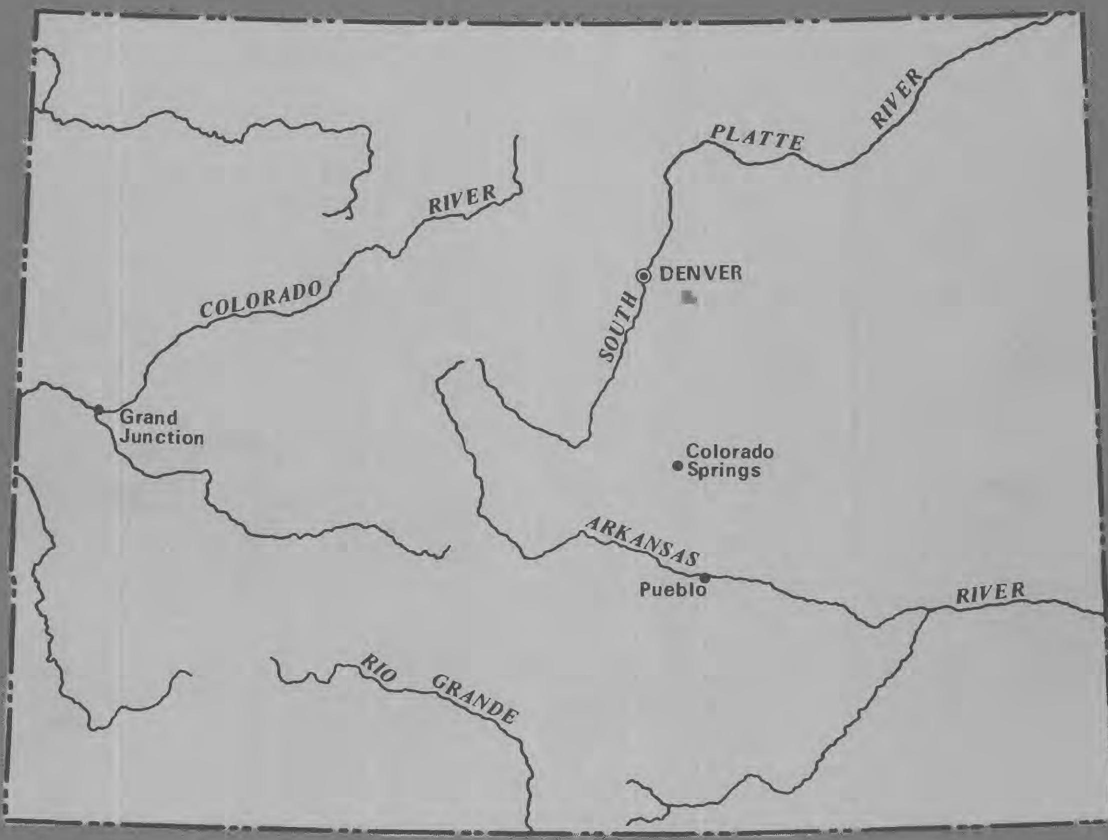
GROUND-WATER QUALITY NEAR A SEWAGE-SLUDGE RECYCLING SITE AND A LANDFILL NEAR DENVER, COLORADO

U. S. GEOLOGICAL SURVEY



Water-Resources Investigations 76-132

Prepared in cooperation with the Metropolitan Denver Sewage Disposal District and the Colorado Geological Survey

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16. Abstracts

The Metropolitan Denver Sewage Disposal District and the City and County of Denver operate a sewage-sludge recycling site and a landfill in an area about 15 miles (24 kilometers) east of Denver. The assessment of the effects of these facilities on the ground-water system indicated that five wells perforated in alluvium were found to have markedly degraded water quality. One well was located in the landfill and water that was analyzed was obtained from near the base of the buried refuse, two others were located downgradient and near sewage-sludge burial areas, and the remaining two are located near stagnant surface ponds. Concentrations of nitrate in wells downgradient from fields where sludge is plowed into the soil were higher than background concentrations due to the effects of the sludge disposal. No evidence of water-quality degradation was detected in deeper wells perforated in the bedrock formations.

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May 1977

UNITED STATES DEPARTMENT OF THE INTERIOR

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METRIC CONVERSION FACTORS

To convert English units	*Multiply by*	*To obtain metric units*
inches (in)	25.40	millimeters (mm)
feet (ft)	.3048	meters (m)
miles (mi)	1.609	kilometers (km)
feet per day (ft/d)	.3048	meters per day (m/d)
feet per year	.3048	meters per year (m/yr)
feet per mile	.1894	meters per kilometer (m/km)
acres	4.047×10^{-3}	square kilometers (km^2)
million gallons	3.785×10^{3}	cubic meters (m^3)
gallons per minute (gal/min)	3.785	liters per minute (L/min)
cubic yards	.7646	cubic meters (m^3)
tons	.9072	metric tons (t)
tons per acre	2.242	metric tons per hectare (t/ha)

One microgram per liter (μg/L) is approximately equal to one part per billion. One milligram per liter (mg/L) is equal to 1,000 μg/L and is approximately equal to one part per million.

GROUND-WATER QUALITY NEAR A SEWAGE-SLUDGE

RECYCLING SITE AND A LANDFILL NEAR DENVER, COLORADO

By S. G. Robson

ABSTRACT

The Metropolitan Denver Sewage Disposal District and the City and County of Denver operate a sewage-sludge recycling site and a landfill in an area about 15 miles (24 kilometers) east of Denver. The assessment of the effects of these facilities on the ground-water system included determining the direction of ground-water movement in the area, evaluating the impact of the waste-disposal activities on the chemical quality of local ground water, and evaluating the need for continued water-quality monitoring.

Surficial geology of the area consists of two principal units: (1) Alluvium with a maximum thickness of about 25 feet (7.6 meters) deposited along stream channels, and (2) bedrock consisting of undifferentiated Denver and Dawson Formations. Ground water in formations less than 350 feet (110 meters) deep moves to the north, as does surface flow, while ground water in formations between 570 and 1,500 feet (170 and 460 meters) deep moves to the west. Estimates of ground-water velocity were made using assumed values for hydraulic conductivity and porosity, and the observed hydraulic gradient from the study area. Lateral velocities are estimated to be 380 feet (120 meters) per year in alluvium and 27 feet (8.2 meters) per year in the upper part of the bedrock formations. Vertical velocity is estimated to be 0.58 foot (0.18 meter) per year in the upper part of the bedrock formations.

Potentiometric head decreases with depth in the bedrock formations indicating a potential for downward movement of ground water. However, water-quality analysis and the rate and direction of ground-water movement suggest that ground-water movement in the area is primarily in the lateral rather than the vertical direction.

Five wells perforated in alluvium were found to have markedly degraded water quality. One well was located in the landfill and water that was analyzed was obtained from near the base of the buried refuse, two others were located downgradient and near sewage-sludge burial areas, and the remaining two are located near stagnant surface ponds. Concentrations of nitrate in

wells downgradient from fields where sludge is plowed into the soil were higher than background concentrations due to the effects of the sludge disposal. No evidence of water-quality degradation was detected in deeper wells perforated in the bedrock formations. Continued water-quality monitoring is needed because of the continuing disposal of wastes. A suggested monitoring program would consist of monitoring wells near the landfill twice a year and monitoring wells near the sludge-disposal areas on an annual basis.

INTRODUCTION

The Metropolitan Denver Sewage Disposal District operates a 2,000-acre (8-km^2) sewage-sludge recycling site in Arapahoe County about 15 miles (24 km) east of Denver, Colo. (fig. 1). The sludge is hauled by truck to the site and either spread on the ground and plowed into the soil or buried in bulk if the weather is inclement. In addition, the City and County of Denver operates a solid and liquid waste landfill on about 250 acres (1.0 km^2) adjacent to the sludge-disposal site. Solid waste is trucked to the landfill, dumped, and periodically compacted and covered with earth. Liquid waste is discharged to unlined earth trenches until several million gallons of liquid have accumulated. The trench is then filled with refuse and covered with a layer of earth.

These disposal activities provide a potential source of pollutants which could adversely affect the chemical quality of water in the area. The semiarid climate (14 in or 360 mm of mean annual precipitation) and the low rolling hills combine to produce minimal runoff in the small ephemeral streams that originate in or near the study area and constitute the surface-drainage network. As a result, the quality of ground water is of primary concern, for ground water is found at shallow depth in some locations and is the only reliable source of water in the area.

Purpose

The purpose of this study was: (1) To determine the direction of ground-water movement in the alluvial and bedrock aquifers underlying the area, (2) to evaluate the effects of the waste-disposal activities on the chemical quality of the ground water, and (3) to determine the need for future water-quality monitoring in the area.

Scope

The scarcity of existing wells in the study area required that additional observation wells be drilled. As shown on plate 1 and in table 1 (at back of report), 41 observation wells were installed at depths ranging from 4 to 248 feet (1 to 76 m). The tables in this report present pertinent data for these wells in addition to the 17 previously existing wells in the study area. The well-numbering system used in this study indicates the location of the well by quadrant, township, range, section, and position within the section, as illustrated in figure 2.

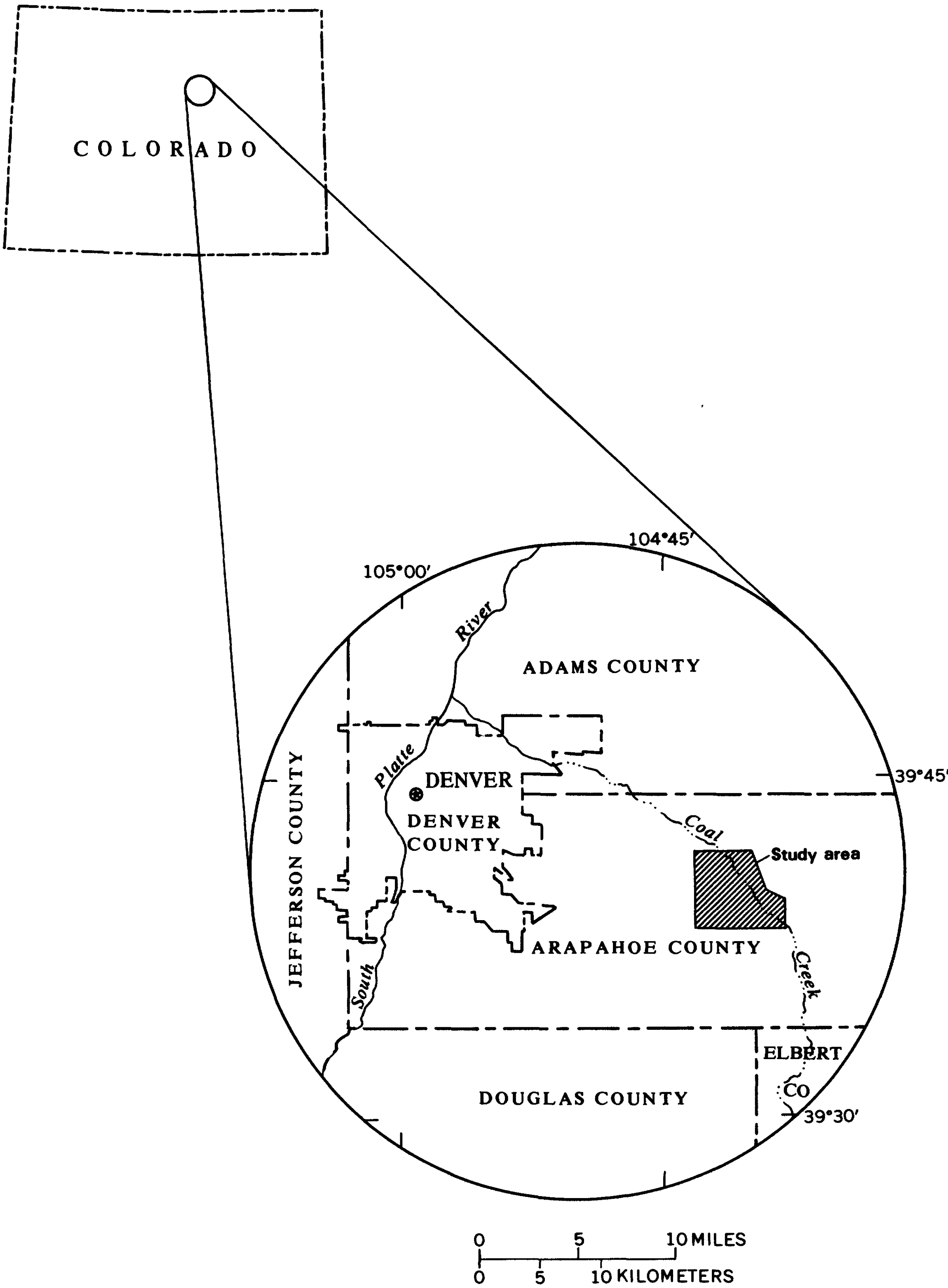


Figure 1.—Location of study area.

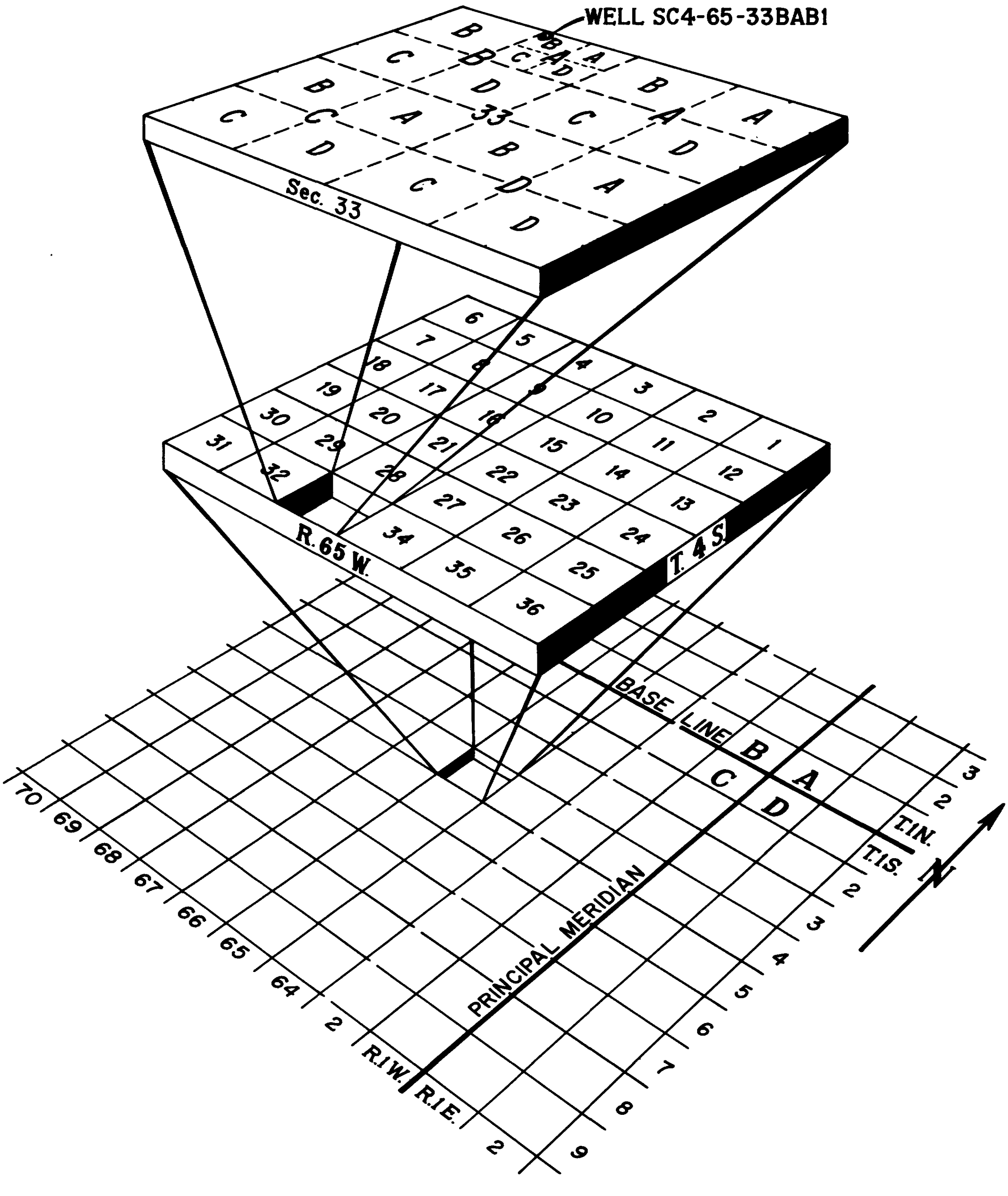


Figure 2.—Well–numbering system.

Acknowledgments

The study was made in cooperation with the Metropolitan Denver Sewage Disposal District and the Colorado Geological Survey. Much of the laboratory analytical work was done by the Metropolitan Denver Sewage Disposal District under the direction of laboratory supervisor Carl Calkins. Their assistance is gratefully acknowledged.

DIRECTION OF GROUND-WATER MOVEMENT

The determination of the direction of ground-water movement requires an understanding of the geology of the area before water-level measurements in wells can be properly interpreted to show the direction of movement. The direction of movement in conjunction with estimates of the rate of ground-water movement provides a means of evaluating the potential effects of movement of degraded ground water.

The surficial geology of the area consists of two principal units: (1) Alluvium consisting of unconsolidated, poor- to moderately well-sorted clay, silt, sand, and gravel of Pleistocene and Holocene age with a maximum thickness of about 25 feet (7.6 m); and (2) the undifferentiated Denver and Dawson Formations consisting of brown, dusky-yellow, and blue-gray mudstone with thin, lenticular beds of lignite and gray sandstone. The Denver and Dawson Formations are of Late Cretaceous and Paleocene age and extend from land surface to a depth of 1,570 feet (478 m) in well SC 5-65- 5BDA (McConaghy and others, 1964). The mudstone units are dense, moderately consolidated, and show little evidence of joints or fracture cleavage. Lignite beds encountered during drilling of observation wells did not yield measurable quantities of water to the wells. The sandstone beds are the only units capable of yielding measurable quantities of water to the observation wells in the consolidated formations. The geologic sections (figs.3 and 4) show the relation of the alluvium and the sandstone and lignite in the upper part of the bedrock formations. The bedrock formations dip to the northwest at about 1 degree near the west edge of the study area and are relatively flat-lying in the remainder of the area.

The yield of most of the observation wells perforated in the alluvium was about 0.1 gallon per minute (0.4 L/min) with a few wells yielding as much as 10 gallons per minute (38 L/min). All the wells having higher yields are located along Coal Creek, an area where field examination of drill cuttings indicated the alluvium to be coarser, better sorted, and, therefore, more permeable. The wells with lower yields are due to the small saturated thickness, fine grain size, and poor sorting of most of the alluvial materials in the remainder of the area. Yields from about 200 feet (60 m) of hole drilled in the bedrock normally did not exceed 5 gallons per minute (19 L/min), although the sandstone encountered at a depth of 50 feet (15 m) in well SC 5-65- 6CAC2 yielded about 20 gallons per minute (80 L/min) during drilling.

Water-table contours for the alluvial aquifer (pl.1) indicate that ground water moves down the alluvial valleys in a direction controlled by the geology and the orientation of the valley. The general direction of movement is to the north or northwest.

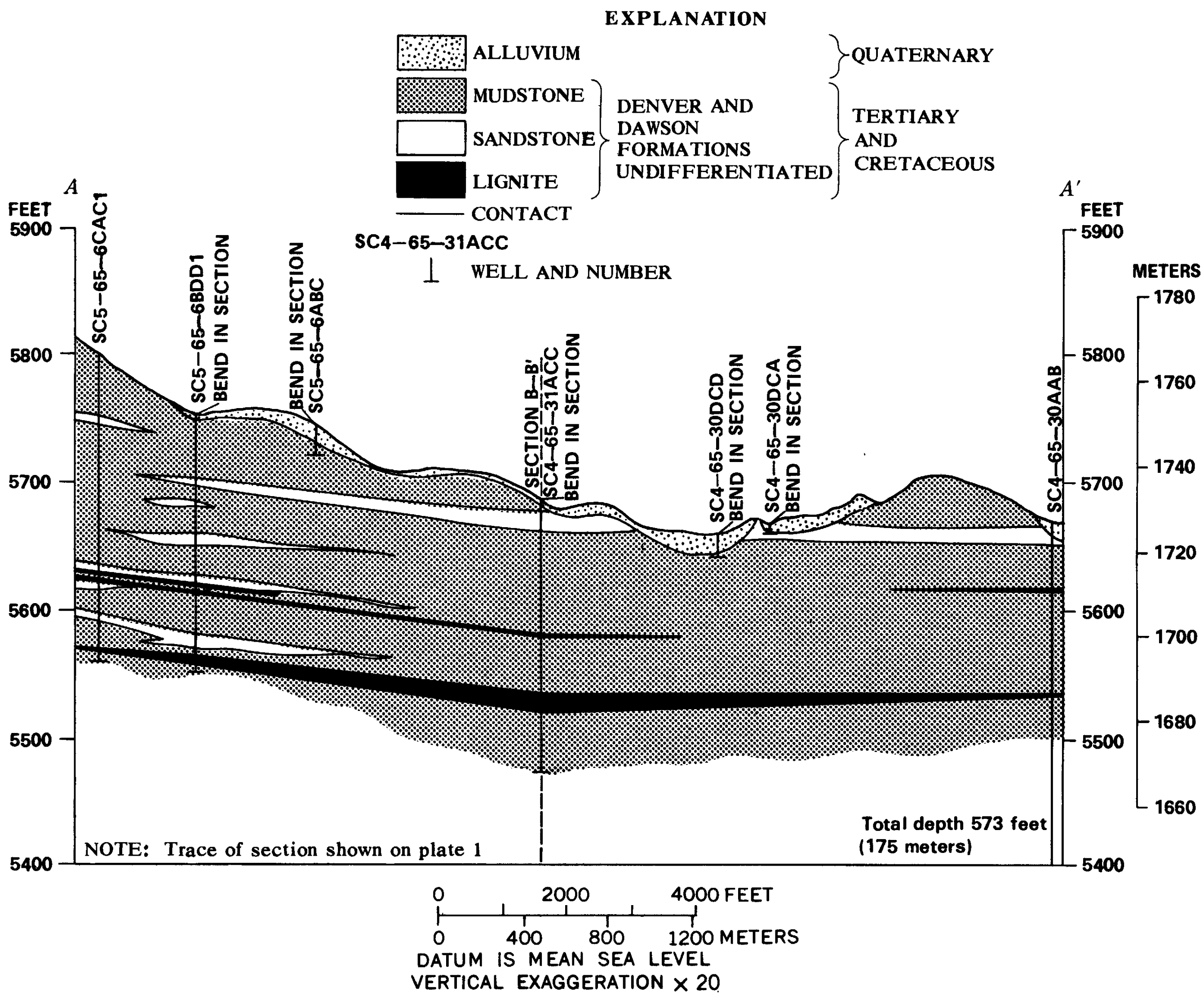


Figure 3.—North–south oriented geologic section.

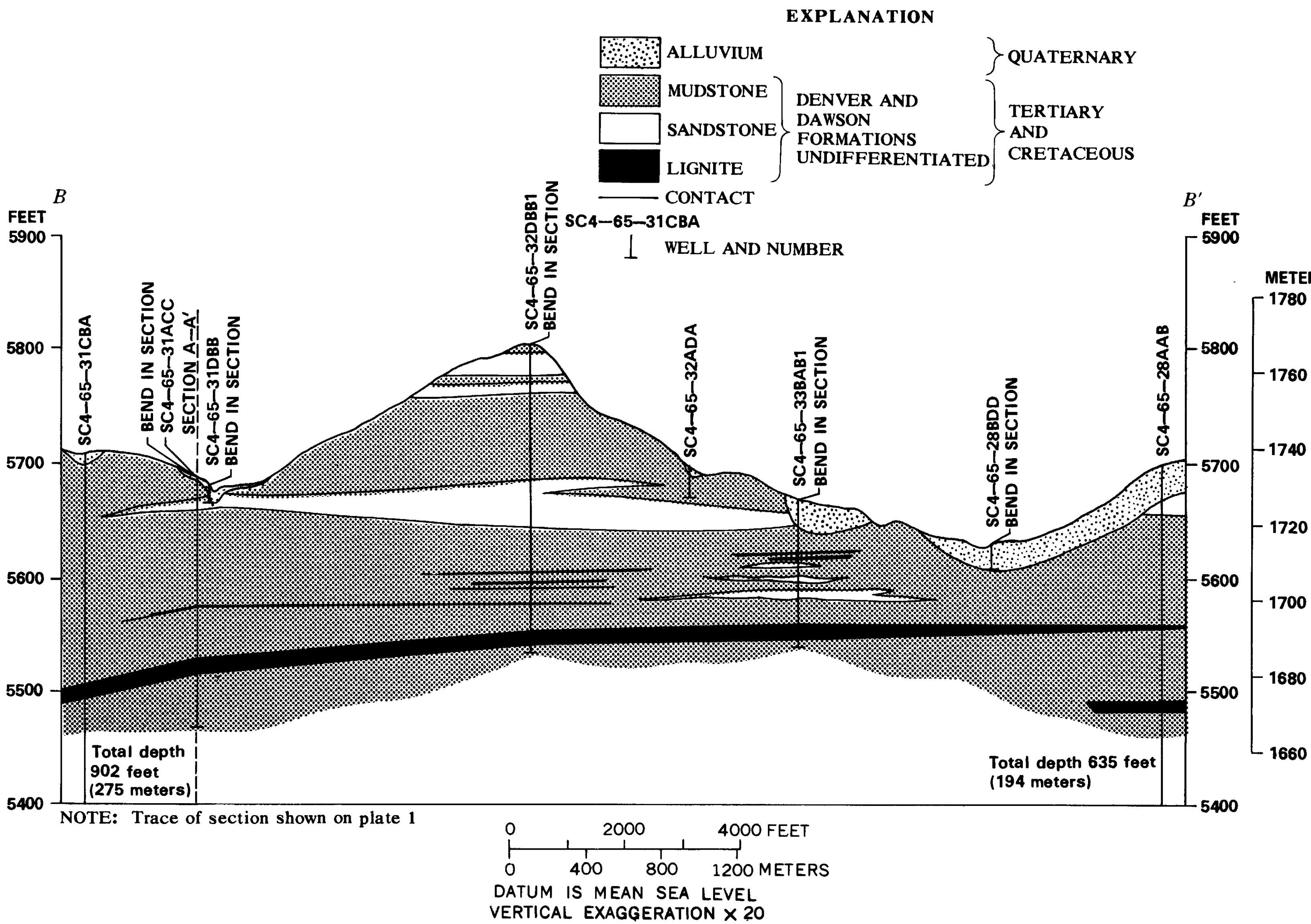


Figure 4.—East-west oriented geologic section.

When water-level measurements in wells tapping confined aquifers are used in contouring, the resulting map is termed a potentiometric-contour map (pl.2). The solid potentiometric contours on plate 2 represent the elevation at which water stands in wells whose depths range from 100 to 350 feet (30 to 110 m). Wells of this depth are perforated in the upper part of the undifferentiated bedrock formations. A comparison of plates 1 and 2 indicates that the potentiometric surface in the upper part of the bedrock is generally 10 to 40 feet (3 to 10 m) below the water table in the alluvium. The potential thus exists for ground-water movement from the alluvium into the upper part of the bedrock. The general direction of ground-water movement in the upper part of the bedrock, as in the alluvium, is to the north.

Water-level measurements in wells perforated in the alluvium or the upper part of the bedrock indicate that only minor water-level changes have occurred in these zones from 1974 to 1976. However, 1974 water-level measurements in frequently pumped domestic wells (wells SC 4-65-28AAB and SC 4-65-30AAB, for example) perforated in the lower part of the bedrock formations are as much as 100 feet (30 m) below measurements made at the time the wells were drilled in 1971. In order to avoid considering the effects of localized water-level declines around pumping wells, the potentiometric-contour map for the lower part of the bedrock is based on measurements made at the time each well was drilled. The dashed potentiometric contours on plate 2 are based on water-level measurements in five wells ranging in depth from 570 to 1,570 feet (170 to 480 m) and represent the potentiometric surface in the lower part of the bedrock formations. In this depth interval the direction of ground-water movement generally is to the west. The same direction of local movement occurs in aquifers at depths between 1,800 and 2,000 feet (550 and 610 m) as found by Romero (1976).

An unusual condition thus exists, in which ground water in the alluvium and the upper part of the bedrock formations moves to the north while ground water in the lower part of the bedrock formation moves to the west. This suggests that the aquifers in the two depth intervals do not have good hydraulic connection. The divergence in the direction of ground-water movement coexists with large differences in head with depth in the formations. Near well SC 5-65- 6CDA, for example, the elevation of the water table in the alluvium is about 40 feet (12 m) higher than the potentiometric surface in the upper part of the bedrock, and about 250 feet (76 m) higher than the potentiometric surface in the lower part of the bedrock. By contrast, near well SC 4-65-28BDD the total difference between the elevation of the water table in the alluvium and the potentiometric surface in the lower part of the bedrock is about 60 feet (18 m). The vertical differences in head create a potential for downward movement of ground water in addition to the potential for lateral movement indicated by the potentiometric-contour maps.

Both the rate and direction of ground-water movement are of prime concern in any study of ground-water contamination. In order to calculate the rate of ground-water movement, it is necessary to have data describing the ability of the saturated sediments to transmit water (hydraulic conductivity) and the volume of pore space in the sediments (porosity). These characteristics of the sediment are used in conjunction with the hydraulic gradient (slope of the water table or potentiometric surface) to calculate the ground-water velocity by use of the equation:

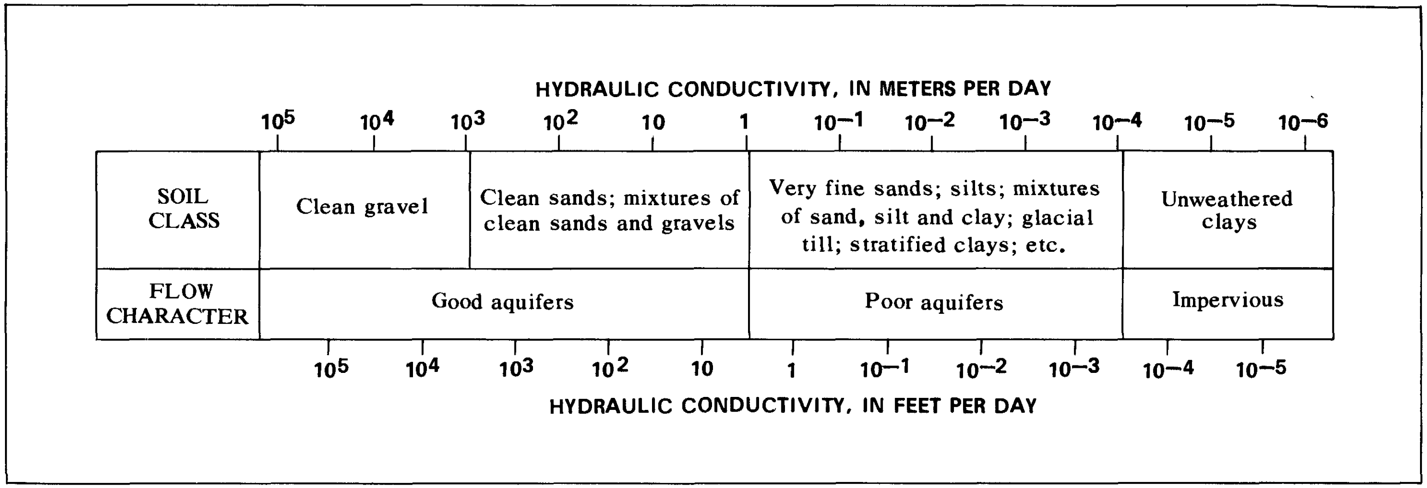
$$V = \frac{KI}{\phi} \times 365,$$

where V = ground-water velocity, in feet per year,
K = hydraulic conductivity, in feet per day,
I = hydraulic gradient (dimensionless, feet per feet), and
ϕ = porosity (dimensionless).

Data on the hydrologic properties of the sediments in the study area are not available; consequently, the actual ground-water velocities in the area cannot be calculated. However, data describing the hydrologic character of the alluvium in sec. 28, T. 4 S., R. 67 W., and secs. 20 and 23, T. 5 S., R. 66 W., are available, as are data for the upper part of the bedrock formations in sec. 18, T. 4. S., R. 65 W. and sec. 24, T. 6 S., R. 66 W. (McConaghy and others, 1964). If these data are used in conjunction with the hydraulic gradients in the study area, the rate of ground-water movement can be calculated for sediments of similar hydraulic conductivity and porosity in the study area. However, it is unknown whether or not the data describing the hydrologic character of the alluvium and bedrock outside the study area reflect the hydrologic character of the units in the study area. As a result of these uncertainties, the velocities calculated using these data are considered to be general indications of the magnitude of ground-water velocities and not actual velocities in the study area.

The hydraulic conductivity of 10 samples from alluvium 2 to 9 miles (3 to 14 km) from the study area ranged from 8×10^{-3} to 130 feet per day (2×10^{-3} to 40 m/d) with a mean of 32 feet per day (10 m/d) (fig. 5). The mean porosity was 34.2 percent. When the hydraulic gradient (0.011) in the alluvium in the study area is used, the resulting lateral ground-water velocities range from 9.4×10^{-2} to 1,500 feet per year (2.9×10^{-2} to 460 m/yr) with a mean of 380 feet per year (120 m/yr). The ground-water velocities in the alluvium of Coal Creek are probably much higher than those in the other alluvial areas as are the yields of wells near Coal Creek. The hydraulic conductivity of six samples taken from the upper part of the bedrock formations 1 to 8 miles (2 to 13 km) from the study area range from 9.4×10^{-5} to 8.7 feet per day (2.9×10^{-5} to 2.7 m/d) with a mean of 2.8 feet per day (0.85 m/d). The mean porosity was 41.4 percent. Using the hydraulic gradient in the upper part of the bedrock in the study area (0.011), the lateral ground-water velocities were calculated to range from 9.1×10^{-4} to 84 feet per year (2.8×10^{-4} to 26 m/yr) with a mean of 27 feet per year (8.2 m/yr).

The rate of vertical ground-water movement is also of concern because of the head change with depth in the formations. The rate of vertical movement in saturated materials is primarily controlled by the stratum having the lowest vertical hydraulic conductivity and greatest thickness. If the siltstone in the upper part of the bedrock formations near the landfill is the stratum of lowest vertical hydraulic conductivity, the combined thickness of the stratum at well SC 5-65- 6DBC, for example, may be used to calculate the vertical hydraulic gradient. Data in tables 1, 2, and 3 (at back of report) indicate that



After Todd (1967)

Figure 5.—Magnitude of hydraulic conductivity for different classes of sediment.

a head difference of 6.5 feet(2.0 m) exists across a zone about 160 feet(50 m) thick consisting primarily of siltstone. As in the previous calculations, the hydraulic conductivity and porosity of the bedrock in the study area are not known. If hydraulic properties comparable to those used for the lateral velocity calculations are considered, the vertical hydraulic conductivity of the siltstone likely would be between the average and minimum horizontal hydraulic conductivity for the upper part of the bedrock. A vertical velocity of 0.58 foot per year (0.18 m/yr) is calculated by using a vertical hydraulic conductivity midway between the mean and minimum lateral hydraulic conductivity (1.6×10^{-2} ft/d or 4.9×10^{-3} m/d) and a porosity of 41.4 percent. However, if the vertical hydraulic conductivity was equal to the minimum lateral hydraulic conductivity (9.4×10^{-5} ft/d or 2.9×10^{-5} m/d), the vertical velocity would equal 3.4×10^{-3} foot per year (1.0×10^{-3} m/yr).

If the average velocities are assumed to be representative of the general ground-water velocities to occur in the study area, the movement and possible effects of sources of ground-water degradation can be evaluated. If water in the upper part of the bedrock formations were degraded near the landfill, for example, it would require about 500 years for the degraded water to move 2.5 miles (4 km) from the landfill to the nearest domestic well (SC 4-65-30AAB). During this movement, the degraded water would be diluted by recharge of nondegraded water from the alluvium and would be further diluted by mixing with nondegraded water in the upper part of the bedrock formations. Unless the landfill becomes a long-term source of large quantities of leachate containing high concentrations of degrading constituents, it is unlikely that the degradation would have a significant effect on the ground-water quality at well SC 4-65-30AAB in the foreseeable future.

The ground-water-flow path in the alluvium from the sludge disposal area in sec. 32, T. 4. S., R. 65 W., to domestic well SC 4-65-28BBC is about 1.6 miles (2.6 km). If the alluvium has an average hydraulic conductivity and porosity of 32 feet per day (10 m/d) and 34.2 percent, it would require about 30 years for ground water to move from the east edge of sec. 32, T. 4, S., R. 65 W., to well SC 4-65-28BBC with the local hydraulic gradient of 7.6×10^{-3}. Unless the sludge-disposal area becomes a long-term source of a large quantity of leachate containing high concentrations of degrading constituents, the impact on the water quality at well SC 4-65-28BBC would appear to be small.

EFFECT OF WASTE-DISPOSAL ACTIVITIES ON GROUND-WATER QUALITY

Land disposal of sludge began in the study area in 1969 and by 1976 application rates ranged from about 60 to 210 dry tons per acre (130 to 470 t/ha) in the areas where the sludge is plowed into the soil. About 34,000 dry tons (31,000 t) of sludge were buried in the burial site in sec. 9, T. 5 S., R. 65 W., between 1969 and 1970 (pl. 1). The current burial site in sec. 4, T. 5 S., R. 65 W., has received 3,000 to 4,000 tons (3,000 to 4,000 t) of sludge since 1973 (Don Grasmick, Metropolitan Denver Sewage Disposal District, written and oral commun., 1976). The chemical nature of the sludge varies considerably depending on the source of the sludge within the Metropolitan Denver Sewage Disposal District and the type of chemicals used to aid precipitation. The three principal types of sludge are not segregated in the disposal area; as a result, the quality of the composite sludge is probably a combination of the three analyses shown in table 4 (at back of report). The composite sludge is high in calcium, total Kjeldahl nitrogen, ammonia, phosphorus, and the trace metals, cadmium, chromium, copper, lead, nickel, and zinc.

The landfill began operation in 1966 and by about 1972 liquid-waste trenches capable of holding in excess of 1 million gallons (4,000 m^3) were being used (Jerry Bonello, City and County of Denver, oral commun., 1976). By 1975, between 1 and 2 million cubic yards (1 to 2 million m^3) of compacted refuse had been buried at the site. The chemical quality of leachate moving through the buried refuse can be determined only by sampling a well drilled into the refuse, for no surface discharge of leachate occurs. Well SC 5-65-6CDA, perforated at the base of the fill materials, provides the best available indication of the leachate quality (see table 5 at back of report). Water from this well is particularly high in chloride, dissolved solids, sodium, iron, and manganese.

Analyses of water samples taken from a liquid waste trench at the landfill are shown in table 4 (at back of report) and indicate that the water contains high concentrations of all the determined constituents with very high concentrations of sodium, potassium, and phenols.

Because ground-water quality was not monitored in the area prior to the beginning of disposal activities, the background water quality can be inferred only from the water quality in nearby wells in areas not likely to have been affected by the disposal activities. Four wells, by virtue of their location, are thought to be representative of the background water quality in the alluvium. Data from wells SC 4-65-30BDD, SC 4-65-31DDC, SC 5-65- 3ABB, and SC 5-65- 9DDA indicate that, with the exception of iron and manganese concentrations, the background water quality meets the U.S. Environmental Protection Agency's recommended drinking-water standards (1973) (table 6) and has dissolved-solids, sodium, chloride, and nitrate (as NO_3) concentrations of about 550, 50, 11, and 0.1 mg/L, respectively. Wells SC 4-65-30BDA and SC 5-65-8BCB are thought to be representative of background water quality in the upper part of the bedrock formations. This water meets the U.S. Environmental Protection Agency's recommended drinking-water standards (1973) and has dissolved-solids, sodium, chloride, and nitrate (as NO_3) concentrations of about 350, 100, 50, and 0.1 mg/L, respectively. Well SC 5-65- 5BDA is perforated in the lower part of the bedrock formations and is assumed to be representative of the background water quality in this zone. The water meets the U.S. Environmental Protection Agency's recommended drinking-water standards (1973) and has dissolved-solids, sodium, chloride, and nitrate concentrations of about 200, 100, 5, and 0.2 mg/L, respectively. The ground water in both the alluvium and bedrock is of sodium bicarbonate type. The occurrence of water of lower dissolved-solids concentration at greater depth in the geologic section suggests that the primary source of the water at depth in the study area is not the downward movement of water from the alluvium but lateral movement from areas to the south or east. The water-quality data substantiate the data on the general direction and rates of ground-water movement which indicate that the movement in the area is primarily in the lateral rather than the vertical direction.

Table 6.--*Recommended limits for dissolved constituents in public water supplies*

[Data from U.S. Environmental Protection Agency, 1973]

Constituents that may be toxic in high concentrations		Constituents that may affect potability in high concentrations	
Constituent	Recommended limit, in milligrams per liter	Constituent	Recommended limit, in milligrams per liter
Arsenic	0.1	Ammonia	0.5
Barium	1.0	Chloride	250.0
Cadmium	.01	Copper	1.0
Chromium	.05	Iron	.3
Cyanide	.2	Manganese	.05
Lead	.05	Phenols	.001
Mercury	.002	Sulfate	250.0
Nitrate (as N)	10.0	Zinc	5.0
Nitrite (as N)	1.0		
Pesticides:			
Aldrin	.001		
Chlordane	.003		
DDT	.05		
Dieldrin	.001		
Endrin	.0005		
Heptachlor	.0001		
Heptachlor Epoxide	.0001		
Lindane	.005		
Methoxychlor	1.0		
Toxaphene	.005		
Selenium	.01		

From October 1974 to March 1976, about 200 water-quality samples were collected from wells perforated in the alluvium (tables 1 and 5 at back of report). A review of these data indicates that dissolved solids, sodium, chloride, and nitrate are better indicators of ground-water-quality degradation in the area than are the other determined constituents. Although concentrations of phenols and trace metals are known to be high in some of the waste, these constituents were not consistently detected in elevated concentrations near disposal areas. The high clay content of the sediments in the study area may be largely responsible for this, for these dissolved constituents are readily bound to clay minerals and their movement is thus inhibited.

Chloride and dissolved solids, by contrast, are highly mobile in the ground-water environment and are commonly excellent indicators of ground-water-quality degradation (Hughes and Robson, 1973; Palmquist and Sendlein, 1975; and Zanon, 1971). Because the temporal change in the concentration of dissolved constituents was not large (with the exception of well SC 5-65-6CDA), mean concentrations calculated for each well over the 18-month sampling period are representative of the water quality commonly found in each well. By plotting the mean chloride and dissolved-solids concentrations for each well during the sampling period, a pattern of points is produced which has significance when the location of wells containing degraded and nondegraded ground water is known (fig. 6). It can be seen in figure 6 that the four wells representing background water quality in the alluvium (wells SC 4-65-30BDD, SC 4-65-31DDC, SC 5-65- 3ABB, and SC 5-65- 9DDA) plot in the lower part of the graph while the well with degraded water in the landfill (well SC 5-65-6CDA) plots in the extreme upper part of the graph. If the pattern of points is divided into three arbitrary regions, it can be seen in table 5 (at back of report) that wells in region 1 have water-quality characteristics similar to the background water quality in the area and are, therefore, least likely to have been affected by degradation from waste-disposal activities. Wells in region 3 have water-quality characteristics more similar to that of degraded ground water (table 5 at back of report) and are likely to have been affected by a source of degradation. Wells in region 2 yield water of intermediate quality with no clear indication of degradation.

There are readily apparent sources of ground-water degradation near each of the five wells in region 3. Well SC 5-65- 6CDA is located in the landfill refuse. Water from this well exceeds the U.S. Environmental Protection Agency's recommended drinking-water standards (1973) (table 6) for chloride, sulfate, iron, manganese, and lead. Wells SC 5-65- 4DBC and SC 5-65- 9ACD are located immediately downslope of two large areas used to bury sewage sludge (pl. 1). Leachate from the sludge could be affecting the ground-water quality near the two wells. The water quality is similar in both wells with nitrate, chloride, ammonia, and magnesium concentrations much higher than background concentrations, and sulfate and manganese concentrations exceeding U.S. Environmental Protection Agency's recommended drinking-water standards (1973). Wells SC 565 4CAC and SC 46533CBC are equipped with windmills and are used to supply water for cattle. The overflow from the stock tanks forms stagnant manure-contaminated ponds which are thought to be the source of degradation in the nearby shallow wells. The water quality in these two wells is similar, both having much higher concentrations of nitrate, chloride, sulfate, and zinc than found in background samples, and sulfate in excess of the U.S. Environmental Protection Agency's recommended drinking-water standards (1973). All but two of the wells used to monitor water quality in the alluvium, near areas where sludge is plowed into the soil, plot in region 1 of figure 6, which suggests that none of the wells are strongly affected by the movement of water of degraded quality.

Wells in which the average nitrate concentration exceeded 0.3 mg/L (as NO_3) during the sampling period are shown in table 7. The highest nitrate concentrations occur in wells downgradient from the two sludge-burial areas, near the landfill and near the stock-watering tanks, further indicating that ground-water-quality degradation is occurring in these areas. Nitrate concentrations ranging from 0.4 to 13 mg/L (as NO_3) also occur in wells located downgradient from areas where sludge is plowed into the soil. These concen-

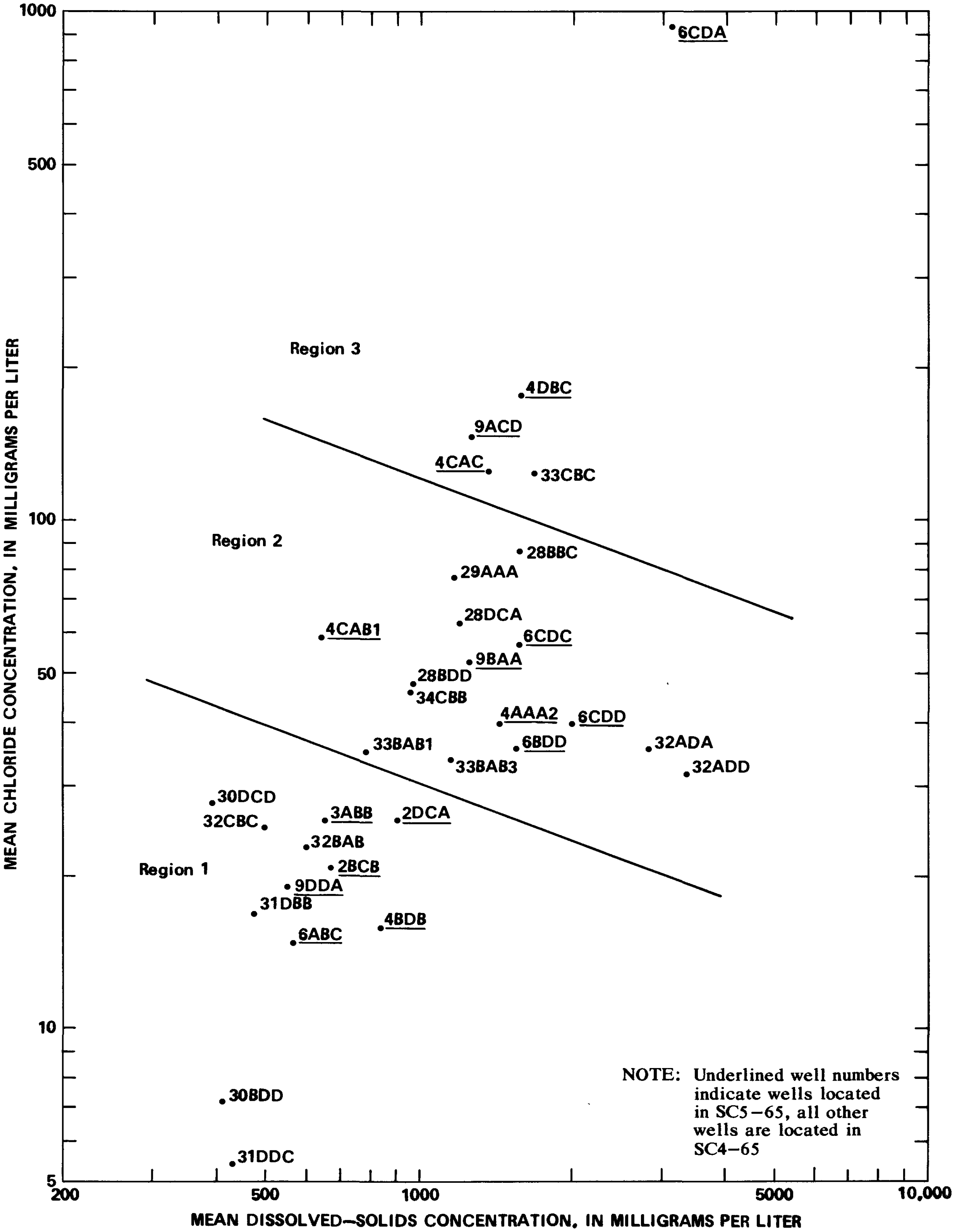


Figure 6.—Distribution of mean chloride and dissolved–solids concentrations in wells perforated in the alluvium.

Table 7.--*Average nitrate concentration in selected wells from October 1974 to March 1976*

Well number	Average nitrate concentration, as NO_3, in milligrams per liter
SC 4-65-28BBC	4.8
SC 4-65-29AAA	2.1
SC 4-65-30DCD	2.4
SC 4-65-30DDD	6.2
SC 4-65-32ADA	13
SC 4-65-32ADD	3.4
SC 4-65-32BAB	9.6
SC 4-65-33BAB1	4.0
SC 4-65-33BAB3	1.5
SC 4-65-33CBC	21
SC 5-65- 4AAA2	.42
SC 5-65- 4CAC	11
SC 5-65- 4DBC	30
SC 5-65- 6CDA	.50
SC 5-65- 6CDC	.49
SC 5-65- 6CDD	15
SC 5-65- 9ACD	24

trations are above the 0.1-mg/L background concentration in the alluvium and are probably the result of the sludge-disposal practices in the area. The higher-than-background nitrate concentrations in water from wells SC 4-65-28BBC and SC 4-65-29AAA are thought to be derived from agricultural sources near the wells.

Ground-water samples taken from 24 wells (table 5 at back of report) in February 1975 were analyzed for fecal coliform and fecal-streptococci bacteria. None of the sampled wells had significant fecal coliform concentrations; however, fecal-streptococci concentrations ranging from 3 to 177 colonies per 100 milliliters of sample were found in 11 widely scattered wells. When these wells were resampled in April 1976, the analysis indicated negligible fecal-streptococci concentrations. In addition to samples for bacterial determinations, eight wells were sampled for insecticides and industrial compounds and five wells were sampled for phenolic compounds. Polychlorinated-biphenols (PCB) were detected in wells SC 5-65- 4AAA and SC 5-65- 4DBC; the concentration was 0.2 µg/L. Phenolic compounds were detected in well SC 5-65- 6BDD; the concentration was 0.022 mg/L.

Between June 1975 and March 1976, about 60 water-quality samples were taken from 12 wells perforated in the upper part of the bedrock formation (table 5 at back of report). During construction of all but three of these wells (SC44-65-30BDA, SC 5-65- 6BDD2, and SC 5-65- 9BCB), concrete grout used to seal the casing in the well bore inadvertently invaded the water-bearing materials and has had a pronounced effect on the chemical composition of water pumped from the wells. As a result, the pH, dissolved-solids, hardness, calcium, carbonate, bicarbonate, hydroxide, and sulfate determinations for the affected wells are not representative of the water quality in the ground-water system. When the analyses for the wells unaffected by grout invasion are examined in conjunction with the unaffected parts of the analyses from grout-invaded wells, no clear pattern of water-quality degradation can be discerned. Although chloride concentrations are higher than background values in wells SC 4-65-32DBB2 and SC 4-65-32DBB3, as are total-Kjeldahl nitrogen concentrations in wells SC 5-65- 4CAB2 and SC 5-65- 6CAC2 (table 5 at back of report), other dissolved constituents in these wells do not have markedly high concentrations. In addition, no insecticides or industrial compounds were detected in samples from wells SC 4-65-30BDA and SC 5-65- 6CAC1. If ground-water quality in the upper part of the bedrock is being affected by the waste-disposal activities in the area, the resulting changes in water quality are not discernible at this time (1976).

Water-quality analyses are available for three wells (SC 4-65-28AAB, SC 4-65-30AAB, and SC 5-65- 5BDA) perforated in the lower part of the bedrock formations. The water quality in wells SC 4-65-28AAB and SC 4-65-30AAB is similar to the background quality as represented by analysis from well SC 5-65- 5BDA. The data indicate that the wells in the lower part of bedrock formations show no effect of the waste-disposal activities in the area.

NEED FOR FURTHER WATER-QUALITY MONITORING

The basic purpose of a water-quality monitoring program in this area would be to record the effect of the waste-disposal activities on the water quality in order to help assure that any adverse effects do not exceed acceptable limits. As of 1976, both the landfill and the sludge-burial areas are sources of only minor ground-water-quality degradation. However, the volume of leachate produced by these sources will likely increase in the future, as more material is deposited and the surface areas of the sites expand. Increased volumes of leachate could produce more rapid and widespread deterioration in ground-water quality and increase the need for water-quality monitoring. Because of the slow rates of ground-water movement to be expected in this area, monitoring would require only infrequent sampling of ground-water quality.

The landfill and the associated liquid-disposal trenches are of first-order concern in a water-quality-monitoring program because of the large volume of material handled and the lack of control over the type of materials that may be dumped. It is suggested that ground-water-quality monitoring near the landfill consist of sampling all the wells in sec. 6, T. 5 S., R. 65 W., twice a year and analyzing the samples for dissolved solids, sodium, chloride, nitrate, trace metals, and phenolic compounds. Although surface runoff from part of the landfill is presently intercepted by holding ponds, no means exist to control the runoff from the entire landfill. Under present conditions, a spill resulting from the failure of a liquid-disposal trench could result in a slug of contaminated liquid which would enter the surface-drainage network and could contaminate riparian land and ground water for many miles downstream. If an earthen dam were constructed near well SC 5-65- 6ABC, surface runoff or accidental spills originating anywhere in the landfill could be contained and the resulting pool and local ground water could be monitored, if a potential for ground-water degradation was found to exist.

Less frequent water-quality monitoring would be needed near sludge-disposal areas because of the lesser potential for ground-water degradation from these areas. Sampling the wells on an annual basis in the spring of each year is suggested to monitor the movement of degraded water. The suggested monitoring program could be achieved by sampling all the wells near the sludge-burial areas and wells SC 4-65-30DCD, SC 4-65-31DBB, SC 4-65-31CBA, SC 4-65-32ADA, SC 4-65-32BAB, SC 4-65-33BAB1, SC 4-65-33CBC, SC 5-65- 4AAA2, and SC 5-65- 6ABC near the plowed disposal fields. Analysis would include ammonia, chloride, zinc, magnesium, sodium, and dissolved solids. Monitoring near the sludge-disposal areas and the landfill would be needed for an indefinite period of time beyond the end of the disposal activities to assure that further leaching of the buried material would not contribute to the degradation of the ground water.

SUMMARY

As a result of this study it has been determined that the direction of ground-water movement in the alluvium and upper part of the bedrock formations generally is to the north while movement in the lower part of the bedrock formations generally is to the west. Calculated rates of ground-water movement, using assumed values for hydraulic conductivity and porosity and the hydraulic gradients in the study area, indicate that the mean-lateral velocity in the alluvium is 380 feet per year (120 m/yr) and is 27 feet per year (8.2 m/yr) in the upper part of the bedrock formations. The calculated rate of vertical movement was 0.58 feet per year (0.18 m/yr) in the upper part of the bedrock formations. Data on both the direction and the rate of ground-water movement indicate that lateral movement is predominant with minimal vertical ground-water movement.

Sampling of wells perforated in the alluvium, the upper part of the bedrock, and lower part of the bedrock indicated that water of better general quality is found in the deeper formations in the area. This suggests that the primary source of the water at depth in the area is not the downward movement of water from the alluvium but lateral movement from areas to the south and east.

Five wells perforated in alluvial materials were found to have water of markedly degraded quality. One well is perforated at the base of buried refuse in the landfill. Two other wells are located immediately downslope of two sludge-burial areas. The final two wells are used to water stock along Senac Creek. The degraded water in these wells may be due to the stock-tank

overflow which forms nearby stagnant manure-contaminated ponds. Samples from most of the wells below the plowed disposal fields indicated that the water in the alluvium in these areas had nitrate concentrations (as NO_3) ranging from 0.4 to 13 mg/L. The concentrations are higher than the background nitrate concentration (0.1 mg/L) and are probably due to the sludge-disposal activities in the adjacent fields. Other wells in the alluvium and wells perforated in the upper part of the bedrock formations show no discernible effects of water-quality degradation produced by the waste-disposal activities in the area. Wells perforated in the lower part of the bedrock formations show no effects of the waste-disposal activities.

Because of continuing waste-disposal activities, continued water-quality monitoring is needed to determine the effects of the waste disposal on the quality of ground water, the only source of usable water in the area. It is suggested that all wells near the landfill be sampled twice a year with analysis for dissolved solids, sodium chloride, nitrate, trace metals, and phenolic compounds, and wells near the sludge-disposal areas be sampled on an annual basis with analysis for nitrate, ammonia, chloride, zinc, magnesium, sodium, and dissolved solids.

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SUPPLEMENTAL INFORMATION

Table 1.--*Description*

[Type of lift: J, jet; N, none; P, piston; S, submersible. U, unused. Aquifer: A, all

LOCAL WELL NUMBER	OWNER OR USER	DEPTH OF WELL (FEET)	DIAMETER OF CASING (INCHES)	YEAR COM-PLETED
SC- 4- 65-19CCC	SEAWRIGHT	--	--	
SC- 4- 65-28AAB	M ARMATO	635	4	1971
SC- 4- 65-28BBC	E SMITH	21	8	1954
SC- 4- 65-28BDD	U S GOVERNMENT	20	2	1974
SC- 4- 65-28DCA	U S GOVERNMENT	20	2	1974
SC- 4- 65-29AAA	SMITH	33	6	
SC- 4- 65-30AAB	M SMITH	573	4	1971
SC- 4- 65-30BDA	E RIPPE	300	7	
SC- 4- 65-30BDD	U S GOVERNMENT	23	2	1974
SC- 4- 65-30DCA	U S GOVERNMENT	4	2	1974
SC- 4- 65-30DCD	U S GOVERNMENT	18	2	1974
SC- 4- 65-30DDD	U S GOVERNMENT	16	2	1974
SC- 4- 65-31AAA	U S GOVERNMENT	11	2	1974
SC- 4- 65-31ACC	U S GOVERNMENT	102	2	1975
SC- 4- 65-31CBA	CITY OF DENVER	902	7	1975
SC- 4- 65-31DBB	U S GOVERNMENT	23	2	1974
SC- 4- 65-31DDC	U S GOVERNMENT	28	2	1974
SC- 4- 65-32ADA	U S GOVERNMENT	27	2	1974
SC- 4- 65-32ADD	U S GOVERNMENT	21	2	1974
SC- 4- 65-32BAB	U S GOVERNMENT	11	2	1974
SC- 4- 65-32CBC	U S GOVERNMENT	16	2	1974
SC- 4- 65-32DBB1	U S GOVERNMENT	41	2	1975
SC- 4- 65-32DBB2	U S GOVERNMENT	151	2	1975
SC- 4- 65-32DBB3	U S GOVERNMENT	248	2	1975
SC- 4- 65-33BAB1	U S GOVERNMENT	28	2	1975
SC- 4- 65-33BAB2	U S GOVERNMENT	82	2	1975
SC- 4- 65-33BAB3	U S GOVERNMENT	23	2	1974
SC- 4- 65-33CBC	STATE OF COLO	21	6	
SC- 4- 65-34CBB	U S GOVERNMENT	16	2	1974

of wells

Use of water: C, commercial; H, domestic; S, stock;
uvium; B, bedrock]

ALTITUDE OF LAND SURFACE (IN FEET ABOVE M.S.L.)	DEPTH TO WATER (FEET)	DATE MEASURED	TYPE OF LIFT	USE OF WATER	AQUIFER
5628	--			H	
5700	232	1974	S	H	B
5628	19	1974	J	H	A
5635	9	1975	N	U	A
5642	7	1975	N	U	A
5624	18	1974	S	H	A
5670	217	1974	S	H	B
5655	149	1974	P	S	B
5640	10	1975	N	U	A
5660	--	1975	N	U	A
5660	8	1975	N	U	A
5680	12	1975	N	U	A
5683	8	1975	N	U	A
5690	14	1975	N	U	B
5710	185	1975	S	C	B
5680	4	1975	N	U	A
5710	8	1975	N	U	A
5696	16	1975	N	U	A
5694	16	1975	N	U	A
5720	10	1975	N	U	A
5720	13	1975	N	U	A
5800	--	1975	N	U	B
5800	122	1975	N	U	B
5800	122	1975	N	U	B
5670	16	1975	N	U	A
5670	14	1975	N	U	B
5665	10	1975	N	U	A
5704	10	1974	P	S	A
5665	7	1975	N	U	A

Table 1.--*Description*

LOCAL WELL NUMBER	OWNER OR USER	DEPTH OF WELL (FEET)	DIAMETER OF CASING (INCHES)	YEAR COM- PLETED
SC- 5- 65- 2BCB	US GOVERNMENT	11	24	
SC- 5- 65- 2DCA	US GOVERNMENT	24	32	
SC- 5- 65- 3ABB	U S GOVERNMENT	18	2	1974
SC- 5- 65- 4AAA1	CITY OF DENVER	12	--	
SC- 5- 65- 4AAA2	U S GOVERNMENT	18	2	1974
SC- 5- 65- 4BDB	U S GOVERNMENT	33	2	1974
SC- 5- 65- 4CAB1	U S GOVERNMENT	18	2	1975
SC- 5- 65- 4CAB2	U S GOVERNMENT	107	2	1975
SC- 5- 65- 4CAC	CITY OF DENVER	29	42	
SC- 5- 65- 4CDD	CITY OF DENVER	34	42	
SC- 5- 65- 4DBC	U S GOVERNMENT	22	2	1974
SC- 5- 65- 5BDA	C ROSENFIELD	2101	13	1959
SC- 5- 65- 6ABC	U S GOVERNMENT	28	2	1974
SC- 5- 65- 6BDD1	U S GOVERNMENT	130	2	1975
SC- 5- 65- 6BDD2	U S GOVERNMENT	175	2	1975
SC- 5- 65- 6BDD3	U S GOVERNMENT	37	2	1974
SC- 5- 65- 6CAC1	U S GOVERNMENT	53	2	1975
SC- 5- 65- 6CAC2	U S GOVERNMENT	153	2	1975
SC- 5- 65- 6CDA	U S GOVERNMENT	63	2	1974
SC- 5- 65- 6CDC	OPERATING ENG 9	150	6	
SC- 5- 65- 6CDD	U S GOVERNMENT	53	2	1974
SC- 5- 65- 6DBC1	U S GOVERNMENT	80	2	1975
SC- 5- 65- 6DBC2	U S GOVERNMENT	177	2	1975
SC- 5- 65- 6DBC3	U S GOVERNMENT	244	2	1975
SC- 5- 65- 8BCB	V MURPHY INC	356	7	1967
SC- 5- 65- 9ACD	U S GOVERNMENT	20	2	1974
SC- 5- 65- 9BAA	U S GOVERNMENT	24	2	1974
SC- 5- 65- 9DDA	U S GOVERNMENT	11	2	1974
SC- 5- 66-12DAC	EMILE RIPPE	990	6	1962

of wells--Continued

ALTITUDE OF LAND SURFACE (IN FEET ABOVE M.S.L.)	DEPTH TO WATER (FEET)	DATE MEASURED	TYPE OF LIFT	USE OF WATER	AQUIFER
5715	9	1974	P	S	A
5748	12	1974	P	S	A
5690	6	1975	N	U	A
5730	11	1975	N	U	A
5720	10	1975	N	U	A
5725	12	1975	N	U	A
5745	13	1975	N	U	A
5745	26	1975	N	U	B
5748	18	1974	P	S	A
5760	20	1974	N	U	A
5750	12	1975	N	U	A
5812	205	1959	S	H	B
5725	9	1975	N	U	A
5757	44	1975	N	U	B
5757	47	1975	N	U	B
5755	9	1975	N	U	A
5803	32	1975	N	U	B
5803	79	1975	N	U	B
5833	51	1975	N	U	A
5838	67	1974	S	H	B
5835	31	1975	N	U	A
5817	77	1975	N	U	B
5817	99	1975	N	U	B
5817	83	1975	N	U	B
5800	37	1974	P	S	B
5770	17	1975	N	U	A
5740	8	1975	N	U	A
5810	3	1975	N	U	A
5900	384	1962		H	B

Table 2.--*Record of water level in wells*

[Water levels are given in feet below land surface]

LOCAL WELL NUMBER SC 4- 65-28AAB

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 29, 1971	131.5	OCT. 15, 1974	231.8				

LOCAL WELL NUMBER SC 4- 65-28BBC

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 18, 1974	19.3						

LOCAL WELL NUMBER SC 4- 65-28BDD

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 27, 1974	9.3	MAY 1, 1975	9.6	DEC. 8, 1975	9.7	APR. 5, 1976	9.6
FEB. 4, 1975	9.5	AUG. 15, 1975	9.8				

LOCAL WELL NUMBER SC 4- 65-28DCA

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 27, 1974	5.5	FEB. 12, 1975	5.9	AUG. 15, 1975	6.3	DEC. 8, 1975	7.0
FEB. 4, 1975	5.8	MAY 1, 1975	5.8				

Table 2.--*Record of water level in wells*--Continued

LOCAL WELL NUMBER SC 4- 65-29AAA

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 11, 1974	18.1						

LOCAL WELL NUMBER SC 4- 65-30AAB

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 15, 1971	121.0	OCT. 15, 1974	216.8				

LOCAL WELL NUMBER SC 4- 65-30BDA

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 15, 1974	148.7	MAY 7, 1975	56.5				

LOCAL WELL NUMBER SC 4- 65-30BDD

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 18, 1974	10.3	FEB. 5, 1975	10.2	MAY 5, 1975	10.1	DEC. 9, 1975	10.3
NOV. 26, 1974	9.8	FEB. 13, 1975	10.2	AUG. 18, 1975	9.7	APR. 5, 1976	10.3

Table 2.--*Record of water level in wells*--Continued

LOCAL WELL NUMBER SC 4- 65-30DCD

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 18, 1974	7.9	FEB. 13, 1975	8.0	AUG. 18, 1975	6.7	APR. 5, 1976	8.7
FEB. 4, 1975	8.0	MAY 5, 1975	8.1	DEC. 9, 1975	8.5		

LOCAL WELL NUMBER SC 4- 65-30DDD

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 26, 1974	12.2	FEB. 12, 1975	12.3	AUG. 18, 1975	11.8	DEC. 7, 1975	12.9
FEB. 5, 1975	12.4	MAY 6, 1975	12.6				

LOCAL WELL NUMBER SC 4- 65-31AAA

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 18, 1975	9.6	DEC. 7, 1975	8.3				

LOCAL WELL NUMBER SC 4- 65-31ACC

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 28, 1975	14.3	JUNE 19, 1975	13.4	DEC. 7, 1975	13.6	APR. 2, 1976	13.7
MAY 1, 1975	14.2	AUG. 19, 1975	13.5				

Table 2.--*Record of water level in wells*--Continued

LOCAL WELL NUMBER SC 4- 65-31CBA

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 23, 1975	185.0						

LOCAL WELL NUMBER SC 4- 65-31DBB

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 18, 1974	4.0	FEB. 12, 1975	4.3	DEC. 7, 1975	4.6	MAR. 30, 1976	4.8
FEB. 3, 1975	4.3	AUG. 18, 1975	3.7				

LOCAL WELL NUMBER SC 4- 65-31DDC

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 26, 1974	8.1	FEB. 12, 1975	8.3	AUG. 18, 1975	7.5	MAR. 31, 1976	7.7
FEB. 3, 1975	8.3	MAY 1, 1975	7.9	DEC. 3, 1975	8.3		

LOCAL WELL NUMBER SC 4- 65-32ADA

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 26, 1974	18.8	FEB. 12, 1975	16.0	AUG. 18, 1975	16.3	DEC. 7, 1975	18.7
FEB. 4, 1975	16.2	MAY 1, 1975	18.4				

Table 2.--*Record of water level in wells*--Continued

LOCAL WELL NUMBER SC 4- 65-32ADD

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 25, 1974	15.1	FEB. 12, 1975	16.1	AUG. 18, 1975	16.6	DEC. 7, 1975	17.1
FEB. 4, 1975	16.0	MAY 1, 1975	16.7				

LOCAL WELL NUMBER SC 4- 65-32BAB

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 4, 1975	9.8	MAY 1, 1975	9.5	AUG. 18, 1975	5.2	DEC. 7, 1975	9.8
FEB. 12, 1975	9.6						

LOCAL WELL NUMBER SC 4- 65-32CBC

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 26, 1974	11.8	FEB. 12, 1975	12.7	AUG. 18, 1975	13.3	DEC. 7, 1975	13.4
FEB. 3, 1975	13.1	MAY 1, 1975	12.9				

LOCAL WELL NUMBER SC 4- 65-32DBB2

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 28, 1975	122.4	MAY 1, 1975	121.9	JUNE 18, 1975	120.9	AUG. 20, 1975	121.1

Table 2.--*Record of water level in wells*--Continued

LOCAL WELL NUMBER SC 4- 65-32DBB3

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 28, 1975	122.0	JUNE 18, 1975	120.8	AUG. 20, 1975	121.2	DEC. 8, 1975	121.2
MAY 1, 1975	121.8						

LOCAL WELL NUMBER SC 4- 65-33BAB1

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 28, 1975	15.2	JUNE 18, 1975	15.4	DEC. 8, 1975	15.9	APR. 2, 1976	15.5
MAY 1, 1975	15.7	AUG. 19, 1975	15.8				

LOCAL WELL NUMBER SC 4- 65-33BAB2

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 28, 1975	15.2	JUNE 18, 1975	14.4	DEC. 8, 1975	15.5	APR. 2, 1976	14.8
MAY 1, 1975	14.2	AUG. 19, 1975	15.4				

LOCAL WELL NUMBER SC 4- 65-33BAB3

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 18, 1974	10.5	FEB. 12, 1975	10.3	DEC. 8, 1975	11.0	APR. 2, 1976	10.6
FEB. 4, 1975	10.4	AUG. 18, 1975	10.9				

Table 2.--*Record of water level in wells*--Continued

LOCAL WELL NUMBER SC 4- 65-33CBC

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 11, 1974	10.1						

LOCAL WELL NUMBER SC 4- 65-34CBB

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 18, 1974	7.4	MAY 5, 1975	5.4	DEC. 4, 1975	8.4	MAR. 31, 1976	6.7
FEB. 5, 1975	6.9	AUG. 14, 1975	7.3				

LOCAL WELL NUMBER SC 5- 65- 2BCB

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 11, 1974	9.3						

LOCAL WELL NUMBER SC 5- 65- 2DCA

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 11, 1974	11.5						

Table 2.--*Record of water level in wells*--Continued

LOCAL WELL NUMBER SC 5- 65- 3ABB

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 18, 1974	6.6	MAY 5, 1975	5.8	AUG. 14, 1975	6.9	DEC. 4, 1975	6.8
FEB. 5, 1975	6.3						

LOCAL WELL NUMBER SC 5- 65- 4AAA1

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 5, 1975	10.5						

LOCAL WELL NUMBER SC 5- 65- 4AAA2

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 25, 1974	9.9	FEB. 11, 1975	10.4	AUG. 15, 1975	11.5	DEC. 8, 1975	11.4
FEB. 5, 1975	10.4	MAY 2, 1975	10.6				

LOCAL WELL NUMBER SC 5- 65- 4BDB

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 18, 1974	12.3	MAY 2, 1975	12.7	AUG. 15, 1975	13.2	DEC. 8, 1975	13.7
FEB. 5, 1975	11.6						

Table 2.--*Record of water level in wells*--Continued

LOCAL WELL NUMBER SC 5- 65- 4CAB1

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 28, 1975	13.2	JUNE 18, 1975	12.9	AUG. 20, 1975	13.6	APR. 1, 1976	21.6
MAY 1, 1975	13.1	AUG. 19, 1975	13.6	DEC. 8, 1975	14.2		

LOCAL WELL NUMBER SC 5- 65- 4CAB2

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 28, 1975	21.0	JUNE 18, 1975	21.0	DEC. 8, 1975	21.7	APR. 1, 1976	21.6
MAY 1, 1975	25.6	AUG. 19, 1975	21.4				

LOCAL WELL NUMBER SC 5- 65- 4CAC

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 11, 1974	17.9	MAY 5, 1975	18.1				

LOCAL WELL NUMBER SC 5- 65- 4CDD

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 11, 1974	20.1						

Table 2.--*Record of water level in wells*--Continued

LOCAL WELL NUMBER SC 5- 65- 4DBC

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 25, 1974	11.2	MAY 2, 1975	12.2	DEC. 8, 1975	12.9	MAR. 31, 1976	12.4
FEB. 5, 1975	12.1	AUG. 15, 1975	12.0				

LOCAL WELL NUMBER SC 5- 65- 5BDA

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 20, 1959	205.0						

LOCAL WELL NUMBER SC 5- 65- 6ABC

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 26, 1974	8.8	FEB. 12, 1975	9.3	AUG. 18, 1975	9.3	MAR. 31, 1976	9.3
FEB. 3, 1975	9.3	MAY 1, 1975	9.4	DEC. 3, 1975	10.4		

LOCAL WELL NUMBER SC 5- 65- 6BDD1

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 30, 1975	44.1	JUNE 19, 1975	41.0	DEC. 5, 1975	39.9	APR. 1, 1976	39.8
MAY 1, 1975	44.2	AUG. 20, 1975	40.0				

Table 2.--*Record of water level in wells*--Continued

LOCAL WELL NUMBER SC 5- 65- 6BDD2

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LFVEL
APR. 30, 1975	46.3	JUNE 19, 1975	46.2	DEC. 5, 1975	45.8	APR. 1, 1976	45.6
MAY 1, 1975	46.5	AUG. 20, 1975	45.9				

LOCAL WELL NUMBER SC 5- 65- 6BDD3

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 26, 1974	8.7	FEB. 11, 1975	8.8	AUG. 14, 1975	9.2	MAR. 30, 1976	8.2
FEB. 3, 1975	8.9	MAY 6, 1975	8.2	DEC. 5, 1975	9.3		

LOCAL WELL NUMBER SC 5- 65- 6CAC1

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 28, 1975	33.0	JUNE 19, 1975	31.6	DEC. 4, 1975	29.6	APR. 2, 1976	27.0
MAY 1, 1975	32.2	AUG. 20, 1975	31.0				

LOCAL WELL NUMBER SC 5- 65- 6CAC2

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 28, 1975	77.4	JUNE 19, 1975	72.7	DEC. 4, 1975	81.4	APR. 2, 1976	87.4
MAY 1, 1975	78.9	AUG. 20, 1975	73.0				

Table 2.--*Record of water level in wells*--Continued

LOCAL WELL NUMBER SC 5- 65- 6CDA

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 26, 1974	50.8	FEB. 11, 1975	51.1	DEC. 4, 1975	50.8	MAR. 30, 1976	51.7
FEB. 3, 1975	51.1	AUG. 14, 1975	51.3				

LOCAL WELL NUMBER SC 5- 65- 6CDC

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 5, 1974	66.7	MAY 6, 1975	66.8				

LOCAL WELL NUMBER SC 5- 65- 6CDD

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 11, 1974	19.6	FEB. 3, 1975	23.6	MAY 6, 1975	29.9	DEC. 7, 1975	30.8
NOV. 27, 1974	22.1	FEB. 11, 1975	23.8	AUG. 14, 1975	30.0	MAR. 30, 1976	31.8

LOCAL WELL NUMBER SC 5- 65- 6DBC1

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 28, 1975	73.3	MAY 1, 1975	77.3	AUG. 20, 1975	75.4	APR. 2, 1976	73.1
APR. 30, 1975	77.3	JUNE 19, 1975	74.8	DEC. 5, 1975	74.8		

Table 2.--*Record of water level in wells*--Continued

LOCAL WELL NUMBER SC 5- 65- 6DBC2

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 30, 1975	101.0	JUNE 19, 1975	81.0	DEC. 5, 1975	77.8	APR. 1, 1976	79.8
MAY 1, 1975	98.9	AUG. 20, 1975	83.0				

LOCAL WELL NUMBER SC 5- 65- 6DBC3

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 28, 1975	78.4	MAY 1, 1975	83.2	AUG. 20, 1975	80.5	APR. 2, 1976	82.4
APR. 30, 1975	83.0	JUNE 19, 1975	80.3	DEC. 5, 1975	82.3		

LOCAL WELL NUMBER SC 5- 65- 8BCB

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 11, 1974	36.8						

LOCAL WELL NUMBER SC 5- 65- 9ACD

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG. 15, 1975	17.1	DEC. 4, 1975	17.8				

Table 2.--*Record of water level in wells*--Continued

LOCAL WELL NUMBER SC 5- 65- 9BAA

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 18, 1974	7.8	FEB. 11, 1975	7.6	AUG. 15, 1975	7.9	MAR. 31, 1976	7.9
FEB. 4, 1975	7.6	MAY 5, 1975	7.2	DEC. 4, 1975	8.6		

LOCAL WELL NUMBER SC 5- 65- 9DDA

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 18, 1974	2.1	FEB. 11, 1975	2.2	AUG. 15, 1975	4.0	MAR. 31, 1976	2.3
FEB. 5, 1975	2.6	MAY 5, 1975	2.4	DEC. 4, 1975	4.2		

LOCAL WELL NUMBER SC 5- 66-12DAC

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 6, 1962	383.0						

Table 3.--*Logs of wells drilled by the the U.S. Geological Survey*

	Thick-ness (feet)	Depth (feet)
Well SC 4-65-28BDD. Altitude, 5,635 feet		
Sand, fine, with a little silt, brown	5	5
Sand grading from medium to coarse, well-sorted	5	10
Sand, very coarse, well-sorted	5	15
Sand, very coarse, with silt	10	25
Clay, silty, blue-gray	2	27
Well SC 4-65-28DCA. Altitude, 5,642 feet		
Sand, fine, well-sorted	5	5
Sand, fine to coarse, well-sorted	5	10
Sand, coarse, well-sorted	10	20
Clay, silty, blue-gray	2	22
Well SC 4-65-30BDD. Altitude, 5,640 feet		
Sand, poorly sorted, brown	15	15
Sand and clay, brown	8	23
Well SC 4-65-30DCA. Altitude, 5,660 feet		
Sand, fine	2	4
Sandstone, well-consolidated	2	4
Well SC 4-65-30DCD. Altitude, 5,660 feet		
Sand, poorly sorted, brown	10	10
Gravel, small, and sand, poorly sorted	5	15
Sand, poorly sorted, tougher drilling	5	20
Well SC 4-65-30DDD. Altitude, 5,680 feet		
Sand, fine, and silt, brown	4	4
Sandstone and siltstone; color grades from yellow-brown to brown	6	10
Clay, silty	5	15
Sandstone, well-consolidated, blue-gray	2	17

Table 3.--*Logs of wells drilled by the U.S. Geological Survey*--Continued

	Thickness (feet)	Depth (feet)
Well SC 4-65-31AAA. Altitude, 5,683 feet		
Sand, very fine, silty	3	3
Gravel, coarse, with silty sand	3	6
Clay, with silt and fine sand	5	11
Well SC 4-65-31ACC. Altitude, 5,690 feet		
Silt, dark-brown	6	6
Siltstone; alternating layers are either gray or tan	12	18
Sand and gravel, with thin layers of light-tan clay	7	25
Siltstone grading from yellow-brown to blue-gray	10	35
Siltstone, with some very fine sand	3	38
Siltstone, blue-gray	62	100
Siltstone with a few small seams of coal	20	120
Siltstone	31	151
Coal and siltstone layers	2	153
Siltstone	5	158
Coal and siltstone layers	12	170
Siltstone, gray grading to blue-gray	10	180
Coal	2	182
Siltstone, with a few thin seams of coal; hole yields about 2 gal/min	18	200
Siltstone, blue-gray	20	220
Well SC 4-65-31DBB. Altitude, 5,680 feet		
Sand, medium, with some silt, dark-brown	5	5
Sand, very coarse, poorly sorted	5	10
Silt and sand	5	15
Silt and sand in alternating layers; silt contains pebbles of hard blue-gray siltstone	8	23

Table 3.--*Logs of wells drilled by the U.S. Geological Survey*--Continued

	Thickness (feet)	Depth (feet)
Well SC 4-65-31DDC. Altitude, 5,710 feet		
Sand, poorly sorted, brown----------------------------	5	5
Sand and silt--	5	10
Clay, silty, yellow-brown------------------------------	15	25
Clay, silty, grading to blue-gray---------------------	5	30
Well SC 4-65-32ADA. Altitude, 5,696 feet		
Silt with fine sand, brown----------------------------	5	5
Clay, silty; color grading from brown to yellow-brown--	15	20
Clay, silty, blue-gray--------------------------------	7	27
Well SC 4-65-32ADD. Altitude, 5,694 feet		
Clay, silty, brown; hard drilling near bottom of hole--	21	21
Well SC 4-65-32BAB. Altitude, 5,720 feet		
Sand, very fine, grading to silty clay, light-brown----	11	11
Well SC 4-65-32CBC. Altitude, 5,720 feet		
Clay, silty, with fine sand, dark-brown----------------	5	5
Clay, silty, yellow-brown------------------------------	11	16
Well SC 4-65-32DBB1,2,3. Altitude, 5,800 feet		
Silt and clay; color grading from brown to blue-gray---	4	4
Sandstone, coarse, poorly consolidated, with a few layers of buff siltstone; hole is dry----------------	21	25
Siltstone, yellow-brown--------------------------------	3	28
Sandstone, fine, with thin layers of silt, yellow-brown	8	36
Conglomerate, coarse, well-consolidated; hole is dry---	6	42
Siltstone and fine sand, yellow-brown-----------------	13	55
Claystone, dense, gray-brown; hole is dry-------------	25	80
Siltstone, dense, with layers of silt or very fine sand	36	116

Table 3.--*Logs of wells drilled by the U.S. Geological Survey*--Continued

	Thickness (feet)	Depth (feet)
Well SC 4-65-32DBB1,2,3--Continued		
Sandstone, fine to medium, moderately consolidated-----	7	123
Sandstone, medium, very well consolidated-------------	22	145
Sandstone, fine to medium, poorly consolidated---------	13	158
Claystone, alternating layers are either blue-gray or brown; hole yields 2 to 4 gal/min-------------------	36	194
Siltstone, poorly consolidated, blue-gray, with a few thin seams of coal----------------------------------	6	200
Shale, brown, with thin seams of coal------------------	5	205
Claystone, blue-green, with a few thin seams of coal---	41	246
Coal---	8	254
Claystone, brown, with coal seams; hole yields about 2 to 4 gal/min---------------------------------------	6	260
Well SC 4-65-33BAB1,2. Altitude, 5,670 feet		
Sand, coarse, with some silt and clay layers-----------	20	20
Sand and gravel, medium, with some silt and clay layers	12	32
Siltstone, blue-gray-----------------------------------	11	43
Siltstone, brown, with thin layers of coal-------------	9	52
Siltstone, blue-gray, with thin layers of well-consolidated sandstone---------------------------------------	13	65
Sandstone, with thin seams of coal--------------------	5	70
Siltstone--	7	77
Sand, gray; hole yields 30 gal/min--------------------	3	80
Sand, coarse, with thin layers of silt-----------------	12	92
Siltstone, blue-gray; hole yields about 30 gal/min-----	8	100
Claystone, gray--	5	105
Siltstone, brown, with thin seams of coal--------------	3	108
Coal---	12	120
Siltstone, blue-gray-----------------------------------	10	130

Table 3.--*Logs of wells drilled by the U.S. Geological Survey*--Continued

	Thickness (feet)	Depth (feet)
Well SC 4-65-33BAB3. Altitude, 5,665 feet		
Sand, very fine to coarse, brown	5	5
Sand grading into silt, with sand and gravel	5	10
Clay, silty, yellow-brown, with layers of very coarse gravel	5	15
Clay, silty; color grading from brown to blue-gray	8	23
Well SC 4-65-34CBB. Altitude, 5,665 feet		
Sand, fine, with some silt, light-brown	5	5
Sand, fine to coarse	5	10
Sand and silt, gray-brown	9	19
Clay, silty, gray-green	1	20
Well SC 5-65- 3ABB. 5,690 feet		
Sand, fine, well-sorted, medium-brown	5	5
Sand, fine, and gray silt	5	10
Sand and silt, gray	10	20
Clay, silty, yellow-brown	2	22
Well SC 5-65- 4AAA2. Altitude, 5,720 feet		
Sand, coarse, well-sorted, light-brown	8	8
Clay, silty, dark-brown	7	15
Clay, silty, blue-gray	3	18
Well SC 5-65- 4BDB. Altitude, 5,725 feet		
Sand, very fine, well-sorted	5	5
Clay, silty, dark-brown, with some medium sand	3	8
Sand, silty, gray-brown, with gravel	17	25
Sand, coarse, with alternating layers of gray-brown silty clay	8	33

Table 3.--*Logs of wells drilled by the U.S. Geological Survey*--Continued

	Thickness (feet)	Depth (feet)
Well SC 5-65- 4CAB1,2. Altitude, 5,745 feet		
Silt and clay, with some fine sand, medium-brown	22	22
Siltstone, rust-color	3	25
Siltstone, blue-gray	6	31
Sandstone	1	32
Siltstone, blue-gray grading to brown, with a few small coal seams	8	40
Siltstone; alternating layers are blue gray or brown; hole yields about 10 gal/min	20	60
Siltstone; alternating blue-gray or brown layers	44	104
Siltstone, with a few layers of very fine, poorly consolidated sand	10	114
Siltstone, blue-green	10	124
Sandstone, medium, gray-brown, with some coal seams	5	129
Siltstone, with seams of coal and sandstone	6	135
Siltstone, blue-gray, with alternating layers of brown siltstone	48	183
Coal	13	196
Siltstone, gray-brown	4	200
Well SC 5-65- 4DBC. Altitude, 5,750 feet		
Sand and silt, medium-brown	5	5
Clay, silty, ranging from gray-brown to red-brown to yellow-brown	15	20
Clay, silty, blue-gray	2	22
Well SC 5-65- 6ABC. Altitude, 5,725 feet		
Clay, silty, grading from yellow-brown to red-brown	20	20
Clay, silty, blue-gray	8	28

Table 3.--*Logs of wells drilled by the U.S. Geological Survey*--Continued

	Thickness (feet)	Depth (feet)
Well SC 5-65- 6BDD3. Altitude, 5,755 feet		
Clay, sandy, medium brown	5	5
Clay, silty, grading from gray-tan to yellow-tan	20	25
Silt, blue-gray	12	37
Well SC 5-65- 6BDD1,2. Altitude, 5,757 feet		
Mudstone, medium-brown, with some coarse sand	11	11
Clay; alternating layers are red brown or brown	9	20
Claystone, yellow-brown	7	27
Siltstone, blue-gray	23	50
Siltstone and fine sandstone, poorly consolidated	4	54
Siltstone, dark-brown, with traces of coal	6	61
Siltstone, blue-gray	7	68
Shale, brown, with seams of sandstone	4	72
Siltstone, blue-gray	22	94
Sandstone, fine, well-consolidated; hole yields about 2 gal/min	6	100
Siltstone; alternating layers are blue gray or brown	28	128
Sandstone, blue-gray grading to dark-brown; hole yields about 5 gal/min	9	137
Siltstone; alternating layers are blue gray or brown	31	168
Sandstone, medium, well-consolidated	15	183
Siltstone, gray, with small layers of sandstone and coal	10	193
Siltstone, blue-green; hole yields about 10 gal/min	7	200
Well SC 5-65- 6CAC1,2. Altitude, 5,803 feet		
Claystone, grading from buff to rust	30	30
Clay, sand, and small gravel	13	46
Mudstone, blue-gray, with some sand	6	52
Sand, blue-gray; hole yields about 20 gal/min	1	53

Table 3.--*Logs of wells drilled by the U.S. Geological Survey*--Continued

	Thickness (feet)	Depth (feet)
Well SC 5-65- 6CAC1,2--Continued		
Claystone, blue-green, with small amount of fine sand--	7	60
Claystone, blue-gray, with some fine to medium sand and small coal seams; hole yields about 20 gal/min-------	105	165
Shale, red-brown, with some medium sandstone-----------	3	168
Sandstone, moderately consolidated, blue-gray----------	4	172
Sandstone, well-consolidated, with small coal seams; hole yields about 30 gal/min-------------------------	8	180
Sandstone, with layers of shale, blue-gray-------------	12	192
Mudstone with sandstone layers-------------------------	8	200
Shale, brown, with layers of blue-gray mudstone; hole yields about 30 gal/min------------------------------	40	240
Well SC 5-65-6CDA. Altitude, 5,833 feet		
Landfill refuse--	25	25
Smooth drilling; no return up hole; strong H_2S odor----	30	55
Clay, dense, light-brown; tough drilling--------------	8	63
Well SC 5-65- 6CDD. Altitude, 5,835 feet		
Reworked earth fill------------------------------------	10	10
Sand, fine, and silt, yellow-brown---------------------	5	15
Clay, silty, alternating layers are yellow brown or blue gray--	15	30
Clay, silty, red-brown---------------------------------	17	47
Sandstone--	1	48
Sand and silt, blue-gray-------------------------------	5	53
Well SC 5-65- 6DBC1,2,3. Altitude, 5,817 feet		
Mudstone, grading from buff to lighter brown-----------	20	20
Claystone, with very little sand, light-brown----------	5	25
Mud, red-brown---	11	36
Claystone, light-gray-brown----------------------------	14	50

Table 3.--*Logs of wells drilled by the U.S. Geological Survey*--Continued

	Thickness (feet)	Depth (feet)
Well SC 5-65- 6DBC1,2,3--Continued		
Siltstone, with very little sand, gray	15	65
Coal	1	66
Siltstone and claystone, gray-green	7	73
Coal with layers of poorly consolidated sandstone; hole yields about 2 gal/min	18	91
Siltstone, with small seams of coal	6	97
Coal	1	98
Claystone, gray; hole yields about 0.5 gal/min	2	100
Siltstone, with layers of very fine, poorly consolidated sandstone, blue-gray	24	124
Siltstone; color grading from green to blue gray	20	144
Sandstone and siltstone, brown	3	147
Siltstone, blue-gray	36	183
Sandstone, well-consolidated	7	190
Coal	1	191
Sandstone, coarser than above, well-consolidated	6	197
Siltstone, gray-green; hole yields about 2 gal/min	38	235
Siltstone with layers of fine, poorly consolidated sandstone	15	250
Siltstone, blue-gray; hole yields about 5 gal/min	10	260
Well SC 5-65- 9ACD. Altitude, 5,770 feet		
Clay, silty, soft, dark-brown	5	5
Clay, silty, brown; tougher drilling	10	15
Clay, silty, yellow-brown; tough drilling	5	20
Well SC 5-65- 9BAA. Altitude, 5,740 feet		
Sand, coarse, poorly sorted, light-brown	5	5
Clay, silty; color grading from dark brown to red brown	15	20
Clay, silty, blue-gray	5	25

Table 3.--*Logs of wells drilled by the U.S. Geological Survey*--Continued

	Thickness (feet)	Depth (feet)
Well SC 5-65- 9DDA. Altitude, 5,810 feet		
Sand, coarse, with a little silt----------------------	6	6
Clay, silty, with coarse sand; color grading from light brown to blue gray-----------------------------	5	11

Table 4.--*Chemical analyses of sewage sludge and*

[Analyses by Metropolitan

			Chemical analyses of sewage				
			Concentration, in				
Type	Specific conductance (micromhos/cm)	pH	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Ammonia (NH_4)	Total Kjeldahl nitrogen (TKN)
1	5,800	7.5	10,000	200	26,000	19,000	45,000
2	4,800	6.3	7,300	150	16,000	6,600	62,000
3	10,000	11.5	21,000	260	67,000	1,400	38,000

	Chemical analyses of water from							
	Concentration, in							
Date	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Alkalinity, as $CaCO_3$	Ammonia, as N
2-11-75	6.1	13.1	830	37,000	7,400	1,730	1,420	562
3-20-75	---	----	---	------	-----	-----	-----	---

Date	Specific conductance (micromhos/cm)	pH	Temperature (°C)	Chemical oxygen demand	Carbon dioxide (CO_2)
2-11-75	78,000	6.3	1.5	29,300	1,390
3-20-75	------	---	---	------	-----

water from the landfill liquid-waste-disposal trench

Denver Sewage Disposal District]

sludge for August and September 1974

parts per million dry weight								
Total phosphorus (P)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Lead (Pb)	Nickel (Ni)	Zinc (Zn)	Fecal coliform (colonies per gram)	Streptococci (colonies per gram)
13,000	12	800	810	1,100	220	1,900	1.8×10^4	5.7×10^3
20,000	13	990	1,100	660	430	3,200	5.7×10^5	6.8×10^5
20,000	9.7	630	780	460	320	1,200	<10	8.9×10^3

landfill liquid-waste-disposal trench

milligrams per liter							
Ammonia, as NH_4	Dissolved organic nitrogen (N)	Kjeldahl nitrogen (N)	Dissolved orthophosphorous (P)	Dissolved orthophosphate (PO_4)	Dissolved solids (residue at 105°C)	Hardness (Ca, Mg)	Noncarbonate hardness
720	81	643	55	170	20,200	2,300	880
---	--	---	--	---	------	-----	---

Concentration, in milligrams per liter							
Dissolved organic carbon	Phenols	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Lead (Pb)	Nickel (Ni)	Zinc (Zn)
8,100	4,660	0.032	0.25	0.030	0.19	1.28	0.25
-----	392	-----	----	-----	----	----	----

Table 5.--*Chemical analyses of water from wells*

The following table consists of records for 53 wells. The table format consists of six pages of data for each group of six to nine wells. The first page for each group contains the local well number for each well in the group. On each of the five subsequent pages for each group, the date of sample is used to identify the wells.

Appropriate headnotes for the table are: Analytical results in milligrams per liter (MG/L) or in micrograms per liter (UG/L),as indicated. Dashes (--) indicate constituent for which no analysis was made. Constituents with concentrations below the detection limit of the analytical procedure are indicated by ND. Code for agency analyzing sample: 9999, Metropolitan Denver Sewage Disposal District; --, U.S. Geological Survey.

Table 5.--*Chemical analyses of*

LOCAL IDENT-I-FIER	DATE OF SAMPLE	TOTAL DEPTH OF WELL (FT)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)
SC00406519CCC	75-05-07	--	--	280
	75-08-14	--	--	210
SC00406528AAB	74-10-15	635	--	--
	74-11-27	635	--	10
	75-05-05	635	--	ND
	75-08-15	635	--	20
SC00406528BBC	74-11-27	21	--	10
	75-08-14	21	--	30
SC00406528BDD	74-05-01	19	--	ND
	74-11-27	19	--	40
	75-02-11	19	--	60
	75-08-15	19	--	20
	75-12-08	19	--	30
	75-12-08	19	--	--
	76-04-05	19	--	50
	76-04-16	19	--	--
SC00406528DCA	74-11-27	20	--	20
	75-02-12	20	--	40
	75-02-12	20	25	30
	75-05-01	20	--	ND
	75-08-15	20	--	30
	75-12-08	20	--	70
	75-12-08	20	--	--
SC00406529AAA	74-10-11	33	--	--
	75-05-01	33	--	30
	75-08-15	33	--	20
SC00406530AAB	74-10-15	573	--	--
	74-11-27	573	--	220
	75-05-05	573	--	40
	75-08-15	573	--	130
SC00406530BDA	74-10-15	300	--	--
	74-11-27	300	--	ND
	75-02-13	300	--	30
	75-05-05	300	--	360
	75-08-18	300	--	70
	75-12-09	300	--	50
	75-12-09	300	--	--
SC00406530BDD	74-11-26	23	--	30

water from wells--Continued

DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
--	13	--	95	--	--
30	12	--	70	8.0	210
--	--	--	--	--	--
ND	50	--	70	3.4	160
--	4.8	--	61	--	--
ND	3.4	--	55	14	145
ND	195	--	145	11	336
40	120	--	145	18	296
--	128	--	104	--	--
1400	115	--	90	10	372
400	130	--	88	7.4	223
250	99	--	70	6.0	263
280	200	--	83	8.5	287
--	--	26	--	--	--
200	137	27	78	10	304
--	--	--	--	--	--
210	90	--	142	11	439
620	217	--	100	4.7	400
810	230	35	120	5.6	501
--	164	--	94	--	--
290	120	--	110	12	384
320	205	--	127	10	414
--	--	35	--	--	--
--	--	--	--	--	--
--	202	--	124	--	--
ND	130	--	130	14	307
--	--	--	--	--	--
ND	130	--	127	4.4	230
--	12	--	80	--	--
20	12	--	70	13	228
--	--	--	--	--	--
ND	18	--	102	4.7	175
30	123	--	118	3.6	167
--	9.8	--	95	--	--
50	28	--	110	8.0	176
20	16	--	97	4.3	174
--	--	1.5	--	--	--
500	55	--	70	5.0	254

Table 5.--*Chemical analyses of*

DATE OF SAMPLE	CAR-BONATE (CO3) (MG/L)	HY-DROX-IDE (OH) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
75-05-07	--	--	--	--	8.0
75-08-14	ND	ND	172	ND	7.0
74-10-15	--	--	--	--	3.7
74-11-27	ND	--	131	--	1.6
75-05-05	--	--	--	--	4.0
75-08-15	ND	ND	119	ND	4.0
74-11-27	ND	--	276	--	76
75-08-14	ND	ND	243	820	98
74-05-01	--	--	--	--	64
74-11-27	ND	--	305	--	40
75-02-11	--	--	183	--	34
75-08-15	ND	ND	216	375	45
75-12-08	ND	ND	235	420	52
75-12-08	--	--	--	--	--
76-04-05	ND	ND	249	419	53
76-04-16	--	--	--	--	--
74-11-27	ND	--	360	--	62
75-02-12	--	--	328	--	74
75-02-12	--	--	411	490	75
75-05-01	--	--	--	--	46
75-08-15	ND	ND	315	480	59
75-12-08	ND	ND	340	510	64
75-12-08	--	--	--	--	--
74-10-11	--	--	--	--	84
75-05-01	--	--	--	--	98
75-08-15	ND	ND	252	480	49
74-10-15	--	--	--	--	4.2
74-11-27	ND	--	189	--	4.2
75-05-05	--	--	--	--	7.0
75-08-15	ND	ND	187	ND	7.0
74-10-15	--	--	--	--	63
74-11-27	ND	--	144	--	62
75-02-13	--	--	137	--	66
75-05-05	--	--	--	--	75
75-08-18	ND	ND	144	32	64
75-12-09	ND	ND	143	23	68
75-12-09	--	--	--	--	--
74-11-26	ND	--	208	--	4.8

water from wells--Continued

DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL NITRATE (NO3) (MG/L)	DIS_SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE (NO2) (MG/L)	DIS_SOLVED NITRITE (NO2) (MG/L)
--	.01	--	.05	--	--	ND
--	.00	--	.01	--	--	ND
--	--	--	--	--	--	--
--	--	--	ND	--	--	ND
--	.01	--	.04	--	--	ND
--	.00	--	.02	--	--	ND
--	.96	--	4.2	--	--	ND
--	1.2	--	5.3	--	--	ND
--	.00	--	.01	--	--	ND
--	.02	--	.08	--	--	ND
--	.07	--	.32	--	--	ND
--	.07	--	.30	.00	--	.03
--	.01	--	.04	--	--	ND
--	--	--	--	--	--	--
--	.01	--	.04	--	--	ND
--	--	--	--	--	--	--
--	.00	--	.01	--	--	ND
--	.01	--	.04	--	--	ND
.8	.03	--	.10	ND	--	--
--	.02	--	.11	.00	--	.01
--	.00	--	.02	--	--	ND
--	.00	--	.02	--	--	ND
--	--	--	--	--	--	--
--	--	--	--	--	--	--
--	.93	--	4.1	--	--	ND
--	.04	--	.18	--	--	ND
--	--	--	--	--	--	--
--	--	--	ND	--	--	ND
--	--	--	ND	--	--	ND
--	.00	--	.02	--	--	ND
--	--	--	--	--	--	--
--	.13	--	.57	--	--	ND
--	--	--	ND	--	--	ND
--	--	--	ND	--	--	ND
--	.00	--	.02	--	--	ND
--	.00	--	.02	--	--	ND
--	--	--	--	--	--	--
--	.02	--	.09	.00	--	.01

Table 5.--*Chemical analyses of*

DATE OF SAMPLE	DIS-SOLVED AMMONIA NITRO-GEN (N) (MG/L)	TOTAL AMMONIA (NH4) (MG/L)	DIS_SOLVED AMMONIA (NH4) (MG/L)	DIS-SOLVED ORGANIC NITRO-GEN (N) (MG/L)	DIS-SOLVED KJEL. NITRO-GEN (N) (MG/L)
75-05-07	.20	--	.26	--	ND
75-08-14	.20	--	.26	--	ND
74-10-15	--	--	--	--	--
74-11-27	ND	--	--	--	.40
75-05-05	.20	--	.26	--	ND
75-08-15	.20	--	.26	--	.10
74-11-27	ND	--	--	--	.20
75-08-14	ND	--	--	--	.30
74-05-01	ND	--	--	--	.30
74-11-27	ND	--	--	--	4.2
75-02-11	ND	--	--	--	.80
75-08-15	.10	--	.13	.10	.20
75-12-08	ND	--	--	--	.10
75-12-08	--	--	--	--	--
76-04-05	ND	--	--	--	.40
76-04-16	--	--	--	--	--
74-11-27	ND	--	--	--	3.0
75-02-12	ND	--	--	--	.80
75-02-12	.01	--	.01	.34	.35
75-05-01	ND	--	--	--	.30
75-08-15	.40	--	.52	--	.30
75-12-08	ND	--	--	--	.20
75-12-08	--	--	--	--	--
74-10-11	--	--	--	--	--
75-05-01	ND	--	--	--	ND
75-08-15	.20	--	.26	.10	.30
74-10-15	--	--	--	--	--
74-11-27	ND	--	--	--	.06
75-05-05	.20	--	.26	--	.10
75-08-15	.30	--	.39	.10	.40
74-10-15	--	--	--	--	--
74-11-27	ND	--	--	--	.90
75-02-13	ND	--	--	--	.30
75-05-05	.30	--	.39	--	ND
75-08-18	ND	--	--	--	.30
75-12-09	ND	--	--	--	.20
75-12-09	--	--	--	--	--
74-11-26	ND	--	--	--	.30

water from wells--Continued

DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 105°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)
--	--	--	345	--	--	--
.01	.03	--	265	--	43	0
--	--	--	194	--	--	--
.08	.25	--	172	--	27	0
--	--	--	203	--	--	--
.01	.03	--	211	--	34	0
.07	.21	--	1530	--	818	540
.04	.12	--	1610	--	854	610
--	--	--	1250	--	--	--
7.1	22	--	929	--	470	170
3.2	9.8	--	773	--	414	230
.04	.12	--	910	--	483	270
.05	.15	--	955	--	572	340
--	--	--	--	--	--	--
ND	--	--	1000	--	607	360
--	--	--	--	--	--	--
6.4	20	--	1190	--	686	330
7.6	23	--	1480	--	749	420
.07	.21	--	--	1230	720	310
--	--	--	884	--	--	--
.14	.43	--	1220	--	659	340
.10	.31	--	1230	--	694	350
--	--	--	--	--	--	--
--	--	--	1180	--	--	--
--	--	--	1120	--	--	--
.03	.09	--	1190	--	649	400
--	--	--	283	--	--	--
.15	.46	--	227	--	39	0
--	--	--	289	--	--	--
.01	.03	--	291	--	46	0
--	--	--	356	--	--	--
.06	.18	--	320	--	60	0
ND	--	--	360	--	69	0
--	--	--	313	--	--	--
ND	--	--	378	--	159	15
ND	--	--	361	--	64	0
--	--	--	--	--	--	--
4.6	14	--	331	--	238	30

Table 5.--*Chemical analyses of*

DATE OF SAMPLE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	CARBON DIOXIDE (CO2) (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)
75-05-07	460	8.3	16.5	--	--	--
75-08-14	480	8.1	17.5	2.7	--	--
74-10-15	--	--	--	--	--	--
74-11-27	310	8.2	14.5	1.4	--	--
75-05-05	300	8.4	18.0	--	--	--
75-08-15	340	8.7	16.5	.5	--	--
74-11-27	2000	7.0	9.0	54	--	--
75-08-14	2400	7.2	14.5	30	--	--
74-05-01	1300	7.3	10.0	--	--	--
74-11-27	1350	7.0	12.5	60	--	--
75-02-11	1100	7.2	10.5	23	1	9
75-08-15	1400	7.6	13.5	11	--	--
75-12-08	1550	8.3	11.0	2.3	--	--
75-12-08	1550	8.3	11.0	--	--	--
76-04-05	1300	7.5	11.5	15	--	--
76-04-16	--	--	--	--	--	0
74-11-27	1700	6.9	13.5	88	--	--
75-02-12	1900	6.9	14.0	81	0	1
75-02-12	1900	6.9	14.0	101	--	--
75-05-01	1950	6.8	10.0	--	--	--
75-08-15	1950	7.7	12.5	12	--	--
75-12-08	1950	8.1	13.0	5.3	--	--
75-12-08	1950	8.1	13.0	--	--	--
74-10-11	--	--	--	--	--	--
75-05-01	1950	6.8	10.0	--	--	--
75-08-15	1800	7.5	16.0	16	--	--
74-10-15	--	--	--	--	--	--
74-11-27	440	7.9	14.0	4.6	--	--
75-05-05	480	8.1	17.5	--	--	--
75-08-15	500	8.4	19.0	1.5	--	--
74-10-15	--	--	--	--	--	--
74-11-27	600	7.9	11.5	3.5	--	--
75-02-13	640	7.9	13.0	3.4	0	0
75-05-05	590	8.5	12.0	--	--	--
75-08-18	675	8.3	14.5	1.4	--	--
75-12-09	725	8.4	13.0	1.1	--	--
75-12-09	725	8.4	13.0	--	--	--
74-11-26	600	7.4	11.5	14	--	--

water from wells--Continued

CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)
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DATE OF SAMPLE	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)
75-05-07	--	--	--	--	--	--
75-08-14	--	--	--	--	--	--
74-10-15	--	--	--	--	--	--
74-11-27	--	--	--	--	--	--
75-05-05	--	--	--	--	--	--
75-08-15	--	--	--	--	--	--
74-11-27	--	--	--	--	--	--
75-08-14	ND	ND	ND	ND	ND	ND
74-05-01	--	--	--	--	--	--
74-11-27	--	--	--	--	--	--
75-02-11	--	--	--	--	--	--
75-08-15	--	--	--	--	--	--
75-12-08	--	--	--	--	--	--
75-12-08	--	--	--	--	--	--
76-04-05	--	--	--	--	--	--
76-04-16	--	--	--	--	--	--
74-11-27	--	--	--	--	--	--
75-02-12	--	--	--	--	--	--
75-02-12	--	--	--	--	--	--
75-05-01	--	--	--	--	--	--
75-08-15	--	--	--	--	--	--
75-12-08	--	--	--	--	--	--
75-12-08	--	--	--	--	--	--
74-10-11	--	--	--	--	--	--
75-05-01	--	--	--	--	--	--
75-08-15	--	--	--	--	--	--
74-10-15	--	--	--	--	--	--
74-11-27	--	--	--	--	--	--
75-05-05	--	--	--	--	--	--
75-08-15	--	--	--	--	--	--
74-10-15	--	--	--	--	--	--
74-11-27	--	--	--	--	--	--
75-02-13	--	--	--	--	--	--
75-05-05	--	--	--	--	--	--
75-08-18	ND	ND	ND	ND	ND	ND
75-12-09	--	--	--	--	--	--
75-12-09	--	--	--	--	--	--
74-11-26	--	--	--	--	--	--

TOTAL LINDANE (UG/L)	TOTAL MALA-THION (UG/L)	TOTAL METHYL PARA-THION (UG/L)	TOTAL PARA-THION (UG/L)	TOTAL PCB (UG/L)	TOTAL TOX-APHENE (UG/L)
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ND	ND	ND	ND	ND	ND
--	--	--	--	--	--
--	--	--	--	--	--
--	--	--	--	--	--

Table 5.--*Chemical analyses of*

DATE OF SAMPLE	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)
75-05-07	--	--	--	--
75-08-14	ND	ND	20	20
74-10-15	--	--	--	--
74-11-27	ND	ND	ND	30
75-05-05	--	--	--	--
75-08-15	ND	ND	50	ND
74-11-27	1	30	10	30
75-08-14	ND	40	20	10
74-05-01	--	--	--	--
74-11-27	ND	ND	ND	10
75-02-11	2	20	10	20
75-08-15	ND	40	620	40
75-12-08	5	ND	ND	40
75-12-08	--	--	--	--
76-04-05	2	ND	10	20
76-04-16	--	--	--	--
74-11-27	ND	10	ND	ND
75-02-12	ND	ND	10	30
75-02-12	--	--	--	--
75-05-01	--	--	--	--
75-08-15	ND	40	20	30
75-12-08	6	10	ND	60
75-12-08	--	--	--	--
74-10-11	--	--	--	--
75-05-01	--	--	--	--
75-08-15	ND	ND	10	40
74-10-15	--	--	--	--
74-11-27	ND	20	10	ND
75-05-05	--	--	--	--
75-08-15	ND	ND	20	30
74-10-15	--	--	--	--
74-11-27	1	ND	ND	30
75-02-13	1	10	ND	10
75-05-05	--	--	--	--
75-08-18	3	10	10	20
75-12-09	ND	ND	10	20
75-12-09	--	--	--	--
74-11-26	ND	10	ND	ND

DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	CODE FOR AGENCY ANA-LYZING SAMPLE	TOTAL DEPTH OF WELL (FT)
--	--	--	9999	--
--	ND	40	9999	--
--	--	--	9999	635
--	ND	ND	9999	635
--	--	--	9999	635
--	10	ND	9999	635
--	10	100	9999	21
--	10	100	9999	21
--	--	--	9999	19
--	20	60	9999	19
--	ND	50	9999	19
--	40	100	9999	19
--	20	ND	9999	19
--	--	--	--	19
--	ND	80	9999	19
--	--	--	--	19
--	20	10	9999	20
--	10	10	9999	20
--	--	--	--	20
--	--	--	9999	20
--	50	20	9999	20
--	ND	ND	9999	20
--	--	--	--	20
--	--	--	9999	33
--	--	--	9999	33
--	20	300	9999	33
--	--	--	9999	573
--	ND	110	9999	573
--	--	--	9999	573
--	ND	60	9999	573
--	--	--	9999	300
--	ND	500	9999	300
--	ND	480	9999	300
--	--	--	9999	300
--	40	100	9999	300
--	ND	40	9999	300
--	--	--	--	300
ND	ND	30	9999	23

Table 5.--*Chemical analyses of*

LOCAL IDENT- I- FIER	DATE OF SAMPLE	TOTAL DEPTH OF WELL (FT)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)
SC00406530BDD	75-02-13	23	--	50
	75-05-07	23	--	10
	75-08-18	23	--	270
	75-12-09	23	--	50
	75-12-09	23	--	--
	76-04-05	23	--	30
	76-04-16	23	--	--
SC00406530DCD	74-11-26	18	--	60
	75-02-13	18	--	30
	75-05-07	18	--	100
	75-08-18	18	--	280
	75-12-09	18	--	140
	75-12-09	18	--	--
	76-04-05	18	--	ND
SC00406530DDD	74-11-26	16	--	40
	75-08-18	16	--	--
	75-12-07	16	--	--
SC00406531AAA	75-12-07	11	--	--
SC00406531ACC	75-06-19	102	--	ND
	75-08-19	102	--	ND
	75-12-08	102	--	30
	75-12-08	102	--	--
	76-04-02	102	--	120
SC00406531DBB	74-11-26	23	--	50
	75-02-12	23	--	100
	75-08-18	23	--	220
	75-12-07	23	11	70
	75-12-08	23	--	100
	76-03-30	23	--	140
SC00406531DDC	74-11-26	28	--	30
	75-02-12	28	--	1870
	75-05-01	28	--	1480
	75-08-18	28	--	2500
	75-12-09	28	--	270
	75-12-09	28	--	--
	76-03-31	28	--	300
	76-04-16	28	--	--
SC00406532ADA	74-11-26	26	--	60
	75-02-12	26	--	4000
	75-05-02	26	--	2300

water from wells--Continued

DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
880	91	--	39	3.5	259
--	94	--	47	--	--
670	103	--	38	9.0	256
830	88	--	35	5.2	368
--	--	9.5	--	--	--
70	79	9.5	37	4.0	246
--	--	--	--	--	--
1350	58	--	73	4.9	287
2590	90	--	27	2.9	176
--	70	--	38	--	--
1650	45	--	26	7.0	192
1700	82	--	28	4.9	216
--	--	9.0	--	--	--
110	82	--	28	4.0	192
640	73	--	55	7.5	280
--	--	--	--	--	345
--	--	--	--	--	426
--	--	--	--	--	168
10	78	--	67	15	ND
20	124	--	36	13	ND
ND	3.7	--	51	6.4	36
--	--	.1	--	--	--
10	67	.2	57	8.0	ND
540	60	--	85	6.6	170
410	83	--	60	3.6	157
830	97	--	36	6.0	173
750	78	7.1	48	3.1	212
640	66	--	43	4.3	170
410	70	7.1	48	5.0	166
800	52	--	55	21	263
2880	96	--	35	3.6	244
--	75	--	61	--	--
2200	81	--	35	12	217
1080	76	--	28	5.0	198
--	--	8.3	--	--	--
910	74	8.0	32	6.0	192
--	--	--	--	--	--
300	400	--	190	25	434
13000	461	--	320	9.5	495
--	532	--	330	--	--

Table 5.--*Chemical analyses of*

DATE OF SAMPLE	CAR-BONATE (CO3) (MG/L)	HY-DROX-IDE (OH) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
75-02-13	--	--	212	--	6.0
75-05-07	--	--	--	--	9.0
75-08-18	ND	ND	210	77	9.0
75-12-09	ND	ND	302	84	7.0
75-12-09	--	--	--	--	--
76-04-05	ND	ND	202	65	8.0
76-04-16	--	--	--	--	--
74-11-26	ND	--	235	--	34
75-02-13	--	--	144	--	29
75-05-07	--	--	--	--	32
75-08-18	ND	ND	157	74	30
75-12-09	ND	ND	177	94	24
75-12-09	--	--	--	--	--
76-04-05	ND	ND	157	74	22
74-11-26	ND	--	230	--	--
75-08-18	ND	ND	283	--	2.0
75-12-07	ND	ND	349	--	--
75-12-07	ND	ND	138	--	--
75-06-19	8	444	--	150	21
75-08-19	40	221	--	210	20
75-12-08	ND	8	30	210	16
75-12-08	--	--	--	--	--
76-04-02	36	88	--	152	20
74-11-26	ND	--	139	--	12
75-02-12	--	--	129	--	21
75-08-18	ND	ND	142	230	18
75-12-07	ND	--	174	140	15
75-12-08	ND	ND	139	200	16
76-03-30	ND	ND	136	129	21
74-11-26	ND	--	216	--	5.2
75-02-12	--	--	200	--	10
75-05-01	--	--	--	--	5.0
75-08-18	ND	ND	178	86	7.0
75-12-09	ND	ND	162	104	4.0
75-12-09	--	--	--	--	--
76-03-31	ND	ND	157	101	2.0
76-04-16	--	--	--	--	--
74-11-26	ND	--	356	--	25
75-02-12	--	--	406	--	35
75-05-02	--	--	--	--	29

DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL NITRATE (NO3) (MG/L)	DIS_SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE (NO2) (MG/L)	DIS_SOLVED NITRITE (NO2) (MG/L)
--	--	--	ND	--	--	ND
--	.01	--	.03	--	--	ND
--	.00	--	.01	--	--	ND
--	.11	--	.50	--	--	ND
--	--	--	--	--	--	--
--	.03	--	.12	--	--	ND
--	--	--	--	--	--	--
--	.00	--	.01	.00	--	.01
--	.60	--	2.6	.00	--	.02
--	.97	--	4.3	.00	--	.02
--	.70	--	3.1	.01	--	.06
--	.50	--	2.2	.06	--	.20
--	--	--	--	--	--	--
--	.51	--	2.2	--	--	ND
--	--	--	--	--	--	--
--	1.4	--	6.2	.14	--	.46
--	--	--	--	--	--	--
--	--	--	--	--	--	--
--	.08	--	.36	.09	--	.32
--	.05	--	.20	.00	--	.01
--	.00	--	.01	.01	--	.04
--	--	--	--	--	--	--
--	.02	--	.08	.00	--	.02
--	--	--	ND	.00	--	.01
--	.00	--	.02	--	--	ND
--	.00	--	.02	--	--	ND
.5	.01	--	.00	.01	--	.03
--	.01	--	.03	--	--	ND
--	.01	--	.05	--	--	ND
--	.01	--	.03	--	--	ND
--	.03	--	.15	--	--	ND
--	.02	--	.07	.00	--	.01
--	.01	--	.05	--	--	ND
--	.02	--	.11	--	--	ND
--	--	--	--	--	--	--
--	.01	--	.06	--	--	ND
--	--	--	--	--	--	--
--	.00	--	.02	--	--	ND
--	--	--	ND	--	--	ND
--	.01	--	.05	--	--	ND

Table 5.--*Chemical analyses of*

DATE OF SAMPLE	DIS-SOLVED AMMONIA NITRO-GEN (N) (MG/L)	TOTAL AMMONIA (NH4) (MG/L)	DIS_SOLVED AMMONIA (NH4) (MG/L)	DIS-SOLVED ORGANIC NITRO-GEN (N) (MG/L)	DIS-SOLVED KJEL. NITRO-GEN (N) (MG/L)
75-02-13	ND	--	--	--	1.0
75-05-07	ND	--	--	--	9.5
75-08-18	ND	--	--	--	.30
75-12-09	ND	--	--	--	.20
75-12-09	--	--	--	--	--
76-04-05	ND	--	--	--	.20
76-04-16	--	--	--	--	--
74-11-26	ND	--	--	--	5.6
75-02-13	ND	--	--	--	1.1
75-05-07	.20	--	.26	.00	.20
75-08-18	ND	--	--	--	.40
75-12-09	ND	--	--	--	.20
75-12-09	--	--	--	--	--
76-04-05	ND	--	--	--	.60
74-11-26	ND	--	--	--	5.8
75-08-18	.90	--	1.2	--	--
75-12-07	--	--	--	--	--
75-12-07	--	--	--	--	--
75-06-19	.10	--	.13	.20	.30
75-08-19	.40	--	.52	.80	1.2
75-12-08	ND	--	--	--	.20
75-12-08	--	--	--	--	--
76-04-02	.10	--	.13	.50	.60
74-11-26	ND	--	--	--	ND
75-02-12	ND	--	--	--	1.8
75-08-18	ND	--	--	--	.30
75-12-07	.07	--	.09	.22	.29
75-12-08	ND	--	--	--	.20
76-03-30	ND	--	--	--	ND
74-11-26	ND	--	--	--	9.7
75-02-12	.30	--	.39	.70	1.0
75-05-01	.30	--	.39	.40	.70
75-08-18	.50	--	.64	.40	.90
75-12-09	ND	--	--	--	.20
75-12-09	--	--	--	--	--
76-03-31	ND	--	--	--	.40
76-04-16	--	--	--	--	--
74-11-26	ND	--	--	--	2.3
75-02-12	.20	--	.26	2.4	2.6
75-05-02	.50	--	.64	.10	.60

water from wells--Continued

DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 105°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)
2.7	8.3	--	399	--	266	54
--	--	--	479	--	--	--
ND	--	--	432	--	261	51
ND	--	--	414	--	272	0
--	--	--	--	--	--	--
.01	.03	--	399	--	262	60
--	--	--	--	--	--	--
15	47	--	368	--	266	31
12	39	--	392	--	246	100
--	--	--	397	--	--	--
ND	--	--	428	--	261	100
ND	--	--	395	--	258	81
--	--	--	--	--	--	--
ND	--	--	380	--	267	110
1.2	4.0	--	--	--	--	--
.08	.25	--	--	--	--	--
--	--	--	--	--	--	--
--	--	--	--	--	--	--
ND	--	--	735	--	482	--
ND	--	--	568	--	281	--
.01	.03	--	332	--	108	78
--	--	--	--	--	--	--
ND	--	--	456	--	198	--
.48	1.5	--	427	--	231	92
4.3	13	--	635	--	24	0
ND	--	--	437	--	238	96
ND	ND	--	--	408	220	50
.01	.03	--	415	--	244	110
.02	.06	--	473	--	268	130
3.4	11	--	378	--	263	47
.40	1.2	--	557	--	246	46
--	--	--	385	--	--	--
.02	.06	--	478	--	245	67
.02	.06	--	362	--	231	69
--	--	--	--	--	--	--
.02	.06	--	416	--	288	130
--	--	--	--	--	--	--
1.3	4.0	--	2800	--	1570	1200
.60	1.8	--	3400	--	1580	1200
--	--	--	3500	--	--	--

Table 5.--*Chemical analyses of*

DATE OF SAMPLE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	CARBON DIOXIDE (CO2) (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)
75-02-13	675	7.2	12.0	26	0	177
75-05-07	700	7.5	8.5	--	--	--
75-08-18	710	7.3	15.5	21	--	--
75-12-09	710	7.6	12.5	15	--	--
75-12-09	710	7.6	12.5	--	--	--
76-04-05	650	7.5	13.0	12	--	--
76-04-16	--	--	--	--	--	0
74-11-26	660	7.5	12.0	15	--	--
75-02-13	650	7.5	10.5	8.9	0	0
75-05-07	675	7.5	8.5	--	--	--
75-08-18	710	7.6	14.5	7.7	--	--
75-12-09	700	7.8	13.5	5.5	--	--
75-12-09	700	7.8	13.5	--	--	--
76-04-05	580	7.8	11.0	4.9	--	--
74-11-26	800	7.0	9.5	45	--	--
75-08-18	925	7.5	15.5	17	--	--
75-12-07	875	7.4	12.0	27	--	--
75-12-07	1750	7.5	10.5	8.5	--	--
75-06-19	2800	11.7	14.5	--	--	--
75-08-19	1600	11.5	14.0	--	--	--
75-12-08	560	10.1	11.0	.0	--	--
75-12-08	560	10.1	11.0	--	--	--
76-04-02	800	11.1	13.5	--	--	--
74-11-26	650	7.3	10.5	14	--	--
75-02-12	700	7.5	10.5	7.9	0	0
75-08-18	740	7.7	12.5	5.5	--	--
75-12-07	1750	7.5	10.5	11	--	--
75-12-08	740	7.0	10.5	27	--	--
76-03-30	625	7.9	9.0	3.3	--	--
74-11-26	675	7.0	11.0	42	--	--
75-02-12	660	7.0	11.5	39	0	49
75-05-01	650	7.6	10.0	--	--	--
75-08-18	675	7.7	13.5	6.9	--	--
75-12-09	640	7.9	12.0	4.0	--	--
75-12-09	640	7.9	12.0	--	--	--
76-03-31	560	7.6	11.0	7.7	--	--
76-04-16	--	--	--	--	--	6
74-11-26	3400	7.0	11.0	69	--	--
75-02-12	4000	6.6	12.0	199	0	0
75-05-02	5500	7.0	13.5	--	--	--

water from wells--Continued

CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)
--	--	--	--	--	--
--	--	--	--	--	--
--	--	ND	ND	ND	ND
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--	--	ND	ND	ND	ND
--	--	--	--	--	--
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DATE OF SAMPLE	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)
75-02-13	--	--	--	--	--	--
75-05-07	--	--	--	--	--	--
75-08-18	ND	ND	ND	ND	ND	ND
75-12-09	--	--	--	--	--	--
75-12-09	--	--	--	--	--	--
76-04-05	--	--	--	--	--	--
76-04-16	--	--	--	--	--	--
74-11-26	--	--	--	--	--	--
75-02-13	--	--	--	--	--	--
75-05-07	--	--	--	--	--	--
75-08-18	--	--	--	--	--	--
75-12-09	--	--	--	--	--	--
75-12-09	--	--	--	--	--	--
76-04-05	--	--	--	--	--	--
74-11-26	--	--	--	--	--	--
75-08-18	--	--	--	--	--	--
75-12-07	--	--	--	--	--	--
75-12-07	--	--	--	--	--	--
75-06-19	--	--	--	--	--	--
75-08-19	--	--	--	--	--	--
75-12-08	--	--	--	--	--	--
75-12-08	--	--	--	--	--	--
76-04-02	--	--	--	--	--	--
74-11-26	--	--	--	--	--	--
75-02-12	--	--	--	--	--	--
75-08-18	ND	ND	ND	ND	ND	ND
75-12-07	--	--	--	--	--	--
75-12-08	--	--	--	--	--	--
76-03-30	--	--	--	--	--	--
74-11-26	--	--	--	--	--	--
75-02-12	--	--	--	--	--	--
75-05-01	--	--	--	--	--	--
75-08-18	--	--	--	--	--	--
75-12-09	--	--	--	--	--	--
75-12-09	--	--	--	--	--	--
76-03-31	--	--	--	--	--	--
76-04-16	--	--	--	--	--	--
74-11-26	--	--	--	--	--	--
75-02-12	--	--	--	--	--	--
75-05-02	--	--	--	--	--	--

TOTAL LINDANE (UG/L)	TOTAL MALA-THION (UG/L)	TOTAL METHYL PARA-THION (UG/L)	TOTAL PARA-THION (UG/L)	TOTAL PCB (UG/L)	TOTAL TOX-APHENE (UG/L)
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ND	ND	ND	ND	ND	ND
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Table 5.--*Chemical analyses of*

DATE OF SAMPLE	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)
75-02-13	ND	10	ND	ND
75-05-07	--	--	--	--
75-08-18	5	20	390	30
75-12-09	ND	10	ND	40
75-12-09	--	--	--	--
76-04-05	ND	ND	10	ND
76-04-16	--	--	--	--
74-11-26	ND	ND	ND	ND
75-02-13	ND	ND	ND	ND
75-05-07	--	--	--	--
75-08-18	4	20	170	ND
75-12-09	6	ND	10	40
75-12-09	--	--	--	--
76-04-05	ND	10	10	ND
74-11-26	2	ND	ND	ND
75-08-18	--	--	--	--
75-12-07	--	--	--	--
75-12-07	--	--	--	--
75-06-19	ND	ND	10	ND
75-08-19	ND	ND	50	50
75-12-08	4	ND	ND	20
75-12-08	--	--	--	--
76-04-02	ND	ND	20	60
74-11-26	2	10	ND	ND
75-02-12	ND	ND	ND	ND
75-08-18	4	10	30	ND
75-12-07	--	--	--	--
75-12-08	5	ND	ND	40
76-03-30	ND	10	10	110
74-11-26	ND	ND	ND	30
75-02-12	1	10	10	40
75-05-01	--	--	--	--
75-08-18	1	10	10	20
75-12-09	3	ND	ND	ND
75-12-09	--	--	--	--
76-03-31	ND	ND	ND	20
76-04-16	--	--	--	--
74-11-26	1	40	ND	50
75-02-12	6	10	10	50
75-05-02	--	--	--	--

water from wells--Continued

DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	CODE FOR AGENCY ANA-LYZING SAMPLE	TOTAL DEPTH OF WELL (FT)
--	ND	50	9999	23
--	--	--	9999	23
--	10	160	9999	23
--	10	40	9999	23
--	--	--	--	23
--	ND	30	9999	23
--	--	--	--	23
--	20	50	9999	18
--	10	10	9999	18
--	--	--	9999	18
--	ND	40	9999	18
--	ND	50	9999	18
--	--	--	--	18
--	ND	20	9999	18
--	ND	100	9999	16
--	--	--	9999	16
--	--	--	9999	16
--	--	--	9999	11
--	30	20	9999	102
--	30	40	9999	102
--	20	ND	9999	102
--	--	--	--	102
--	ND	20	9999	102
--	ND	40	9999	23
--	10	ND	9999	23
--	20	20	9999	23
--	--	--	--	23
--	ND	40	9999	23
--	10	30	9999	23
--	10	30	9999	28
--	10	ND	9999	28
--	--	--	9999	28
--	20	30	9999	28
--	800	80	9999	28
--	--	--	--	28
--	ND	100	9999	28
--	--	--	--	28
ND	ND	160	9999	26
--	30	ND	9999	26
--	--	--	9999	26

LOCAL IDENT-I-FIER	DATE OF SAMPLE	TOTAL DEPTH OF WELL (FT)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)
SC00406532ADA	75-08-18	26	--	650
	75-12-07	26	--	--
	75-12-09	26	--	--
SC00406532ADD	74-11-25	20	--	80
	75-08-18	20	--	340
	75-12-07	20	--	--
SC00406532BAB	75-08-18	11	--	90
SC00406532CBC	74-11-26	16	--	30
	75-12-07	16	--	--
SC00406532DBB2	75-06-18	151	--	ND
SC00406532DBB3	75-06-18	248	--	ND
	75-08-20	248	--	10
	75-12-08	248	--	30
	75-12-08	248	14	30
SC00406533BAB1	75-06-18	28	--	ND
	75-08-19	28	--	60
	75-12-08	28	--	40
	75-12-08	28	--	--
	76-04-02	28	--	ND
SC00406533BAB2	75-06-18	82	--	ND
	75-08-19	82	--	20
	75-12-08	82	--	50
	75-12-08	82	--	--
	76-04-02	82	--	20
SC00406533BAB3	74-11-26	22	--	40
	75-02-12	22	--	2220
	75-02-12	22	23	1900
	75-08-18	22	--	260
	75-12-08	22	--	2100
	75-12-08	22	--	--
	76-04-02	22	--	910
SC00406533CBC	74-10-11	20	--	--
	74-11-25	20	--	30
	74-11-27	20	--	--
	75-02-12	20	--	150
	75-05-05	20	--	60
	75-08-18	20	--	40
	75-12-09	20	--	550
	75-12-09	20	--	--
	76-04-05	20	--	110

water from wells--Continued

DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
2200	320	--	240	28	356
--	--	--	--	--	413
--	--	--	--	--	--
840	420	--	255	34	415
2700	372	--	288	28	322
--	--	--	--	--	363
900	78	--	76	10	234
150	89	--	45	9.0	331
--	--	--	--	--	440
60	360	--	255	13	90
10	10	--	74	22	ND
20	241	--	204	21	40
20	208	--	274	14	16
10	240	13	190	7.8	30
10	140	--	53	13	216
40	67	--	48	12	121
ND	51	--	58	7.5	145
--	--	11	--	--	--
30	143	26	66	8.0	276
10	137	--	60	27	ND
20	23	--	25	12	ND
ND	25	--	68	5.4	38
--	--	.3	--	--	--
20	9.0	.7	72	6.0	98
1200	150	--	100	13	278
4800	215	--	54	4.0	268
5000	220	25	49	5.3	334
3600	186	--	65	11	263
3500	123	--	35	8.5	274
--	--	32	--	--	--
1680	164	34	57	8.0	272
--	--	--	--	--	--
ND	160	--	145	9.0	247
--	--	--	--	--	--
ND	247	--	195	3.9	191
--	345	--	220	--	--
30	264	--	105	12	252
40	222	--	175	6.8	278
--	--	28	--	--	--
10	161	12	156	8.0	253

DATE OF SAMPLE	CAR-BONATE (CO3) (MG/L)	HY-DROX-IDE (OH) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
75-08-18	ND	ND	292	1220	50
75-12-07	ND	ND	339	--	--
75-12-09	--	--	--	1320	42
74-11-25	ND	--	340	--	29
75-08-18	ND	ND	264	1900	35
75-12-07	ND	ND	298	--	--
75-08-18	ND	ND	192	114	23
74-11-26	ND	--	271	--	25
75-12-07	ND	ND	361	--	--
75-06-18	ND	ND	74	720	418
75-06-18	28	150	--	790	189
75-08-20	ND	ND	33	790	180
75-12-08	24	ND	53	840	180
75-12-08	4	--	31	740	180
75-06-18	ND	ND	177	440	35
75-08-19	160	ND	366	--	36
75-12-08	16	ND	146	360	32
75-12-08	--	--	--	--	--
76-04-02	ND	ND	226	876	39
75-06-18	78	645	--	ND	21
75-08-19	80	141	--	--	27
75-12-08	114	ND	221	15	23
75-12-08	--	--	--	--	--
76-04-02	78	ND	210	ND	25
74-11-26	ND	--	228	--	26
75-02-12	--	--	220	--	32
75-02-12	--	--	274	420	39
75-08-18	ND	ND	216	555	36
75-12-08	ND	ND	225	660	37
75-12-08	--	--	--	--	--
76-04-02	ND	ND	223	628	38
74-10-11	--	--	--	--	134
74-11-25	ND	--	203	--	132
74-11-27	--	--	--	--	--
75-02-12	--	--	157	--	116
75-05-05	--	--	--	--	--
75-08-18	ND	ND	207	840	127
75-12-09	ND	ND	228	840	89
75-12-09	--	--	--	--	--
76-04-05	ND	ND	208	857	150

water from wells--Continued

DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL NITRATE (NO3) (MG/L)	DIS_SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE (NO2) (MG/L)	DIS_SOLVED NITRITE (NO2) (MG/L)
--	2.6	--	11	.01	--	.05
--	--	--	--	--	--	--
--	3.6	--	15	.02	--	.08
--	.04	--	.18	--	--	ND
--	1.5	--	6.7	.04	--	.16
--	--	--	--	--	--	--
--	2.2	--	9.6	.04	--	.15
--	.02	--	.10	--	--	ND
--	--	--	--	--	--	--
--	.01	--	.03	--	--	ND
--	.00	--	.01	--	--	ND
--	.00	--	.01	.00	--	.01
--	.02	--	.07	.00	--	.01
.1	.01	--	.00	ND	--	--
--	.87	--	3.8	.06	--	.22
--	.72	--	3.2	.10	--	.33
--	.76	--	3.3	.03	--	.10
--	--	--	--	--	--	--
--	1.3	--	5.5	.00	--	.02
--	.00	--	.01	--	--	ND
--	.00	--	.01	.00	--	.03
--	.00	--	.02	--	--	ND
--	--	--	--	--	--	--
--	.02	--	.08	--	--	ND
--	--	--	ND	--	--	ND
--	.18	--	.79	--	--	ND
.3	1.2	--	5.3	ND	--	--
--	.16	--	.71	--	--	ND
--	.14	--	.64	--	--	ND
--	--	--	--	--	--	--
--	.06	--	.28	--	--	ND
--	--	--	--	--	--	--
--	4.9	--	21	--	--	ND
--	5.2	--	22	--	--	ND
--	7.0	--	31	--	--	ND
--	4.7	--	21	.00	--	.01
--	4.3	--	19	.00	--	.01
--	3.6	--	15	.06	--	.20
--	--	--	--	--	--	--
--	3.6	--	15	--	--	ND

Table 5.--*Chemical analyses of*

DATE OF SAMPLE	DIS- SOLVED AMMONIA NITRO- GEN (N) (MG/L)	TOTAL AMMONIA (NH4) (MG/L)	DIS_ SOLVED AMMONIA (NH4) (MG/L)	DIS- SOLVED ORGANIC NITRO- GEN (N) (MG/L)	DIS- SOLVED KJEL. NITRO- GEN (N) (MG/L)
75-08-18	.50	--	.64	3.1	3.6
75-12-07	--	--	--	--	--
75-12-09	ND	--	--	--	1.8
74-11-25	ND	--	--	--	5.9
75-08-18	.40	--	.52	1.0	1.4
75-12-07	--	--	--	--	--
75-08-18	ND	--	--	--	1.5
74-11-26	ND	--	--	--	1.6
75-12-07	--	--	--	--	--
75-06-18	.60	--	.77	--	.50
75-06-18	.60	--	.77	--	.20
75-08-20	.30	--	.39	.40	.70
75-12-08	.20	--	.26	.40	.60
75-12-08	.27	--	.35	.31	.58
75-06-18	.40	--	.52	.00	.40
75-08-19	.20	--	.26	--	--
75-12-08	.10	--	.13	.00	.10
75-12-08	--	--	--	--	--
76-04-02	ND	--	--	--	.60
75-06-18	.60	--	.77	--	.50
75-08-19	.10	--	.13	--	--
75-12-08	.10	--	.13	.40	.50
75-12-08	--	--	--	--	--
76-04-02	.10	--	.13	.90	1.0
74-11-26	ND	--	--	--	.80
75-02-12	.20	--	.26	.70	.90
75-02-12	.25	--	.32	.36	.61
75-08-18	.40	--	.52	.20	.60
75-12-08	.20	--	.26	.20	.40
75-12-08	--	--	--	--	--
76-04-02	ND	--	--	--	.10
74-10-11	--	--	--	--	--
74-11-25	ND	--	--	--	.20
74-11-27	--	--	--	--	--
75-02-12	ND	--	--	--	.30
75-05-05	.20	--	.26	7.4	7.6
75-08-18	ND	--	--	--	--
75-12-09	ND	--	--	--	.20
75-12-09	--	--	--	--	--
76-04-05	ND	--	--	--	.30

water from wells--Continued

DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 105°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)
ND	--	--	2170	--	1020	730
--	--	--	--	--	--	--
ND	--	--	2290	--	1070	--
3.1	9.7	--	3480	--	1690	1400
ND	--	--	3170	--	1380	1100
--	--	--	--	--	--	--
.09	.28	--	598	--	305	110
.78	2.4	--	497	--	400	130
--	--	--	--	--	--	--
.11	.34	--	1530	--	683	610
ND	--	--	1660	--	794	--
.01	.03	--	1510	--	690	660
.02	.06	--	1550	--	674	620
.01	.03	--	--	1400	650	620
.17	.52	--	992	--	546	370
ND	--	--	456	--	218	0
.02	.06	--	638	--	322	180
--	--	--	--	--	--	--
ND	--	--	1060	--	622	400
.01	.03	--	742	--	484	--
ND	--	--	285	--	50	--
.04	.12	--	239	--	37	0
--	--	--	--	--	--	--
.02	.06	--	263	--	32	0
.48	1.5	--	923	--	627	400
1.3	4.1	--	1080	--	650	430
.04	.12	--	--	959	650	380
.02	.06	--	1260	--	761	550
.04	.12	--	1250	--	797	570
--	--	--	--	--	--	--
ND	--	--	1270	--	789	570
--	--	--	1500	--	--	--
.18	.55	--	1610	--	846	640
--	--	--	--	--	--	--
.60	1.8	--	1700	--	729	570
--	--	--	1930	--	--	--
.05	.15	--	1790	--	871	660
.02	.06	--	1610	--	749	520
--	--	--	--	--	--	--
ND	--	--	1670	--	803	600

Table 5.--*Chemical analyses of*

DATE OF SAMPLE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	CARBON DIOXIDE (CO2) (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)
75-08-18	3500	7.2	14.0	36	--	--
75-12-07	3100	7.1	11.5	52	--	--
75-12-09	--	--	--	--	--	--
74-11-25	4000	7.1	10.5	53	--	--
75-08-18	4600	7.4	13.0	21	--	--
75-12-07	4500	7.1	11.0	46	--	--
75-08-18	960	7.4	15.0	15	--	--
74-11-26	810	7.4	11.0	21	--	--
75-12-07	975	7.4	11.0	28	--	--
75-06-18	2300	8.2	13.5	.9	--	--
75-06-18	3000	11.2	15.0	--	--	--
75-08-20	2400	9.5	14.5	.0	--	--
75-12-08	2400	9.1	12.0	.1	--	--
75-12-08	2400	9.1	12.0	.0	--	--
75-06-18	1500	7.8	14.5	5.5	--	--
75-08-19	910	11.1	12.0	.0	--	--
75-12-08	1050	9.0	10.5	.3	--	--
75-12-08	1050	9.0	10.5	--	--	--
76-04-02	1350	7.6	13.5	11	--	--
75-06-18	3800	11.3	13.5	--	--	--
75-08-19	1000	11.1	13.0	--	--	--
75-12-08	470	10.3	11.0	.0	--	--
75-12-08	470	10.3	11.0	--	--	--
76-04-02	400	9.0	13.0	.4	--	--
74-11-26	1300	7.0	10.5	40	--	--
75-02-12	1400	6.9	11.0	54	0	0
75-02-12	1400	6.9	11.0	67	--	--
75-08-18	1800	7.1	13.5	33	--	--
75-12-08	1850	7.4	12.0	17	--	--
75-12-08	1850	7.4	12.0	--	--	--
76-04-02	1600	7.1	12.5	35	--	--
74-10-11	--	--	--	--	--	--
74-11-25	2200	7.1	10.5	31	--	--
74-11-27	--	--	--	--	--	--
75-02-12	2200	7.2	10.0	19	0	0
75-05-05	3000	6.9	10.5	--	--	--
75-08-18	2650	7.4	14.0	16	--	--
75-12-09	2600	7.5	11.0	14	--	--
75-12-09	2600	7.5	11.0	--	--	--
76-04-05	2100	7.4	10.5	16	--	--

water from wells--Continued

CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)
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Table 5.--*Chemical analyses of*

DATE OF SAMPLE	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)
75-08-18	--	--	--	--	--	--
75-12-07	--	--	--	--	--	--
75-12-09	--	--	--	--	--	--
74-11-25	--	--	--	--	--	--
75-08-18	--	--	--	--	--	--
75-12-07	--	--	--	--	--	--
75-08-18	--	--	--	--	--	--
74-11-26	--	--	--	--	--	--
75-12-07	--	--	--	--	--	--
75-06-18	--	--	--	--	--	--
75-06-18	--	--	--	--	--	--
75-08-20	--	--	--	--	--	--
75-12-08	--	--	--	--	--	--
75-12-08	--	--	--	--	--	--
75-06-18	--	--	--	--	--	--
75-08-19	--	--	--	--	--	--
75-12-08	--	--	--	--	--	--
75-12-08	--	--	--	--	--	--
76-04-02	--	--	--	--	--	--
75-06-18	--	--	--	--	--	--
75-08-19	--	--	--	--	--	--
75-12-08	--	--	--	--	--	--
75-12-08	--	--	--	--	--	--
76-04-02	--	--	--	--	--	--
74-11-26	--	--	--	--	--	--
75-02-12	--	--	--	--	--	--
75-02-12	--	--	--	--	--	--
75-08-18	--	--	--	--	--	--
75-12-08	--	--	--	--	--	--
75-12-08	--	--	--	--	--	--
76-04-02	--	--	--	--	--	--
74-10-11	--	--	--	--	--	--
74-11-25	--	--	--	--	--	--
74-11-27	--	--	--	--	--	--
75-02-12	--	--	--	--	--	--
75-05-05	--	--	--	--	--	--
75-08-18	ND	ND	ND	ND	ND	ND
75-12-09	--	--	--	--	--	--
75-12-09	--	--	--	--	--	--
76-04-05	--	--	--	--	--	--

water from wells--Continued

TOTAL LINDANE (UG/L)	TOTAL MALA-THION (UG/L)	TOTAL METHYL PARA-THION (UG/L)	TOTAL PARA-THION (UG/L)	TOTAL PCB (UG/L)	TOTAL TOX-APHENE (UG/L)
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ND	ND	ND	ND	ND	ND
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Table 5.--*Chemical analyses of*

DATE OF SAMPLE	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)
75-08-18	2	10	20	10
75-12-07	--	--	--	--
75-12-09	--	--	--	--
74-11-25	1	70	ND	80
75-08-18	5	30	60	10
75-12-07	--	--	--	--
75-08-18	1	ND	40	10
74-11-26	1	10	ND	20
75-12-07	--	--	--	--
75-06-18	4	ND	20	10
75-06-18	ND	10	20	30
75-08-20	1	10	40	20
75-12-08	7	ND	ND	100
75-12-08	--	--	--	--
75-06-18	9	ND	1	10
75-08-19	ND	10	40	30
75-12-08	2	ND	ND	20
75-12-08	--	--	--	--
76-04-02	3	10	80	50
75-06-18	ND	ND	20	20
75-08-19	ND	ND	20	ND
75-12-08	4	ND	30	50
75-12-08	--	--	--	--
76-04-02	ND	ND	20	ND
74-11-26	ND	10	ND	20
75-02-12	2	20	10	40
75-02-12	--	--	--	--
75-08-18	2	10	30	20
75-12-08	5	ND	ND	30
75-12-08	--	--	--	--
76-04-02	3	10	20	30
74-10-11	--	--	--	--
74-11-25	3	50	ND	ND
74-11-27	--	--	--	--
75-02-12	1	10	10	40
75-05-05	--	--	--	--
75-08-18	2	10	280	10
75-12-09	5	ND	20	70
75-12-09	--	--	--	--
76-04-05	ND	ND	10	ND

water from wells--Continued

DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	CODE FOR AGENCY ANA-LYZING SAMPLE	TOTAL DEPTH OF WELL (FT)
--	70	210	9999	26
--	--	--	9999	26
--	--	--	9999	26
--	30	110	9999	20
--	30	320	9999	20
--	--	--	9999	20
--	30	40	9999	11
--	10	70	9999	16
--	--	--	9999	16
--	20	10	9999	151
--	20	30	9999	248
--	50	500	9999	248
--	60	ND	9999	248
--	--	--	--	248
--	30	20	9999	28
--	20	20	9999	28
--	ND	ND	9999	28
--	--	--	--	28
--	ND	100	9999	28
--	10	20	9999	82
--	30	20	9999	82
--	10	ND	9999	82
--	--	--	--	82
--	ND	ND	9999	82
ND	ND	80	9999	22
--	10	ND	9999	22
--	--	--	--	22
--	40	40	9999	22
--	ND	60	9999	22
--	--	--	--	22
--	ND	110	9999	22
--	--	--	9999	20
--	10	80	9999	20
--	--	--	9999	20
--	ND	260	9999	20
--	--	--	9999	20
--	10	130	9999	20
--	ND	1800	9999	20
--	--	--	--	20
--	10	220	9999	20

LOCAL IDENT-I-FIER	DATE OF SAMPLE	TOTAL DEPTH OF WELL (FT)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)
SC00406534CBB	74-11-25	16	--	50
	75-02-11	16	--	170
	75-05-05	16	--	170
	75-08-14	16	--	160
	75-12-04	16	--	90
	75-12-04	16	--	--
	76-03-31	16	--	20
SC00506502BCB	74-10-11	11	--	--
SC00506502DCA	74-10-11	24	--	--
SC00506503ABB	74-11-25	17	--	30
	74-11-25	17	--	60
	75-02-10	17	--	520
	75-05-05	17	--	590
	75-08-14	17	--	420
	75-12-04	17	--	710
	75-12-04	17	--	--
	76-04-16	17	--	--
SC00506504AAA2	74-11-25	17	--	50
	75-02-11	17	--	1530
	75-05-02	17	--	2900
	75-08-15	17	--	2600
	75-08-15	17	--	--
	75-12-09	17	--	1600
	75-12-09	17	--	--
	76-04-16	17	--	--
SC00506504BDB	74-11-25	33	--	10
	75-02-10	33	15	130
	75-02-11	33	--	140
	75-05-02	33	--	200
	75-08-15	33	--	950
	75-12-09	33	--	530
	75-12-09	33	--	--
SC00506504CAB1	75-06-19	18	--	30
	75-08-20	18	--	10
	75-12-09	18	--	20
	75-12-09	18	--	--
SC00506504CAB2	75-06-19	107	--	10
	75-08-20	107	--	20
	75-12-09	107	--	60
	75-12-09	107	--	--

water from wells--Continued

DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
1010	115	--	130	14	270
1870	157	--	94	5.4	303
--	165	--	90	--	--
1180	80	--	85	14	273
800	--	--	106	14	296
--	--	28	--	--	--
680	105	25	100	11	271
--	--	--	--	--	--
--	--	--	--	--	--
500	120	--	100	9.0	247
530	93	--	110	9.3	253
570	136	--	67	6.9	245
--	143	--	55	--	--
560	80	--	50	13	242
540	110	--	52	9.2	248
--	--	17	--	--	--
--	--	--	--	--	--
80	216	--	90	27	285
6000	272	--	88	6.8	325
--	181	--	35	--	--
6500	130	--	60	14	318
--	--	--	--	--	--
8300	129	--	73	11	348
--	--	41	--	--	--
--	--	--	--	--	--
570	101	--	87	10	220
1600	150	19	72	4.8	261
1260	151	--	75	6.9	197
--	178	--	60	--	--
1200	80	--	80	11	217
630	160	--	64	8.8	212
--	--	18	--	--	--
ND	114	--	5.0	14	ND
10	132	--	82	11	ND
ND	115	--	32	6.3	360
--	--	.7	--	--	--
10	798	--	125	12	ND
20	752	--	104	7.0	ND
10	720	--	101	28	ND
--	--	.1	--	--	--

Table 5.--*Chemical analyses of*

DATE OF SAMPLE	CAR- BONATE (CO3) (MG/L)	HY- DROX- IDE (OH) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
74-11-25	ND	--	221	--	45
75-02-11	--	--	249	--	53
75-05-05	--	--	--	--	42
75-08-14	ND	ND	224	525	46
75-12-04	ND	ND	243	380	52
75-12-04	--	--	--	--	--
76-03-31	ND	ND	222	372	42
74-10-11	--	--	--	--	21
74-10-11	--	--	--	--	26
74-11-25	ND	--	203	--	25
74-11-25	ND	--	208	--	26
75-02-10	--	--	201	--	27
75-05-05	--	--	--	--	27
75-08-14	ND	ND	198	--	28
75-12-04	ND	ND	203	240	26
75-12-04	--	--	--	--	--
76-04-16	--	--	--	--	--
74-11-25	ND	--	234	--	50
75-02-11	--	--	267	--	44
75-05-02	--	--	--	--	36
75-08-15	ND	ND	261	--	34
75-08-15	--	--	--	--	--
75-12-09	ND	ND	285	820	38
75-12-09	--	--	--	--	--
76-04-16	--	--	--	--	--
74-11-25	ND	--	180	--	21
75-02-10	--	--	214	370	16
75-02-11	--	--	162	--	16
75-05-02	--	--	--	--	15
75-08-15	ND	ND	178	420	17
75-12-09	ND	ND	174	440	14
75-12-09	--	--	--	--	--
75-06-19	44	330	--	--	52
75-08-20	84	66	--	--	63
75-12-09	1420	ND	2660	400	62
75-12-09	--	--	--	--	--
75-06-19	53	2860	--	ND	9.0
75-08-20	40	2590	--	--	20
75-12-09	160	2220	--	ND	25
75-12-09	--	--	--	--	--

water from wells--Continued

DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL NITRATE (NO3) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE (NO2) (MG/L)	DIS-SOLVED NITRITE (NO2) (MG/L)
--	.04	--	.18	--	--	ND
--	.01	--	.06	--	--	ND
--	.00	--	.01	--	--	ND
--	.02	--	.07	--	--	ND
--	.01	--	.06	--	--	ND
--	--	--	--	--	--	--
--	--	--	ND	--	--	ND
--	--	--	--	--	--	--
--	--	--	--	--	--	--
--	.01	--	.04	--	--	ND
--	--	--	ND	--	--	ND
--	--	--	ND	--	--	ND
--	.01	--	.06	--	--	ND
--	.00	--	.01	--	--	ND
--	.00	--	.01	.00	--	.01
--	--	--	--	--	--	--
--	--	--	--	--	--	--
--	--	--	ND	--	--	ND
--	.25	--	1.0	.00	--	.01
--	.11	--	.47	--	--	ND
--	.09	--	.41	.00	--	.01
--	--	--	--	--	--	--
--	.05	--	.22	.00	--	.02
--	--	--	--	--	--	--
--	--	--	--	--	--	--
--	.01	--	.04	.01	--	.05
.3	.03	--	.10	ND	--	--
--	.02	--	.08	.00	--	.02
--	.01	--	.03	--	--	ND
--	.11	--	.48	--	--	ND
--	.02	--	.08	--	--	ND
--	--	--	--	--	--	--
--	.06	--	.28	.06	--	.21
--	--	--	ND	.01	--	.06
--	.02	--	.08	.04	--	.15
--	--	--	--	--	--	--
--	.05	--	.20	.00	--	.02
--	.07	--	.29	.00	--	.02
--	.07	--	.30	--	--	ND
--	--	--	--	--	--	--

DATE OF SAMPLE	DIS-SOLVED AMMONIA NITRO-GEN (N) (MG/L)	TOTAL AMMONIA (NH4) (MG/L)	DIS_SOLVED AMMONIA (NH4) (MG/L)	DIS-SOLVED ORGANIC NITRO-GEN (N) (MG/L)	DIS-SOLVED KJEL. NITRO-GEN (N) (MG/L)
74-11-25	ND	--	--	--	.80
75-02-11	ND	--	--	--	.70
75-05-05	.10	--	.13	.00	.10
75-08-14	ND	--	--	--	.30
75-12-04	ND	--	--	--	.30
75-12-04	--	--	--	--	--
76-03-31	.10	--	.13	.30	.40
74-10-11	--	--	--	--	--
74-10-11	--	--	--	--	--
74-11-25	ND	--	--	--	.30
74-11-25	ND	--	--	--	1.3
75-02-10	.10	--	.13	2.4	2.5
75-05-05	ND	--	--	--	.20
75-08-14	.10	--	.13	--	.05
75-12-04	ND	--	--	--	.30
75-12-04	--	--	--	--	--
76-04-16	--	--	--	--	--
74-11-25	ND	--	--	--	4.5
75-02-11	.80	--	1.0	3.2	4.0
75-05-02	.50	--	.64	.30	.80
75-08-15	.80	--	1.0	.20	1.0
75-08-15	--	--	--	--	--
75-12-09	.50	--	.64	.50	1.0
75-12-09	--	--	--	--	--
76-04-16	--	--	--	--	--
74-11-25	ND	--	--	--	ND
75-02-10	.06	--	.08	.23	.29
75-02-11	ND	--	--	--	.80
75-05-02	ND	--	--	--	ND
75-08-15	ND	--	--	--	.20
75-12-09	ND	--	--	--	.20
75-12-09	--	--	--	--	--
75-06-19	.30	--	.39	1.1	1.4
75-08-20	.20	--	.26	--	--
75-12-09	ND	--	--	--	.70
75-12-09	--	--	--	--	--
75-06-19	2.9	--	3.7	.50	3.4
75-08-20	1.8	--	2.3	--	--
75-12-09	.10	--	.13	1.8	1.9
75-12-09	--	--	--	--	--

water from wells--Continued

DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 105°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)
.90	2.8	--	962	--	537	320
.30	.92	--	1040	--	481	230
--	--	--	898	--	--	--
.05	.15	--	907	--	477	250
.50	1.5	--	978	--	544	300
--	--	--	--	--	--	--
.05	.15	--	965	--	513	290
--	--	--	667	--	--	--
--	--	--	905	--	--	--
.42	1.3	--	629	--	415	210
1.6	5.2	--	653	--	381	170
1.4	4.4	--	685	--	389	190
--	--	--	700	--	--	--
.09	.28	--	657	--	384	190
.09	.28	--	624	--	406	200
--	--	--	--	--	--	--
--	--	--	--	--	--	--
2.4	7.6	1570	1570	--	996	760
2.4	7.4	--	1520	--	898	630
--	--	--	1350	--	--	--
.43	1.3	--	1310	--	770	510
--	--	--	--	--	--	--
.07	.21	--	1400	--	869	580
--	--	--	--	--	--	--
--	--	--	--	--	--	--
.32	.98	--	790	--	482	300
.02	.06	--	--	778	450	240
.12	.37	--	832	--	512	350
--	--	--	852	--	--	--
.01	.03	--	855	--	437	260
ND	--	--	853	--	513	340
--	--	--	--	--	--	--
ND	--	--	562	--	358	--
ND	--	--	571	--	335	--
ND	--	--	753	--	433	0
--	--	--	--	--	--	--
ND	--	--	2580	--	2360	--
ND	--	--	2150	--	1700	--
ND	--	--	2000	--	1660	--
--	--	--	--	--	--	--

Table 5.--*Chemical analyses of*

DATE OF SAMPLE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	CARBON DIOXIDE (CO2) (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)
74-11-25	1400	7.5	12.5	14	--	--
75-02-11	1450	7.2	6.0	31	1	1
75-05-05	1400	7.4	7.5	--	--	--
75-08-14	1550	7.5	14.0	14	--	--
75-12-04	1450	7.6	12.0	12	--	--
75-12-04	1450	7.6	12.0	--	--	--
76-03-31	1225	7.4	7.5	17	--	--
74-10-11	--	--	--	--	--	--
74-10-11	--	--	--	--	--	--
74-11-25	950	7.0	12.0	40	--	--
74-11-25	950	7.1	12.0	32	--	--
75-02-10	1020	7.3	9.0	20	1	8
75-05-05	1075	7.1	7.0	--	--	--
75-08-14	1075	7.7	12.0	7.7	--	--
75-12-04	1020	7.4	13.0	16	--	--
75-12-04	1020	7.4	13.0	--	--	--
76-04-16	--	--	--	--	--	0
74-11-25	2050	7.3	12.5	20	--	--
75-02-11	1900	6.9	10.0	65	1	1
75-05-02	1590	7.3	10.0	--	--	--
75-08-15	1950	7.6	13.5	13	--	--
75-08-15	--	--	--	--	--	--
75-12-09	2100	7.5	12.0	18	--	--
75-12-09	2100	7.5	12.0	--	--	--
76-04-16	--	--	--	--	--	0
74-11-25	1300	7.0	11.0	35	--	--
75-02-10	1175	7.1	9.5	33	--	--
75-02-11	1175	7.1	9.5	25	1	1
75-05-02	900	7.6	11.5	--	--	--
75-08-15	1325	7.6	11.5	8.7	--	--
75-12-09	1350	8.1	11.0	2.7	--	--
75-12-09	1350	8.1	11.0	--	--	--
75-06-19	1650	11.2	10.0	--	--	--
75-08-20	1025	10.8	12.5	--	--	--
75-12-09	1150	10.7	12.0	.1	--	--
75-12-09	1150	10.7	12.0	--	--	--
75-06-19	>8000	11.8	12.5	--	--	--
75-08-20	>8000	11.7	13.0	--	--	--
75-12-09	>8000	12.4	12.5	--	--	--
75-12-09	>8000	12.4	12.5	--	--	--

water from wells--Continued

CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)
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Table 5.--*Chemical analyses of*

DATE OF SAMPLE	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)
74-11-25	--	--	--	--	--	--
75-02-11	--	--	--	--	--	--
75-05-05	--	--	--	--	--	--
75-08-14	--	--	--	--	--	--
75-12-04	--	--	--	--	--	--
75-12-04	--	--	--	--	--	--
76-03-31	--	--	--	--	--	--
74-10-11	--	--	--	--	--	--
74-10-11	--	--	--	--	--	--
74-11-25	--	--	--	--	--	--
74-11-25	--	--	--	--	--	--
75-02-10	--	--	--	--	--	--
75-05-05	--	--	--	--	--	--
75-08-14	--	--	--	--	--	--
75-12-04	--	--	--	--	--	--
75-12-04	--	--	--	--	--	--
76-04-16	--	--	--	--	--	--
74-11-25	--	--	--	--	--	--
75-02-11	--	--	--	--	--	--
75-05-02	--	--	--	--	--	--
75-08-15	--	--	--	--	--	--
75-08-15	ND	ND	ND	ND	ND	ND
75-12-09	--	--	--	--	--	--
75-12-09	--	--	--	--	--	--
76-04-16	--	--	--	--	--	--
74-11-25	--	--	--	--	--	--
75-02-10	--	--	--	--	--	--
75-02-11	--	--	--	--	--	--
75-05-02	--	--	--	--	--	--
75-08-15	--	--	--	--	--	--
75-12-09	--	--	--	--	--	--
75-12-09	--	--	--	--	--	--
75-06-19	--	--	--	--	--	--
75-08-20	--	--	--	--	--	--
75-12-09	--	--	--	--	--	--
75-12-09	--	--	--	--	--	--
75-06-19	--	--	--	--	--	--
75-08-20	--	--	--	--	--	--
75-12-09	--	--	--	--	--	--
75-12-09	--	--	--	--	--	--

water from wells--Continued

TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL PCB (UG/L)	TOTAL TOX- APHENE (UG/L)
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Table 5.--*Chemical analyses of*

DATE OF SAMPLE	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)
74-11-25	ND	30	ND	ND
75-02-11	2	10	10	30
75-05-05	--	--	--	--
75-08-14	ND	10	30	ND
75-12-04	2	ND	10	ND
75-12-04	--	--	--	--
76-03-31	ND	ND	10	100
74-10-11	--	--	--	--
74-10-11	--	--	--	--
74-11-25	1	30	ND	20
74-11-25	ND	20	ND	10
75-02-10	ND	ND	ND	30
75-05-05	--	--	--	--
75-08-14	ND	10	20	10
75-12-04	6	ND	10	30
75-12-04	--	--	--	--
76-04-16	--	--	--	--
74-11-25	ND	30	ND	10
75-02-11	2	20	10	30
75-05-02	--	--	--	--
75-08-15	ND	30	30	ND
75-08-15	--	--	--	--
75-12-09	1	ND	20	50
75-12-09	--	--	--	--
76-04-16	--	--	--	--
74-11-25	ND	40	ND	10
75-02-10	--	--	--	--
75-02-11	2	ND	10	10
75-05-02	--	--	--	--
75-08-15	ND	ND	30	10
75-12-09	ND	ND	10	30
75-12-09	--	--	--	--
75-06-19	ND	10	40	50
75-08-20	ND	ND	390	ND
75-12-09	3	ND	20	20
75-12-09	--	--	--	--
75-06-19	3	30	30	ND
75-08-20	ND	30	40	220
75-12-09	6	10	40	160
75-12-09	--	--	--	--

DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	CODE FOR AGENCY ANA-LYZING SAMPLE	TOTAL DEPTH OF WELL (FT)
--	ND	100	9999	16
--	ND	ND	9999	16
--	--	--	9999	16
--	30	20	9999	16
--	ND	110	9999	16
--	--	--	--	16
--	20	60	9999	16
--	--	--	9999	11
--	--	--	9999	24
--	ND	50	9999	17
--	ND	10	9999	17
--	ND	ND	9999	17
--	--	--	9999	17
--	30	10	9999	17
--	10	40	9999	17
--	--	--	--	17
--	--	--	--	17
--	20	20	9999	17
--	20	20	9999	17
--	--	--	9999	17
--	10	70	9999	17
--	--	--	--	17
--	ND	170	9999	17
--	--	--	--	17
--	--	--	--	17
--	20	50	9999	33
--	--	--	--	33
--	20	20	9999	33
--	--	--	9999	33
--	ND	ND	9999	33
--	ND	50	9999	33
--	--	--	--	33
--	30	10	9999	18
--	60	50	9999	18
--	10	ND	9999	18
--	--	--	--	18
--	30	40	9999	107
--	40	80	9999	107
--	ND	60	9999	107
--	--	--	--	107

Table 5.--*Chemical analyses of*

LOCAL IDENT- I- FIER	DATE OF SAMPLE	TOTAL DEPTH OF WELL (FT)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)
SC00506504CAB2	76-04-01	107	--	ND
SC00506504CAC	74-10-11	29	--	--
	74-11-25	29	--	30
	75-02-10	29	--	40
	75-05-05	29	--	30
	75-08-19	29	--	30
	75-12-08	29	--	610
	75-12-08	29	--	--
	76-04-01	29	--	100
SC00506504CDD	74-10-11	34	--	--
SC00506504DBC	74-11-25	22	--	30
	75-02-11	22	--	20
	75-03-20	22	--	--
	75-05-02	22	--	10
	75-08-15	22	--	50
	75-12-09	22	--	50
	75-12-09	22	--	--
	76-03-31	22	--	40
	76-04-01	22	--	10
	76-04-16	22	--	--
SC00506505BDA	74-10-11	2101	--	--
	74-11-27	2101	--	140
SC00506506ABC	74-11-26	27	--	100
	75-02-12	27	--	920
	75-05-01	27	--	490
	75-08-18	27	--	720
	75-12-09	27	--	550
	75-12-09	27	--	--
	76-03-31	27	--	310
SC00506506BDD1	75-05-06	130	--	40
	75-06-19	130	--	40
	75-08-20	130	--	40
	75-12-05	130	--	70
	75-12-05	130	--	--
	76-04-01	130	--	20
SC00506506BDD2	75-05-06	175	--	20
	75-06-19	175	--	40
	75-08-20	175	--	60
	75-12-05	175	--	60
	75-12-05	175	--	--

DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
10	824	.5	100	25	ND
--	--	--	--	--	--
ND	210	--	112	11	264
ND	253	--	89	4.4	253
--	272	--	75	--	--
20	252	--	70	11	234
30	260	--	80	8.8	256
--	--	35	--	--	--
20	187	35	83	9.0	255
--	--	--	--	--	--
ND	220	--	100	33	412
1030	267	--	94	8.0	300
--	--	--	--	--	--
--	208	--	70	--	--
330	280	--	90	18	293
470	315	--	111	16	284
--	--	38	--	--	--
90	--	40	--	--	--
70	221	--	97	13	241
--	--	--	--	--	--
--	--	--	--	--	--
ND	6.0	--	75	5.6	149
110	65	--	110	6.2	240
560	94	--	80	3.4	242
--	82	--	92	--	--
430	154	--	75	8.0	248
410	115	--	61	5.4	249
--	--	11	--	--	--
360	84	11	62	5.0	248
10	337	--	118	37	ND
10	96	--	117	33	ND
20	139	--	146	42	46
ND	114	--	147	11	50
--	--	5.8	--	--	--
30	91	6.5	150	11	66
30	73	--	82	10	98
120	34	--	88	12	138
80	42	--	26	6.0	127
120	28	--	78	5.8	128
--	--	1.3	--	--	--

Table 5.--*Chemical analyses of*

DATE OF SAMPLE	CAR- BONATE (CO3) (MG/L)	HY- DROX- IDE (OH) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
76-04-01	40	2110	--	ND	31
74-10-11	--	--	--	--	106
74-11-25	ND	--	217	--	119
75-02-10	--	--	208	--	123
75-05-05	--	--	--	--	125
75-08-19	ND	ND	192	545	121
75-12-08	ND	ND	210	660	140
75-12-08	--	--	--	--	--
76-04-01	ND	ND	209	628	140
74-10-11	--	--	--	--	212
74-11-25	ND	--	338	--	89
75-02-11	--	--	246	--	119
75-03-20	--	--	--	--	--
75-05-02	--	--	--	--	162
75-08-15	ND	ND	240	375	239
75-12-09	ND	ND	233	500	200
75-12-09	--	--	--	--	--
76-03-31	--	--	--	--	--
76-04-01	ND	ND	198	305	247
76-04-16	--	--	--	--	--
74-10-11	--	--	--	--	4.8
74-11-27	ND	--	122	--	4.3
74-11-26	ND	--	197	--	11
75-02-12	--	--	198	--	7.0
75-05-01	--	--	--	--	12
75-08-18	ND	ND	203	205	24
75-12-09	ND	ND	204	180	18
75-12-09	--	--	--	--	--
76-03-31	ND	ND	203	143	21
75-05-06	24	876	--	315	103
75-06-19	64	149	--	430	130
75-08-20	ND	ND	38	90	122
75-12-05	ND	ND	41	480	126
75-12-05	--	--	--	--	--
76-04-01	ND	ND	54	466	118
75-05-06	ND	--	80	170	58
75-06-19	ND	ND	113	20	54
75-08-20	ND	ND	104	100	56
75-12-05	ND	ND	105	52	54
75-12-05	--	--	--	--	--

water from wells--Continued

DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL NITRATE (NO3) (MG/L)	DIS_SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE (NO2) (MG/L)	DIS_SOLVED NITRITE (NO2) (MG/L)
--	.03	--	.14	.00	--	.01
--	--	--	--	--	--	--
--	1.8	--	8.1	--	--	ND
--	1.7	--	7.5	--	--	ND
--	1.7	--	7.6	--	--	ND
--	1.7	--	7.4	--	--	ND
--	1.8	--	7.9	.00	--	.01
--	--	--	--	--	--	--
--	6.6	--	29	--	--	ND
--	--	--	--	--	--	--
--	.01	--	.03	.21	--	.68
--	6.8	--	30	.04	--	.15
--	--	--	--	--	--	--
--	9.9	--	44	.00	--	.02
--	9.3	--	41	.00	--	.02
--	8.8	--	39	.00	--	.02
--	--	--	--	--	--	--
--	--	--	--	--	--	--
--	5.5	--	24	.00	--	.02
--	--	--	--	--	--	--
--	--	--	--	--	--	--
--	.05	--	.24	--	--	ND
--	.00	--	.02	.00	--	.01
--	--	--	ND	--	--	ND
--	.00	--	.02	--	--	ND
--	.01	--	.03	--	--	ND
--	.08	--	.36	.00	--	.01
--	--	--	--	--	--	--
--	.02	--	.10	--	--	ND
--	.00	--	.01	--	--	ND
--	.00	--	.01	--	--	ND
--	.00	--	.01	--	--	ND
--	.00	--	.02	--	--	ND
--	--	--	--	--	--	--
--	.02	--	.07	.00	--	.01
--	.00	--	.02	--	--	ND
--	--	--	ND	--	--	ND
--	.03	--	.13	--	--	ND
--	--	--	ND	--	--	ND
--	--	--	--	--	--	--

Table 5.--*Chemical analyses of*

DATE OF SAMPLE	DIS-SOLVED AMMONIA NITRO-GEN (N) (MG/L)	TOTAL AMMONIA (NH4) (MG/L)	DIS-SOLVED AMMONIA (NH4) (MG/L)	DIS-SOLVED ORGANIC NITRO-GEN (N) (MG/L)	DIS-SOLVED KJEL. NITRO-GEN (N) (MG/L)
76-04-01	1.4	--	1.8	2.8	4.2
74-10-11	--	--	--	--	--
74-11-25	ND	--	--	--	ND
75-02-10	ND	--	--	--	.50
75-05-05	ND	--	--	--	ND
75-08-19	ND	--	--	--	.50
75-12-08	ND	--	--	--	.10
75-12-08	--	--	--	--	--
76-04-01	ND	--	--	--	.40
74-10-11	--	--	--	--	--
74-11-25	ND	--	--	--	3.8
75-02-11	.70	--	.90	1.6	2.3
75-03-20	--	--	--	--	--
75-05-02	.40	--	.52	.10	.50
75-08-15	.90	--	1.2	.70	1.6
75-12-09	ND	--	--	--	.60
75-12-09	--	--	--	--	--
76-03-31	--	--	--	--	--
76-04-01	ND	--	--	--	.60
76-04-16	--	--	--	--	--
74-10-11	--	--	--	--	--
74-11-27	ND	--	--	--	ND
74-11-26	ND	--	--	--	ND
75-02-12	ND	--	--	--	.40
75-05-01	ND	--	--	--	.10
75-08-18	ND	--	--	--	.30
75-12-09	.10	--	.13	.70	.80
75-12-09	--	--	--	--	--
76-03-31	ND	--	--	--	.50
75-05-06	.10	--	.13	1.0	1.1
75-06-19	.30	--	.39	--	.20
75-08-20	.20	--	.26	--	--
75-12-05	.30	--	.39	.30	.60
75-12-05	--	--	--	--	--
76-04-01	ND	--	--	--	.70
75-05-06	ND	--	--	--	.20
75-06-19	.10	--	.13	.00	.10
75-08-20	ND	--	--	--	.70
75-12-05	.10	--	.13	.20	.30
75-12-05	--	--	--	--	--

water from wells--Continued

DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 105°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)
ND	--	--	1980	--	2380	--
--	--	--	1180	--	--	--
.14	.43	--	1370	--	835	620
ND	--	--	1270	--	853	650
--	--	--	1360	--	--	--
ND	--	--	1310	--	804	610
.01	.03	--	1520	--	922	710
--	--	--	--	--	--	--
ND	--	--	1450	--	917	710
--	--	--	2620	--	--	--
1.1	3.5	--	1500	--	914	580
1.0	3.3	--	1520	--	834	590
--	--	--	--	--	--	--
--	--	--	1490	--	--	--
.41	1.3	--	1840	--	1020	780
.40	1.2	--	1640	--	914	680
--	--	--	--	--	--	--
--	--	--	--	--	--	--
.34	1.0	--	1530	--	867	670
--	--	--	--	--	--	--
--	--	--	254	--	--	--
.02	.06	--	215	--	32	0
.12	.37	--	497	--	277	80
ND	--	--	684	--	256	57
--	--	--	526	--	--	--
.02	.06	--	619	--	329	130
ND	--	--	552	--	299	95
--	--	--	--	--	--	--
ND	--	--	510	--	319	120
ND	--	--	1790	--	908	--
ND	--	--	1090	--	446	--
.01	.03	--	964	--	341	300
.01	.03	--	951	--	342	300
--	--	--	--	--	--	--
.01	.03	--	980	--	319	270
ND	--	--	467	--	144	64
.04	.12	--	308	--	83	0
.01	.03	--	312	--	89	0
ND	--	--	282	--	98	0
--	--	--	--	--	--	--

Table 5.--*Chemical analyses of*

DATE OF SAMPLE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	CARBON DIOXIDE (CO2) (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)
76-04-01	>8000	12.3	13.5	--	--	--
74-10-11	--	--	--	--	--	--
74-11-25	1900	6.8	12.0	60	--	--
75-02-10	1850	7.2	10.5	26	1	1
75-05-05	2000	7.1	10.5	--	--	--
75-08-19	2100	7.3	13.5	19	--	--
75-12-08	2400	7.6	10.0	10	--	--
75-12-08	2400	7.6	10.0	--	--	--
76-04-01	1800	7.4	11.0	16	--	--
74-10-11	--	--	--	--	--	--
74-11-25	2000	7.3	12.5	33	--	--
75-02-11	2100	7.1	10.5	38	1	4
75-03-20	--	--	--	--	--	--
75-05-02	2300	7.2	10.5	--	--	--
75-08-15	2900	7.5	13.0	15	--	--
75-12-09	2700	7.4	12.0	18	--	--
75-12-09	2700	7.4	12.0	--	--	--
76-03-31	2000	7.4	13.0	--	--	--
76-04-01	2000	7.4	13.0	15	--	--
76-04-16	--	--	--	--	--	2
74-10-11	--	--	--	--	--	--
74-11-27	360	7.7	8.5	4.8	--	--
74-11-26	810	7.1	10.0	31	--	--
75-02-12	825	7.2	10.0	24	0	1
75-05-01	950	7.5	10.0	--	--	--
75-08-18	1000	7.5	12.0	13	--	--
75-12-09	900	7.2	11.0	25	--	--
75-12-09	900	7.2	11.0	--	--	--
76-03-31	775	7.3	10.5	20	--	--
75-05-06	6500	12.1	12.0	--	--	--
75-06-19	2300	11.2	14.5	--	--	--
75-08-20	1650	9.9	15.0	.0	--	--
75-12-05	1550	8.9	11.5	.1	--	--
75-12-05	1550	8.9	11.5	--	--	--
76-04-01	1300	8.7	14.5	.2	--	--
75-05-06	850	7.7	12.5	3.1	--	--
75-06-19	570	8.2	15.0	1.4	--	--
75-08-20	590	7.8	15.0	3.2	--	--
75-12-05	570	8.5	9.5	.6	--	--
75-12-05	570	8.5	9.5	--	--	--

water from wells--Continued

CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)
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Table 5.--*Chemical analyses of*

DATE OF SAMPLE	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)
76-04-01	--	--	--	--	--	--
74-10-11	--	--	--	--	--	--
74-11-25	--	--	--	--	--	--
75-02-10	--	--	--	--	--	--
75-05-05	--	--	--	--	--	--
75-08-19	--	--	--	--	--	--
75-12-08	--	--	--	--	--	--
75-12-08	--	--	--	--	--	--
76-04-01	--	--	--	--	--	--
74-10-11	--	--	--	--	--	--
74-11-25	--	--	--	--	--	--
75-02-11	--	--	--	--	--	--
75-03-20	--	--	--	--	--	--
75-05-02	--	--	--	--	--	--
75-08-15	ND	ND	ND	ND	ND	ND
75-12-09	--	--	--	--	--	--
75-12-09	--	--	--	--	--	--
76-03-31	--	--	--	--	--	--
76-04-01	--	--	--	--	--	--
76-04-16	--	--	--	--	--	--
74-10-11	--	--	--	--	--	--
74-11-27	--	--	--	--	--	--
74-11-26	--	--	--	--	--	--
75-02-12	--	--	--	--	--	--
75-05-01	--	--	--	--	--	--
75-08-18	--	--	--	--	--	--
75-12-09	--	--	--	--	--	--
75-12-09	--	--	--	--	--	--
76-03-31	--	--	--	--	--	--
75-05-06	--	--	--	--	--	--
75-06-19	--	--	--	--	--	--
75-08-20	--	--	--	--	--	--
75-12-05	--	--	--	--	--	--
75-12-05	--	--	--	--	--	--
76-04-01	--	--	--	--	--	--
75-05-06	--	--	--	--	--	--
75-06-19	--	--	--	--	--	--
75-08-20	--	--	--	--	--	--
75-12-05	--	--	--	--	--	--
75-12-05	--	--	--	--	--	--

water from wells--Continued

TOTAL LINDANE (UG/L)	TOTAL MALA-THION (UG/L)	TOTAL METHYL PARA-THION (UG/L)	TOTAL PARA-THION (UG/L)	TOTAL PCB (UG/L)	TOTAL TOX-APHENE (UG/L)
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ND	ND	ND	ND	.2	ND
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Table 5.--*Chemical analyses of*

DATE OF SAMPLE	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)
76-04-01	5	ND	60	240
74-10-11	--	--	--	--
74-11-25	1	30	ND	10
75-02-10	1	ND	10	30
75-05-05	--	--	--	--
75-08-19	ND	10	20	30
75-12-08	5	20	10	10
75-12-08	--	--	--	--
76-04-01	ND	20	10	70
74-10-11	--	--	--	--
74-11-25	ND	60	ND	ND
75-02-11	ND	ND	10	30
75-03-20	--	--	--	--
75-05-02	--	--	--	--
75-08-15	ND	30	100	ND
75-12-09	3	ND	20	30
75-12-09	--	--	--	--
76-03-31	--	--	--	--
76-04-01	9	10	30	120
76-04-16	--	--	--	--
74-10-11	--	--	--	--
74-11-27	ND	ND	40	ND
74-11-26	1	ND	ND	70
75-02-12	ND	10	ND	ND
75-05-01	--	--	--	--
75-08-18	2	10	40	20
75-12-09	ND	ND	10	20
75-12-09	--	--	--	--
76-03-31	1	10	10	ND
75-05-06	9	30	10	40
75-06-19	ND	10	20	120
75-08-20	ND	ND	10	20
75-12-05	3	ND	10	50
75-12-05	--	--	--	--
76-04-01	12	10	30	70
75-05-06	ND	20	10	20
75-06-19	1	ND	10	ND
75-08-20	1	10	170	10
75-12-05	6	ND	ND	ND
75-12-05	--	--	--	--

water from wells--Continued

DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	CODE FOR AGENCY ANA- LYZING SAMPLE	TOTAL DEPTH OF WELL (FT)
--	10	650	9999	107
--	--	--	9999	29
--	10	40	9999	29
--	ND	10	9999	29
--	--	--	9999	29
--	30	50	9999	29
--	50	680	9999	29
--	--	--	--	29
--	ND	80	9999	29
--	--	--	9999	34
--	30	60	9999	22
--	20	10	9999	22
--	--	--	9999	22
--	--	--	9999	22
--	20	20	9999	22
--	ND	120	9999	22
--	--	--	--	22
--	--	210	--	22
--	10	200	9999	22
--	--	--	--	22
--	--	--	9999	2101
--	ND	140	9999	2101
--	30	40	9999	27
--	ND	ND	9999	27
--	--	--	9999	27
--	30	20	9999	27
--	ND	60	9999	27
--	--	--	--	27
--	ND	130	9999	27
--	40	ND	9999	130
--	10	10	9999	130
--	10	10	9999	130
--	ND	50	9999	130
--	--	--	--	130
--	10	70	9999	130
--	10	ND	9999	175
--	40	30	9999	175
--	ND	160	9999	175
--	ND	30	9999	175
--	--	--	--	175

Table 5.--*Chemical analyses of*

LOCAL IDENT-I-FIER	DATE OF SAMPLE	TOTAL DEPTH OF WELL (FT)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)
SC00506506BDD2	76-04-01	175	--	80
	76-04-01	175	--	10
SC00506506BDD3	74-11-26	37	--	1450
	75-02-12	37	--	250
	75-03-20	37	--	--
	75-05-06	37	--	1490
	75-08-14	37	--	720
	75-12-05	37	--	1310
	75-12-05	37	--	--
	76-03-30	37	--	910
	76-04-16	37	--	--
SC00506506CAC1	75-06-19	53	--	ND
	75-08-20	53	--	10
	75-12-05	53	--	30
	75-12-05	53	8.0	ND
SC00506506CAC2	75-06-19	153	--	ND
	75-08-20	153	--	20
	75-12-05	153	--	40
	75-12-05	153	--	--
SC00506506CDA	74-11-26	63	--	720
	75-02-12	63	--	3300
	75-03-20	63	--	--
	75-05-07	63	--	1400
	75-08-14	63	--	1300
	75-12-04	63	--	2200
	75-12-04	63	--	--
	76-03-30	63	--	6900
SC00506506CDC	74-11-26	150	--	20
	75-02-11	150	--	710
	75-03-20	150	--	--
	75-05-06	150	--	3200
	75-08-14	150	--	320
	75-12-05	150	--	980
	75-12-05	150	17	950
	76-04-01	150	--	1030
	76-04-16	150	--	--
SC00506506CDD	74-11-27	53	--	30
	75-02-11	53	--	50
	75-03-20	53	--	--
	75-05-07	53	--	30

water from wells--Continued

DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
250	--	1.3	--	--	--
20	26	--	70	6.0	113
200	450	--	155	22	366
2260	212	--	185	6.5	387
--	--	--	--	--	--
--	227	--	190	--	--
2880	107	--	230	19	357
3800	176	--	200	14	360
--	--	17	--	--	--
3900	122	20	195	13	363
--	--	--	--	--	--
10	314	--	97	8.0	ND
10	442	--	94	16	ND
ND	222	--	142	20	ND
ND	240	.1	140	9.8	ND
ND	478	--	180	120	ND
30	683	--	94	8.0	ND
ND	510	--	168	42	ND
--	--	ND	--	--	--
2350	360	--	280	19	1170
8500	324	--	260	9.5	397
--	--	--	--	--	--
--	404	--	210	--	--
5200	265	--	200	19	362
4800	362	--	260	23	377
--	--	63	--	--	--
12500	902	34	1220	34	393
340	188	--	150	15	316
310	246	--	200	7.4	302
--	--	--	--	--	--
--	222	--	130	--	--
220	125	--	130	20	288
390	140	--	163	16	288
490	280	28	160	9.2	371
480	221	25	192	15	267
--	--	--	--	--	--
850	270	--	120	18	209
1280	343	--	135	11	260
--	--	--	--	--	--
--	408	--	130	--	--

DATE OF SAMPLE	CAR-BONATE (CO3) (MG/L)	HY-DROX-IDE (OH) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
76-04-01	--	--	--	--	--
76-04-01	ND	ND	93	24	54
74-11-26	ND	--	300	--	31
75-02-12	--	--	317	--	28
75-03-20	--	--	--	--	--
75-05-06	--	--	--	--	29
75-08-14	ND	ND	293	720	42
75-12-05	ND	ND	295	680	34
75-12-05	--	--	--	--	--
76-03-30	ND	ND	298	562	57
76-04-16	--	--	--	--	--
75-06-19	60	990	--	390	21
75-08-20	40	1060	--	275	27
75-12-05	80	420	--	530	26
75-12-05	ND	130	382	470	22
75-06-19	4860	3930	--	ND	13
75-08-20	180	2010	--	23	22
75-12-05	2360	640	--	20	30
75-12-05	--	--	--	--	--
74-11-26	ND	--	960	--	69
75-02-12	--	--	326	--	596
75-03-20	--	--	--	--	--
75-05-07	--	--	--	--	600
75-08-14	ND	ND	297	415	641
75-12-04	ND	ND	309	460	653
75-12-04	--	--	--	--	--
76-03-30	ND	ND	322	341	3050
74-11-26	ND	--	259	--	41
75-02-11	--	--	248	--	70
75-03-20	--	--	--	--	--
75-05-06	--	--	--	--	38
75-08-14	ND	ND	236	820	80
75-12-05	ND	ND	236	480	64
75-12-05	ND	--	304	730	61
76-04-01	ND	ND	219	666	46
76-04-16	--	--	--	--	--
74-11-27	ND	--	171	--	48
75-02-11	--	--	213	--	29
75-03-20	--	--	--	--	--
75-05-07	--	--	--	--	46

water from wells--Continued

DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL NITRATE (NO3) (MG/L)	DIS_SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE (NO2) (MG/L)	DIS_SOLVED NITRITE (NO2) (MG/L)
--	--	--	--	--	--	--
--	.01	--	.04	--	--	ND
--	.00	--	.01	.00	--	.00
--	.01	--	.04	--	--	ND
--	--	--	--	--	--	--
--	.02	--	.10	--	--	ND
--	.02	--	.11	--	--	ND
--	.00	--	.02	--	--	ND
--	--	--	--	--	--	--
--	.01	--	.05	.00	--	.01
--	--	--	--	--	--	--
--	--	--	ND	--	--	ND
--	.00	--	.02	.00	--	.02
--	.01	--	.05	--	--	ND
.3	.03	--	.10	.01	--	.03
--	.01	--	.03	.00	--	.02
--	.01	--	.04	.00	--	.01
--	.00	--	.02	--	--	ND
--	--	--	--	--	--	--
--	.00	--	.02	.00	--	.02
--	.26	--	1.1	.01	--	.06
--	--	--	--	--	--	--
--	.16	--	.72	.03	--	.10
--	.09	--	.40	--	--	ND
--	.12	--	.52	--	--	ND
--	--	--	--	--	--	--
--	.06	--	.26	--	--	ND
--	.01	--	.03	.00	--	.01
--	.02	--	.08	.00	--	.02
--	--	--	--	--	--	--
--	.00	--	.01	--	--	ND
--	.10	--	.46	--	--	ND
--	.11	--	.47	--	--	ND
.2	.50	--	2.2	ND	--	--
--	.05	--	.20	--	--	ND
--	--	--	--	--	--	--
--	5.4	--	23	.14	--	.46
--	3.0	--	13	.02	--	.07
--	--	--	--	--	--	--
--	3.9	--	17	.00	--	.02

Table 5.--*Chemical analyses of*

DATE OF SAMPLE	DIS-SOLVED AMMONIA NITRO-GEN (N) (MG/L)	TOTAL AMMONIA (NH4) (MG/L)	DIS_SOLVED AMMONIA (NH4) (MG/L)	DIS-SOLVED ORGANIC NITRO-GEN (N) (MG/L)	DIS-SOLVED KJEL. NITRO-GEN (N) (MG/L)
76-04-01	--	--	--	--	--
76-04-01	ND	--	--	--	ND
74-11-26	ND	--	--	--	1.6
75-02-12	ND	--	--	--	.90
75-03-20	--	--	--	--	--
75-05-06	.10	--	.13	.50	.60
75-08-14	.20	--	.26	1.2	1.4
75-12-05	.10	--	.13	.40	.50
75-12-05	--	--	--	--	--
76-03-30	.10	--	.13	.40	.50
76-04-16	--	--	--	--	--
75-06-19	.10	--	.13	.10	.20
75-08-20	ND	--	--	--	.90
75-12-05	.60	--	.77	.20	.80
75-12-05	.18	--	.23	.72	.90
75-06-19	1.8	--	2.3	1.1	2.9
75-08-20	1.4	--	1.8	2.3	3.7
75-12-05	2.3	--	3.0	.40	2.7
75-12-05	--	--	--	--	--
74-11-26	ND	--	--	--	12
75-02-12	.10	--	.13	.60	.70
75-03-20	--	--	--	--	--
75-05-07	.10	--	.13	.50	.60
75-08-14	.20	--	.26	--	ND
75-12-04	ND	--	--	--	.60
75-12-04	--	--	--	--	--
76-03-30	ND	--	--	--	.70
74-11-26	ND	--	--	--	.20
75-02-11	.10	--	.13	.30	.40
75-03-20	--	--	--	--	--
75-05-06	.20	--	.26	--	.10
75-08-14	.10	--	.13	--	ND
75-12-05	.10	--	.13	.30	.40
75-12-05	.14	--	.18	.25	.39
76-04-01	ND	--	--	--	.30
76-04-16	--	--	--	--	--
74-11-27	ND	--	--	--	.60
75-02-11	ND	--	--	--	.70
75-03-20	--	--	--	--	--
75-05-07	.10	--	.13	.40	.50

water from wells--Continued

DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180°C) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 105°C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)
--	--	--	--	--	--	--
ND	--	--	309	--	51	0
1.0	3.1	--	2230	--	1220	920
1.7	5.5	--	1520	--	644	330
--	--	--	--	--	--	--
--	--	--	1450	--	--	--
ND	--	--	1520	--	693	400
.01	.03	--	1180	--	612	320
--	--	--	--	--	--	--
ND	--	--	1400	--	594	300
--	--	--	--	--	--	--
.02	.06	--	1650	--	1190	--
ND	--	--	1550	--	1190	--
ND	--	--	1280	--	560	--
ND	ND	--	--	1020	600	600
.03	.09	--	2130	--	1670	--
ND	--	--	1990	--	1600	--
ND	--	--	1830	--	1410	--
--	--	--	--	--	--	--
7.5	23	--	2380	--	1210	250
.80	2.5	--	2370	--	1060	730
--	--	--	--	--	--	--
--	--	--	2190	--	--	--
ND	--	--	2210	--	1090	790
.01	.03	--	2400	--	1270	960
--	--	--	--	--	--	--
ND	--	--	7110	--	3870	3500
.06	.18	--	1510	--	755	500
ND	--	--	1620	--	894	650
--	--	--	--	--	--	--
--	--	--	1540	--	--	--
ND	--	--	1680	--	849	610
.01	.03	--	1610	--	830	590
.01	.03	--	--	1470	810	510
ND	--	--	1450	--	691	470
--	--	--	--	--	--	--
.40	1.2	--	1960	--	1150	980
ND	--	--	2310	--	1270	1100
--	--	--	--	--	--	--
--	--	--	2070	--	--	--

Table 5.--*Chemical analyses of*

DATE OF SAMPLE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	CARBON DIOXIDE (CO2) (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)
76-04-01	460	8.0	15.0	--	--	--
76-04-01	460	8.0	15.0	1.8	--	--
74-11-26	2900	6.9	10.5	74	--	--
75-02-12	2175	6.8	11.0	98	0	3
75-03-20	--	--	--	--	--	--
75-05-06	2100	6.9	11.5	--	--	--
75-08-14	2500	7.2	13.5	36	--	--
75-12-05	2100	7.6	8.5	14	--	--
75-12-05	2100	7.6	8.5	--	--	--
76-03-30	1650	7.3	11.0	29	--	--
76-04-16	--	--	--	--	--	1
75-06-19	7500	11.2	13.5	--	--	--
75-08-20	8000	11.5	14.0	--	--	--
75-12-05	3900	11.9	10.0	--	--	--
75-12-05	3900	11.9	10.0	--	--	--
75-06-19	>8000	12.3	14.0	--	--	--
75-08-20	>8000	11.6	14.0	--	--	--
75-12-05	>8000	11.9	12.0	--	--	--
75-12-05	>8000	11.9	12.0	--	--	--
74-11-26	4000	6.5	15.0	528	--	--
75-02-12	3500	6.6	18.5	160	0	1
75-03-20	--	--	--	--	--	--
75-05-07	3900	7.0	19.0	--	--	--
75-08-14	4500	6.9	21.5	73	--	--
75-12-04	4000	7.1	19.0	48	--	--
75-12-04	4000	7.1	19.0	--	--	--
76-03-30	>8000	6.8	16.0	100	--	--
74-11-26	2000	6.9	9.5	57	--	--
75-02-11	2100	6.9	10.0	61	1	13
75-03-20	--	--	--	--	--	--
75-05-06	2200	6.9	11.5	--	--	--
75-08-14	2500	7.3	14.5	23	--	--
75-12-05	2600	7.1	12.5	37	--	--
75-12-05	2600	7.1	12.5	47	--	--
76-04-01	1800	7.1	14.0	34	--	--
76-04-16	--	--	--	--	--	0
74-11-27	2400	6.6	11.0	84	--	--
75-02-11	2800	6.7	10.0	83	1	124
75-03-20	--	--	--	--	--	--
75-05-07	2800	6.7	10.5	--	--	--

water from wells--Continued

CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)
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--	--	--	--	--	--
ND	--	--	--	--	--
--	220	--	--	--	--
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--	--	ND	ND	ND	ND
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--	--	ND	ND	ND	ND
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ND	--	--	--	--	--
--	ND	--	--	--	--
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ND	--	--	--	--	--
--	ND	--	--	--	--
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Table 5.--*Chemical analyses of*

DATE OF SAMPLE	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)
76-04-01	--	--	--	--	--	--
76-04-01	--	--	--	--	--	--
74-11-26	--	--	--	--	--	--
75-02-12	--	--	--	--	--	--
75-03-20	--	--	--	--	--	--
75-05-06	--	--	--	--	--	--
75-08-14	ND	ND	ND	ND	ND	ND
75-12-05	--	--	--	--	--	--
75-12-05	--	--	--	--	--	--
76-03-30	--	--	--	--	--	--
76-04-16	--	--	--	--	--	--
75-06-19	--	--	--	--	--	--
75-08-20	ND	ND	ND	ND	ND	ND
75-12-05	--	--	--	--	--	--
75-12-05	--	--	--	--	--	--
75-06-19	--	--	--	--	--	--
75-08-20	--	--	--	--	--	--
75-12-05	--	--	--	--	--	--
75-12-05	--	--	--	--	--	--
74-11-26	--	--	--	--	--	--
75-02-12	--	--	--	--	--	--
75-03-20	--	--	--	--	--	--
75-05-07	--	--	--	--	--	--
75-08-14	--	--	--	--	--	--
75-12-04	--	--	--	--	--	--
75-12-04	--	--	--	--	--	--
76-03-30	--	--	--	--	--	--
74-11-26	--	--	--	--	--	--
75-02-11	--	--	--	--	--	--
75-03-20	--	--	--	--	--	--
75-05-06	--	--	--	--	--	--
75-08-14	--	--	--	--	--	--
75-12-05	--	--	--	--	--	--
75-12-05	--	--	--	--	--	--
76-04-01	--	--	--	--	--	--
76-04-16	--	--	--	--	--	--
74-11-27	--	--	--	--	--	--
75-02-11	--	--	--	--	--	--
75-03-20	--	--	--	--	--	--
75-05-07	--	--	--	--	--	--

water from wells--Continued

TOTAL LINDANE (UG/L)	TOTAL MALA-THION (UG/L)	TOTAL METHYL PARA-THION (UG/L)	TOTAL PARA-THION (UG/L)	TOTAL PCB (UG/L)	TOTAL TOX-APHENE (UG/L)
--	--	--	--	--	--
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--	--	--	--	--	--
--	--	--	--	--	--
--	--	--	--	--	--
ND	ND	ND	ND	ND	ND
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--	--	--	--	--	--
--	--	--	--	--	--
--	--	--	--	--	--
--	--	--	--	--	--
ND	ND	ND	ND	ND	ND
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Table 5.--*Chemical analyses of*

DATE OF SAMPLE	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)
76-04-01	--	--	--	--
76-04-01	ND	ND	10	60
74-11-26	1	50	ND	10
75-02-12	ND	10	10	40
75-03-20	--	--	--	--
75-05-06	--	--	--	--
75-08-14	ND	20	10	20
75-12-05	5	ND	10	ND
75-12-05	--	--	--	--
76-03-30	ND	ND	20	80
76-04-16	--	--	--	--
75-06-19	ND	30	30	ND
75-08-20	1	30	60	30
75-12-05	2	ND	10	ND
75-12-05	--	--	--	--
75-06-19	ND	10	120	20
75-08-20	ND	50	30	60
75-12-05	5	30	70	170
75-12-05	--	--	--	--
74-11-26	2	20	ND	40
75-02-12	1	ND	ND	60
75-03-20	--	--	--	--
75-05-07	--	--	--	--
75-08-14	2	20	20	ND
75-12-04	6	ND	30	10
75-12-04	--	--	--	--
76-03-30	15	30	60	340
74-11-26	1	50	ND	50
75-02-11	2	20	ND	30
75-03-20	--	--	--	--
75-05-06	--	--	--	--
75-08-14	1	30	20	ND
75-12-05	ND	ND	ND	ND
75-12-05	--	--	--	--
76-04-01	ND	10	10	30
76-04-16	--	--	--	--
74-11-27	ND	30	ND	ND
75-02-11	1	20	10	40
75-03-20	--	--	--	--
75-05-07	--	--	--	--

water from wells--Continued

DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	CODE FOR AGENCY ANA-LYZING SAMPLE	TOTAL DEPTH OF WELL (FT)
--	--	20	--	175
--	ND	20	9999	175
ND	40	80	9999	37
--	20	60	9999	37
--	--	--	9999	37
--	--	--	9999	37
--	10	20	9999	37
--	ND	90	9999	37
--	--	--	--	37
--	ND	80	9999	37
--	--	--	--	37
--	30	60	9999	53
--	50	40	9999	53
--	ND	10	9999	53
--	--	--	--	53
--	20	40	9999	153
--	70	130	9999	153
--	20	60	9999	153
--	--	--	--	153
ND	10	30	9999	63
--	40	80	9999	63
--	--	--	9999	63
--	--	--	9999	63
--	30	60	9999	63
--	50	120	9999	63
--	--	--	--	63
--	80	150	9999	63
ND	ND	4000	9999	150
--	20	7630	9999	150
--	--	--	9999	150
--	--	--	9999	150
--	20	3500	9999	150
--	ND	760	9999	150
--	--	--	--	150
--	ND	440	9999	150
--	--	--	--	150
--	10	120	9999	53
--	30	120	9999	53
--	--	--	9999	53
--	--	--	9999	53

Table 5.--*Chemical analyses of*

LOCAL IDENT- I- FIER	DATE OF SAMPLE	TOTAL DEPTH OF WELL (FT)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)
SC00506506CDD	75-08-14	53	--	30
	75-12-08	53	--	20
	75-12-08	53	--	--
	76-03-30	53	--	40
	76-04-16	53	--	--
SC00506506DBC1	75-08-20	80	--	10
	75-12-05	80	--	50
	75-12-05	80	--	--
SC00506506DBC2	75-06-19	177	--	ND
	75-08-20	177	--	30
	75-12-05	177	--	30
	75-12-05	177	--	--
	76-04-02	177	--	300
	76-04-02	177	--	50
SC00506506DBC3	75-06-19	244	--	ND
	75-08-20	244	--	10
	75-12-05	244	--	30
	75-12-05	244	16	20
	76-04-02	244	--	160
SC00506508BCB	74-10-11	356	--	--
	75-02-13	356	--	60
SC00506509ACD	75-08-15	19	--	50
SC00506509BAA	74-11-25	23	--	90
	75-02-11	23	--	240
	75-05-05	23	--	550
	75-08-15	23	--	960
	75-12-04	23	--	1040
	75-12-04	23	--	--
	76-04-16	23	--	--
SC00506509DDA	74-11-25	10	--	30
	75-02-11	10	--	470
	75-05-05	10	--	1200
	75-08-15	10	--	1340
	75-12-07	10	--	1360
	75-12-07	10	--	--
	76-03-31	10	--	740
	76-03-31	10	--	700

water from wells--Continued

DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
930	148	--	110	17	229
950	277	--	104	13	230
--	--	38	--	--	--
840	228	47	115	14	245
--	--	--	--	--	--
20	241	--	310	19	214
40	209	--	282	21	135
--	--	8.4	--	--	--
ND	265	--	160	33	ND
20	11	--	118	32	24
ND	234	--	280	29	132
--	--	.1	--	--	--
10	--	.3	--	--	--
10	183	--	265	18	ND
ND	362	--	191	25	ND
30	330	--	212	25	71
ND	249	--	250	19	40
10	260	7.0	290	11	47
10	157	14	265	18	526
--	--	--	--	--	--
40	51	--	67	3.3	162
80	200	--	25	15	359
360	200	--	127	15	261
1070	217	--	122	6.7	286
--	203	--	74	--	--
700	115	--	85	20	283
800	205	--	106	14	281
--	--	26	--	--	--
--	--	--	--	--	--
1100	110	--	102	15	364
2000	141	--	46	8.2	289
--	142	--	34	--	--
2880	118	--	55	15	344
2300	14	--	47	12	309
--	--	16	--	--	--
1100	--	15	--	--	--
1010	115	--	41	9.0	377

Table 5.--*Chemical analyses of*

DATE OF SAMPLE	CAR-BONATE (CO3) (MG/L)	HY-DROX-IDE (OH) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
75-08-14	ND	ND	188	890	37
75-12-08	ND	ND	189	920	36
75-12-08	--	--	--	--	--
76-03-30	ND	ND	201	1000	44
76-04-16	--	--	--	--	--
75-08-20	386	ND	818	1040	112
75-12-05	250	ND	527	1040	116
75-12-05	--	--	--	--	--
75-06-19	300	1320	--	40	76
75-08-20	ND	ND	20	240	80
75-12-05	ND	ND	108	1100	96
75-12-05	--	--	--	--	--
76-04-02	--	--	--	--	--
76-04-02	18	60	--	1120	104
75-06-19	48	163	--	1050	104
75-08-20	ND	ND	58	1100	99
75-12-05	ND	ND	33	1280	90
75-12-05	ND	--	39	1100	95
76-04-02	ND	ND	431	1020	100
74-10-11	--	--	--	--	13
75-02-13	--	--	133	--	22
75-08-15	ND	ND	294	--	147
74-11-25	ND	--	214	--	58
75-02-11	--	--	235	--	54
75-05-05	--	--	--	--	52
75-08-15	ND	ND	232	490	53
75-12-04	ND	ND	230	550	50
75-12-04	--	--	--	--	--
76-04-16	--	--	--	--	--
74-11-25	ND	--	299	--	15
75-02-11	ND	--	237	--	18
75-05-05	--	--	--	--	16
75-08-15	ND	ND	282	155	19
75-12-07	ND	ND	253	290	21
75-12-07	--	--	--	--	--
76-03-31	--	--	--	--	--
76-03-31	ND	ND	309	264	26

water from wells--Continued

DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL NITRATE (NO3) (MG/L)	DIS_SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	TOTAL' NITRITE (NO2) (MG/L)	DIS_SOLVED NITRITE (NO2) (MG/L)
--	5.0	--	22	--	--	ND
--	.09	--	.42	.01	--	.04
--	--	--	--	--	--	--
--	3.7	--	16	.02	--	.08
--	--	--	--	--	--	--
--	.01	--	.06	.00	--	.02
--	.00	--	.01	--	--	ND
--	--	--	--	--	--	--
--	.00	--	.01	.00	--	.01
--	.01	--	.05	.00	--	.02
--	.00	--	.01	--	--	ND
--	--	--	--	--	--	--
--	--	--	--	--	--	--
--	.01	--	.03	--	--	ND
--	.01	--	.05	.01	--	.04
--	.01	--	.03	.00	--	.01
--	--	--	ND	--	--	ND
.5	ND	--	--	.01	--	.03
--	.05	--	.24	.00	--	.02
--	--	--	--	--	--	--
--	.00	--	.01	--	--	ND
--	5.5	--	24	.09	--	.30
--	.00	--	.01	--	--	ND
--	--	--	ND	.00	--	.02
--	.00	--	.01	--	--	ND
--	.02	--	.10	--	--	ND
--	.00	--	.01	--	--	ND
--	--	--	--	--	--	--
--	--	--	--	--	--	--
--	--	--	ND	--	--	ND
--	.23	--	1.0	.00	--	.02
--	.00	--	.02	--	--	ND
--	.05	--	.20	--	--	ND
--	.00	--	.02	.00	--	.01
--	--	--	--	--	--	--
--	--	--	--	--	--	--
--	.02	--	.11	--	--	ND

Table 5.--*Chemical analyses of*

DATE OF SAMPLE	DIS-SOLVED AMMONIA NITRO-GEN (N) (MG/L)	TOTAL AMMONIA (NH4) (MG/L)	DIS_ SOLVED AMMONIA (NH4) (MG/L)	DIS-SOLVED ORGANIC NITRO-GEN (N) (MG/L)	DIS-SOLVED KJEL. NITRO-GEN (N) (MG/L)
75-08-14	.10	--	.13	.20	.30
75-12-08	ND	--	--	--	.10
75-12-08	--	--	--	--	--
76-03-30	ND	--	--	--	.10
76-04-16	--	--	--	--	--
75-08-20	.20	--	.26	1.2	1.4
75-12-05	.20	--	.26	.40	.60
75-12-05	--	--	--	--	--
75-06-19	.60	--	.77	.30	.90
75-08-20	ND	--	--	--	.30
75-12-05	.10	--	.13	.60	.70
75-12-05	--	--	--	--	--
76-04-02	--	--	--	--	--
76-04-02	.20	--	.26	.40	.60
75-06-19	.20	--	.26	.10	.30
75-08-20	.20	--	.26	1.7	1.9
75-12-05	.20	--	.26	.30	.50
75-12-05	.24	--	.31	.43	.67
76-04-02	ND	--	--	--	.10
74-10-11	--	--	--	--	--
75-02-13	ND	--	--	--	.20
75-08-15	.40	--	.52	--	--
74-11-25	ND	--	--	--	.40
75-02-11	.30	--	.39	.30	.60
75-05-05	ND	--	--	--	ND
75-08-15	.10	--	.13	.10	.20
75-12-04	ND	--	--	--	.40
75-12-04	--	--	--	--	--
76-04-16	--	--	--	--	--
74-11-25	ND	--	--	--	3.6
75-02-11	ND	--	--	--	1.6
75-05-05	ND	--	--	--	ND
75-08-15	.10	--	.13	.30	.40
75-12-07	ND	--	--	--	.20
75-12-07	--	--	--	--	--
76-03-31	--	--	--	--	--
76-03-31	ND	--	--	--	.50

water from wells--Continued

DISSOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DISSOLVED ORTHO PHOSPHATE (PO4) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180°C) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 105°C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)
.01	.03	--	1780	--	1010	820
.01	.03	--	1770	--	994	810
--	--	--	--	--	--	--
ND	--	--	2020	--	1510	1300
--	--	--	--	--	--	--
.01	.03	--	1840	--	645	0
ND	--	--	1620	--	646	120
--	--	--	--	--	--	--
.02	.06	--	152	--	983	--
.04	.12	--	590	--	66	46
ND	--	--	1830	--	697	590
--	--	--	--	--	--	--
--	--	--	--	--	--	--
ND	--	--	2000	--	784	--
ND	--	--	2050	--	851	--
.03	.09	--	1960	--	765	710
ND	--	--	1890	--	700	670
.01	.03	--	--	1800	680	640
ND	--	--	1890	--	692	260
--	--	--	291	--	--	--
ND	--	--	376	--	138	5
.84	2.6	--	1240	--	738	440
.36	1.1	--	1360	--	797	580
8.0	25	--	1260	--	711	480
--	--	--	1228	--	--	--
ND	--	--	1240	--	700	470
.01	.03	--	1160	--	544	310
--	--	--	--	--	--	--
--	--	--	--	--	--	--
4.8	15	--	656	--	449	150
2.2	6.7	--	626	--	421	180
--	--	--	547	--	--	--
ND	--	--	704	--	437	160
.01	.03	--	701	--	476	220
--	--	--	--	--	--	--
--	--	--	--	--	--	--
ND	--	--	685	--	452	140

Table 5.--*Chemical analyses of*

DATE OF SAMPLE	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	CARBON DIOXIDE (CO2) (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)
75-08-14	2500	7.1	12.0	29	--	--
75-12-08	2400	6.8	9.5	58	--	--
75-12-08	2400	6.8	9.5	--	--	--
76-03-30	2175	6.9	10.0	49	--	--
76-04-16	--	--	--	--	--	0
75-08-20	3100	10.5	15.5	.1	--	--
75-12-05	2800	9.3	13.0	.5	--	--
75-12-05	2800	9.3	13.0	--	--	--
75-06-19	>8000	11.2	14.0	--	--	--
75-08-20	1050	9.6	13.5	.0	--	--
75-12-05	3000	11.4	9.5	.0	--	--
75-12-05	3000	11.4	9.5	--	--	--
76-04-02	2600	11.1	14.5	--	--	--
76-04-02	2600	11.1	14.5	--	--	--
75-06-19	3750	11.2	15.0	--	--	--
75-08-20	2900	7.8	14.5	1.8	--	--
75-12-05	2700	7.9	11.0	.8	--	--
75-12-05	2700	7.9	11.0	.9	--	--
76-04-02	2400	8.7	15.5	1.7	--	--
74-10-11	--	--	--	--	--	--
75-02-13	550	7.5	15.5	8.2	0	104
75-08-15	1750	7.4	13.5	23	--	--
74-11-25	1900	7.2	12.0	26	--	--
75-02-11	1700	6.9	10.0	58	1	3
75-05-05	1800	7.5	11.0	--	--	--
75-08-15	1850	7.6	11.5	11	--	--
75-12-04	1700	7.6	11.5	11	--	--
75-12-04	1700	7.6	11.5	--	--	--
76-04-16	--	--	--	--	--	0
74-11-25	1025	7.3	11.5	29	--	--
75-02-11	975	6.8	6.0	73	1	1
75-05-05	950	7.3	10.5	--	--	--
75-08-15	1100	7.6	16.5	14	--	--
75-12-07	1100	6.9	11.0	62	--	--
75-12-07	1100	6.9	11.0	--	--	--
76-03-31	1000	7.3	8.0	--	--	--
76-03-31	1000	7.3	8.0	30	--	--

CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)
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DATE OF SAMPLE	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)
75-08-14	ND	ND	ND	ND	ND	ND
75-12-08	--	--	--	--	--	--
75-12-08	--	--	--	--	--	--
76-03-30	--	--	--	--	--	--
76-04-16	--	--	--	--	--	--
75-08-20	--	--	--	--	--	--
75-12-05	--	--	--	--	--	--
75-12-05	--	--	--	--	--	--
75-06-19	--	--	--	--	--	--
75-08-20	--	--	--	--	--	--
75-12-05	--	--	--	--	--	--
75-12-05	--	--	--	--	--	--
76-04-02	--	--	--	--	--	--
76-04-02	--	--	--	--	--	--
75-06-19	--	--	--	--	--	--
75-08-20	--	--	--	--	--	--
75-12-05	--	--	--	--	--	--
75-12-05	--	--	--	--	--	--
76-04-02	--	--	--	--	--	--
74-10-11	--	--	--	--	--	--
75-02-13	--	--	--	--	--	--
75-08-15	--	--	--	--	--	--
74-11-25	--	--	--	--	--	--
75-02-11	--	--	--	--	--	--
75-05-05	--	--	--	--	--	--
75-08-15	--	--	--	--	--	--
75-12-04	--	--	--	--	--	--
75-12-04	--	--	--	--	--	--
76-04-16	--	--	--	--	--	--
74-11-25	--	--	--	--	--	--
75-02-11	--	--	--	--	--	--
75-05-05	--	--	--	--	--	--
75-08-15	--	--	--	--	--	--
75-12-07	--	--	--	--	--	--
75-12-07	--	--	--	--	--	--
76-03-31	--	--	--	--	--	--
76-03-31	--	--	--	--	--	--

water from wells--Continued

TOTAL LINDANE (UG/L)	TOTAL MALA-THION (UG/L)	TOTAL METHYL PARA-THION (UG/L)	TOTAL PARA-THION (UG/L)	TOTAL PCB (UG/L)	TOTAL TOX-APHENE (UG/L)
ND	ND	ND	ND	ND	ND
--	--	--	--	--	--
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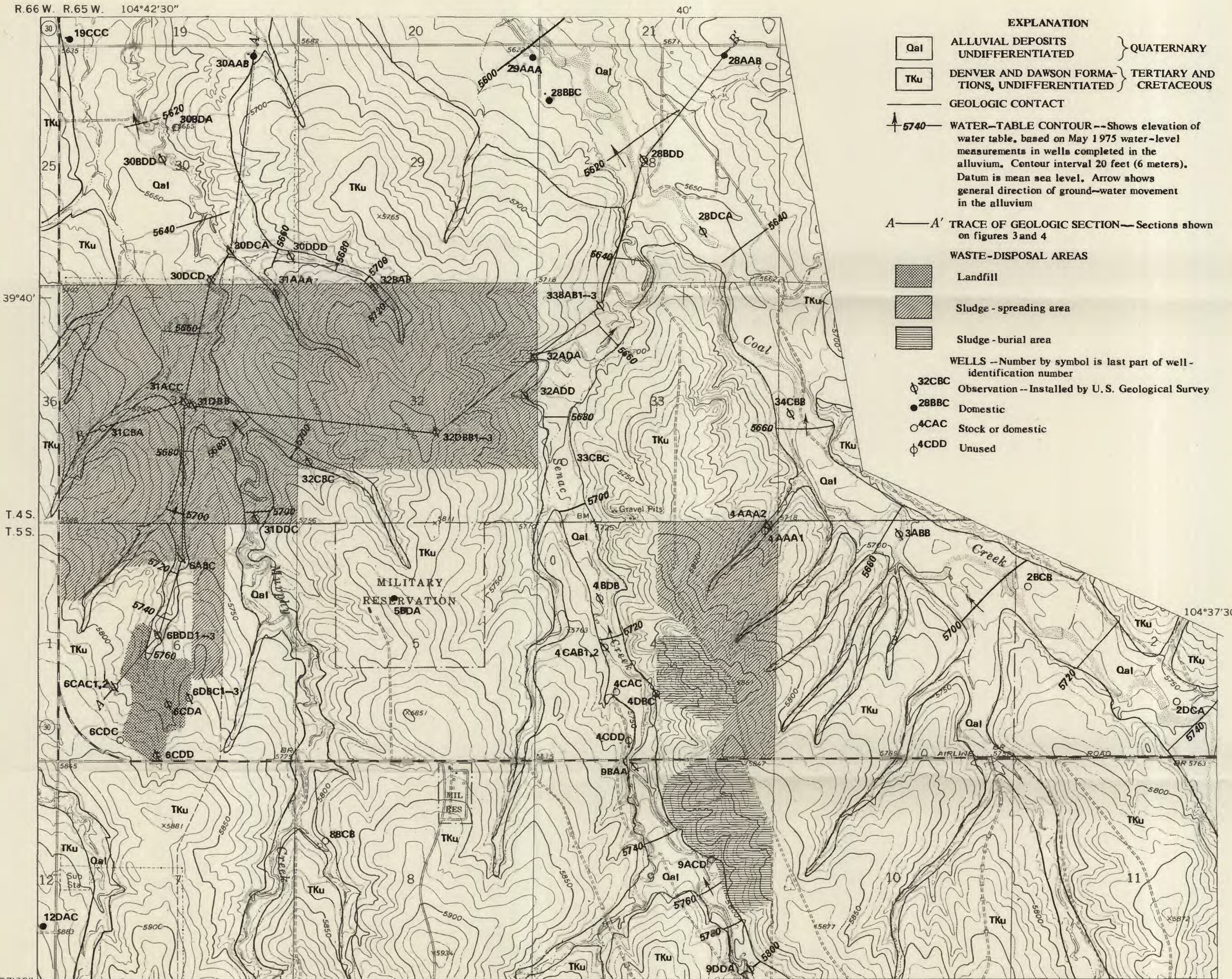
Table 5.--*Chemical analyses of*

DATE OF SAMPLE	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)
75-08-14	ND	40	20	ND
75-12-08	7	10	ND	80
75-12-08	--	--	--	--
76-03-30	9	20	30	100
76-04-16	--	--	--	--
75-08-20	ND	20	20	10
75-12-05	2	10	20	ND
75-12-05	--	--	--	--
75-06-19	ND	70	30	10
75-08-20	ND	120	320	10
75-12-05	5	10	20	ND
75-12-05	--	--	--	--
76-04-02	--	--	--	--
76-04-02	ND	20	20	120
75-06-19	ND	10	10	ND
75-08-20	4	10	120	60
75-12-05	7	ND	10	ND
75-12-05	--	--	--	--
76-04-02	ND	ND	20	60
74-10-11	--	--	--	--
75-02-13	1	ND	ND	20
75-08-15	ND	10	70	10
74-11-25	2	50	ND	ND
75-02-11	ND	30	ND	40
75-05-05	--	--	--	--
75-08-15	ND	40	80	30
75-12-04	5	10	10	ND
75-12-04	--	--	--	--
76-04-16	--	--	--	--
74-11-25	ND	30	ND	ND
75-02-11	ND	10	ND	20
75-05-05	--	--	--	--
75-08-15	ND	40	330	30
75-12-07	1	ND	ND	40
75-12-07	--	--	--	--
76-03-31	--	--	--	--
76-03-31	ND	20	10	20

DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	CODE FOR AGENCY ANA-LYZING SAMPLE	TOTAL DEPTH OF WELL (FT)
--	10	600	9999	53
--	30	600	9999	53
--	--	--	--	53
--	10	540	9999	53
--	--	--	--	53
--	40	20	9999	80
--	10	10	9999	80
--	--	--	9999	80
--	20	40	9999	177
--	40	40	9999	177
--	ND	20	9999	177
--	--	--	--	177
--	--	20	--	177
--	10	10	9999	177
--	40	ND	9999	244
--	80	30	9999	244
--	10	280	9999	244
--	--	--	--	244
--	ND	20	9999	244
--	--	--	9999	356
--	ND	70	9999	356
--	10	280	9999	19
--	10	100	9999	23
--	10	20	9999	23
--	--	--	9999	23
--	20	10	9999	23
--	20	90	9999	23
--	--	--	--	23
--	--	--	--	23
--	ND	50	9999	10
--	10	10	9999	10
--	--	--	9999	10
--	ND	70	9999	10
--	ND	40	9999	10
--	--	--	--	10
--	--	130	--	10
--	ND	50	9999	10

Prepared in cooperation with the
METROPOLITAN DENVER SEWAGE DISPOSAL DISTRICT
AND THE COLORADO GEOLOGICAL SURVEY



Base from U.S. Geological Survey Coal Creek, 1966. Photorevision 1971

Geology modified after L. McGraw, written communication, 1974

SCALE 1:24 000

1 ½ 0 1 MILE

1 .5 0 1 KILOMETER

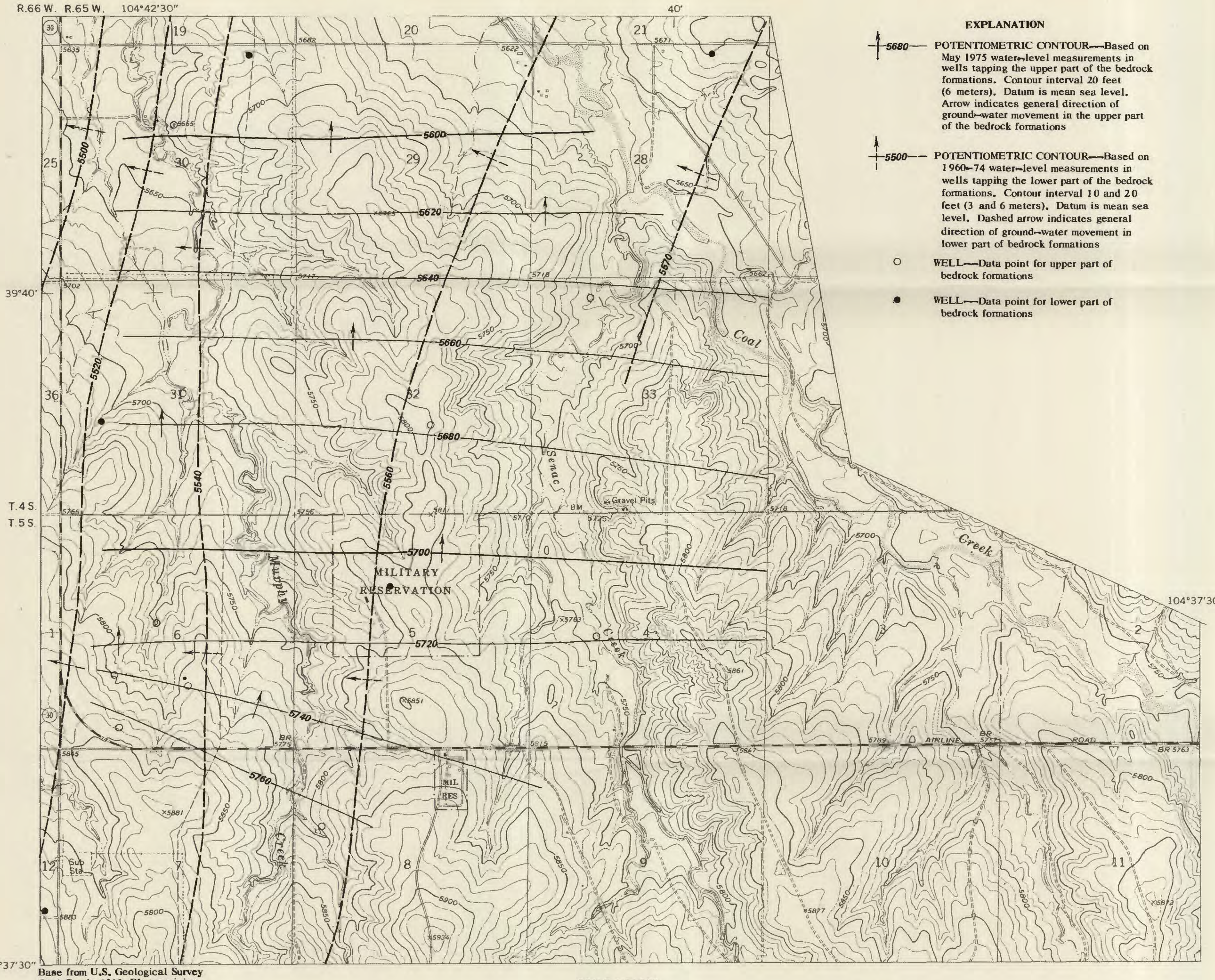
CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL

MAP SHOWING GEOLOGY, LOCATION OF WELLS AND GEOLOGIC SECTIONS, AND WATER-LEVEL CONTOURS IN ALLUVIUM FOR MAY 1975 NEAR A SEWAGE-SLUDGE RECYCLING SITE AND A LANDFILL NEAR DENVER, COLORADO

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Prepared in cooperation with the
METROPOLITAN DENVER SEWAGE DISPOSAL DISTRICT
AND THE COLORADO GEOLOGICAL SURVEY

WATER–RESOURCES INVESTIGATIONS 76–132
PLATE 2



EXPLANATION

5680 — POTENTIOMETRIC CONTOUR—Based on May 1975 water–level measurements in wells tapping the upper part of the bedrock formations. Contour interval 20 feet (6 meters). Datum is mean sea level. Arrow indicates general direction of ground–water movement in the upper part of the bedrock formations

5500 — — POTENTIOMETRIC CONTOUR—Based on 1960–74 water–level measurements in wells tapping the lower part of the bedrock formations. Contour interval 10 and 20 feet (3 and 6 meters). Datum is mean sea level. Dashed arrow indicates general direction of ground–water movement in lower part of bedrock formations

○ WELL—Data point for upper part of bedrock formations

● WELL—Data point for lower part of bedrock formations

Base from U.S. Geological Survey
Coal Creek, 1966. Photorevision,
1971

SCALE 1:24 000

1 ½ 0 1 MILE

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL

MAP SHOWING POTENTIOMETRIC CONTOURS FOR THE UPPER AND LOWER PARTS OF THE BEDROCK FORMATIONS NEAR A SEWAGE-SLUDGE RECYCLING SITE AND A LANDFILL NEAR DENVER, COLORADO