIPTION
N/A

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: OH
02 SITE NUMBER: OH6890008984

II. HAZARDOUS CONDITIONS AND INCIDENTS (continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

N/A

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)

N/A

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

N/A

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/runoffs/standing liquids/flaking drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

N/A

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: 1974) ☐ POTENTIAL ☒ ALLEGED
04 NARRATIVE DESCRIPTION
The ^{238}Pu spilled into the Miami-Erie Canal and 2 adjacent ponds in Miamisburg Recreational Park.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

N/A

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

N/A

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

N/A

III. TOTAL POPULATION POTENTIALLY AFFECTED: 28,952

IV. COMMENTS

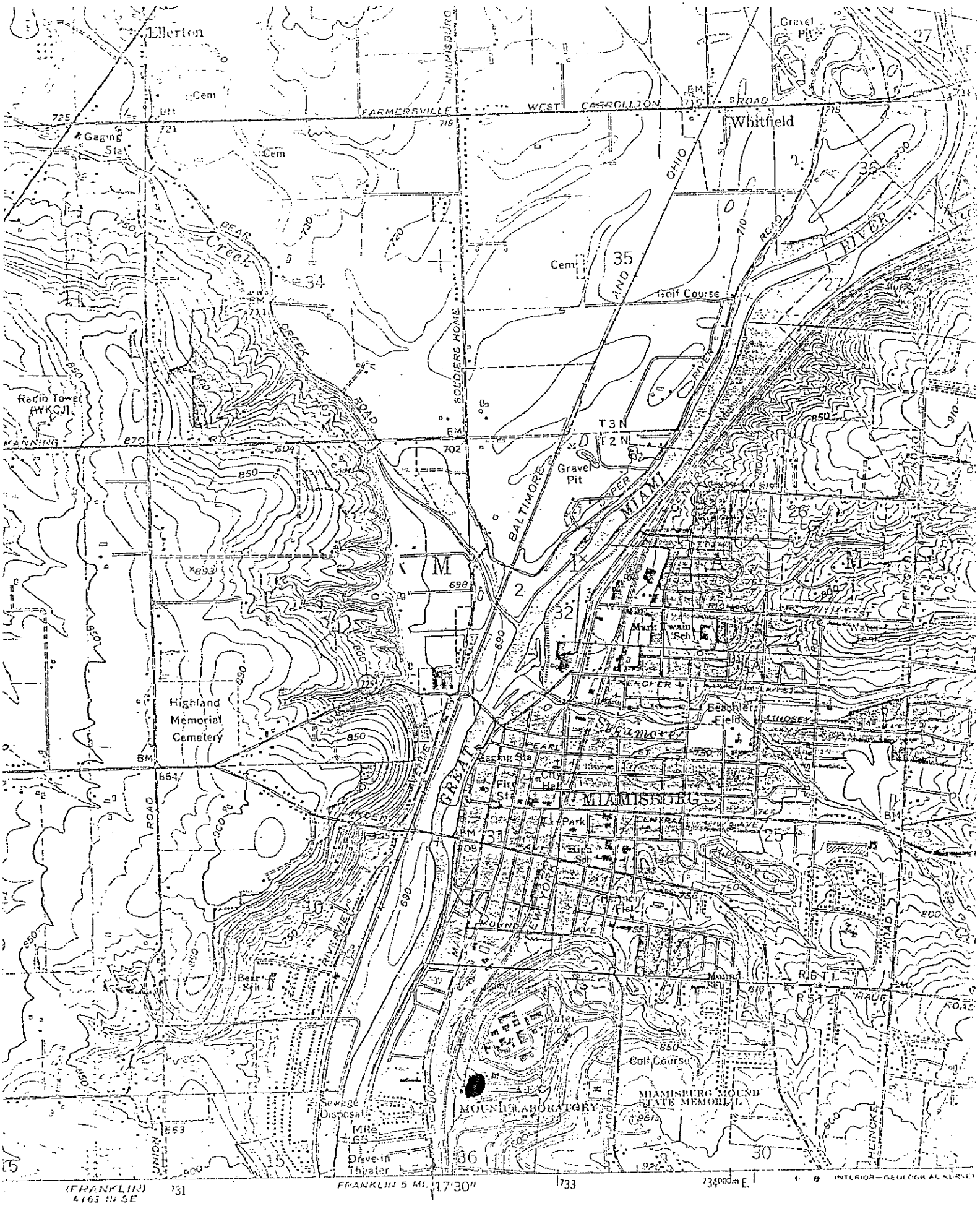
U.S. DOE believes a problem does not exist since the ^{238}Pu is bound to the sediment and is buried.

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Ohio Population Report; 1980 - Anthony Celebrezze. Potable Water Standards Project: Final Report. (Ettyon + Meyer). Annual Environmental Monitoring Report 1975-1984. OEPA industrial waste, hazardous waste and emergency response file. 1974 Plutonium Study - Rogers Environmental Impact Statement

PRELIMINARY ASSESSMENT SOURCE SUMMARY

Major Data Elements	Information Available Yes	No	Major Source (Ohio EPA Divisions, otheragencies, reports/documents)
ner/Operator Information			
Owner			WOTIS
Operator			WOTIS
Other Responsible or Affected Parties			N/A
ste Information			
Waste States			Potable Water Project; Plutonium Study
Waste Quantity at Site			Potable Water Project; Plutonium Study
Waste Characterization			Potable Water Project; Plutonium Study
Waste Type			" " " " "
Hazardous Substances			" " " " "
zardous Conditions Information			
On-Site Inspection			Don Marshall 6/25/85
Ground Water			Potable Water Standards Project
Surface Water			Annual Environmental Monitoring Report 1975-1984
Air			Annual Environmental Monitoring Report 1975-1984
Fire/Explosion			N/A
Direct Contact			Plutonium Study
Soil			Plutonium Study and Potable Water Standards Project
Drinking Water			Potable Water Standards Project
Floral/Fauna/Food Chain			N/A


Ellerton
Cem
Gaging Sta
Cem
FARMERSVILLE
WEST CARROLLTON
ROAD
Whitfield
Gravel Pit
BEAR
Creek
BEAR
CREEK
ROAD
SOLDIERS HOME
OHIO
AND
MIAMI
RIVER
Cem
Golf Course
Radio Tower (WKCJI)
MANNING
T3N
T2N
Gravel Pit
BALTIMORE
UPPER
MIAMI
RIVER
Highland Memorial Cemetery
Mark Twain Sch
Beechler Field
Summer
PEARL
Gaging Sta
Fire St
City Hall
MIAMISBURG
Park
CENTRAL AVE
High Sch
Field
GREAT
MAIN
NEW YORK
YOUNG
AVE
RIVERVIEW
Beery Sch
Mound Sch
Water Tank
Golf Course
MIAMISBURG MOUND STATE MEMORIAL
MOUND LABORATORY
Sewage Disposal
Mile
Drive-in Theater
UNION
HEINCKE
(FRANKLIN) 4163 III SE
FRANKLIN 5 MI. 17'30"
SCALE 1:24 000
1 MILE
7000 FEET
INTERIOR—GEOLOGICAL SURVEY
ROAD CLAS
Heavy-duty

Ref. 49

December 17, 1985

Glenn Statement Releasing
the GAO Report on the Three
Ohio Defense Facilities

On April 15th of this year, I made a formal request to the General Accounting Office (GAO), the investigative arm of Congress, to review the Department of Energy's effectiveness in protecting its workers, the community, and the environment at all defense production facilities. I asked the GAO to begin with three facilities in Ohio: the Feed Materials Production Center at Fernald, the Gaseous Diffusion Enrichment Plant at Piketon, and the Mound Facility at Miamisburg.

The GAO has completed its review of the Ohio facilties, and has prepared a report of its findings which I am releasing today. The report, entitled: "Environment and Workers Could Be Better Protected at Ohio Defense Plants," along with a separately published fact sheet consisting of three Appendices, provide the most comprehensive account to date of the problems at the Ohio facilities in the areas of environment, safety, and health.

Here are the most salient facts and conclusions in the GAO report:

On Fernald:

*The environmental release data on air emissions is not reliable because of exhaust stack monitoring problems, corrosion of sample probes, inadequate flow measurement systems, and poor location of on-site monitors. Consequently, we do not really know how much of the releases of the plant escaped off-site.

*Radiation exposures reported in the past by Fernald were based on a computational formula generally accepted at the time, but which is now deemed to be in error. It is now believed that the uranium emitted at Fernald could cause a lung dose 15 to 20 times greater than previously thought. As a result, Fernald is believed to have exceeded USEPA's radiation protection standard in 1984 by 33 percent. Recent emissions are much lower, and within guidelines.

*The two on-site wells at Fernald are contaminated with radioactive substances and chemicals. The radioactive concentrations were as high as 90% of DOE's guidelines, and the chemical concentrations exceeded Ohio's standard by anywhere from 224% to 795%.

*Fernald will not be in compliance with its NPDES permits for nonradioactive hazardous air pollution releases until two pollution control projects required by its 1980 NPDES permit are completed - in December 1986, 32 months later than specified in Ohio EPA's permit.

*The mixed waste at Fernald, which is growing at a rate of 1,100 pounds/year in addition to the 174,000 pounds received from other facilities will not begin to be incinerated until Oak Ridge completes its construction of the incinerator (whose construction has not yet begun) in 1987. Fernald has been out of compliance with hazardous waste laws since March 16, 1984.

*In 1982 and 1983, Fernald's accident rate was higher than the DOE - wide average and for 1980-1984 its rate of lost workdays was much higher than the DOE-wide rate.

* U.S. EPA officials cannot conclude that the 1984 releases stayed on-site and did not contaminate either the environment or the public, because Fernald did not have off-site monitors, and those which were on-site were improperly located.

*Fernald still does not have measureable ALARA goals to protect workers from excessive radiation exposure and has not established an ALARA program for environmental releases.

On Portsmouth:

*Portsmouth radioactive air emissions have been occurring in quantities greater than reported, and, in 1985, not all air emission points were continuously sampled. In addition, Portsmouth has insufficient air monitors off-site, and these are poorly located in relation to wind direction.

*Portsmouth is releasing significant quantities of fluoride - a toxic substance - to the air at rates which have, at times, exceeded standards set by the State of Tennessee by a factor of 12. Ohio has no state standard.

*Portsmouth has inadequate groundwater monitoring around its waste disposal sites, and has been out of compliance with hazardous waste laws since March, 1984.

*Portsmouth has found radioactive and hazardous substance contamination in wells near a low-level waste burial site and a waste-treatment pond. The concentrations of hazardous substances in the wells near the burial site exceed EPA's guideline by factors of 10 to 140. A well drilled near the pond in late 1984 was already showing radioactive and hazardous substance contamination n 1985.

The hazardous substance contamination exceeded EPA's guideline by a factor of almost 20,000.

*There is extensive PCB contamination inside and around the Portsmouth plant, including the enrichment cascade lubricating oil, the cascade building's exhaust ventilation system, sludge from an old sewage treatment plant, and soil in a drainage ditch. PCB's are dangerous - they have been shown in laboratory tests to retard reproduction and growth, cause skin lesions and tumors, and injure the liver.

*Besides PCBs, Portsmouth also has a hazardous waste problem with lithium hydroxide. About 80,000 cubic yards of it, generated by Oak Ridge, are stored at Portsmouth in 160,000 fiberboard containers. According to Portsmouth officials, none of the containers are in good shape, and 3,500 will have to be replaced. Portsmouth has found lithium hydroxide in the soil and water outside the warehouse where it is stored.

*Portsmouth has found a buildup of uranium particles in a creek that receives the plant's untreated water. The creek flows in the Scioto River, located one mile west of the plant.

*It took five years for cracks and potholes in the floor of the facility to be repaired, despite the fact that spills or leaks of enriched uranium could have resulted in a nuclear criticality accident. The reason for the delay was a desire not to hinder the cascade improvement and upgrade program that was completed in 1983.

*Between 1965 and 1972, eight employees exceeded DOE's annual internal radioactive dose standard of 15 rem.

*The seriousness of industrial accidents at Portsmouth was greater between 1980 and 1983 than DOE-wide performance.

*Portsmouth, like Fernald, does not have measurable ALARA goals for worker exposures.

<u>On Mound</u>:

*Between 1959 and 1968, Mound released large quantities of tritium to the air and water.

*In 1970, a local drinking water aquifer was found to contain tritium. The concentration exceeded the later-issued (1976) EPA standard. Since 1976, Mound has been diluting the concentration by pumping contaminated water from two wells into the Greater Miami River, thus allowing the relatively uncontaminated river to recharge the aquifer.

The tritium concentration in the aquifer has been within EPA standards since 1978.

*DOE does not know the full extent of tritium contamination, the corrective actions needed to fully resolve the issue, or the associated long-term environmental or health effects.

*Mound has an off-site plutonium contamination problem stemming from a 1969 underground pipe rupture. Because of plutonium's long half life, this area will remain potentially hazardous for an indefinite period and cannot accomodate construction projects.

*Between 1960 and 1979, Mound used a powder form of plutonium oxide. As a result of industrial accidents during this period, 17 employees received plutonium doses in excess of DOE's standard, and one of these employees was dosed at a rate of five times above the standard. All 17 continue to have plutonium in their bodies because once in the blood stream plutonium is carried throughout the body, settles in the liver and bone, and remains many years after the initial exposure.

*Mound has not been adequately calibrating, testing, nor maintaining radiation protection instruments.

On DOE Management:

*No coordinated DOE/State/Contractor system exists to ensure that the radioactive environmental releases reported by contractors represent the amounts actually released. There is a lack of mandatory program requirements from DOE headquarters concerning how to monitor, what to monitor, and how often to monitor.

*DOE operations offices did not effectively use the award fee process to improve environmental, safety, and health performance or the appraisal process to identify and correct deficiencies.

*In recent years neither headquarters Environmental, Safety, and Health office nor the program offices' Environmental, Safety, and Health groups identified important problems at the three Ohio plants. In some cases where environmental, safety, and health appraisals identified problems, neither the contractor, operations offices, nor program offices corrected them.

*Oak Ridge still has not (1) established endvironmental, safety, and health evaluation criteria with Fernald and Portsmouth prior to the contract award fee period, (2)

specified the amount of fee reduction applicable to environmental, safety, and health deficiencies, and (3) required Fernald or Portsmouth to establish measurable ALARA goals.

The GAO report points out that wherever a problem has been identified at the sites, corrective actions are being undertaken or are planned at DOE headquarters, at the Operations offices, and at the sites. While these actions are welcome, they are late. Some damage which has been done in the past cannot be undone, and other damage will take many generations to mitigate.

We shall have to maintain vigilance to identify and minimize any long-term environmental damage and health effects. Some of the initiatives I have taken over the past few years in this area will soon begin to bear fruit. A NIOSH mortality study of Portsmouth workers that I helped to get started in 1979 is scheduled to be completed in the next few weeks. Similarly, a NIOSH health hazard evaluation at Fernald that I promoted earlier this year is nearly complete and its results will be available in January.

The GAO is reserving most of its recommendations for its next report to me, which will review the remaining DOE defense facilities. But they did offer two recommendations in the present report which I endorse fully:

(1) The Secretary of Energy should require that radiological monitoring guides be mandatory for all DOE facilities.

(2) The Secretary of Energy should develop a coordinated DOE/State/Contractor system to verify contractor-reported data.

Both recommendations, if implemented, should result in faster identification of and response to environmental, safety and health problems as well as improved confidence on the part of the public that their families and their communities are safe from radioactive and hazardous substance contamination from the operation of these plants.

I also have three additional recommendations of my own that are specific to the Ohio situation.

(1) I have informed the Governor's Office that the state of Ohio should establish a flouride air emission standard, as has been done in the other two states with nuclear enrichment plants, namely, Tennessee and Kentucky. Such a standard will provide a specified goal for Portsmouth to achieve in its environmental cleanup program.

(2) Until verifiable significant progress has been achieved in cleaning up the problems at Fernald, Portsmouth, and Mound, no additional hazardous materials should be transferred to those sites from any DOE facilities outside the State. Much of the hazardous stored materials at Fernald and Portsmouth has come from other DOE operations. We don't want Ohio to become a DOE dumping ground.

(3) Environmental, safety, and health programs at Fernald, Portsmouth, and Mound should be appraised on a predictable, annual schedule by DOE.

In addition to these recommendations, I intend to continue to work to advance the two legislative initiatives that I introduced earlier this year that are pertinent to the problems discussed in the GAO report.

S. 525, the Radiation Research Reorganization Act, that Congressman Tim Wirth also introduced in the House, has had one House hearing at which I testified, and will have one in my Governmental Affairs Subcommittee early next year.

S. 892, the Mixed Waste Amendments Act, was attached, with minor modification, to the Low Level Nuclear Waste Policy Act by Congressman Luken in the House Energy and Commerce Committee, and subsequently passed. I shall attempt to attach it to the Senate's version of that bill as a floor amendment whenever it comes up. If we fail on the floor, we shall attempt to win it in conference.

Ref. 50

Rec'd 215

05-57-0677

Department of Energy
Washington, DC 20585

JAN 31 1986

Director
Ohio Environmental Protection Agency
Box 1049
361 E. Broad Street
Columbus, Ohio 43216

Dear Colleague:

The Department of Energy has completed its inventory of hazardous waste facilities in accordance with Section 3016 of the Resource Conservation and Recovery Act (RCRA).

The enclosed inventory forms are being furnished for those facilities under the jurisdiction of the Department of Energy in your State. Completed inventory forms are included for known facilities containing hazardous waste as defined by the RCRA regulations (40 CFR 261). Facilities which contain "candidate mixed wastes" (i.e., radioactive wastes which may also contain chemical waste constituents that meet the definition of hazardous wastes under the RCRA regulations), and which have not yet been characterized, are not included in the inventory. These facilities will be reported if characterization of the waste reveals the presence of hazardous waste. In addition, facilities regulated under the Atomic Energy Act, i.e., those waste facilities containing exclusively source, special nuclear, or byproduct material, are not included in the inventory.

If you have any questions or need additional information, please contact John R. Barker, Director, Office of Environmental Audit and Compliance. Mr. Barker may be reached at (202) 252-5680.

Yours truly,

Mary L. Walker
Assistant Secretary
Environment, Safety, and Health

Enclosure

RECEIVED
OHIO EPA
FEB 06 1986
DIV. of SOLID & HAZ. WASTE MGT

35-57-0677

INVENTORY OF FEDERAL AGENCY HAZARDOUS WASTE ACTIVITIES

A. RESPONSIBLE FEDERAL AGENCY: U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

1. Responsible Field Organization: Albuquerque Operations Office

2. Address: P. O. Box 5400
Albuquerque, NM 87115
(Street, City, State, Zip)

3. DOE Site Contact: James A. Morley

4. Phone Number: 513-865-3271 (Commercial) 774-3271 (FTS)

B. INSTALLATION/SITE LOCATION

1. Installation name: U. S. DOE, Mound

2. Federal Facility ID Number (GSA No.): OH6890008984

3. Address: Mound Road, P. O. Box 66 Montgomery County, Miamisburg, OH 45342
(Street, City, County, State, Zip Code)

4. Number of sites on this installation: 6

5. Site name and/or site number: Bldg. 21

6. Address: Mound Road, P. O. Box 32, Miamisburg, Montgomery Co., OH 45342
(Street, City, County, State, Zip Code)

7. Coordinates: Latitude: 39/37/55N; Longitude: 84/17/15N
(For a rural site with no street address)

C. HAZARDOUS WASTE MANAGEMENT STATUS

1.		O	C	Date closed
Storage:	Containers	[x]	[ ]	
	Tanks	[ ]	[ ]	
	Surface impoundments	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	
Treatment:	Tanks	[ ]	[ ]	
	Surface impoundments	[ ]	[ ]	

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Installation U.S. DOE-Mound

Site Bldg. 21

		O	C	
	Incinerators	[ ]	[ ]	
	Other (describe)	[ ]	[ ]	
Disposal:	Landfill	[ ]	[ ]	
	Land Treatment	[ ]	[ ]	
	Surface impoundment	[ ]	[ ]	
	Underground Injection Wells	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	

O = Operating C= Closed

If the above space is not sufficient, or if the site has one or more operating or closed units in any technique, provide the necessary information in an attachment labelled Attachment C and enter "Attachment C" in the space provided for each technique.

2. Is Attachment C included with the inventory? Yes [ ] No [X]

3. Indicate if any of the following forms were submitted for this site and, if so, the date of the original submittal:

	Yes	No	Date Submitted
RCRA §3010 Notification	[ ]	[X]	
RCRA Part A	[ ]	[X]	
RCRA Part B	[ ]	[X]	
RCRA Closure Plan	[ ]	[X]	
RCRA §3019 Exposure Assessment	[ ]	[X]	
CERCLA §103 Notification	[ ]	[X]	

4. If a RCRA Part B was submitted, what is its current status?

Permit Issued [ ] Permit Denied [ ] No Final Action [ ]

5. If a closure plan was submitted, what is its current status?

Closure Approved [ ] Closure Denied [ ] No Final Action [ ]

6. If the closure plan was approved, has closure been certified?

Yes [ ] No [ ]

5

Installation U.S. DOE-Mound

Site Bldg. 21

7. If the site is no longer used for hazardous waste management, what other activities are currently carried on at the site? (e.g., pasture, building site, park): _____

8. Is this a RCRA site, a CERCLA site, or both?

RCRA [X] CERCLA [ ] Both [ ]

D. WASTE TYPE

1.

	Waste Code	Estimated Amt. Handled FY85 (Amt/unit of measure)	Unit(s) Involved (From Attachment C)		Waste Code	Estimated Amt. Handled FY85 (Amt/unit of measure)	Unit(s) Involved (From Attachment C)
1	D010 D002	0 (260 meter^3 being stored)		6			
2				7			
3				8			
4				9			
5				10			

Waste code shown above assumes all uranium ore concentrate contains selenium and is corrosive. In the analysis of six selected samples, one sample exhibited the corrosivity characteristic (pH=13.2), and three samples contained selenium in excess of 1.0 mg/liter using the extraction procedure toxicity test.

Submit, as Attachment D, the following information: summarize the results of all waste analyses in tabular form, including the presence and approximate concentration ranges of measured hazardous constituents. See the guidance to this form for additional instructions.

If the above additional waste analysis information was submitted previously in a form indicated in C-3, indicate the kind of submittal, the date of the submittal and the location of this information in that submittal. Label this information "Attachment D". If any previously submitted information must be updated, update that information in Attachment D.

2. Is Attachment D included with the inventory? Yes [X] No [ ]

E. ENVIRONMENTAL CONTAMINATION

1. Has this site had releases to the environment? Yes [ ] No [X]

2. If yes, indicate in which media the release(s) occurred:

Air [ ] Surface Water [ ] Groundwater [ ] Subsurface Gas [ ]

3. If yes, when did the release(s) occur: _____

4. If yes, type and concentration of wastes or waste constituents involved in the release(s): _____

5. If yes, give the extent of the release(s) in terms of the lateral extent of release, environmental impact of the release, and any other information necessary for EPA to assess the extent of the release: _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment E. If the information was submitted previously in a form indicated in C-3, indicate in Attachment E the kind of submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment E.

6. Is Attachment E included with the inventory? Yes [ ] No [X]

F. ENVIRONMENTAL MONITORING DATA

1. Does this site have environmental monitoring data?

Yes [ ] No [X]

2. What statistical and analytical methods were used to analyze the data? _____

3. How was the data obtained (e.g., grab sample, etc.)? _____

4. When was it obtained: _____

5. If the site is a land disposal site and it does not have environmental monitoring data, why not? _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment F. If the information was submitted previously in a form indicated in C-3, indicate in Attachment F the kind of

submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment F.

6. Is Attachment F included with the inventory? Yes [ ] No [X]

G. RESPONSE ACTIONS

1. Have response actions been undertaken for this site?

Yes [ ] No [X]

2. Have response actions been studied for this site?

Yes [ ] No [X]

3. Are these actions part of a CERCLA effort? Yes [ ] No [ ]

4. What kind of actions are already underway:

Study [ ] PA/SI [ ] RIFS [ ] Remedial Investigation [ ]

Remedial Action [ ] Removal [ ]

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment G. If the information was submitted previously in a form indicated in C-3, indicate in Attachment G the kind of submittal, the date of the submittal, and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment G.

5. Is Attachment G included with the inventory? Yes [ ] No [X]

H. FOR DISPOSAL SITES ONLY

1. Describe the hydrogeology of the site: N/A

2. Indicate the location of withdrawal wells and surface water within one mile of the site:

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment H. If the information was submitted previously in a form indicated in C-3, indicate in Attachment H the kind of submittal, the date of the submittal, and the location of the information in that submittal.

If the previously submitted information needs to be updated, update that information in Attachment H.

3. Is Attachment H included with the inventory? Yes [ ] No [X]

ATTACHMENT D

Installation: U.S. DOE-Mound

Site: Bldg. 21

EPA Hazardous Waste Number Code (from 40 CFR 261.21-.33)	Type of Analyses Used to Identify This Waste (Example: Analysis of waste stream directly, analysis of landfill leachate or other environmental monitoring result, analysis of surface impoundment contents, etc.)	Principal Constituents	Minimum Concentration (mg/l)	Maximum Concentration (mg/l)
D010	Analysis of selected drum contents	Selenium	0.33	30
D002	Analysis of selected drum contents	pH	10.6	13.2

INVENTORY OF FEDERAL AGENCY HAZARDOUS WASTE ACTIVITIES

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1000 Independence Avenue SW
Washington, DC 20585

1. Responsible Field Organization: Albuquerque Operations Office

2. Address: P. O. Box 5400
Albuquerque, NM 87115
(Street, City, State, Zip)

3. DOE Site Contact: James A. Morley

4. Phone Number: 513-865-3271 (Commercial) 774-3271 (FTS)

B. INSTALLATION/SITE LOCATION

1. Installation name: U. S. DOE, Mound

2. Federal Facility ID Number (GSA No.): OH6890008984

3. Address: Mound Road, P. O. Box 66 Montgomery County, Miamisburg, OH 45342
(Street, City, County, State, Zip Code)

4. Number of sites on this installation: 6

5. Site name and/or site number: WD Bldg Annex

6. Address: Mound Road, P. O. Box 32, Miamisburg, Montgomery Co., OH 45342
(Street, City, County, State, Zip Code)

7. Coordinates: Latitude: 39/37/55N; Longitude: 84/17/15N
(for a rural site with no street address)

C. HAZARDOUS WASTE MANAGEMENT STATUS

1.		O	C	Date closed
Storage:	Containers	☐	☐	
	Tanks	☐	☐	
	Surface impoundments	☐	☐	
	Waste Piles	☐	☐	
Treatment:	Tanks	☐	☐	
	Surface impoundments	☐	☐	

25

Installation U.S. DOE-Mound

Site WD Bldg. Annex

		O	C	
	Incinerators	[x]	[ ]	R & D Glass Melter & cyclone incinerator
	Other (describe)	[ ]	[ ]	
Disposal:	Landfill	[ ]	[ ]	
	Land Treatment	[ ]	[ ]	
	Surface impoundment	[ ]	[ ]	
	Underground Injection Wells	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	

O = Operating C= Closed

If the above space is not sufficient, or if the site has one or more operating or closed units in any technique, provide the necessary information in an attachment labelled Attachment C and enter "Attachment C" in the space provided for each technique.

2. Is Attachment C included with the inventory? Yes [ ] No [x]

3. Indicate if any of the following forms were submitted for this site and, if so, the date of the original submittal:

	Yes	No	Date Submitted
RCRA §3010 Notification	[ ]	[x]	
RCRA Part A	[x]	[ ]	Revised Appl. 11-15-84 & 1-10-85
RCRA Part B	[ ]	[x]	
RCRA Closure Plan	[ ]	[x]	
RCRA §3019 Exposure Assessment	[ ]	[x]	
CERCLA §103 Notification	[ ]	[x]	

4. If a RCRA Part B was submitted, what is its current status?

Permit Issued [ ] Permit Denied [ ] No Final Action [ ]

5. If a closure plan was submitted, what is its current status?

Closure Approved [ ] Closure Denied [ ] No Final Action [ ]

6. If the closure plan was approved, has closure been certified?

Yes [ ] No [ ]

5

Installation U.S. DOE-Mound

Site WD Bldg. Annex

7. If the site is no longer used for hazardous waste management, what other activities are currently carried on at the site? (e.g., pasture, building site, park): _____

8. Is this a RCRA site, a CERCLA site, or both?

RCRA [X] CERCLA [ ] Both [ ]

D. WASTE TYPE

1.

	Waste Code	Estimated Amt. Handled FY85 (Amt/unit of measure)	Unit(s) Involved (From Attachment C)		Waste Code	Estimated Amt. Handled FY85 (Amt/unit of measure)	Unit(s) Involved (From Attachment C)
1	D006	25 lbs		6			
2	U009	400 lbs		7			
3	U211	400 lbs		8			
4	U037	400 lbs		9			
5	U003	2400 lbs		10			

Developmental unit (glass melter) used for special study in 1985; not presently used for hazardous waste treatment.

Submit, as Attachment D, the following information: summarize the results of all waste analyses in tabular form, including the presence and approximate concentration ranges of measured hazardous constituents. See the guidance to this form for additional instructions.

If the above additional waste analysis information was submitted previously in a form indicated in C-3, indicate the kind of submittal, the date of the submittal and the location of this information in that submittal. Label this information "Attachment D". If any previously submitted information must be updated, update that information in Attachment D.

2. Is Attachment D included with the inventory? Yes [X] No [ ]

E. ENVIRONMENTAL CONTAMINATION

1. Has this site had releases to the environment? Yes [ ] No [X]

2. If yes, indicate in which media the release(s) occurred:

Air [ ] Surface Water [ ] Groundwater [ ] Subsurface Gas [ ]

Installation U.S. DOE-Mound

Site WD Bldg. Annex

3. If yes, when did the release(s) occur: _____

4. If yes, type and concentration of wastes or waste constituents involved in the release(s): _____

5. If yes, give the extent of the release(s) in terms of the lateral extent of release, environmental impact of the release, and any other information necessary for EPA to assess the extent of the release: _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment E. If the information was submitted previously in a form indicated in C-3, indicate in Attachment E the kind of submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment E.

6. Is Attachment E included with the inventory? Yes [ ] No [X]

F. ENVIRONMENTAL MONITORING DATA

1. Does this site have environmental monitoring data?

Yes [ ] No [X]

2. What statistical and analytical methods were used to analyze the data? _____

3. How was the data obtained (e.g., grab sample, etc.)? _____

4. When was it obtained: _____

5. If the site is a land disposal site and it does not have environmental monitoring data, why not? _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment F. If the information was submitted previously in a form indicated in C-3, indicate in Attachment F the kind of

submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment F.

6. Is Attachment F included with the inventory? Yes [ ] No [X]

G. RESPONSE ACTIONS

1. Have response actions been undertaken for this site?

Yes [ ] No [X]

2. Have response actions been studied for this site?

Yes [ ] No [X]

3. Are these actions part of a CERCLA effort? Yes [ ] No [ ]

4. What kind of actions are already underway:

Study [ ] PA/SI [ ] RIFS [ ] Remedial Investigation [ ]

Remedial Action [ ] Removal [ ]

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment G. If the information was submitted previously in a form indicated in C-3, indicate in Attachment G the kind of submittal, the date of the submittal, and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment G.

5. Is Attachment G included with the inventory? Yes [ ] No [X]

H. FOR DISPOSAL SITES ONLY

1. Describe the hydrogeology of the site: N/A

2. Indicate the location of withdrawal wells and surface water within one mile of the site:

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment H. If the information was submitted previously in a form indicated in C-3, indicate in Attachment H the kind of submittal, the date of the submittal, and the location of the information in that submittal.

If the previously submitted information needs to be updated, update that information in Attachment H.

3. Is Attachment H included with the inventory? Yes |_| No |X|

ATTACHMENT D
(Continued)

Installation: U.S. DOE-Mound

Site: WD Bldg. Annex

Information previously submitted in:

RCRA §3010 Notification ____

RCRA Part A x

RCRA Part B ____

RCRA Closure Plan ____

RCRA §3019 Exposure Assessment ____

CERCLA §103 Notification ____

Data: _____

Relevant section(s)/page(s): _____

Date(s) of subsequent submittal(s): Part A: 1-10-85 (Section IV)

_____

Relevant section(s) of subsequent submittals(s): _____

_____

This submittal updates previous submittals Yes ___ No ___

All waste type information provided in documents noted above, particularly Part A permit application with revisions.

INVENTORY OF FEDERAL AGENCY HAZARDOUS WASTE ACTIVITIES

A. RESPONSIBLE FEDERAL AGENCY: U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

1. Responsible Field Organization: Albuquerque Operations Office

2. Address: P. O. Box 5400
Albuquerque, NM 87115
(Street, City, State, Zip)

3. DOE Site Contact: James A. Morley

4. Phone Number: 513-865-3271 (Commercial) 774-3271 (FTS)

B. INSTALLATION/SITE LOCATION

1. Installation name: U. S. DOE, Mound

2. Federal Facility ID Number (GSA No.): OH6690008984

3. Address: Mound Road, P. O. Box 66 Montgomery County, Miamisburg, OH 45342
(Street, City, County, State, Zip Code)

4. Number of sites on this installation: 6

5. Site name and/or site number: Closed landfill

6. Address: Mound Road, P. O. Box 32, Miamisburg, Montgomery Co., OH 45342
(Street, City, County, State, Zip Code)

7. Coordinates: Latitude: 39/37/55N; Longitude: 84/17/15N
(For a rural site with no street address)

C. HAZARDOUS WASTE MANAGEMENT STATUS

1.		O	C	Date closed
Storage:	Containers	[ ]	[ ]	
	Tanks	[ ]	[ ]	
	Surface impoundments	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	
Treatment:	Tanks	[ ]	[ ]	
	Surface impoundments	[ ]	[ ]	

Installation U.S. DOE-Mound

Site Closed landfill

		O	C	
	Incinerators	[ ]	[ ]	
	Other (describe)	[ ]	[ ]	
Disposal:	Landfill	[ ]	[x]	1972
	Land Treatment	[ ]	[ ]	
	Surface impoundment	[ ]	[ ]	
	Underground Injection Wells	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	

O = Operating C= Closed

If the above space is not sufficient, or if the site has one or more operating or closed units in any technique, provide the necessary information in an attachment labelled Attachment C and enter "Attachment C" in the space provided for each technique.

2. Is Attachment C included with the inventory? Yes [ ] No [x]

3. Indicate if any of the following forms were submitted for this site and, if so, the date of the original submittal:

	Yes	No	Date Submitted
RCRA §3010 Notification	[ ]	[x]	
RCRA Part A	[x]	[ ]	11-18-80
RCRA Part B	[ ]	[x]	
RCRA Closure Plan	[ ]	[x]	
RCRA §3019 Exposure Assessment	[ ]	[x]	
CERCLA §103 Notification	[x]	[ ]	6-9-81

4. If a RCRA Part B was submitted, what is its current status?

Permit Issued [ ] Permit Denied [ ] No Final Action [ ]

5. If a closure plan was submitted, what is its current status?

Closure Approved [ ] Closure Denied [ ] No Final Action [ ]

6. If the closure plan was approved, has closure been certified?

Yes [ ] No [ ]

Installation U.S. DOE-Mound

Site Closed landfil

7. If the site is no longer used for hazardous waste management, what other activities are currently carried on at the site? (e.g., pasture, building site, park): Closed landfill has been fully lined w/clay then closed. No activities are currently carried on at that si

8. Is this a RCRA site, a CERCLA site, or both?

RCRA [ ] CERCLA [X] Both [ ]

D. WASTE TYPE

1.

Waste Code	Estimated Amt. Handled FY85 (Amt/unit of measure)	Unit(s) Involved (From Attachment C)	Waste Code	Estimated Amt. Handled FY85 (Amt/unit of measure)	Unit(s) Involved (From Attachment C)
1	1000 Ft^3	Landfill	6		
2			7		
3			8		
4			9		
5			10		

Wastes, reportedly include general refuse, construction materials, solvents, paints, photoprocessing solutions and plating bath solutions.

Submit, as Attachment D, the following information: summarize the results of all waste analyses in tabular form, including the presence and approximate concentration ranges of measured hazardous constituents. See the guidance to this form for additional instructions.

If the above additional waste analysis information was submitted previously in a form indicated in C-3, indicate the kind of submittal, the date of the submittal and the location of this information in that submittal. Label this information "Attachment D". If any previously submitted information must be updated, update that information in Attachment D.

2. Is Attachment D included with the inventory? Yes [X] No [ ]

E. ENVIRONMENTAL CONTAMINATION

1. Has this site had releases to the environment? Yes [ ] No [X]

2. If yes, indicate in which media the release(s) occurred:

Air [ ] Surface Water [ ] Groundwater [ ] Subsurface Gas [ ]

3. If yes, when did the release(s) occur: _____

4. If yes, type and concentration of wastes or waste constituents involved in the release(s): _____

5. If yes, give the extent of the release(s) in terms of the lateral extent of release, environmental impact of the release, and any other information necessary for EPA to assess the extent of the release: _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment E. If the information was submitted previously in a form indicated in C-3, indicate in Attachment E the kind of submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment E.

6. Is Attachment E included with the inventory? Yes [ ] No [X]

F. ENVIRONMENTAL MONITORING DATA

1. Does this site have environmental monitoring data?

Yes [ ] No [X]

2. What statistical and analytical methods were used to analyze the data? _____

3. How was the data obtained (e.g., grab sample, etc.)? _____

4. When was it obtained: _____

5. If the site is a land disposal site and it does not have environmental monitoring data, why not? Landfill was closed in 1972, prior to regulatory monitoring requirements.

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment F. If the information was submitted previously in a form indicated in C-3, indicate in Attachment F the kind of

submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment F.

6. Is Attachment F included with the inventory? Yes [ ] No [X]

G. RESPONSE ACTIONS

1. Have response actions been undertaken for this site?

Yes [ ] No [X]

2. Have response actions been studied for this site?

Yes [ ] No [X]

3. Are these actions part of a CERCLA effort? Yes [ ] No [X]

4. What kind of actions are already underway:

Study [ ] PA/SI [ ] RIFS [ ] Remedial Investigation [ ]

Remedial Action [ ] Removal [ ]

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment G. If the information was submitted previously in a form indicated in C-3, indicate in Attachment G the kind of submittal, the date of the submittal, and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment G.

5. Is Attachment G included with the inventory? Yes [ ] No [X]

H. FOR DISPOSAL SITES ONLY

1. Describe the hydrogeology of the site: Buried valleys contain 100 to 200 ft. of pleistocene sand, gravel, & fine-grained till and form the principal aquifier in the area. Aquifier extends under the Mound and a portion of it is below the closed landfill

2. Indicate the location of withdrawal wells and surface water within one mile of the site: Several private wells, Miamisburg City wells and several public utility wells are within 1 mile of Mound. No municipal system in Gr. Miami River Basin uses surface water for a public water supply below the Mound effluent discharge point. Gr. Miami River is w/in 1 mile of Mound.

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment H. If the information was submitted previously in a form indicated in C-3, indicate in Attachment H the kind of submittal, the date of the submittal, and the location of the information in that submittal.

NOTE: Hydrogeological information for attachment H could not be completed within the time allotted for submission of inventory forms. Such information could be provided later if the descriptive information contained in H(1) and H(2) is not adequate.

If the previously submitted information needs to be updated, update that information in Attachment H.

3. Is Attachment H included with the inventory? Yes [ ] No [X]

ATTACHMENT D
(Continued)

Installation: U.S. DOE-Mound

Site: Closed landfill

Information previously submitted in:

RCRA §3010 Notification ____

RCRA Part A ____

RCRA Part B ____

RCRA Closure Plan ____

RCRA §3019 Exposure Assessment ____

CERCLA §103 Notification x 6-9-81 (Section E)

Data: Waste Types

Relevant section(s)/page(s): Section E

Date(s) of subsequent submittal(s): N/A

Relevant section(s) of subsequent submittals(s): N/A

This submittal updates previous submittals Yes ___ No x

No additional waste type information available.

INVENTORY OF FEDERAL AGENCY HAZARDOUS WASTE ACTIVITIES

A. RESPONSIBLE FEDERAL AGENCY: U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

1. Responsible Field Organization: Albuquerque Operations Office

2. Address: P. O. Box 5400
Albuquerque, NM 87115
(Street, City, State, Zip)

3. DOE Site Contact: James A. Morley

4. Phone Number: 513-865-3271 (Commercial) 774-3271 (FTS)

B. INSTALLATION/SITE LOCATION

1. Installation name: U. S. DOE, Mound

2. Federal Facility ID Number (GSA No.): OH6890008984

3. Address: Mound Road, P. O. Box 66 Montgomery County, Miamisburg, OH 45342
(Street, City, County, State, Zip Code)

4. Number of sites on this installation: 6

5. Site name and/or site number: Bldg. 72

6. Address: Mound Road, P. O. Box 32, Miamisburg, Montgomery Co., OH 45342
(Street, City, County, State, Zip Code)

7. Coordinates: Latitude: 39/37/55N; Longitude: 84/17/15N
(For a rural site with no street address)

C. HAZARDOUS WASTE MANAGEMENT STATUS

1.		O	C	Date closed
Storage:	Containers	[X]	[ ]	Storage fac. being relocated on site; orig. unit being closed; relocated unit being readied for use.
	Tanks	[ ]	[ ]	
	Surface impoundments	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	
Treatment:	Tanks	[ ]	[ ]	
	Surface impoundments	[ ]	[ ]	

Installation U.S. DOE - Mound

Site Bldg. 72

		O	C	
	Incinerators	[ ]	[ ]	
	Other (describe)	[ ]	[ ]	
Disposal:	Landfill	[ ]	[ ]	
	Land Treatment	[ ]	[ ]	
	Surface impoundment	[ ]	[ ]	
	Underground Injection Wells	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	

O = Operating C= Closed

If the above space is not sufficient, or if the site has one or more operating or closed units in any technique, provide the necessary information in an attachment labelled Attachment C and enter "Attachment C" in the space provided for each technique.

2. Is Attachment C included with the inventory? Yes [ ] No [ ]

3. Indicate if any of the following forms were submitted for this site and, if so, the date of the original submittal:

	Yes	No	Date Submitted
RCRA §3010 Notification	[X]	[ ]	8-13-80
RCRA Part A	[X]	[ ]	11-18-80 & Rev. Appl. 5-6-85
RCRA Part B	[ ]	[X]	
RCRA Closure Plan	[X]	[ ]	1-24-85
RCRA §3019 Exposure Assessment	[ ]	[X]	
CERCLA §103 Notification	[ ]	[X]	

4. If a RCRA Part B was submitted, what is its current status?

Permit Issued [ ] Permit Denied [ ] No Final Action [ ]

5. If a closure plan was submitted, what is its current status?

Closure Approved [X] Closure Denied [ ] No Final Action [ ]

6. If the closure plan was approved, has closure been certified?

Yes [ ] No [X]

Item 5. Closure plan for original storage facility approved; closure in process.

Installation U.S. DOE-Moun

Site Bldg. 72

7. If the site is no longer used for hazardous waste management, what other activities are currently carried on at the site? (e.g., pasture, building site, park): Original waste storage facility being closed to provide space for new construction.

8. Is this a RCRA site, a CERCLA site, or both?

RCRA [X] CERCLA [ ] Both [ ]

D. WASTE TYPE

1.

	Waste Code	Estimated Amt. Handled FY85 (Amt/unit of measure)	Unit(s) Involved (From Attachment C)		Waste Code	Estimated Amt. Handled FY85 (Amt/unit of measure)	Unit(s) Involved (From Attachment C)
1	D001	110,000 lbs		6			
2	D002	83,000 lbs		7			
3	D004-D0011	66,000 lbs		8			
4				9			
5				10			

A variety of hazardous wastes are handled in Bldg. 72. Ignitable liquids comprise a major fraction of these wastes. Corrosive, toxic, reactive and other types comprise the remainder. Wastes have been grouped roughly into the three categories above for convenience.

Submit, as Attachment D, the following information: summarize the results of all waste analyses in tabular form, including the presence and approximate concentration ranges of measured hazardous constituents. See the guidance to this form for additional instructions.

If the above additional waste analysis information was submitted previously in a form indicated in C-3, indicate the kind of submittal, the date of the submittal and the location of this information in that submittal. Label this information "Attachment D". If any previously submitted information must be updated, update that information in Attachment D.

2. Is Attachment D included with the inventory? Yes [X] No [ ]

E. ENVIRONMENTAL CONTAMINATION

1. Has this site had releases to the environment? Yes [ ] No [X]

2. If yes, indicate in which media the release(s) occurred:

Air [ ] Surface Water [ ] Groundwater [ ] Subsurface Gas [ ]

Installation U.S. DOE-Mound

Site Bldg. 72

3. If yes, when did the release(s) occur: _____

4. If yes, type and concentration of wastes or waste constituents involved in the release(s): _____

5. If yes, give the extent of the release(s) in terms of the lateral extent of release, environmental impact of the release, and any other information necessary for EPA to assess the extent of the release: _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment E. If the information was submitted previously in a form indicated in C-3, indicate in Attachment E the kind of submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment E.

6. Is Attachment E included with the inventory? Yes [ ] No [X]

F. ENVIRONMENTAL MONITORING DATA

1. Does this site have environmental monitoring data?

Yes [ ] No [X]

2. What statistical and analytical methods were used to analyze the data? _____

3. How was the data obtained (e.g., grab sample, etc.)? _____

4. When was it obtained: _____

5. If the site is a land disposal site and it does not have environmental monitoring data, why not? _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment F. If the information was submitted previously in a form indicated in C-3, indicate in Attachment F the kind of

U.S. DOE-Mound
Site Bldg. 72

submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment F.

6. Is Attachment F included with the inventory? Yes [ ] No [X]

G. RESPONSE ACTIONS

1. Have response actions been undertaken for this site?

Yes [ ] No [X]

2. Have response actions been studied for this site?

Yes [ ] No [X]

3. Are these actions part of a CERCLA effort? Yes [ ] No [ ]

4. What kind of actions are already underway:

Study [ ] PA/SI [ ] RIFS [ ] Remedial Investigation [ ]

Remedial Action [ ] Removal [ ]

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment G. If the information was submitted previously in a form indicated in C-3, indicate in Attachment G the kind of submittal, the date of the submittal, and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment G.

5. Is Attachment G included with the inventory? Yes [ ] No [X]

H. FOR DISPOSAL SITES ONLY

1. Describe the hydrogeology of the site: N/A

2. Indicate the location of withdrawal wells and surface water within one mile of the site:

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment H. If the information was submitted previously in a form indicated in C-3, indicate in Attachment H the kind of submittal, the date of the submittal, and the location of the information in that submittal.

If the previously submitted information needs to be updated, update that information in Attachment H.

3. Is Attachment H included with the inventory? Yes [ ] No [x]

ATTACHMENT D
(Continued)

Installation: U.S. DOE-Mound

Site: Bldg. 72

Information previously submitted in:

RCRA §3010 Notification	x	8-13-80 (Section IX)
RCRA Part A	x	11-18-80 (Section IV)
RCRA Part B		
RCRA Closure Plan	x	1-24-85 (p.1)
RCRA §3019 Exposure Assessment		
CERCLA §103 Notification		

Data: Waste Types

Relevant section(s)/page(s): See above

Date(s) of subsequent submittal(s): Part A: 11/15/84; Section IV

Relevant section(s) of subsequent submittals(s):

This submittal updates previous submittals Yes ___ No ___

All waste type information provided in documents noted above, particularly Part A permit application with revisions.

Description of relocated storage facility provided in Part A revision dated 5-6-84.

INVENTORY OF FEDERAL AGENCY HAZARDOUS WASTE ACTIVITIES

A. RESPONSIBLE FEDERAL AGENCY: U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

1. Responsible Field Organization: Albuquerque Operations Office

2. Address: P. O. Box 5400
Albuquerque, NM 87115
(Street, City, State, Zip)

3. DOE Site Contact: James A. Morley

4. Phone Number: 513-865-3271 (Commercial) 774-3271 (FTS)

B. INSTALLATION/SITE LOCATION

1. Installation name: U. S. DOE, Mound

2. Federal Facility ID Number (GSA No.): OH6890008984

3. Address: Mound Road, P. O. Box 66 Montgomery County, Miamisburg, OH 45342
(Street, City, County, State, Zip Code)

4. Number of sites on this installation: 6

5. Site name and/or site number: Bldg. 23

6. Address: Mound Road, P. O. Box 32, Miamisburg, Montgomery Co., OH 45342
(Street, City, County, State, Zip Code)

7. Coordinates: Latitude: 39/37/55N; Longitude: 84/17/15N
(For a rural site with no street address)

C. HAZARDOUS WASTE MANAGEMENT STATUS

1.		O	C	Date closed
Storage:	Containers	[X]	[ ]	
	Tanks	[ ]	[ ]	
	Surface impoundments	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	
Treatment:	Tanks	[ ]	[ ]	
	Surface impoundments	[ ]	[ ]	

Installation U.S. DOE-Mound

Site Bldg. 23

		O	C	
	Incinerators	[ ]	[ ]	
	Other (describe)	[ ]	[ ]	
Disposal:	Landfill	[ ]	[ ]	
	Land Treatment	[ ]	[ ]	
	Surface impoundment	[ ]	[ ]	
	Underground Injection Wells	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	

O = Operating C= Closed

If the above space is not sufficient, or if the site has one or more operating or closed units in any technique, provide the necessary information in an attachment labelled Attachment C and enter "Attachment C" in the space provided for each technique.

2. Is Attachment C included with the inventory? Yes [ ] No [x]

3. Indicate if any of the following forms were submitted for this site and, if so, the date of the original submittal:

	Yes	No	Date Submitted
RCRA §3010 Notification	[ ]	[x]	
RCRA Part A	[ ]	[x]	
RCRA Part B	[ ]	[x]	
RCRA Closure Plan	[ ]	[x]	
RCRA §3019 Exposure Assessment	[ ]	[x]	
CERCLA §103 Notification	[ ]	[x]	

4. If a RCRA Part B was submitted, what is its current status?

Permit Issued [ ] Permit Denied [ ] No Final Action [ ]

5. If a closure plan was submitted, what is its current status?

Closure Approved [ ] Closure Denied [ ] No Final Action [ ]

6. If the closure plan was approved, has closure been certified?

Yes [ ] No [ ]

5

Installation U.S. DOE-Moun

Site Bldg. 23

7. If the site is no longer used for hazardous waste management, what other activities are currently carried on at the site? (e.g., pasture, building site, park): _____

8. Is this a RCRA site, a CERCLA site, or both?

RCRA [X] CERCLA [ ] Both [ ]

D. WASTE TYPE

1.

	Waste Code	Estimated Amt. Handled FY85 (Amt/unit of measure)	Unit(s) Involved (From Attachment C)		Waste Code	Estimated Amt. Handled FY85 (Amt/unit of measure)	Unit(s) Involved (From Attachment C)
1	D001 F003	4 meter^3		6			
2				7			
3				8			
4				9			
5				10			

Waste Code shown above assumes scintillation vials contain pseudocumene, 1,4 - dioxane or xylene.

Submit, as Attachment D, the following information: summarize the results of all waste analyses in tabular form, including the presence and approximate concentration ranges of measured hazardous constituents. See the guidance to this form for additional instructions.

If the above additional waste analysis information was submitted previously in a form indicated in C-3, indicate the kind of submittal, the date of the submittal and the location of this information in that submittal. Label this information "Attachment D". If any previously submitted information must be updated, update that information in Attachment D.

2. Is Attachment D included with the inventory? Yes [ ] No [X]

E. ENVIRONMENTAL CONTAMINATION

1. Has this site had releases to the environment? Yes [ ] No [X]

2. If yes, indicate in which media the release(s) occurred:

Air [ ] Surface Water [ ] Groundwater [ ] Subsurface Gas [ ]

Installation U.S. DOE-Moun

Site Bldg. 23

3. If yes, when did the release(s) occur: _____

4. If yes, type and concentration of wastes or waste constituents involved in the release(s): _____

5. If yes, give the extent of the release(s) in terms of the lateral extent of release, environmental impact of the release, and any other information necessary for EPA to assess the extent of the release: _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment E. If the information was submitted previously in a form indicated in C-3, indicate in Attachment E the kind of submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment E.

6. Is Attachment E included with the inventory? Yes [ ] No [X]

F. ENVIRONMENTAL MONITORING DATA

1. Does this site have environmental monitoring data?

Yes [ ] No [X]

2. What statistical and analytical methods were used to analyze the data? _____

3. How was the data obtained (e.g., grab sample, etc.)? _____

4. When was it obtained: _____

5. If the site is a land disposal site and it does not have environmental monitoring data, why not? _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment F. If the information was submitted previously in a form indicated in C-3, indicate in Attachment F the kind of

submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment F.

6. Is Attachment F included with the inventory? Yes [ ] No [X]

G. RESPONSE ACTIONS

1. Have response actions been undertaken for this site?

Yes [ ] No [X]

2. Have response actions been studied for this site?

Yes [ ] No [X]

3. Are these actions part of a CERCLA effort? Yes [ ] No [ ]

4. What kind of actions are already underway:

Study [ ] PA/SI [ ] RIFS [ ] Remedial Investigation [ ]

Remedial Action [ ] Removal [ ]

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment G. If the information was submitted previously in a form indicated in C-3, indicate in Attachment G the kind of submittal, the date of the submittal, and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment G.

5. Is Attachment G included with the inventory? Yes [ ] No [X]

H. FOR DISPOSAL SITES ONLY

1. Describe the hydrogeology of the site: N/A

2. Indicate the location of withdrawal wells and surface water within one mile of the site:

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment H. If the information was submitted previously in a form indicated in C-3, indicate in Attachment H the kind of submittal, the date of the submittal, and the location of the information in that submittal.

Installation U.S. DOE-Mound

Site WD Bldg. Annex

		O	C	R & D
	Incinerators	[X]	[ ]	Glass Melter & cyclone incinerator
	Other (describe)	[ ]	[ ]	
Disposal:	Landfill	[ ]	[ ]	
	Land Treatment	[ ]	[ ]	
	Surface impoundment	[ ]	[ ]	
	Underground Injection Wells	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	

O = Operating C= Closed

If the above space is not sufficient, or if the site has one or more operating or closed units in any technique, provide the necessary information in an attachment labelled Attachment C and enter "Attachment C" in the space provided for each technique.

2. Is Attachment C included with the inventory? Yes [ ] No [X]

3. Indicate if any of the following forms were submitted for this site and, if so, the date of the original submittal:

	Yes	No	Date Submitted
RCRA §3010 Notification	[ ]	[X]	
RCRA Part A	[X]	[ ]	Revised Appl. 11-15-84 & 1-10-85
RCRA Part B	[ ]	[X]	
RCRA Closure Plan	[ ]	[X]	
RCRA §3019 Exposure Assessment	[ ]	[X]	
CERCLA §103 Notification	[ ]	[X]	

4. If a RCRA Part B was submitted, what is its current status?

Permit Issued [ ] Permit Denied [ ] No Final Action [ ]

5. If a closure plan was submitted, what is its current status?

Closure Approved [ ] Closure Denied [ ] No Final Action [ ]

6. If the closure plan was approved, has closure been certified?

Yes [ ] No [ ]

5

Installation U.S. DOE-Mound

Site WD Bldg. Annex

7. If the site is no longer used for hazardous waste management, what other activities are currently carried on at the site? (e.g., pasture, building site, park): _____

8. Is this a RCRA site, a CERCLA site, or both?

RCRA [X] CERCLA [ ] Both [ ]

D. WASTE TYPE

1.

	Waste Code	Estimated Amt. Handled FY85 (Amt/unit of measure)	Unit(s) Involved (From Attachment C)		Waste Code	Estimated Amt. Handled FY85 (Amt/unit of measure)	Unit(s) Involved (From Attachment C)
1	D006	25 lbs		6			
2	U009	400 lbs		7			
3	U211	400 lbs		8			
4	U037	400 lbs		9			
5	U003	2400 lbs		10			

Developmental unit (glass melter) used for special study in 1985; not presently used for hazardous waste treatment.

Submit, as Attachment D, the following information: summarize the results of all waste analyses in tabular form, including the presence and approximate concentration ranges of measured hazardous constituents. See the guidance to this form for additional instructions.

If the above additional waste analysis information was submitted previously in a form indicated in C-3, indicate the kind of submittal, the date of the submittal and the location of this information in that submittal. Label this information "Attachment D". If any previously submitted information must be updated, update that information in Attachment D.

2. Is Attachment D included with the inventory? Yes [X] No [ ]

E. ENVIRONMENTAL CONTAMINATION

1. Has this site had releases to the environment? Yes [ ] No [X]

2. If yes, indicate in which media the release(s) occurred:

Air [ ] Surface Water [ ] Groundwater [ ] Subsurface Gas [ ]

Installation U.S. DOE-Mound

Site WD Bldg. Annex

3. If yes, when did the release(s) occur: _____

4. If yes, type and concentration of wastes or waste constituents involved in the release(s): _____

5. If yes, give the extent of the release(s) in terms of the lateral extent of release, environmental impact of the release, and any other information necessary for EPA to assess the extent of the release: _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment E. If the information was submitted previously in a form indicated in C-3, indicate in Attachment E the kind of submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment E.

6. Is Attachment E included with the inventory? Yes [ ] No [X]

F. ENVIRONMENTAL MONITORING DATA

1. Does this site have environmental monitoring data?

Yes [ ] No [X]

2. What statistical and analytical methods were used to analyze the data? _____

3. How was the data obtained (e.g., grab sample, etc.)? _____

4. When was it obtained: _____

5. If the site is a land disposal site and it does not have environmental monitoring data, why not? _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment F. If the information was submitted previously in a form indicated in C-3, indicate in Attachment F the kind of

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submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment F.

6. Is Attachment F included with the inventory? Yes [ ] No [X]

G. RESPONSE ACTIONS

1. Have response actions been undertaken for this site?

Yes [ ] No [X]

2. Have response actions been studied for this site?

Yes [ ] No [X]

3. Are these actions part of a CERCLA effort? Yes [ ] No [ ]

4. What kind of actions are already underway:

Study [ ] PA/SI [ ] RIFS [ ] Remedial Investigation [ ]

Remedial Action [ ] Removal [ ]

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment G. If the information was submitted previously in a form indicated in C-3, indicate in Attachment G the kind of submittal, the date of the submittal, and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment G.

5. Is Attachment G included with the inventory? Yes [ ] No [X]

H. FOR DISPOSAL SITES ONLY

1. Describe the hydrogeology of the site: N/A

2. Indicate the location of withdrawal wells and surface water within one mile of the site:

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment H. If the information was submitted previously in a form indicated in C-3, indicate in Attachment H the kind of submittal, the date of the submittal, and the location of the information in that submittal.

If the previously submitted information needs to be updated, update that information in Attachment H.

3. Is Attachment H included with the inventory? Yes [ ] No [X]

ATTACHMENT D
(Continued)

Installation: U.S. DOE-Mound

Site: WD Bldg. Annex

Information previously submitted in:

RCRA §3010 Notification ____

RCRA Part A x

RCRA Part B ____

RCRA Closure Plan ____

RCRA §3019 Exposure Assessment ____

CERCLA §103 Notification ____

Date: _____

Relevant section(s)/page(s): _____

Date(s) of subsequent submittal(s): Part A: 1-10-85 (Section IV)

_____

Relevant section(s) of subsequent submittals(s): _____

_____

This submittal updates previous submittals Yes ___ No ___

All waste type information provided in documents noted above, particularly Part A permit application with revisions.

INVENTORY OF FEDERAL AGENCY HAZARDOUS WASTE ACTIVITIES

A. RESPONSIBLE FEDERAL AGENCY: U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

1. Responsible Field Organization: Albuquerque Operations Office

2. Address: P. O. Box 5400
Albuquerque, NM 87115
(Street, City, State, Zip)

3. DOE Site Contact: James A. Morley

4. Phone Number: 513-865-3271 (Commercial) 774-3271 (FTS)

B. INSTALLATION/SITE LOCATION

1. Installation name: U. S. DOE, Mound

2. Federal Facility ID Number (GSA No.): OH6890008984

3. Address: Mound Road, P. O. Box 66 Montgomery County, Miamisburg, OH 45342
(Street, City, County, State, Zip Code)

4. Number of sites on this installation: 6

5. Site name and/or site number: Bldg. 23

6. Address: Mound Road, P. O. Box 32, Miamisburg, Montgomery Co., OH 45342
(Street, City, County, State, Zip Code)

7. Coordinates: Latitude: 39/37/55N; Longitude: 84/17/15N
(For a rural site with no street address)

C. HAZARDOUS WASTE MANAGEMENT STATUS

1.		O	C	Date closed
Storage:	Containers	[X]	[ ]	
	Tanks	[ ]	[ ]	
	Surface impoundments	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	
Treatment:	Tanks	[ ]	[ ]	
	Surface impoundments	[ ]	[ ]	

Installation U.S. DOE-Mound

Site Bldg. 23

		O	C	
	Incinerators	[ ]	[ ]	
	Other (describe)	[ ]	[ ]	
Disposal:	Landfill	[ ]	[ ]	
	Land Treatment	[ ]	[ ]	
	Surface impoundment	[ ]	[ ]	
	Underground Injection Wells	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	

O = Operating C= Closed

If the above space is not sufficient, or if the site has one or more operating or closed units in any technique, provide the necessary information in an attachment labelled Attachment C and enter "Attachment C" in the space provided for each technique.

2. Is Attachment C included with the inventory? Yes [ ] No [X]

3. Indicate if any of the following forms were submitted for this site and, if so, the date of the original submittal:

	Yes	No	Date Submitted
RCRA §3010 Notification	[ ]	[X]	
RCRA Part A	[ ]	[X]	
RCRA Part B	[ ]	[X]	
RCRA Closure Plan	[ ]	[X]	
RCRA §3019 Exposure Assessment	[ ]	[X]	
CERCLA §103 Notification	[ ]	[X]	

4. If a RCRA Part B was submitted, what is its current status?

Permit Issued [ ] Permit Denied [ ] No Final Action [ ]

5. If a closure plan was submitted, what is its current status?

Closure Approved [ ] Closure Denied [ ] No Final Action [ ]

6. If the closure plan was approved, has closure been certified?

Yes [ ] No [ ]

Installation U.S. DOE-Moun

Site Bldg. 23

7. If the site is no longer used for hazardous waste management, what other activities are currently carried on at the site? (e.g., pasture, building site, park): _____

8. Is this a RCRA site, a CERCLA site, or both?

RCRA [X] CERCLA [ ] Both [ ]

D. WASTE TYPE

1.

	Waste Code	Estimated Amt. Handled FY85 (Amt/unit of measure)	Unit(s) Involved (From Attachment C)		Waste Code	Estimated Amt. Handled FY85 (Amt/unit of measure)	Unit(s) Involved (From Attachment C)
1	D001 F003	4 meter^3		6			
2				7			
3				8			
4				9			
5				10			

Waste Code shown above assumes scintillation vials contain pseudocumene, 1,4 - dioxane or xylene.

Submit, as Attachment D, the following information: summarize the results of all waste analyses in tabular form, including the presence and approximate concentration ranges of measured hazardous constituents. See the guidance to this form for additional instructions.

If the above additional waste analysis information was submitted previously in a form indicated in C-3, indicate the kind of submittal, the date of the submittal and the location of this information in that submittal. Label this information "Attachment D". If any previously submitted information must be updated, update that information in Attachment D.

2. Is Attachment D included with the inventory? Yes [ ] No [X]

E. ENVIRONMENTAL CONTAMINATION

1. Has this site had releases to the environment? Yes [ ] No [X]

2. If yes, indicate in which media the release(s) occurred:

Air [ ] Surface Water [ ] Groundwater [ ] Subsurface Gas [ ]

Installation U.S. DOE-Moun

Site Bldg. 23

3. If yes, when did the release(s) occur: _____

4. If yes, type and concentration of wastes or waste constituents involved in the release(s): _____

5. If yes, give the extent of the release(s) in terms of the lateral extent of release, environmental impact of the release, and any other information necessary for EPA to assess the extent of the release: _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment E. If the information was submitted previously in a form indicated in C-3, indicate in Attachment E the kind of submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment E.

6. Is Attachment E included with the inventory? Yes [ ] No [X]

F. ENVIRONMENTAL MONITORING DATA

1. Does this site have environmental monitoring data?

Yes [ ] No [X]

2. What statistical and analytical methods were used to analyze the data? _____

3. How was the data obtained (e.g., grab sample, etc.)? _____

4. When was it obtained: _____

5. If the site is a land disposal site and it does not have environmental monitoring data, why not? _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment F. If the information was submitted previously in a form indicated in C-3, indicate in Attachment F the kind of

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submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment F.

6. Is Attachment F included with the inventory? Yes [ ] No [X]

G. RESPONSE ACTIONS

1. Have response actions been undertaken for this site?

Yes [ ] No [X]

2. Have response actions been studied for this site?

Yes [ ] No [X]

3. Are these actions part of a CERCLA effort? Yes [ ] No [ ]

4. What kind of actions are already underway:

Study [ ] PA/SI [ ] RIFS [ ] Remedial Investigation [ ]

Remedial Action [ ] Removal [ ]

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment G. If the information was submitted previously in a form indicated in C-3, indicate in Attachment G the kind of submittal, the date of the submittal, and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment G.

5. Is Attachment G included with the inventory? Yes [ ] No [X]

H. FOR DISPOSAL SITES ONLY

1. Describe the hydrogeology of the site: N/A

2. Indicate the location of withdrawal wells and surface water within one mile of the site:

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment H. If the information was submitted previously in a form indicated in C-3, indicate in Attachment H the kind of submittal, the date of the submittal, and the location of the information in that submittal.

If the previously submitted information needs to be updated, update that information in Attachment H.

3. Is Attachment H included with the inventory? Yes [ ] No [X]

INVENTORY OF FEDERAL AGENCY HAZARDOUS WASTE ACTIVITIES

A. RESPONSIBLE FEDERAL AGENCY: U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

1. Responsible Field Organization: Albuquerque Operations Office

2. Address: P. O. Box 5400
Albuquerque, NM 87115
(Street, City, State, Zip)

3. DOE Site Contact: James A. Morley

4. Phone Number: 513-865-3271 (Commercial) 774-3271 (FTS)

B. INSTALLATION/SITE LOCATION

1. Installation name: U. S. DOE, Mound

2. Federal Facility ID Number (GSA No.): OH6890008984

3. Address: Mound Road, P. O. Box 66 Montgomery County, Miamisburg, OH 45342
(Street, City, County, State, Zip Code)

4. Number of sites on this installation: 6

5. Site name and/or site number: Burn Area

6. Address: Mound Road, P. O. Box 32, Miamisburg, Montgomery Co., OH 45342
(Street, City, County, State, Zip Code)

7. Coordinates: Latitude: 39/37/55N; Longitude: 84/17/15N
(For a rural site with no street address)

C. HAZARDOUS WASTE MANAGEMENT STATUS

1.		O	C	Date closed
Storage:	Containers	[x]	[ ]	(Explosive Waste Storage)
	Tanks	[ ]	[ ]	
	Surface impoundments	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	
Treatment:	Tanks	[ ]	[ ]	
	Surface impoundments	[ ]	[ ]	

Installation U.S. DOE-Mound

Site Burn Area

		O	C	
	Incinerators	[X]	[ ]	
	Other (describe)	[X]	[ ]	(Open Burning & Retorting of Explosive Wastes)
Disposal:	Landfill	[ ]	[ ]	
	Land Treatment	[ ]	[ ]	
	Surface impoundment	[ ]	[ ]	
	Underground Injection Wells	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	

O = Operating C= Closed

If the above space is not sufficient, or if the site has one or more operating or closed units in any technique, provide the necessary information in an attachment labelled Attachment C and enter "Attachment C" in the space provided for each technique.

2. Is Attachment C included with the inventory? Yes [ ] No [X]

3. Indicate if any of the following forms were submitted for this site and, if so, the date of the original submittal:

	Yes	No	Date Submitted
RCRA §3010 Notification	[X]	[ ]	8-13-80
RCRA Part A	[X]	[ ]	11-18-80
RCRA Part B	[ ]	[X]	
RCRA Closure Plan	[ ]	[X]	
RCRA §3019 Exposure Assessment	[ ]	[X]	
CERCLA §103 Notification	[ ]	[X]	

4. If a RCRA Part B was submitted, what is its current status?

Permit Issued [ ] Permit Denied [ ] No Final Action [ ]

5. If a closure plan was submitted, what is its current status?

Closure Approved [ ] Closure Denied [ ] No Final Action [ ]

6. If the closure plan was approved, has closure been certified?

Yes [ ] No [ ]

5

Installation U.S. DOE-Mound

Site Burn Area

3. If yes, when did the release(s) occur: _____

4. If yes, type and concentration of wastes or waste constituents involved in the release(s): _____

5. If yes, give the extent of the release(s) in terms of the lateral extent of release, environmental impact of the release, and any other information necessary for EPA to assess the extent of the release: _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment E. If the information was submitted previously in a form indicated in C-3, indicate in Attachment E the kind of submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment E.

6. Is Attachment E included with the inventory? Yes [ ] No [X]

F. ENVIRONMENTAL MONITORING DATA

1. Does this site have environmental monitoring data?

Yes [ ] No [X]

2. What statistical and analytical methods were used to analyze the data? _____

3. How was the data obtained (e.g., grab sample, etc.)? _____

4. When was it obtained: _____

5. If the site is a land disposal site and it does not have environmental monitoring data, why not? _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment F. If the information was submitted previously in a form indicated in C-3, indicate in Attachment F the kind of

submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment F.

6. Is Attachment F included with the inventory? Yes [ ] No [X]

G. RESPONSE ACTIONS

1. Have response actions been undertaken for this site?

Yes [ ] No [X]

2. Have response actions been studied for this site?

Yes [ ] No [X]

3. Are these actions part of a CERCLA effort? Yes [ ] No [ ]

4. What kind of actions are already underway:

Study [ ] PA/SI [ ] RIFS [ ] Remedial Investigation [ ]

Remedial Action [ ] Removal [ ]

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment G. If the information was submitted previously in a form indicated in C-3, indicate in Attachment G the kind of submittal, the date of the submittal, and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment G.

5. Is Attachment G included with the inventory? Yes [ ] No [X]

H. FOR DISPOSAL SITES ONLY

1. Describe the hydrogeology of the site: N/A

2. Indicate the location of withdrawal wells and surface water within one mile of the site:

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment H. If the information was submitted previously in a form indicated in C-3, indicate in Attachment H the kind of submittal, the date of the submittal, and the location of the information in that submittal.

If the previously submitted information needs to be updated, update that information in Attachment H.

3. Is Attachment H included with the inventory? Yes [ ] No [X]

ATTACHMENT D
(Continued)

Installation: U.S. DOE-Mound

Site: Burn Area

Information previously submitted in:

RCRA §3010 Notification	x	8-13-80 (Section IX)
RCRA Part A	x	11-18-80 (Section IV)
RCRA Part B		
RCRA Closure Plan		
RCRA §3019 Exposure Assessment		
CERCLA §103 Notification		

Data: Waste types

Relevant section(s)/page(s): _____

Date(s) of subsequent submittal(s): Part A: 11-15-84 (Section IV)
3-13-85 (Section IV)

Relevant section(s) of subsequent submittals(s): _____

This submittal updates previous submittals Yes ___ No ___

All waste type information provided in documents noted above, particularly Part A permit application with revisions.

INVENTORY OF FEDERAL AGENCY HAZARDOUS WASTE ACTIVITIES

A. RESPONSIBLE FEDERAL AGENCY: U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

1. Responsible Field Organization: Albuquerque Operations Office

2. Address: P. O. Box 5400
Albuquerque, NM 87115
(Street, City, State, Zip)

3. DOE Site Contact: James A. Morley

4. Phone Number: 513-865-3271 (Commercial) 774-3271 (FTS)

B. INSTALLATION/SITE LOCATION

1. Installation name: U. S. DOE, Mound

2. Federal Facility ID Number (GSA No.): OH6890008984

3. Address: Mound Road, P. O. Box 66 Montgomery County, Miamisburg, OH 45342
(Street, City, County, State, Zip Code)

4. Number of sites on this installation: 6

5. Site name and/or site number: Closed landfill

6. Address: Mound Road, P. O. Box 32, Miamisburg, Montgomery Co., OH 45342
(Street, City, County, State, Zip Code)

7. Coordinates: Latitude: 39/37/55N; Longitude: 84/17/15N
(For a rural site with no street address)

C. HAZARDOUS WASTE MANAGEMENT STATUS

1.

		O	C	Date closed
Storage:	Containers	[ ]	[ ]	
	Tanks	[ ]	[ ]	
	Surface impoundments	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	
Treatment:	Tanks	[ ]	[ ]	
	Surface impoundments	[ ]	[ ]	

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Installation U.S. DOE-Mound

Site Closed landfill

		O	C	
	Incinerators	[ ]	[ ]	
	Other (describe)	[ ]	[ ]	
Disposal:	Landfill	[ ]	[x]	1972
	Land Treatment	[ ]	[ ]	
	Surface impoundment	[ ]	[ ]	
	Underground Injection Wells	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	

O = Operating C= Closed

If the above space is not sufficient, or if the site has one or more operating or closed units in any technique, provide the necessary information in an attachment labelled Attachment C and enter "Attachment C" in the space provided for each technique.

2. Is Attachment C included with the inventory? Yes [ ] No [x]

3. Indicate if any of the following forms were submitted for this site and, if so, the date of the original submittal:

	Yes	No	Date Submitted
RCRA §3010 Notification	[ ]	[x]	
RCRA Part A	[x]	[ ]	11-18-80
RCRA Part B	[ ]	[x]	
RCRA Closure Plan	[ ]	[x]	
RCRA §3019 Exposure Assessment	[ ]	[x]	
CERCLA §103 Notification	[x]	[ ]	6-9-81

4. If a RCRA Part B was submitted, what is its current status?

Permit Issued [ ] Permit Denied [ ] No Final Action [ ]

5. If a closure plan was submitted, what is its current status?

Closure Approved [ ] Closure Denied [ ] No Final Action [ ]

6. If the closure plan was approved, has closure been certified?

Yes [ ] No [ ]

5

Installation U.S. DOE-Mound

Site Closed landfill

7. If the site is no longer used for hazardous waste management, what other activities are currently carried on at the site? (e.g., pasture, building site, park): Closed landfill has been fully lined w/clay then closed. No activities are currently carried on at that si

8. Is this a RCRA site, a CERCLA site, or both?

RCRA [ ] CERCLA [X] Both [ ]

D. WASTE TYPE

1.

Waste Code	Estimated Amt. Handled FY85 (Amt/unit of measure)	Unit(s) Involved (From Attachment C)	Waste Code	Estimated Amt. Handled FY85 (Amt/unit of measure)	Unit(s) Involved (From Attachment C)
1	1000 Ft^3	Landfill	6		
2			7		
3			8		
4			9		
5			10		

Wastes, reportedly include general refuse, construction materials, solvents, paints, photoprocessing solutions and plating bath solutions.

Submit, as Attachment D, the following information: summarize the results of all waste analyses in tabular form, including the presence and approximate concentration ranges of measured hazardous constituents. See the guidance to this form for additional instructions.

If the above additional waste analysis information was submitted previously in a form indicated in C-3, indicate the kind of submittal, the date of the submittal and the location of this information in that submittal. Label this information "Attachment D". If any previously submitted information must be updated, update that information in Attachment D.

2. Is Attachment D included with the inventory? Yes [X] No [ ]

E. ENVIRONMENTAL CONTAMINATION

1. Has this site had releases to the environment? Yes [ ] No [X]

2. If yes, indicate in which media the release(s) occurred:

Air [ ] Surface Water [ ] Groundwater [ ] Subsurface Gas [ ]

Installation U.S. DOE-Mound

Site Closed landfill

3. If yes, when did the release(s) occur: _____

4. If yes, type and concentration of wastes or waste constituents involved in the release(s): _____

5. If yes, give the extent of the release(s) in terms of the lateral extent of release, environmental impact of the release, and any other information necessary for EPA to assess the extent of the release: _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment E. If the information was submitted previously in a form indicated in C-3, indicate in Attachment E the kind of submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment E.

6. Is Attachment E included with the inventory? Yes [ ] No [X]

F. ENVIRONMENTAL MONITORING DATA

1. Does this site have environmental monitoring data?

Yes [ ] No [X]

2. What statistical and analytical methods were used to analyze the data? _____

3. How was the data obtained (e.g., grab sample, etc.)? _____

4. When was it obtained: _____

5. If the site is a land disposal site and it does not have environmental monitoring data, why not? Landfill was closed in 1972, prior to regulatory monitoring requirements.

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment F. If the information was submitted previously in a form indicated in C-3, indicate in Attachment F the kind of

submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment F.

6. Is Attachment F included with the inventory? Yes [ ] No [X]

G. RESPONSE ACTIONS

1. Have response actions been undertaken for this site?

Yes [ ] No [X]

2. Have response actions been studied for this site?

Yes [ ] No [X]

3. Are these actions part of a CERCLA effort? Yes [ ] No [X]

4. What kind of actions are already underway:

Study [ ] PA/SI [ ] RIFS [ ] Remedial Investigation [ ]

Remedial Action [ ] Removal [ ]

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment G. If the information was submitted previously in a form indicated in C-3, indicate in Attachment G the kind of submittal, the date of the submittal, and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment G.

5. Is Attachment G included with the inventory? Yes [ ] No [X]

H. FOR DISPOSAL SITES ONLY

1. Describe the hydrogeology of the site: Buried valleys contain 100 to 200 ft. of pleistocene sand, gravel, & fine-grained till and form the principal aquifier in the area. Aquifier extends under the Mound and a portion of it is below the closed landfill

2. Indicate the location of withdrawal wells and surface water within one mile of the site: Several private wells, Miamisburg City wells and several public utility wells are within 1 mile of Mound. No municipal system in Gr. Miami River Basin uses surface water for a public water supply below the Mound effluent discharge point. Gr. Miami River is w/in 1 mile of Mound.

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment H. If the information was submitted previously in a form indicated in C-3, indicate in Attachment H the kind of submittal, the date of the submittal, and the location of the information in that submittal.

NOTE: Hydrogeological information for attachment H could not be completed within the time allotted for submission of inventory forms. Such information could be provided later if the descriptive information contained in H(1) and H(2) is not adequate.

If the previously submitted information needs to be updated, update that information in Attachment H.

3. Is Attachment H included with the inventory? Yes [ ] No [X]

ATTACHMENT D
(Continued)

Installation: U.S. DOE-Mound

Site: Closed landfill

Information previously submitted in:

RCRA §3010 Notification ____

RCRA Part A ____

RCRA Part B ____

RCRA Closure Plan ____

RCRA §3019 Exposure Assessment ____

CERCLA §103 Notification x 6-9-81 (Section E)

Data: Waste Types

Relevant section(s)/page(s): Section E

Date(s) of subsequent submittal(s): N/A

Relevant section(s) of subsequent submittals(s): N/A

This submittal updates previous submittals Yes ___ No x

No additional waste type information available.

INVENTORY OF FEDERAL AGENCY HAZARDOUS WASTE ACTIVITIES

A. RESPONSIBLE FEDERAL AGENCY: U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

1. Responsible Field Organization: Albuquerque Operations Office

2. Address: P. O. Box 5400
Albuquerque, NM 87115
(Street, City, State, Zip)

3. DOE Site Contact: James A. Morley

4. Phone Number: 513-865-3271 (Commercial) 774-3271 (FTS)

B. INSTALLATION/SITE LOCATION

1. Installation name: U. S. DOE, Mound

2. Federal Facility ID Number (GSA No.): OH6890008984

3. Address: Mound Road, P. O. Box 66 Montgomery County, Miamisburg, OH 45342
(Street, City, County, State, Zip Code)

4. Number of sites on this installation: 6

5. Site name and/or site number: Bldg. 72

6. Address: Mound Road, P. O. Box 32, Miamisburg, Montgomery Co., OH 45342
(Street, City, County, State, Zip Code)

7. Coordinates: Latitude: 39/37/55N; Longitude: 84/17/15N
(For a rural site with no street address)

C. HAZARDOUS WASTE MANAGEMENT STATUS

1.		O	C	Date closed
Storage:	Containers	[X]	[ ]	Storage fac. being relocated on site; orig. unit being closed; relocated unit being readied for use.
	Tanks	[ ]	[ ]	
	Surface impoundments	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	
Treatment:	Tanks	[ ]	[ ]	
	Surface impoundments	[ ]	[ ]	

Installation U.S. DOE - Mound

Site Bldg. 72

		O	C	
	Incinerators	[ ]	[ ]	
	Other (describe)	[ ]	[ ]	
Disposal:	Landfill	[ ]	[ ]	
	Land Treatment	[ ]	[ ]	
	Surface impoundment	[ ]	[ ]	
	Underground Injection Wells	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	

O = Operating C= Closed

If the above space is not sufficient, or if the site has one or more operating or closed units in any technique, provide the necessary information in an attachment labelled Attachment C and enter "Attachment C" in the space provided for each technique.

2. Is Attachment C included with the inventory? Yes [ ] No [ ]

3. Indicate if any of the following forms were submitted for this site and, if so, the date of the original submittal:

	Yes	No	Date Submitted
RCRA §3010 Notification	[X]	[ ]	6-13-80
RCRA Part A	[X]	[ ]	11-18-80 & Rev. Appl. 5-6-85
RCRA Part B	[ ]	[XX]	
RCRA Closure Plan	[X]	[ ]	1-24-85
RCRA §3019 Exposure Assessment	[ ]	[X]	
CERCLA §103 Notification	[ ]	[X]	

4. If a RCRA Part B was submitted, what is its current status?

Permit Issued [ ] Permit Denied [ ] No Final Action [ ]

5. If a closure plan was submitted, what is its current status?

Closure Approved [X] Closure Denied [ ] No Final Action [ ]

6. If the closure plan was approved, has closure been certified?

Yes [ ] No [X]

Item 5. Closure plan for original storage facility approved; closure in process.

5

Installation U.S. DOE-Moun

Site Bldg. 72

7. If the site is no longer used for hazardous waste management, what other activities are currently carried on at the site? (e.g., pasture, building site, park): Original waste storage facility being closed to provide space for new construction.

8. Is this a RCRA site, a CERCLA site, or both?

RCRA [X] CERCLA [ ] Both [ ]

D. WASTE TYPE

1.

	Waste Code	Estimated Amt. Handled FY85 (Amt/unit of measure)	Unit(s) Involved (From Attachment C)		Waste Code	Estimated Amt. Handled FY85 (Amt/unit of measure)	Unit(s) Involved (From Attachment C)
1	D001	110,000 lbs		6			
2	D002	83,000 lbs		7			
3	D004-D0011	66,000 lbs		8			
4				9			
5				10			

A variety of hazardous wastes are handled in Bldg. 72. Ignitable liquids comprise a major fraction of these wastes. Corrosive, toxic, reactive and other types comprise the remainder. Wastes have been grouped roughly into the three categories above for convenience.

Submit, as Attachment D, the following information: summarize the results of all waste analyses in tabular form, including the presence and approximate concentration ranges of measured hazardous constituents. See the guidance to this form for additional instructions.

If the above additional waste analysis information was submitted previously in a form indicated in C-3, indicate the kind of submittal, the date of the submittal and the location of this information in that submittal. Label this information "Attachment D". If any previously submitted information must be updated, update that information in Attachment D.

2. Is Attachment D included with the inventory? Yes [X] No [ ]

E. ENVIRONMENTAL CONTAMINATION

1. Has this site had releases to the environment? Yes [ ] No [X]

2. If yes, indicate in which media the release(s) occurred:

Air [ ] Surface Water [ ] Groundwater [ ] Subsurface Gas [ ]

3. If yes, when did the release(s) occur: _____

4. If yes, type and concentration of wastes or waste constituents involved in the release(s): _____

5. If yes, give the extent of the release(s) in terms of the lateral extent of release, environmental impact of the release, and any other information necessary for EPA to assess the extent of the release: _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment E. If the information was submitted previously in a form indicated in C-3, indicate in Attachment E the kind of submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment E.

6. Is Attachment E included with the inventory? Yes [ ] No [X]

F. ENVIRONMENTAL MONITORING DATA

1. Does this site have environmental monitoring data?

Yes [ ] No [X]

2. What statistical and analytical methods were used to analyze the data? _____

3. How was the data obtained (e.g., grab sample, etc.)? _____

4. When was it obtained: _____

5. If the site is a land disposal site and it does not have environmental monitoring data, why not? _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment F. If the information was submitted previously in a form indicated in C-3, indicate in Attachment F the kind of

U.S. DOE-Mound

Site Bldg. 72

submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment F.

6. Is Attachment F included with the inventory? Yes [ ] No [X]

G. RESPONSE ACTIONS

1. Have response actions been undertaken for this site?

Yes [ ] No [X]

2. Have response actions been studied for this site?

Yes [ ] No [X]

3. Are these actions part of a CERCLA effort? Yes [ ] No [ ]

4. What kind of actions are already underway:

Study [ ] PA/SI [ ] RIFS [ ] Remedial Investigation [ ]

Remedial Action [ ] Removal [ ]

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment G. If the information was submitted previously in a form indicated in C-3, indicate in Attachment G the kind of submittal, the date of the submittal, and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment G.

5. Is Attachment G included with the inventory? Yes [ ] No [X]

H. FOR DISPOSAL SITES ONLY

1. Describe the hydrogeology of the site: N/A

2. Indicate the location of withdrawal wells and surface water within one mile of the site:

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment H. If the information was submitted previously in a form indicated in C-3, indicate in Attachment H the kind of submittal, the date of the submittal, and the location of the information in that submittal.

If the previously submitted information needs to be updated, update that information in Attachment H.

3. Is Attachment H included with the inventory? Yes [ ] No [x]

ATTACHMENT D
(Continued)

Installation: U.S. DOE-Mound

Site: Bldg. 72

Information previously submitted in:

RCRA §3010 Notification	x	8-13-80 (Section IX)
RCRA Part A	x	11-18-80 (Section IV)
RCRA Part B		
RCRA Closure Plan	x	1-24-85 (p.1)
RCRA §3019 Exposure Assessment		
CERCLA §103 Notification		

Date: Waste Types

Relevant section(s)/page(s): See above

Date(s) of subsequent submittal(s): Part A: 11/15/84; Section IV

Relevant section(s) of subsequent submittals(s):

This submittal updates previous submittals Yes ___ No ___

All waste type information provided in documents noted above, particularly Part A permit application with revisions.

Description of relocated storage facility provided in Part A revision dated 5-6-84.

INVENTORY OF FEDERAL AGENCY HAZARDOUS WASTE ACTIVITIES

A. RESPONSIBLE FEDERAL AGENCY: U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

1. Responsible Field Organization: Albuquerque Operations Office

2. Address: P. O. Box 5400
Albuquerque, NM 87115
(Street, City, State, Zip)

3. DOE Site Contact: James A. Morley

4. Phone Number: 513-865-3271 (Commercial) 774-3271 (FTS)

B. INSTALLATION/SITE LOCATION

1. Installation name: U. S. DOE, Mound

2. Federal Facility ID Number (GSA No.): OH6890008984

3. Address: Mound Road, P. O. Box 66 Montgomery County, Miamisburg, OH 45342
(Street, City, County, State, Zip Code)

4. Number of sites on this installation: 6

5. Site name and/or site number: Bldg. 21

6. Address: Mound Road, P. O. Box 32, Miamisburg, Montgomery Co., OH 45342
(Street, City, County, State, Zip Code)

7. Coordinates: Latitude: 39/37/55N; Longitude: 84/17/15N
(For a rural site with no street address)

C. HAZARDOUS WASTE MANAGEMENT STATUS

1.		O	C	Date closed
Storage:	Containers	[x]	[ ]	
	Tanks	[ ]	[ ]	
	Surface impoundments	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	
Treatment:	Tanks	[ ]	[ ]	
	Surface impoundments	[ ]	[ ]	

Installation U.S. DOE-Mound

Site Bldg. 21

		O	C	
	Incinerators	[ ]	[ ]	_____
	Other (describe)	[ ]	[ ]	_____
Disposal:	Landfill	[ ]	[ ]	_____
	Land Treatment	[ ]	[ ]	_____
	Surface impoundment	[ ]	[ ]	_____
	Underground Injection Wells	[ ]	[ ]	_____
	Waste Piles	[ ]	[ ]	_____

O = Operating C= Closed

If the above space is not sufficient, or if the site has one or more operating or closed units in any technique, provide the necessary information in an attachment labelled Attachment C and enter "Attachment C" in the space provided for each technique.

2. Is Attachment C included with the inventory? Yes [ ] No [X]

3. Indicate if any of the following forms were submitted for this site and, if so, the date of the original submittal:

	Yes	No	Date Submitted
RCRA §3010 Notification	[ ]	[X]	_____
RCRA Part A	[ ]	[X]	_____
RCRA Part B	[ ]	[X]	_____
RCRA Closure Plan	[ ]	[X]	_____
RCRA §3019 Exposure Assessment	[ ]	[X]	_____
CERCLA §103 Notification	[ ]	[X]	_____

4. If a RCRA Part B was submitted, what is its current status?

Permit Issued [ ] Permit Denied [ ] No Final Action [ ]

5. If a closure plan was submitted, what is its current status?

Closure Approved [ ] Closure Denied [ ] No Final Action [ ]

6. If the closure plan was approved, has closure been certified?

Yes [ ] No [ ]

7. If the site is no longer used for hazardous waste management, what other activities are currently carried on at the site? (e.g., pasture, building site, park): _____

8. Is this a RCRA site, a CERCLA site, or both?

RCRA [X] CERCLA [ ] Both [ ]

D. WASTE TYPE

1.

	Waste Code	Estimated Amt. Handled FY85 (Amt/unit of measure)	Unit(s) Involved (From Attachment C)		Waste Code	Estimated Amt. Handled FY85 (Amt/unit of measure)	Unit(s) Involved (From Attachment C)
1	D010 D002	0 (260 meter^3 being stored)		6			
2				7			
3				8			
4				9			
5				10			

Waste code shown above assumes all uranium ore concentrate contains selenium and is corrosive. In the analysis of six selected samples, one sample exhibited the corrosivity characteristic (pH=13.2), and three samples contained selenium in excess of 1.0 mg/liter using the extraction procedure toxicity test.

Submit, as Attachment D, the following information: summarize the results of all waste analyses in tabular form, including the presence and approximate concentration ranges of measured hazardous constituents. See the guidance to this form for additional instructions.

If the above additional waste analysis information was submitted previously in a form indicated in C-3, indicate the kind of submittal, the date of the submittal and the location of this information in that submittal. Label this information "Attachment D". If any previously submitted information must be updated, update that information in Attachment D.

2. Is Attachment D included with the inventory? Yes [X] No [ ]

E. ENVIRONMENTAL CONTAMINATION

1. Has this site had releases to the environment? Yes [ ] No [X]

2. If yes, indicate in which media the release(s) occurred:

Air [ ] Surface Water [ ] Groundwater [ ] Subsurface Gas [ ]

Installation U.S. DOE-Mound

Site Bldg. 21

3. If yes, when did the release(s) occur: _____

4. If yes, type and concentration of wastes or waste constituents involved in the release(s): _____

5. If yes, give the extent of the release(s) in terms of the lateral extent of release, environmental impact of the release, and any other information necessary for EPA to assess the extent of the release: _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment E. If the information was submitted previously in a form indicated in C-3, indicate in Attachment E the kind of submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment E.

6. Is Attachment E included with the inventory? Yes [ ] No [X]

F. ENVIRONMENTAL MONITORING DATA

1. Does this site have environmental monitoring data?

Yes [ ] No [X]

2. What statistical and analytical methods were used to analyze the data? _____

3. How was the data obtained (e.g., grab sample, etc.)? _____

4. When was it obtained: _____

5. If the site is a land disposal site and it does not have environmental monitoring data, why not? _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment F. If the information was submitted previously in a form indicated in C-3, indicate in Attachment F the kind of

submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment F.

6. Is Attachment F included with the inventory? Yes [ ] No [X]

G. RESPONSE ACTIONS

1. Have response actions been undertaken for this site?

Yes [ ] No [X]

2. Have response actions been studied for this site?

Yes [ ] No [X]

3. Are these actions part of a CERCLA effort? Yes [ ] No [ ]

4. What kind of actions are already underway:

Study [ ] PA/SI [ ] RIFS [ ] Remedial Investigation [ ]

Remedial Action [ ] Removal [ ]

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment G. If the information was submitted previously in a form indicated in C-3, indicate in Attachment G the kind of submittal, the date of the submittal, and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment G.

5. Is Attachment G included with the inventory? Yes [ ] No [X]

H. FOR DISPOSAL SITES ONLY

1. Describe the hydrogeology of the site: N/A

2. Indicate the location of withdrawal wells and surface water within one mile of the site:

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment H. If the information was submitted previously in a form indicated in C-3, indicate in Attachment H the kind of submittal, the date of the submittal, and the location of the information in that submittal.

If the previously submitted information needs to be updated, update that information in Attachment H.

3. Is Attachment H included with the inventory? Yes [ ] No [X]

ATTACHMENT D

Installation: U.S. DOE-Mound

Site: Bldg. 21

EPA Hazardous Waste Number Code (from 40 CFR 261.21-.33)	Type of Analyses Used to Identify This Waste (Example: Analysis of waste stream directly, analysis of landfill leachate or other environmental monitoring result, analysis of surface impoundment contents, etc.)	Principal Constituents	Minimum Concentration (mg/l)	Maximum Concentration (mg/l)
D010	Analysis of selected drum contents	Selenium	0.33	30
D002	Analysis of selected drum contents	pH	10.6	13.2

If the previously submitted information needs to be updated, update that information in Attachment H.

3. Is Attachment H included with the inventory? Yes [ ] No [X]

INVENTORY OF FEDERAL AGENCY HAZARDOUS WASTE ACTIVITIES

A. RESPONSIBLE FEDERAL AGENCY: U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

1. Responsible Field Organization: Albuquerque Operations Office

2. Address: P. O. Box 5400
Albuquerque, NM 87115
(Street, City, State, Zip)

3. DOE Site Contact: James A. Morley

4. Phone Number: 513-865-3271 (Commercial) 774-3271 (FTS)

B. INSTALLATION/SITE LOCATION

1. Installation name: U. S. DOE, Mound

2. Federal Facility ID Number (GSA No.): OH6890008984

3. Address: Mound Road, P. O. Box 66 Montgomery County, Miamisburg, OH 45342
(Street, City, County, State, Zip Code)

4. Number of sites on this installation: 6

5. Site name and/or site number: Burn Area

6. Address: Mound Road, P. O. Box 32, Miamisburg, Montgomery Co., OH 45342
(Street, City, County, State, Zip Code)

7. Coordinates: Latitude: 39/37/55N; Longitude: 84/17/15N
(For a rural site with no street address)

C. HAZARDOUS WASTE MANAGEMENT STATUS

1.		O	C	Date closed
Storage:	Containers	[x]	[ ]	(Explosive Waste Storage)
	Tanks	[ ]	[ ]	
	Surface impoundments	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	
Treatment:	Tanks	[ ]	[ ]	
	Surface impoundments	[ ]	[ ]	

Installation U.S. DOE-Mound

Site Lean Area

		O	C	
	Incinerators	[X]	[ ]	
	Other (describe)	[X]	[ ]	(Open Burning & Retorting of Explosive Wastes)
Disposal:	Landfill	[ ]	[ ]	
	Land Treatment	[ ]	[ ]	
	Surface impoundment	[ ]	[ ]	
	Underground Injection Wells	[ ]	[ ]	
	Waste Piles	[ ]	[ ]	

O = Operating C= Closed

If the above space is not sufficient, or if the site has one or more operating or closed units in any technique, provide the necessary information in an attachment labelled Attachment C and enter "Attachment C" in the space provided for each technique.

2. Is Attachment C included with the inventory? Yes [ ] No [X]

3. Indicate if any of the following forms were submitted for this site and, if so, the date of the original submittal:

	Yes	No	Date Submitted
RCRA §3010 Notification	[X]	[ ]	8-13-80
RCRA Part A	[X]	[ ]	11-18-80
RCRA Part B	[ ]	[X]	
RCRA Closure Plan	[ ]	[X]	
RCRA §3019 Exposure Assessment	[ ]	[X]	
CERCLA §103 Notification	[ ]	[X]	

4. If a RCRA Part B was submitted, what is its current status?

Permit Issued [ ] Permit Denied [ ] No Final Action [ ]

5. If a closure plan was submitted, what is its current status?

Closure Approved [ ] Closure Denied [ ] No Final Action [ ]

6. If the closure plan was approved, has closure been certified?

Yes [ ] No [ ]

5

Installation U.S. DOE-Mound

Site Burn Area

3. If yes, when did the release(s) occur: _____

4. If yes, type and concentration of wastes or waste constituents involved in the release(s): _____

5. If yes, give the extent of the release(s) in terms of the lateral extent of release, environmental impact of the release, and any other information necessary for EPA to assess the extent of the release: _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment E. If the information was submitted previously in a form indicated in C-3, indicate in Attachment E the kind of submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment E.

6. Is Attachment E included with the inventory? Yes [ ] No [X]

F. ENVIRONMENTAL MONITORING DATA

1. Does this site have environmental monitoring data?

Yes [ ] No [X]

2. What statistical and analytical methods were used to analyze the data? _____

3. How was the data obtained (e.g., grab sample, etc.)? _____

4. When was it obtained: _____

5. If the site is a land disposal site and it does not have environmental monitoring data, why not? _____

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment F. If the information was submitted previously in a form indicated in C-3, indicate in Attachment F the kind of

submittal, the date of the submittal and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment F.

6. Is Attachment F included with the inventory? Yes [ ] No [X]

G. RESPONSE ACTIONS

1. Have response actions been undertaken for this site?

Yes [ ] No [X]

2. Have response actions been studied for this site?

Yes [ ] No [X]

3. Are these actions part of a CERCLA effort? Yes [ ] No [ ]

4. What kind of actions are already underway:

Study [ ] PA/SI [ ] RIFS [ ] Remedial Investigation [ ]

Remedial Action [ ] Removal [ ]

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment G. If the information was submitted previously in a form indicated in C-3, indicate in Attachment G the kind of submittal, the date of the submittal, and the location of the information in that submittal. If the previously submitted information needs to be updated, update that information in Attachment G.

5. Is Attachment G included with the inventory? Yes [ ] No [X]

H. FOR DISPOSAL SITES ONLY

1. Describe the hydrogeology of the site: N/A

2. Indicate the location of withdrawal wells and surface water within one mile of the site:

If the above space is not sufficient to answer each question, submit the necessary information in an attachment labelled Attachment H. If the information was submitted previously in a form indicated in C-3, indicate in Attachment H the kind of submittal, the date of the submittal, and the location of the information in that submittal.

If the previously submitted information needs to be updated, update that information in Attachment H.

3. Is Attachment H included with the inventory? Yes [ ] No [X]

ATTACHMENT D
(Continued)

Installation: U.S. DOE-Mound

Site: Burn Area

Information previously submitted in:

RCRA §3010 Notification	x	8-13-80 (Section IX)
RCRA Part A	x	11-18-80 (Section IV)
RCRA Part B		
RCRA Closure Plan		
RCRA §3019 Exposure Assessment		
CERCLA §103 Notification		

Data: Waste types

Relevant section(s)/page(s): _____

Date(s) of subsequent submittal(s): Part A: 11-15-84 (Section IV)
3-13-85 (Section IV)

Relevant section(s) of subsequent submittals(s): _____

This submittal updates previous submittals Yes ___ No ___

All waste type information provided in documents noted above, particularly Part A permit application with revisions.

Ref 50 duplicate

Rec'd 2/5

NF 57-0677

Department of Energy
Washington, DC 20585

JAN 31 1986

Director
Ohio Environmental Protection Agency
Box 1049
361 E. Broad Street
Columbus, Ohio 43216

Dear Colleague:

The Department of Energy has completed its inventory of hazardous waste facilities in accordance with Section 3016 of the Resource Conservation and Recovery Act (RCRA).

The enclosed inventory forms are being furnished for those facilities under the jurisdiction of the Department of Energy in your State. Completed inventory forms are included for known facilities containing hazardous waste as defined by the RCRA regulations (40 CFR 261). Facilities which contain "candidate mixed wastes" (i.e., radioactive wastes which may also contain chemical waste constituents that meet the definition of hazardous wastes under the RCRA regulations), and which have not yet been characterized, are not included in the inventory. These facilities will be reported if characterization of the waste reveals the presence of hazardous waste. In addition, facilities regulated under the Atomic Energy Act, i.e., those waste facilities containing exclusively source, special nuclear, or byproduct material, are not included in the inventory.

If you have any questions or need additional information, please contact John R. Barker, Director, Office of Environmental Audit and Compliance. Mr. Barker may be reached at (202) 252-5680.

Yours truly,

Mary L. Walker
Assistant Secretary
Environment, Safety, and Health

RECEIVED
OHIO EPA
FEB 6 1986
DIV. of SOLID & HAZ. WASTE MGT.

Enclosure

RECEIVED
OHIO EPA
FEB 06 1986
DIV. of SOLID & HAZ. WASTE MGT

Ref. 51

OhioEPA
State Of Ohio Environmental Protection Agency
Southwest District Office
7 East Fourth Street; Dayton, Ohio 45402-2086
(513) 449-6357
Richard F. Celeste, Governor

February 25, 1986

Re: MOUND CEI
1I000005

Mr. James Morley
DOE - Mound Facility
P.O. Box 66
Miamisburg, OH 45342

Dear Mr. Morley:

On February 6 and 20, 1986, personnel from this office conducted a compliance evaluation inspection of your industrial wastewater facilities. As the enclosed report indicates, Mound is generally operating in compliance with the provisions of the NPDES permit. A few problems have been noted in the comment section (D); these should be easily corrected. We appreciate your efforts to establish an in-house quality control program and to implement proper sample preservation techniques, as suggested in our last inspection report.

Please call me at (513) 449-6357 if you have any questions.

Sincerely,

James C. Simpson

James C. Simpson
Unit Supervisor
Water Pollution Control

JCS/lal

Enclosures

cc: Robert Phelps, IWW-CO

United States Environmental Protection Agency
Washington, D. C. 20460

EPA

NPDES Compliance Inspection Report

Form Approved
OMB No. 2040-0003
Approval Expires 7-31-85

Section A: National Data System Coding

Transaction Code	NPDES	yr/mo/day	Inspection Type	Inspector	Fac Type
1 N 2 5	3 0 H 0 0 0 9 8 5 7 11	12 8 6 0 2 0 6 17	18 C	19 S	20 2

Remarks

21 1 I 0 0 0 0 0 5 * B D 66

Reserved	Facility Evaluation Rating	BI	QA	Reserved
67 69	70 5	71 N	72 N	73 74 75 80

Section B: Facility Data

Name and Location of Facility Inspected	Entry Time	Permit Effective Date
U.S. Dept. of Energy - Mound Facility Mound Road Miamisburg, OH 45342	[X] AM [ ] PM 9:00 Exit Time/Date completed 2/20/86	9/30/85 Permit Expiration Date 9/27/90

Name(s) of On-Site Representative(s)	Title(s)	Phone No(s)
David Ingle	Safety & Health Manager, DOE	(513) 865-3597
Charles Friedman	Environmental Manager, MRC	865-4541
Dan Carfagno	Super., Environmental Lab, MRC	865-3931

Name, Address of Responsible Official	Title	Contacted
James Morley DOE - Mound Facility P.O. Box 66 ~~Miamisburg, OH 45342~~	Area Manager, DOE Phone No. (513) 865-3271	[ ] Yes [X] No

Section C: Areas Evaluated During Inspection

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	Permit	S	Flow Measurement	N	Pretreatment	S	Operations & Maintenance
S	Records/Reports	S	Laboratory	S	Compliance Schedules	S	Sludge Disposal
S	Facility Site Review	S	Effluent/Receiving Waters	S	Self-Monitoring Program		Other:

Section D: Summary of Findings/Comments *(Attach additional sheets if necessary)*

Mound seems very conscientious about meeting all conditions of their NPDES permit. They promptly corrected the problems cited in our last CSI report (QC program, sample preservation). The only noncompliance noted was insufficient monitoring of COD at outfall 602 and pH at 603, and occasional violations of the 7-day average BOD limit at 601. Mound intends to submit a PTI application this week for the installation of rapid sand filters. Calibration of all flow-measuring devices has not occurred since 4/13/84; this must be performed at least once each year.

It has recently come to our attention that the well at 604 is pumped to control tritium in the groundwater. Our office is evaluating the need for additional monitoring at this outfall and possibly at the low-level radioactive waste treatment system prior to discharge to 602.

Name(s) and Signature(s) of Inspector(s)	Agency/Office/Telephone	Date
Kendra H. Dearth Kendra H. Dearth	Ohio EPA/SWDO/(513) 449-6357	2/26/86
Julie A. Grzyb Julie A. Grzyb	Ohio EPA/SWDO/ (513) 449-6357	2/26/86
Signature of Reviewer James C. Simpson James C. Simpson	Agency/Office Ohio EPA/SWDO	Date 2/26/86

Regulatory Office Use Only

Action Taken	Date	Compliance Status
		[ ] Noncompliance [ ] Compliance

EPA Form 3560-3 (Rev. 3-85) Previous editions are obsolete.

Sections E thru I : Complete on all inspections, as appropriate. N/A - Not Applicable	Permit No. OH0009857

SECTION E. Permit Verification

INSPECTION OBSERVATIONS VERIFY THE PERMIT. (Further explanation attached X) See Section D	X Yes	___ No	
(a) CORRECT NAME AND MAILING ADDRESS OF PERMITTEE.	X Yes	___ No	
(b) FACILITY IS AS DESCRIBED IN PERMIT.	X Yes	___ No	
(c) PRINCIPAL PRODUCT(S) AND PRODUCTION RATES CONFORM WITH THOSE SET FORTH IN PERMIT APPLICATION.	X Yes	___ No	___ N/A
(d) TREATMENT PROCESSES ARE AS DESCRIBED IN PERMIT APPLICATION.	X Yes	___ No	
(e) NOTIFICATION GIVEN TO STATE OF NEW, DIFFERENT OR INCREASED DISCHARGES.	___ Yes	___ No	X N/A
(f) ACCURATE RECORDS OF INFLUENT VOLUME MAINTAINED. Well(s) pumping logs	X Yes	___ No	___ N/A
(g) NUMBER AND LOCATION OF DISCHARGE POINTS ARE AS DESCRIBED IN PERMIT.	X Yes	___ No	
(h) CORRECT NAME AND LOCATION OF RECEIVING WATERS.	X Yes	___ No	
(i) ALL DISCHARGES ARE PERMITTED.	X Yes	___ No	

SECTION F. Operation and Maintenance

TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED. (Further explanation attached___)	X Yes	___ No	
DETAILS:			
(a) STANDBY POWER OR OTHER EQUIVALENT PROVISIONS PROVIDED. Diesel generator at 601	X Yes	___ No	___ N/A
(b) ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE.	X Yes	___ No	___ N/A
(c) SLUDGES AND SOLIDS ADEQUATELY DISPOSED (Further explanation attached *)	X Yes	___ No	___ N/A
(d) ALL TREATMENT UNITS OTHER THAN BACKUP UNITS IN SERVICE.	X Yes	___ No	___ N/A
(e) QUALIFIED OPERATING STAFF PROVIDED. All State-certified	X Yes	___ No	
(f) FILES MAINTAINED ON SPARE PARTS INVENTORY, MAJOR EQUIPMENT SPECIFICATIONS, AND PARTS AND EQUIPMENT SUPPLIERS.	X Yes	___ No	___ N/A
(g) ROUTINE AND PREVENTIVE MAINTENANCE ARE SCHEDULED/PERFORMED ON TIME.	X Yes	___ No	___ N/A
(h) ANY MAJOR EQUIPMENT BREAKDOWN SINCE LAST INSPECTION.	___ Yes	X No	___ N/A
(i) OPERATION AND MAINTENANCE MANUAL PROVIDED AND MAINTAINED.	X Yes	___ No	___ N/A
(j) APPROVED SPCC PLAN AVAILABLE. DATE LAST UPDATED 5/85 ____ __.	X Yes	___ No	___ N/A
(k) REGULATORY AGENCY NOTIFIED OF BYPASSING. [Dates_____ _____]	___ Yes	___ No	X N/A
(l) ANY BYPASSING SINCE LAST INSPECTION.	___ Yes	X No	
(m) ANY HYDRAULIC AND/OR ORGANIC OVERLOADS EXPERIENCED. (Further explanation attached___)	___ Yes	X No	

SECTION G. Compliance Schedules

PERMITTEE IS MEETING COMPLIANCE SCHEDULE: (Further explanation attached___)	X Yes	___ No	___ N/A

COMMENTS/STATUS: 6/26/85: Received letter from entity stating compliance with final order of F & O's issued 2/26/85. Monthly report results and inspection verify compliance.

SECTION H - Self-Monitoring Program

Part I - Flow measurement (Further explanation attached____)			
PERMITTEE FLOW MEASUREMENT MEETS THE REQUIREMENTS OF THE PERMIT.	X Yes	___ No	
(a) PRIMARY MEASURING DEVICE PROPERLY INSTALLED.	X Yes	___ No	___ N/A
TYPE OF DEVICE: 602, 602, 601 [X]WEIR [X]PARSHALL FLUME [ ]MAGMETER [ ]VENTURI METER 604 [X]OTHER orifice plate			
(b) CALIBRATION FREQUENCY ADEQUATE. (Date of last calibration 4/13/84) field check 1/mo.	___ Yes	X No	___ N/A
(c) PRIMARY FLOW MEASURING DEVICE PROPERLY OPERATED AND MAINTAINED.	X Yes	___ No	___ N/A
ne at 604 (d) SECONDARY INSTRUMENTS (totalizers, recorders, etc.) PROPERLY OPERATED AND MAINTAINED	X Yes	___ No	___ N/A
(e) FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGES OF FLOW RATES.	X Yes	___ No	___ N/A
(f) FLOW RECORDS ARE PROPERLY KEPT.	X Yes	___ No	
(g) ACTUAL FLOW DISCHARGED IS MEASURED.	X Yes	___ No	
(h) FREQUENCY OF MAINTENANCE INSPECTIONS BY PLANT PERSONNEL.	daily	XXXX	

* All are packaged as radioactive wastes and sent to appropriate disposal sites

Permit No. OH0009857

Part 2 - Sampling (Further explanation attached___)

PERMITTEE SAMPLING MEETS THE REQUIREMENTS OF THE PERMIT. X Yes ___No

Details:

(a) LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES. X Yes ___No

(b) PARAMETERS AND SAMPLING FREQUENCY AGREE WITH PERMIT. X Yes ___No

(c) PERMITTEE IS USING METHOD OF SAMPLE COLLECTION REQUIRED BY PERMIT. X Yes ___No

REQUIRED METHOD composite (O/G - grab)

IF NO [ ]GRAB [ ]MANUAL COMPOSITE [ ]AUTOMATIC COMPOSITE FREQUENCY _____

(d) SAMPLE COLLECTION PROCEDURES ARE ADEQUATE. X Yes ___No

(i) SAMPLES REFRIGERATED DURING COMPOSITING X Yes ___No

(ii) PROPER PRESERVATION TECHNIQUES USED X Yes ___No

(iii) CONTAINERS AND SAMPLE HOLDING TIMES PRIOR TO ANALYSES CONFORM WITH 40 CFR 136.3 X Yes ___No

(e) MONITORING AND ANALYSES BEING PERFORMED MORE FREQUENTLY THAN REQUIRED BY PERMIT. X Yes ___No

(f) IF (e) IS YES, RESULTS ARE REPORTED IN PERMITTEE'S SELF-MONITORING REPORT. X Yes ___No ___N/A

(g) MONITORING RECORDS (e.g., flow, pH, D.O., etc.) MAINTAINED FOR A MINIMUM OF THREE YEARS INCLUDING ALL ORIGINAL STRIP CHART RECORDINGS (e.g. continuous monitoring instrumentation, calibration and maintenance records). X Yes ___No

(h) ADEQUATE RECORDS MAINTAINED OF SAMPLING DATA, TIME, EXACT LOCATION, ETC. X Yes ___No

Part 3 - Laboratory (Further explanation attached___)

PERMITTEE LABORATORY PROCEDURES MEET THE REQUIREMENTS OF THE PERMIT. X Yes ___No ___N/A

DETAILS:

(a) EPA APPROVED ANALYTICAL TESTING PROCEDURES USED.(40 CFR 136.3) X Yes ___No

(b) IF ALTERNATE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED. ___Yes ___No X N/A

(c) PARAMETERS OTHER THAN THOSE REQUIRED BY THE PERMIT ARE ANALYZED.Radionucleides X Yes ___No

(d) SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT. daily X Yes ___No

(e) QUALITY CONTROL PROCEDURES USED. X Yes ___No

(f) DUPLICATE SAMPLES ARE ANALYZED 10 % OF TIME.

(g) SPIKED SAMPLES ARE USED 4-6/yr. %XXXXXXX.

(h) ADEQUATE RECORDS MAINTAINED OF:

(i) ANALYSES DATES, TIME X Yes ___No

(ii) INDIVIDUAL PERFORMING ANALYSIS X Yes ___No

(iii) ANALYTICAL METHODS/TECHNIQUES USED X Yes ___No

(iv) ANALYTICAL RESULTS (e.g., consistent with self-monitoring report data) X Yes ___No

(v) LAB EQUIPMENT CALIBRATION AND MAINTENANCE X Yes ___No

(vi) QUALITY ASSURANCE X Yes ___No

(i) RESULTS OF LATEST USEPA QUALITY ASSURANCE PERFORMANCE SAMPLING PROGRAM. DATE: 7/85

[X]SATISFACTORY [ ]MARGINAL [ ]UNSATISFACTORY

(j) COMMERICAL LABORATORY USED. X Yes ___No

(i) PARAMETERS ANALYZED BY COMMERCIAL LAB.

TTO, _____, _____, _____, _____, _____,

_____, _____, _____, _____

LAB NAME. Environmental Testing & Certification 284 Raritan Ctr Pkwy. Edison, N.J. 08837

SECTION 1. Effluent/Receiving Water Observations (Further explanation attached ____)

OUTFALL NO.	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	VISIBLE FLOAT SOLIDS	COLOR	OTHER
601	-	-	-	-	-	-	
602	-	-	-	-	-	-	
603/604	not discharging						
002	-	-	-	-	-	-	

DYL file ref. 52

OhioEPA

State Of Ohio Environmental Protection Agency

P.O. Box 1049, 361 East Broad St., Columbus, Ohio 43216-1049
(614) 466-8565

Richard F. Celeste, Governor

Re: Permit to Install
Montgomery County
Application No. 08-895

MARCH 19, 1986

CERTIFIED MAIL

RECEIVED

MAR 25 1986

REGIONAL AIR POLLUTION CONTROL AGENCY

DEPARTMENT OF ENERGY/MOUND
P.O. BOX 66
MIAMISBURG, OHIO 45342

Attention: DAVE INGLE

Dear Sir:

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions I urge you to read it carefully.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Board of Review pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed with the Environmental Board of Review within thirty (30) days after notice of the Director's action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency and the Environmental Law Division of the Office of the Attorney General within three (3) days of filing with the Board. An appeal may be filed with the Environmental Board of Review at the following address:

Environmental Board of Review
250 East Town Street, Room 101
Columbus, Ohio 43215

Very truly yours,

Thomas G. Rigo

Thomas G. Rigo, Manager
Field Operations Section
Division of Air Pollution Control

TGR/gs

cc: US EPA
Regional Air Pollution Control Agency

OhioEPA

State of Ohio Environmental Protection Agency

Permit to Install
Terms and Conditions

Application No. Ø8-895
APS Premise No. Ø857Ø91196
Permit Fee: $2ØØ.

Name of Facility: DEPARTMENT OF ENERGY/MOUND

Person to Contact: DAVE INGLE

Address: P.O. BOX 66
MIAMISBURG, OHIO 45342

Location of proposed source(s): MOUND RD
MAIMISBURG, OHIO

Description of proposed source(s): GLASS MELT FURNACE (R&D).

Date of Issuance: MARCH 19, 1986

Effective Date: MARCH 19, 1986

The above named entity is hereby granted a permit to install for the above described source(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described source(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described source(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Warren W. Tyler

EPA 3156

Substantial construction for installation must take place within eighteen months of the effective date of this permit. This deadline may be extended by up to twelve months, if application is made to the Director no less than sixty days before the expiration of this permit and the party shows good cause for any such extension.

The Director of the Ohio Environmental Protection Agency, or his authorized representatives, may enter upon the premises of the above named applicant during construction and operation at any reasonable time for the purpose of making inspections, conducting tests, examining records or reports pertaining to the construction, modification or installation of the above described source of environmental pollutants.

If the construction of the proposed source has already begun or has been completed prior to the date the Director of the Ohio Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC Rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities prove to be inadequate or cannot meet applicable standards.

The specified permit fee must be remitted within 15 days of the effective date of this permit to install.

Approval to install the above identified source is hereby granted subject to the conditions expressed herein and consistent with the materials and data included in the application filed by the company. Any departure from the conditions of this approval or the terms expressed in the application must receive prior written authorization of the local air agency (Regional Air Pollution Control Agency) and the Ohio Environmental Protection Agency.

The following rule(s) of the Ohio Administrative Code establish the applicable emission limitations and/or control requirements for this source. (This condition in no way limits the applicability of other requirements of the Ohio Administrative Code to this source.)

3745-31-05(A)(3)
3745-21-07(G)
3745-17-11(B)
40 CFR Part 61.90 - 61.126

The mass emissions from this source shall not exceed the following:

8 pounds per hour and 40 pounds per day of organic compounds; and

0.62 pounds per hour of particulate emissions.

Radionuclide emissions from this facility shall not exceed the following:

25 mrem per year to the whole body; and

75 mrem per year to the critical organ of any member of the public.

Visible emissions from this source shall not exceed 5% opacity as determined by U.S. EPA Reference Method 9.

DOE/Mound shall notify the Regional Air Pollution Control Agency of each project planned for this source at least two weeks prior to the start-up. This notification shall include:

1. Operating schedule/proposed length of the project;
2. List of materials to be utilized in the project;
3. Quantity of materials utilized;
4. List of potential emissions and estimated amounts.

Upon completion of each project, DOE/Mound shall send the Regional Air Pollution Control Agency the results of testing completed including the types and amounts of air pollutants emitted. This shall include particulate matter emission, organic compound emissions, and the destruction reduction efficiency where applicable.

This source and its associated air pollution control system(s) shall be maintained regularly in accordance with good engineering practices and the recommendations of the respective manufacturers in order to minimize air contaminant emissions.

Any malfunction of this source or its associated air pollution control system(s) shall be reported immediately to the Regional Air Pollution Control Agency in accordance with OAC Rule 3745-15-06.

Conformance with the requirements specified above constitutes Best Available Technology for this source as required by rule 3745-31-05(A)(3) of the Ohio Administrative Code.

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source are subject to public disclosure in accordance with OAC Rule 3745-49-03.

Ref. 53

3/20/86

REPORT ON PLANS FOR SAND FILTERS AT SANITARY
WASTEWATER TREATMENT PLANT TO SERVE
U.S. DOE - MOUND FACILITY
LOCATED IN MIAMISBURG, OH

Introduction

The application and plans for PTI#05-1810 were received in the Southwest District Office of the Ohio Environmental Protection Agency on March 3, 1986. Additional information and clarification was received March 19, 1986.

The U.S. DOE - Mound Facility is located on Mound Road, north of Benner Road in Montgomery County. This is a federal facility which produces weapon components and performs energy-related research. The existing sanitary wastewater treatment system consists of a grit chamber, comminutor, four equalization basins, two aeration tanks, two clarifiers and chlorination facilities. It's design flow is 130,000 gpd and sources of wastewater include restrooms, showers, laundry facilities, lab sinks, and rinses from a small metal-finishing operation. An average of 100,000 gpd of treated effluent is discharged to the Great Miami River via outfall 601; this is authorized under NPDES permit 1I000005. This tertiary treatment has been proposed because of occasional violations of BOD and suspended solids limitations.

Summary of Proposed Facilities

The existing system will be modified to include sand filtration prior to chlorination (summer only) and discharge. As the solids concentration warrants it, the wastewater will be manually diverted from the trough between the clarifiers

and the chlorine contact tank. Sliding stop gates will route the total flow to a concrete sump pit with an approximate volume of 3275 gallons. The wastewater will then be pumped to the sand filters at an average rate of 70 gpm. Normally, one pump and one filter will operate at a time and the other pump and filter will be used for backup service. They can be operated in parallel at 133,000 gpd each if necessary.

The proposed filtration units are epoxy-painted carbon steel tanks insulated with two-inch fiberglass board. The tanks will be covered and the piping will be insulated and heat traced to prevent freezing. Manufactured by Parkson, these Dyna Sand filters are deep bed, upflow filters with a 19-sq. ft. surface area; #5 quartz sand is the recommended media.

The clean filtrate will discharge by gravity back to the trough or, under low flow conditions, back to the sump to protect the pumps. Backwash will occur continuously and the "reject" flow (5 - 10% of the influent) will discharge into the existing liquor return line to the comminutor.

Level alarms will be provided at the sump pit. Monitoring equipment and standby power are already available at the existing facilities.

Evaluation and Recommendations

With proper operation and maintenance, the new sand filters should significantly reduce suspended solids in the sewage treatment plant effluent. This will enable Mound to consistently meet permit limits for associated parameters.

The pumps should be adjusted so the filter loading rate does not exceed

5 gpm/sq. ft., based upon the peak hydraulic flow rate applied to the filter unit with one unit out of service.

The plans indicate precautions will be taken to prevent excessive solids from entering storm sewers during construction.

Cost and Construction

The estimated cost of the project is $200,000. Installation will begin as soon as the PTI is received and the scheduled start-up date is May 1, 1986.

Conclusion

It is recommended that the plans be approved with the usual conditions.

Reviewed by:

Kendra H. Dearth

Kendra H. Dearth
Industrial Wastewater Group

Review approved by:

Julie A. Grzyb

Julie A. Grzyb
Industrial Wastewater Group Leader

/lal

3/20/86

Ref. 54

OhioEPA

State Of Ohio Environmental Protection Agency

P.O. Box 1049, 361 East Broad St., Columbus, Ohio 43216-1049
(614) 466-8565

Richard F. Celeste, Governor

Re: Miamisburg - Montgomery County
Application No. 05-1810
Application for Sand Filters At The Sanitary Wastewater Treatment Plant
Received March 3, 1986
From Mr. James A. Morley, Area Manager, Department of Energy

March 27, 1986

U.S. Department of Energy,
Mound Facility
P. O. Box 66
Miamisburg, Ohio 45342

CERTIFIED MAIL

Enclosed is the Ohio EPA Permit to Install which will allow you to install the described source in the manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

As indicated on the permit, you are required to pay a permit fee as provided for by Section 3745.11 of the Ohio Revised Code and any rules established thereunder. The exact amount of this fee is indicated on page 1 of the Permit to Install. This amount must be remitted within fifteen (15) days of the effective date of the Permit to Install. Checks should be made payable to: Treasurer, State of Ohio and sent to Permits Bookkeeper, Ohio Environmental Protection Agency, 361 East Broad Street, Columbus, Ohio 43266-0558.

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Board of Review pursuant to Section 3745.04 of the Ohio Revised Code by any person who was a party to this proceeding. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed with the Environmental Board of Review within thirty (30) days after notice of the Director's action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency and the Environmental Law Division of the Office of the Attorney General within three (3) days of filing with the Board. An appeal may be filed with the Environmental Board of Review at the following address:

Environmental Board of Review
250 East Town Street
Room 101
Columbus, Ohio 43266-0557

RECEIVED

MAR 28 1986

Environmental Protection Agency
SOUTHWEST DISTRICT

You should note that a general condition of your permit states that issuance of the permit does not relieve you of the duty of complying with all applicable federal, state and local laws, ordinances and regulations.

If you have any questions, please contact the Ohio EPA District Office to which you submitted your application.

Sandra J. Kemper

Sandra J. Kemper, Manager
Permits & Compliance Programs

SJK/sc

Copy to Mr. Charles Friedman, Mansanto Research Corporation
" " Southwest District Office, Industrial Waste
" " Central Office, Industrial Waste

OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit to Install

Application No. 05-1810

Applicant's Name: U.S. Department of Energy, Mound Facility

Permit Fee $525.00

Address: P. O. Box 66

City: Miamisburg

State: Ohio 45342

Telephone: (513) 865-3579

Description of Proposed Source: Sand Filters At The Sanitary Wastewater Treatment Plant

Issuance Date: March 27,1986

Effective Date: March 27, 1986

The above named entity is hereby granted a permit to install for the above described source pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described source of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described source of pollutants will be granted the necessary operating permits. This permit is granted subject to the following conditions attached hereto:

Ohio Environmental Protection Agency

Warren W. Tyler
Director
361 East Broad Street
Columbus, Ohio 43266-0149

This permit shall expire if construction has not been initiated by applicant within eighteen months of the effective date of this permit. By accepting this permit, applicant acknowledges that this eighteen month period shall not be considered or construed as extending or having any effect whatsoever on any compliance schedule or deadline set forth in any administrative or court order issued to or binding upon the permit applicant, and applicant shall abide by such compliance schedules or deadlines to avoid the initiation of additional legal action by the Ohio EPA.

The Director of the Ohio Environmental Protection Agency, or his authorized representatives, may enter upon the premises of the above named applicant during construction and operation at any reasonable time for the purpose of making inspections, conducting tests, examining records or reports pertaining to the construction, modification or installation of the above described source of environmental pollutants.

Issuance of this permit does not relieve you of the duty of complying with all applicable federal, state, and local laws, ordinances, and regulations.

This permit is conditioned upon payment of applicable fees as required by Section 3745.11 of the Ohio Revised Code.

The proposed wastewater disposal system shall be constructed in strict accordance with the plans and application approved by the Director of the Ohio Environmental Protection Agency. There may be no deviation from these plans without the express, written approval of the agency. Any deviations from these plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of this permit does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources are inadequate or cannot meet applicable standards.

This permit shall be invalid unless the permit fee specified above has been paid in full to the Ohio EPA within fifteen days of issuance of this permit to install.

This permit applies to a wastewater disposal system designed to serve an average daily hydraulic flow of no more than 130,000 gallons.

Filtering material proposed for use in the filters shall be acceptable to the Ohio Environmental Protection Agency before placing.

The appropriate district office of the Ohio Environmental Protection Agency shall be notified, in writing prior to the start of construction, as to (a) the construction starting date; (b) the construction completion date; and (c) the date the wastewater disposal system was placed into operation.

A report, which provides a technical appraisal of the results obtained during normal operation conditions of the new wastewater disposal system, shall be submitted to the appropriate district office of the Ohio Environmental Protection Agency no later than three months after the new wastewater disposal system is placed into operation.

The owner shall be responsible for the proper operation and maintenance of the wastewater disposal system.

The operation of the wastewater disposal system shall be under the responsible charge of a certified operator having the proper certificate issued under Chapter 3745-7-05 of the Ohio Administrative Code.

Provisions shall be made for proper operation of the wastewater pumping facilities.