PRELIMINARY ASSESSMENT REPORT
STAGE ROAD GROUNDWATER PLUME SITE
TUCKERTON, OCEAN COUNTY, NEW JERSEY

VOLUME I of I

EPA Contract No.: 68-W-00-121
W.O. No.: 20103.001.001.1084.00
Document Control No.: 20103.1084.654

April 2004

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Prepared by:
Region II Site Assessment Team
Weston Solutions, Inc.
Edison, New Jersey 08837

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SUBMITTED BY:

Michele L. Capriglione

Michele L. Capriglione
SAT Project Manager

Date 4/20/04

W. Scott Butterfield

W. Scott Butterfield, CHMM
SAT Program Manager

Date 4/20/04

SITE SUMMARY

While compiling information pertaining to the Great Bay Plaza - Former Dry Cleaner (GBP) site, Region 2 Site Assessment Team (SAT) personnel discovered what is believed to be a separate plume of groundwater contamination. As part of the Site Inspection Prioritization (SIP) effort for GBP, SAT reviewed sampling data for domestic wells in the area of Tuckerton and Little Egg Harbor in Ocean County, New Jersey. Two clusters of contaminated domestic wells were observed. One area of contamination is in the immediate vicinity of the GBP site and has been attributed to the GBP by the New Jersey Department of Environmental Protection (NJDEP) during previous investigations. The other cluster, defined by seven domestic wells on Pineoak Drive and Madeline Lane in the Little Egg Harbor area of Ocean County, is the focus of this report. This second plume is called Stage Road Groundwater Plume (Ref. 1, pp. 1, 2; 19, pp. 1, 2).

The U.S. Environmental Protection Agency (EPA) directed Region 2 SAT to commence with an investigation of the Stage Road Groundwater Plume; including a reconnaissance of the area, and a review of available environmental records in an attempt to identify other potential sources of contamination. Region II SAT also performed a detailed study of the sample data collected from the domestic wells in the vicinity of the Stage Road Groundwater Plume area from the Ocean County Health Department (OCHD) (Ref. 1, pp. 1, 2; 4, pp. 1 through 6; 14, p. 3; 19, pp. 1, 2).

A total of seven domestic wells on Pineoak Drive and Madeline Lane were found to have contamination. The depths of these wells range from 62 to 100 feet below ground surface (bgs) with recorded water levels approximated between 7 and 15 feet bgs. Samples collected from 1988 to 1998 reveal the presence of the following chlorinated compounds: 1,2-dichloroethane (1,2-DCA); methylene chloride; 1,1,1-trichloroethane (1,1,1-TCA); 1,1-dichloroethylene (1,1-DCE); carbon tetrachloride; and tetrachloroethylene (PCE) (Ref. 19, pp. 1, 2, 8, 17, 21, 27, 28, 38, 39, 46, 55).

In a follow up visit to the OCHD, director Mr. Robert Ingenito revealed that it is OCHD policy to sample all newly installed wells. Mr. Ingenito also stated that it is OCHD policy to resample a well two additional times if any of the parameters exceeded New Jersey Drinking Water Standards; to either confirm or negate the actual presence of contamination. If both confirmatory samples fail to reveal contaminants, then the wells will not undergo any further sampling by the OCHD (Ref. 19, p. 50).

The analytical data collected from the domestic well located at Block 264, Lot 49 (5 Pineoak Drive), indicated 4.96 micrograms per Liter (ug/L) of 1,2-DCA in a sample collected on August 15, 1996. On August 28, 1996 and September 10, 1996, the well located at 5 Pineoak Drive was resampled, and in both instances there were no detections of 1,2-DCA. Subsequently, analytical data collected from the well revealed 7.73 ug/L of 1,2-DCA when sampled on July 14, 1998. On July 27 and 28 1998, the well was resampled, and again, in both instances, there were no detections of 1,2-DCA (Ref. 19, pp. 1, 2, 47 through 56).

SITE SUMMARY (continued)

The analytical data of a sample collected on October 27, 1997, from the domestic well located at Block 264, Lot 14.01 (9 Madeline Lane), indicated 5.33 ug/L of methylene chloride. On November 13, and 14, 1997, the well at 9 Madeline Lane was resampled and in both instances there were no detections of methylene chloride (Ref. 19, pp. 1, 2, 32 through 43).

A Well Abandonment Report was issued for Well No. 1 located at 9 Madeline Lane to the Bureau of Water Allocation citing the reason for abandonment as mercury. Mercury was not detected in the October 27, 1997 sample, nor was it analyzed for in the November 13 or November 14, 1997 samples (Ref. 19, pp. 1, 2, 32 through 43).

The domestic well located at Block 264, Lot 38 (212 Pineoak Drive), revealed the presence of PCE at 5.96 ug/L in a sample collected on May 1, 1989. SAT was unable to obtain any information from OCHD on subsequent sampling of this well (Ref. 19, pp. 1, 2, 44 through 46).

A review of available environmental records did not indicate any information relating to a possible source for the Stage Road Groundwater Plume. A search of federal, state, and local databases was conducted based on the central point of the contaminated wells and surrounding area,which revealed no information pertaining to a possible source. While conducting the investigation on the GBP, SAT and EPA personnel conducted a reconnaissance of the Stage Road Groundwater Plume area and identified a dry cleaner located approximately 0.4 miles southwest of the Stage Road Groundwater Plume area (Pineoak Drive and Madeline Lane). This dry cleaner was not identified in the available environmental records searched for this investigation (Ref. 4, pp. 1 through 6; 14, p. 3).

Pineoak Drive and Madeline Lane are located off of Stage Road in a newly developed rural/commercial section of Little Egg Harbor in Ocean County. Giffords Mill Branch is located approximately 950 feet (0.18 mile) to the north/northeast of these streets leading toward the 15-Mile Surface Water Pathway: which runs for 0.5 mile into Pohtacong Lake; for approximately 0.5 mile into Tuckerton Creek; for approximately 2 miles into Tuckerton Cove; and then out into Little Egg Harbor for the remainder of the target distance limit (Ref. 8; 14, p. 3; 16).

A release of site-attributable contaminants either directly to surface water or via the groundwater pathway is not observed or suspected. Based on analytical data collected from the seven wells which comprise the Stage Road Groundwater Plume, it is unlikely that contamination observed in the wells is prolific enough to enter the surface water pathway via groundwater. Analytical data collected from the wells at both 9 Madeline Lane and 5 Pineoak Drive, which indicated VOC contamination, did not reveal any detections of the same contaminants upon subsequent sampling (Ref. 8; 9; 19, pp. 1, 2, 32 through 43, 47 through 56).

SITE ASSESSMENT REPORT: PRELIMINARY ASSESSMENT

PART I: SITE INFORMATION

1. Site Name/Alias Stage Road Groundwater Plume

   Street Pineoak Drive and Madeline Lane

   City Tuckerton State New Jersey Zip 08087-4032

2. County Ocean County Code 025 Cong. Dist. 03

3. CERCLIS ID NO. NA

4. Block No. 264 Lot Nos. 38, 49, 14.01, 43, 48, 14.04, 14.03

5. Latitude 39° 36′ 22.7″ N Longitude 74° 21′ 40.3″ W

   USGS Quad(s). Tuckerton, NJ

6. Approximate size of site Unknown

7. Owner NA Telephone No. NA

8. Operator NA Telephone No. _____

9. Type of Ownership

   NA

10. Owner/Operator Notification on File

    NA

11. Permit Information

    NA

12. Site Status

    NA

13. Years of Operation: NA

14. Identify the types of waste sources (e.g., landfill, surface impoundment, piles, stained soil, above- or below-ground tanks or containers, land treatment, etc.) on site. Initiate as many waste unit numbers as needed to identify all waste sources on site.

(a) Waste Sources

Waste Unit No.	Waste Source Type	Facility Name for Unit
1	Contaminated Groundwater Plume	NA

b) Other Areas of Concern

There are no other areas of concern associated with the Stage Road Groundwater Plume site.

Ref. 1, p. 1; 3, p. 3, 4; 4, pp. 1 through 6; 8; 19, pp. 1, 2; 21, p. 1.

15. Describe the regulatory history of the site, including the scope and objectives of any previous response actions, investigations and litigation by State, Local and Federal agencies (indicate type, affiliation, date of investigations).

NA

a) Is the site or any waste source subject to Petroleum Exclusion? Identify petroleum products and by products that justify this decision.

Neither the site nor any waste source is subject to Petroleum Exclusion provisions. Samples collected from the domestic wells currently defining the Stage Road Groundwater Plume were not analyzed for petroleum products or by-products. These samples did however indicate the presence of volatile organic compounds (VOCs).

Ref. 19, pp. 1, 2.

b) Has normal farming application of pesticides registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) occurred at the site? Have pesticides been produced or stored at the site? Have there been any leaks or spills of pesticides on site?

There are minor detections of chlordane in some of the wells which comprise the Stage Road Groundwater Plume. Chlordane was a manufactured and used as a pesticide from 1948 through 1983.

Ref. 19, pp. 3, 4, 6, 12, 14, 20, 50; 20, p. 1.

c) Is the site or any waste source subject to RCRA Subtitle C (briefly explain)?

The Stage Road Groundwater Plume site consists of a groundwater plume with no identified source; therefore, neither the site nor any waste source is subject to RCRA Subtitle C.

Ref. 4, pp. 1 through 6; 19, pp. 1, 2.

d) Is the site or any waste source maintained under the authority of the Nuclear Regulatory Commission (NRC)?

Neither the site nor any waste source is maintained under the authority of the NRC.

Ref. 4, pp. 1 through 6; 19, pp. 1, 2.

16. Do any conditions exist on site which would warrant immediate or emergency action?

During the on-site reconnaissance conducted by Region II SAT on 3 September 2003, no conditions were noted which would warrant immediate or emergency action.

Ref. 14, p. 3.

17. Information available from:

Contact Denise Zeno Agency U.S. EPA Telephone No.: (212) 637- 4319
Preparer Michele Capriglione Agency Region II SAT Date: April 2004

PART II: WASTE SOURCE INFORMATION

For each of the waste units identified in Part I, complete the following items.

Waste Unit 1 - Stage Road Groundwater Plume

Source Type

_____Landfill

_____Surface Impoundment

_____Drums

_____Tanks/Containers

_____Contaminated Soil

_____ Pile

_____ Land Treatment

X Other (Groundwater Plume with no identified source)

Description:

1. **Describe the types of containers, impoundments, or other storage systems (i.e., concrete - lined surface impoundments) and any labels that may be present.**

   A total of seven domestic well on Pineoak Drive and Madeline Lane were found to be contaminated with VOCs. The depths of these wells range from 62 to 100 feet bgs, with recorded water levels approximated between 7 and 15 feet bgs. Samples collected from 1988 to 1998 reveal the presence of the following chlorinated compounds: 1,2-DCA; methylene chloride; 1,1,1-TCA; 1,1-DCE; carbon tetrachloride; and PCE.

   Ref. 19, pp. 1, 2, 8, 17, 21, 27, 28, 38, 39, 46, 55.

2. **Describe the physical condition of the containers or storage systems (i.e., rusted and/or bulging drums).**

   The seven domestic wells on Pineoak Drive and Madeline Lane that were found to be contaminated with VOCs are all screened in the upper portion of the Kirkwood Cohansey aquifer system. The depths of these wells range from 62 to 100 feet bgs, with recorded water levels approximated between 7 and 15 feet bgs. The depth of the Kirkwood-Cohansey aquifer at this location is approximately 12 to 150 feet. The Kirkwood-Cohansey aquifer system is predominantly a water-table aquifer composed of the Kirkwood formation and the Cohansey Sand. The Cohansey Sand is coarser grained than the underlying Kirkwood Formation and is predominantly a light-colored quartz sand containing minor amounts of pebbly sand, fine- to coarse-grained sand, silty and clayey sand, and interbedded clay.

   Ref. 6, pp. 1, 9, 10, 11; 19, pp. 1, 2, 32 through 56.

3. **Describe any secondary containment that may be present (e.g., drums on concrete pad in building or aboveground tank surrounded by berm).**

   There is no secondary containment associated with the Stage Road Groundwater Plume.

   Ref. 19, pp. 1, 2.

Hazardous Waste Quantity

At this stage of the investigation a hazardous waste quantity can not be estimated.

Hazardous Substances/Physical State

The physical state of the Stage Road Groundwater Plume is a liquid..

Ref. 19, pp. 3, 4, 11, 12, 19, 32.

PART III. SAMPLING RESULTS

EXISTING ANALYTICAL DATA

Analytical results of groundwater samples collected from seven domestic wells on Pineoak Drive and Madeline Lane indicated the presence of VOCs. No information relating to QA/QC samples was obtained from the OCHD nor are the analytical methods consistent. The depths of these wells range from 62 to 100 feet bgs, with recorded water levels approximated between 7 and 15 feet bgs. Samples collected from 1988 to 1998 reveal the presence of the following chlorinated compounds: 1,2-DCA; methylene chloride; 1,1,1-TCA; 1,1-DCE; carbon tetrachloride; and PCE. Analytical data collected from three of the seven domestic wells indicated contamination with 1,2-DCA, methylene chloride, and PCE above the New Jersey Drinking Water Standard.

The analytical data collected from the domestic well located at Block 264, Lot 49 (5 Pineoak Drive), indicated 4.96 ug/L of 1,2-DCA in a sample collected on August 14, 1996. On August 28, 1996 and September 10, 1996, the well located at 5 Pineoak Drive was resampled, and in both instances there were no detections of 1,2-DCA. Subsequently, analytical data collected from the well revealed 7.73 ug/L of 1,2-DCA when sampled on July 14, 1998. On July 27 and 28 1998, the well was resampled, and again, in both instances, there were no detections of 1,2-DCA.

The analytical data of a sample collected from the domestic well located at Block 264, Lot 14.01 (9 Madeline Lane), indicated 5.33 ug/L of methylene chloride in a sample collected on October 27, 1997. On November 13, 1997 and November 14, 1997, the well at 9 Madeline Lane was resampled, and in both instances there were no detections of methylene chloride. A Well Abandonment Report was issued for Well No. 1 located at 9 Madeline Lane to the Bureau of Water Allocation citing the reason for abandonment as mercury. Mercury was not detected in the October 27, 1997 sample, nor was it analyzed for in the November 13, 1997 and November 14, 1997 samples.

The domestic well located at Block 264, Lot 38 (212 Pineoak Drive), revealed the presence of PCE at 5.95 ug/L in a sample collected on May 1, 1989. SAT was unable to obtain any information from OCHD on subsequent sampling of this well.

Ref. 19, pp. 1 through 56.

PART IV: HAZARD ASSESSMENT

GROUNDWATER ROUTE

1. **Describe the likelihood of a release of contaminant(s) to the groundwater as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release, define the supporting analytical evidence and relationship to background.**

A release to groundwater is suspected. Analytical data collected from the seven wells that comprise the Stage Road Groundwater Plume indicated the presence of VOCs. The OCHD sampled domestic wells in the area and the Stage Road Groundwater Plume site, revealing the presence of contamination in three wells in excess of New Jersey Drinking Water Standards.

Analytical results of groundwater samples collected from seven domestic wells on Pineoak Drive and Madeline Lane indicated the presence of VOCs. The depths of these wells range from 62 to 100 feet bgs, with recorded water levels approximated between 7 and 15 feet bgs. Samples collected from 1988 to 1998 reveal the presence of the following chlorinated compounds: 1,2-DCA; methylene chloride; 1,1,1-TCA; 1,1-DCE; carbon tetrachloride; and PCE. Analytical data collected from three of the seven domestic wells indicated contamination with 1,2-DCA, methylene chloride, and PCE above the New Jersey Drinking Water Standard.

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The domestic well located at Block 264, Lot 38 (212 Pineoak Drive), revealed the presence of PCE at 5.95 ug/L in a sample collected on May 1, 1989. SAT was unable to obtain any information from OCHD on subsequent sampling of this well.

Ref. 19, pp. 1 through 56.

2. **Describe the aquifer of concern; include information such as depth, thickness, geologic composition, areas of karst terrain, permeability, overlying strata, confining layers, interconnections, discontinuities, depth to water table, groundwater flow direction.**

The Kirkwood-Cohansey aquifer system is predominantly a water-table aquifer composed of the Cohansey Sand, a confining bed and the Kirkwood Formation. The Cohansey Sand is coarser grained than the underlying Kirkwood Formation. It is predominantly a light-colored quartz sand containing minor amounts of pebbly sand, fine- to coarse-grained sand, silty and clayey sand, and interbedded clay. The Cohansey Sand portion of this aquifer is 140 feet thick and has an approximate permeability of 10^{-4} centimeters per second (cm/sec).

A massive confining bed overlies the Atlantic City 800-foot sands within the Kirkwood formation. The confining bed is 300 feet thick at this location, and has an approximate permeability of 10^{-6} cm/sec. The confining bed is often described as being rich in diatoms. Some sandy zones within the confining bed are common.

The Atlantic City 800-foot sand comprises the lower aquifer in the Kirkwood-Cohansey aquifer System. The Atlantic City 800-foot sand is composed of gray, medium- to coarse-grained quartz sands and gravel with a considerable amount of interspersed fragmented shell material. The Atlantic City 800-Foot sand is approximately 140 feet thick at this location and has an approximate permeability of 10^{-4} cm/sec. It is not known whether the 800-foot sand continues beyond the western edge of the overlying confining bed and forms part of the larger water table system to the west. This is significant because if a lateral connection exists, most of the recharge would be from unconfined areas to the west.

The site-specific depth to groundwater, based on well logs of private wells is 7 to 15 feet. Overall direction of groundwater flow would be in seaward direction along the seaward dip of the New Jersey Coastal Plain. However, based on the topography of the site, the surficial groundwater flow would be north toward Giffords Mill Branch.

Geologic Unit	**Depth (Approximate)**	**Thickness (Approximate)**
Kirkwood Cohansey Aquifer	7 Feet	150 Feet
Confining Bed	150 Feet	450 Feet
Atlantic City 800-Foot Sands	450 Feet	560 Feet

Ref. 2, p. 4; 5, pp. 49 through 279; 6, pp. 1 through 19; 19, pp. 8, 17, 21, 27, 28, 38, 39, 46, 55.

3. **What is the depth from the lowest point of waste disposal/storage to the highest seasonal level of the saturated zone of the aquifer of concern?**

Based on VOC contamination detected in domestic wells on Pineoak Drive and Madeline Lane, the depth from the lowest point of waste disposal/storage to the highest seasonal level of the saturated zone of the aquifer of concern is 0 feet.

Ref. 19, pp. 1, 2.

4. **What is the permeability value of the least permeable continuous intervening stratum between the ground surface and the top of the aquifer of concern?**

The permeability value of the least permeable continuous intervening stratum (i.e., dark grayish brown and yellow loamy sand up to 33 inches thick) between the ground surface and the top of the aquifer of concern ranges from 10^{-4} to 10^{-6} cm/s.

Ref. 2, p. 4; 7, p. 4.

5. **What is the net precipitation at the site (inches)?**

The net precipitation at the site ranges from 15 to 30 inches.

Ref. 2, pp. 2, 3.

6. **What is the distance to and depth of the nearest well that is currently used for drinking purposes?**

Available background information indicates that the nearest wells currently used for drinking purposes are the seven domestic wells located on Pineoak Drive and Madeline Lane, therefore the distance is 0 feet. The depths of these wells range from 62 feet to 100 feet bgs.

Ref. 19, pp. 1, 2.

7. **If a release to groundwater is observed or suspected, determine the number of people that obtain drinking water from wells that are documented or suspected to be actually contaminated by hazardous substance(s) attributed to an observed release from the site.**

The Stage Road Groundwater Plume is currently defined by contamination found in seven wells serving approximately 18 people; 417 people are served by domestic wells within one mile of the site; 3,813 people are served by Well 2 which is located 1.17 miles east of the site; and 9,750 people are served by Well 8 which is located 1.25 miles south of the site.

Ref. 5, p. 2; 19, pp. 1, 2.

8. **Identify the population served by wells located within 4 miles of the site that draw from the aquifer of concern.**

Distance	Population	Aquifer
0 - ¼ mile	18	N/A
>¼ - ½ mile	0	N/A
>½ - 1 mile	417	Kirkwood-Cohansey
>1 - 2 miles	13,563	Atlantic 800-Foot Sand
>2 - 3 miles	0	N/A
>3 - 4 miles	0	N/A

A total of 13,998 persons obtain drinking water from the aquifers of concern within a 4-mile radius of the site.

Ref. 5, pp. 1, 2; 6, p. 1.

State whether groundwater is blended with surface water, groundwater, or both before distribution.

Groundwater is blended with other groundwater prior to distribution; however, it is not blended with surface water.

Ref. 5, pp. 25, 26, 40.

Is a designated wellhead protection area within 4 miles of the site?

There are multiple wellhead protection areas (WHPAs) within four miles of the Stage Road Groundwater Plume site. Each confined well in this area has a 50-foot radius delineated around it serving as the WHPA, to be controlled by the water purveyor in accordance with the New Jersey Safe Drinking Water Regulations. Figure 2, included in this report, displays the wells and WHPAs within the target distance limit.

Ref. 5, p. 2; 6, pp. 1, 9, 10; 9; 15, pp. 1, 11.

Does a waste source overlie a designated or proposed wellhead protection area? If a release to groundwater is observed or suspected, does a designated or proposed wellhead protection area lie within the contaminant boundary of the release?

The confined wells closest to the site, which have the 50-foot WHPA designation, are located over one mile from the site. Currently, the contaminated groundwater (the source of the Stage Road Groundwater Plume) has not been detected in the confined wells. In addition, analytical data obtained from the owners of both wells shows that no contamination has reached these public supply wells.

Ref. 5, pp. 2, 25 through 48; 6, pp. 1, 9, 10; 9; 15, pp. 1, 11.

9. **Identify one of the following resource uses of groundwater within 4 miles of the site (i.e., commercial livestock watering, ingredient in commercial food preparation, supply for commercial aquaculture, supply for major, or designated water recreation area, excluding drinking water use, irrigation (5-acre minimum) of commercial food or commercial forage crops, unusable).**

There are two wells located approximately 0.50 mile from the site on Pinelands Regional High School property and one well located approximately 0.52 mile from the site on Pinelands Middle School property. These wells are used for field maintenance and are screened in the Cohansey Formation.

Ref. 5, p. 5; 13, p. 1.

SURFACE WATER ROUTE

10. **Describe the likelihood of a release of contaminant(s) to surface water as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release, define the supporting analytical evidence and relationship to background.**

A release of site-attributable contaminants to surface water via overland flow or the groundwater to surface water pathway is not observed or suspected. Based on analytical data collected from the seven wells which currently comprise the Stage Road Groundwater Plume, it is unlikely that contamination observed in the wells is prolific enough to enter the surface water pathway via groundwater. Analytical data collected from the wells at both 9 Madeline Lane and 5 Pineoak Drive, which initially displayed VOC contamination, upon subsequent sampling did not reveal any detections of the same contaminants.

Ref. 8; 16; 19, pp. 1, 2, 32 through 43, 47 through 56.

11. **Identify the nearest down slope surface water. If possible, include a description of possible surface drainage patterns from the site.**

The nearest downslope surface water body is Giffords Mill Branch, located approximately 950 feet (0.18 miles) to the north of Pineoak Drive and Madeline Lane; however, a release of site-attributable contaminants directly to surface water or via the groundwater to surface water pathway is not observed or suspected; see Question No. 10 for a description of the likelihood of a release..

Ref. 8; 16.

12. **What is the distance in feet to the nearest down slope surface water? Measure the distance along a course that runoff can be expected to follow.**

The nearest downslope surface water body is Giffords Mill Branch, located approximately 950 feet (0.18 miles) to the north of Pineoak Drive and Madeline Lane; however, a release of site-

attributable contaminants directly to surface water or via the groundwater pathway is not observed or suspected; see Question No. 10 for a description of the likelihood of a release..

Ref. 8; 16.

13. Identify all surface water body types within 15 downstream miles.

The nearest downslope surface water body is Giffords Mill Branch, located approximately 950 feet (0.18 mile) to the north of Pineoak Drive and Madeline Lane. Giffords Mill Branch flows 0.5 mile into Pohatcong Lake; and then approximately 0.5 miles into Tuckerton Creek; and then approximately 2 miles into Tuckerton Cove; and out into Little Egg Harbor for the remainder of the target distance limit.

Ref. 8; 16.

14. Determine the 2-yr, 24-hr rainfall (inches) for the site.

The 2-year, 24-hour rainfall for the site is 3.5 inches.

Ref. 10, p. 2.

15. Determine size of the drainage area (acres) for sources at the site.

The waste source is being evaluated as a groundwater plume, therefore, no drainage area is associated with this site.

Ref. 1, p. 1; 8; 16; 19, pp. 1, 2, 32 through 43, 47 through 56.

16. Describe the predominant soil group in the drainage area.

The waste source is being evaluated as a groundwater plume, therefore, no drainage area is associated with this site.

Ref. 1, p. 1; 8; 16; 19, pp. 1, 2, 32 through 43, 47 through 56.

17. Determine the type of floodplain that the site is located within.

The Stage Road Groundwater Plume site is located in Flood Zone C. Zone C is defined as an area of minimal flooding outside the 500-year floodplain boundary.

Ref. 11, pp. 2, 3.

18. **Identify drinking water intakes in surface waters within 15 miles downstream of the point of surface water entry. For each intake identify: the name of the surface water body in which the intake is located, the distance in miles from the point of surface water entry, population served, and stream flow at the intake location.**

There are no drinking water intakes located along the 15-mile downstream surface water pathway originating at this site.

Ref. 17, p. 1.

19. **Identify fisheries that exist within 15 miles downstream of the point of surface water entry.**

Both the Little Egg Harbor and the Atlantic Ocean are fisheries. The Barnegat Bay and Little Egg Harbor comprise the Barnegat Bay estuarine system. This estuary system supports a commercial fishery and serves as a recreational fishery as well.

Ref. 18, p. 1.

20. **Identify surface water sensitive environments that exist within 15 miles of the point of surface water entry.**

HRS-eligible wetlands downslope of the site exist along 2,060 feet (0.39 mile) of Giffords Mill Branch; 5,480 feet (1.04 miles) of Pohatcong Lake, 7,528 feet (1.43 miles) of Tuckerton Creek; 3,409 feet (0.65 mile) of Tuckerton Cove and 104,479 feet (19.79miles) of Little Egg Harbor.

Ref. 12, p. 1; 16.

21. **If a release to surface water is observed or suspected, identify any intakes, fisheries, and sensitive environments from question Nos. 18-20 that are or may be actually contaminated by hazardous substance(s) attributed to an observed release of from the site.**

A release of site-attributable contaminants to surface water is neither observed nor suspected; see Question No. 10 for a description of the likelihood of a release.

22. **Identify whether the surface water is used for any of the following purposes, such as: irrigation (5 acre minimum) of commercial food or commercial forage crops, watering of commercial livestock, commercial food preparation, recreation, potential drinking water supply.**

It is unknown whether surface water is used for any of the following purposes, such as irrigation (5 acre minimum) of commercial food or commercial forage crops, watering of commercial livestock, commercial food preparation, recreation, potential drinking supply.

The Stage Road Groundwater Plume consists of a groundwater plume with an unidentified source therefore the soil exposure pathway and the air migration pathway will not be evaluated.

REFERENCES

1. Letter from Michele Capriglione, Region II SAT, to Denise Zeno, EPA, Subject: Possible Discovery of A Separate Groundwater Plume in Proximity to the Great Bay Plaza - Former Dry Cleaner Site, August 26, 2003.

2. Federal Register, 40 CFR, Part 300, Hazard Ranking System; Final Rule, Volume 55, No. 241, Environmental Protection Agency, December 14, 1990.

3. Congressional District Atlas, 103rd Congress of the United States, Volume 2, U.S. Department of Commerce, Economics and Statistics Administration, Bureau of the Census, February 1993.

4. Environmental Data Resources (EDR), The EDR Radius Map with GeoCheck®, Center of Pineoak/Madeline Dr., Tuckerton, NJ, Inquiry Number: 11161603s, January 24, 2004.

5. Project Note from Michele Capriglione, Region II SAT, to Stage Road Groundwater Plume site file, Subject: Groundwater Population, 23 February 2004; with attachments.

6. Project Note from Michele Capriglione, Region II SAT, to Stage Road Groundwater Plume File, Subject: Site Geology, 7 April 2004; with attachment.

7. United States Department of Agriculture, Soil Conservation Service, Soil Survey of Ocean County, New Jersey, 1980.

8. WESTON, Figure 1: Site Location Map for the Stage Road Groundwater Plume site, compiled from USGS 7.5-Minute Series (Topographic) Quadrangle for: "Tuckerton, NJ," 1952, photorevised 1972.

9. WESTON, Figure 2: Four-Mile Radius Map for the Stage Road Groundwater Plume site, compiled from USGS 7.5-Minute Series (Topographic) Quadrangles for: "Beach Haven, N.J." 1951, photorevised1972; "Brigantine Inlet, N.J." 1989; "New Gretna, N.J." 1951, photorevised 1972; "Oswego Lake, N.J." 1955; "Ship Bottom, N.J."1952, photorevised, 1972; "Tuckerton, N.J." 1952, photorevised 1972; and "West Creek, N.J." 1951, photorevised 1972.

10. U.S. Department of Commerce, Rainfall Frequency Atlas of the United States, Technical Paper No. 40., 1961.

11. Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map (FIRM), Township of Little Egg Harbor, New Jersey, Ocean County, Community-Panel No. 340380 0018 B, September 1, 1983.

12. Project Note from Michele Capriglione, Region II SAT, to Stage Road Groundwater Plume File, Subject: Wetlands Within Target Distance Limits, April 7, 2004; with attachment.

13. Telecon Note: Conversation between Michele Capriglione, Region II SAT, and Tom Rider, Maintenance Assistant Supervisor of Pinelands Regional School District, Subject: Wells, May 12, 2003.

REFERENCES

14. Region II SAT, Field Logbook No. SAT.070.001, Great Bay Plaza - Former Dry Cleaner, Off-site Reconnaissance and Public Supply Well Sampling, September 3, 2003.

15. Telecon Note: Conversation between Michele Capriglione, Region II SAT, and Rich Gunoskey, NJDEP Bureau of Safe Drinking Water, Subject: Wellhead Protection Areas, December 8, 2003; with attachment.

16. WESTON, Figure 3: Fifteen-Mile Surface Water Pathway Map for the Stage Road Groundwater Plume site, compiled from USGS 7.5-Minute Series (Topographic) Quadrangles for: "Beach Haven, N.J." 1951, photorevised1972; "Brigantine Inlet, N.J." 1989; "New Gretna, N.J." 1951, photorevised 1972; "Oswego Lake, N.J." 1955; "Ship Bottom, N.J."1952, photorevised, 1972; "Tuckerton, N.J." 1952, photorevised 1972; and "West Creek, N.J." 1951, photorevised 1972.

17. New Jersey Drinking Water Intakes Map compiled by Ed Apalinski, NJDEP Bureau of Safe Drinking Water, October 2003.

18. Association of National Estuary Programs (Facts about the Barnegat Bay Estuary), from www.bbep.org, accessed March 2001.

19. Project Note from Michele Capriglione, Region II SAT, to Stage Road Groundwater Plume, Subject: Summary of Domestic Wells in Block 264, 12 April 2004; with attachments.

20. Agency for Toxic Substances and Disease Registry (ATSDR), Subject: ToxFAQs for Chlordane, from http://www.atsdr.cdc.gov/tfacts31.html, accessed on April 5, 2004.

21. Market Data Retrieval, MDR/FIPS Cross Reference County Code List, from http://www.schooldata.com/States/newjersey.html, accessed on April 16, 2004.

Reference 1

Weston Solutions, Inc.
205 Campus Drive
Edison, New Jersey 08837
732-417-5800 • Fax 732-417-5801
www.westonsolutions.com

August 26, 2003

Ms. Denise Zeno, Work Assignment Manager
U.S. Environmental Protection Agency
290 Broadway, 18th Floor
New York, NY 10007

SUBJECT: POSSIBLE DISCOVERY OF SEPARATE GROUNDWATER PLUME IN PROXIMITY TO THE GREAT BAY PLAZA - FORMER DRY CLEANERS SITE
WORK ORDER NO.: 20103-001-001-1070-00
DCN: 20103.1070.550

Dear Ms. Zeno:

While compiling information pertaining to the Great Bay Plaza - Former Dry Cleaners (GBP) site, Region 2 Site Assessment Team (SAT) personnel have discovered what we believe to be a separate plume of groundwater contamination that is not attributable to the GBP site. SAT personnel have reviewed sample data, collected by the Ocean County Health Department for homes in Little Egg Harbor Township and observed that two clusters of contaminated domestic wells are present. One of the areas of contamination is in the immediate vicinity of Great Bay Plaza and has been attributed to the GBP site by the NJDEP. However, the other cluster is located approximately 2 miles north of the GBP site on Stage Road and appears to be a separate plume, possibly caused by another source.

The basis for believing that another source, not the GBP site, is responsible for contamination of the wells located on Stage Road is:

- The domestic wells on Stage Road are topographically higher than the GBP site.
- There are uncontaminated wells finished in the same aquifer between the GBP site and the wells on Stage Road.
- The groundwater flows northeast from the GBP site, whereas the wells on Stage Road are located north of the site in a sidegradient direction.

Region 2 SAT is prepared to conduct a reconnaissance of the area in an attempt to identify other potential sources of contamination.

Should you require any additional information, please contact me at (732) 417-5808.

Very truly yours,

WESTON SOLUTIONS, INC.

Michele Capriglione

Michele Capriglione
SAT Project Manager

cc: Ildefonso Acosta, US EPA
Scott Butterfield, WESTON

Reference 2

Ref. 1

federal register

Friday
December 14, 1990

Michele
Capriglione

Part II

Environmental Protection Agency

40 CFR Part 300
Hazard Ranking System; Final Rule

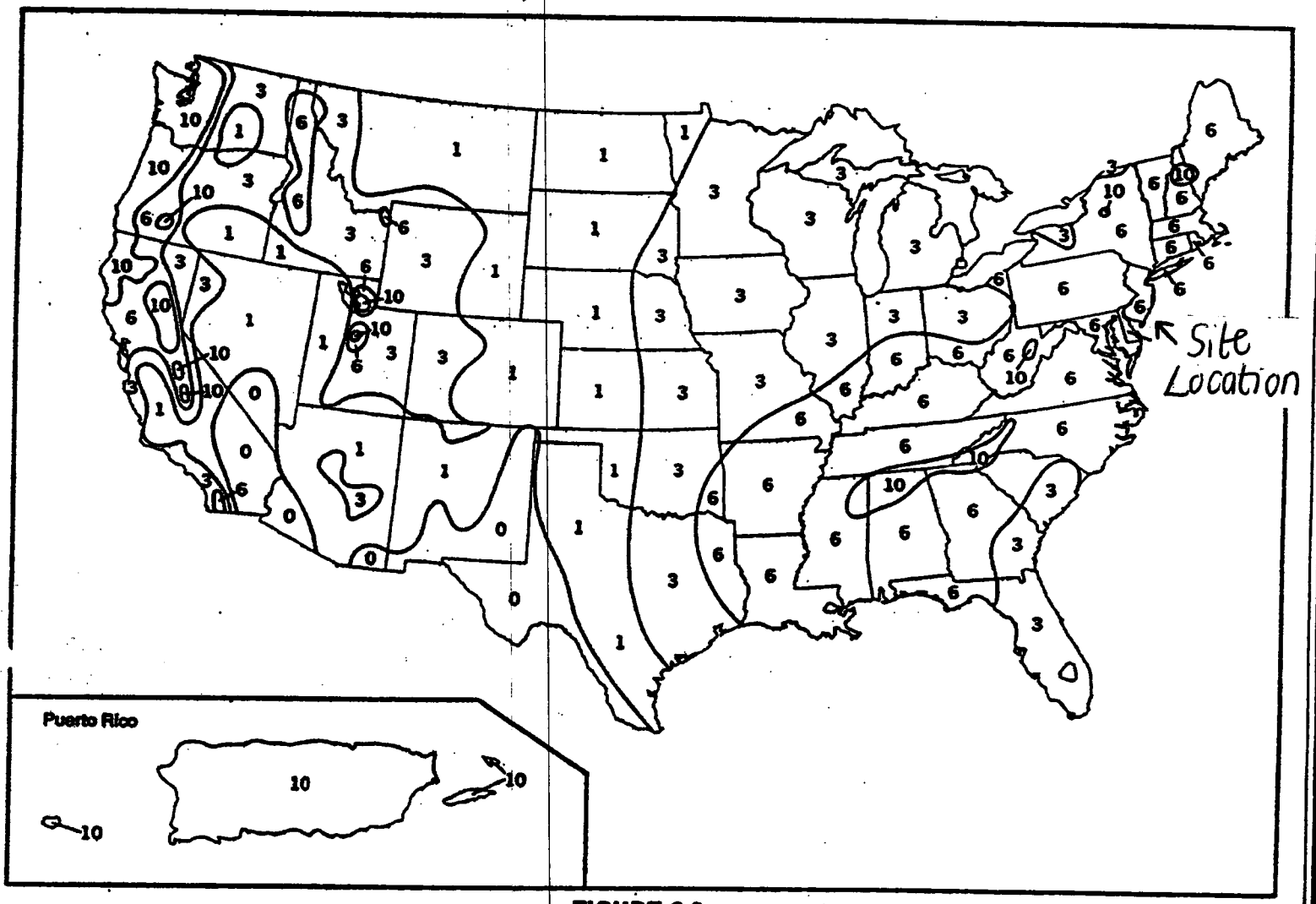

FIGURE 3-2
NET PRECIPITATION FACTOR VALUES

2

–When measured monthly evapotranspiration is not available, calculate monthly potential evapotranspiration (E_i) as follows:

$$E_i = 0.6\, F_i\, (10\, T_i/I)^a$$

where:

E_i = Monthly potential evapotranspiration (inches) for month i.

F_i = Monthly latitude adjusting value for month i.

T_i = Mean monthly temperature (°C) for month i.

$$I = \sum_{i=1}^{12} (T_i/5)^{1.514}$$

$$a = 6.75 \times 10^{-7} I^3 - 7.71 \times 10^{-5} I^2 + 1.79 \times 10^{-2} I + 0.49239$$

Select the latitude adjusting value for each month from Table 3–3. For latitudes lower than 50° North or 20° South, determine the monthly latitude adjusting value by interpolation.

• Calculate monthly net precipitation by subtracting monthly evapotranspiration (or monthly potential evapotranspiration) from monthly precipitation. If evapotranspiration (or potential evapotranspiration) exceeds precipitation for a month, assign that month net precipitation value of 0.

• Calculate the annual net precipitation by summing the monthly net precipitation values.

• Based on the annual net precipitation, assign a net precipitation factor value from Table 3–4.

Enter the value assigned from Figure 3–2 or from Table 3–4, as appropriate, in Table 3–1.

TABLE 3–3.—MONTHLY LATITUDE ADJUSTING VALUES[a]

Latitude[b] (degrees)	Month											
	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
≥50 N	0.74	0.78	1.02	1.15	1.33	1.36	1.37	1.25	1.06	0.92	0.76	0.70
45 N	0.80	0.81	1.02	1.13	1.28	1.29	1.31	1.21	1.04	0.94	0.79	0.75
40 N	0.84	0.83	1.03	1.11	1.24	1.25	1.27	1.18	1.04	0.96	0.83	0.81
35 N	0.87	0.85	1.03	1.09	1.21	1.21	1.23	1.16	1.03	0.97	0.89	0.85
30 N	0.90	0.87	1.03	1.08	1.18	1.17	1.20	1.14	1.03	0.98	0.89	0.88
20 N	0.95	0.90	1.03	1.05	1.13	1.11	1.14	1.11	1.02	1.00	0.93	0.94
10 N	1.00	0.91	1.03	1.03	1.08	1.06	1.08	1.07	1.02	1.02	0.98	0.99
0	1.04	0.94	1.04	1.01	1.04	1.01	1.04	1.04	1.01	1.04	1.01	1.04
10 S	1.08	0.97	1.05	0.99	1.00	0.96	1.00	1.02	1.00	1.06	1.05	1.09
20 S	1.14	0.99	1.05	0.97	0.96	0.91	0.95	0.99	1.00	1.08	1.09	1.15

[a] Do not round to nearest integer.
[b] For unlisted latitudes lower than 50° North or 20° South, determine the latitude adjusting value by interpolation.

TABLE 3–4.—NET PRECIPITATION FACTOR VALUES

Net precipitation (inches)	Assigned value
0	0
Greater than 0 to 5	1
Greater than 5 to 15	3
Greater than 15 to 30	6
Greater than 30	10

3.1.2.3 *Depth to aquifer.* Evaluate depth to aquifer by determining the depth from the lowest known point of hazardous substances at a site to the top of the aquifer being evaluated, considering all layers in that interval. Measure the depth to an aquifer as the distance from the surface to the top of the aquifer minus the distance from the surface to the lowest known point of hazardous substances eligible to be evaluated for that aquifer. In evaluating depth to aquifer in karst terrain, assign a thickness of 0 feet to a karst aquifer that underlies any portion of the sources at the site. Based on the calculated depth, assign a value from Table 3–5 to the depth to aquifer factor.

Determine the depth to aquifer only at locations within 2 miles of the sources at the site, except: if observed ground water contamination attributable to sources at the site extends more than 2 miles beyond these sources, use any location within the limits of this observed ground water contamination when evaluating the depth to aquifer factor for any aquifer that does not have an observed release. If the necessary geologic information is available at multiple locations, calculate the depth to aquifer at each location. Use the location having the smallest depth to assign the factor value. Enter this value in Table 3–1.

TABLE 3–5.—DEPTH TO AQUIFER FACTOR VALUES

Depth to aquifer[a] (feet)	Assigned value
Less than or equal to 25	5
Greater than 25 to 250	3
Greater than 250	1

[a] Use depth of all layers between the hazardous substances and aquifer. Assign a thickness of 0 feet to any karst aquifer that underlies any portion of the sources at the site.

3.1.2.4 *Travel time.* Evaluate the travel time factor based on the geologic materials in the interval between the lowest known point of hazardous substances at the site and the top of the aquifer being evaluated. Assign a value to the travel time factor as follows:

• If the depth to aquifer (see section 3.1.2.3) is 10 feet or less, assign a value of 35.

• If, for the interval being evaluated, all layers that underlie a portion of the sources at the site are karst, assign a value of 35.

• Otherwise:

–Select the lowest hydraulic conductivity layer(s) from within the above interval. Consider only layers at least 3 feet thick. However, do not consider layers or portions of layers within the first 10 feet of the depth to the aquifer.

–Determine hydraulic conductivities for individual layers from Table 3–6 or from in-situ or laboratory tests. Use representative, measured, hydraulic conductivity values whenever available.

–If more than one layer has the same lowest hydraulic conductivity, include all such layers and sum their thicknesses. Assign a thickness of 0 feet to a karst layer that underlies any portion of the sources at the site.

–Assign a value from Table 3–7 to the travel time factor, based on the thickness and hydraulic conductivity of the lowest hydraulic conductivity layer(s).

TABLE 3-6.—HYDRAULIC CONDUCTIVITY OF GEOLOGIC MATERIALS

Type of material	Assigned hydraulic conductivity [a] (cm/sec)
Clay; low permeability till (compact unfractured till); shale; unfractured metamorphic and igneous rocks	10^{-8} 10^{-8}
Silt; loesses; silty clays; sediments that are predominantly silts; moderately permeable till (fine-grained, unconsolidated till, or compact till with some fractures); low permeability limestones and dolomites (no karst); low permeability sandstone; low permeability fractured igneous and metamorphic rocks	10^{-6} -6
Sands; sandy silts; sediments that are predominantly sand; highly permeable till (coarse-grained, unconsolidated or compact and highly fractured); peat; moderately permeable limestones and dolomites (no karst); moderately permeable sandstone; moderately permeable fractured igneous and metamorphic rocks	10^{-4} -4
Gravel; clean sand; highly permeable fractured igneous and metamorphic rocks; permeable basalt; karst limestones and dolomites	10^{-2} -2

[a] Do not round to nearest integer.

TABLE 3-7.—TRAVEL TIME FACTOR VALUES [a]

Hydraulic conductivity (cm/sec)	Thickness of lowest hydraulic conductivity layer(s)[b] (feet)			
	Greater than 3 to 5	Greater than 5 to 100	Greater than 100 to 500	Greater than 500
Greater than or equal to 10^{-3}	35	35	35	25
Less than 10^{-3} to 10^{-5}	35	25	15	15
Less than 10^{-5} to 10^{-7}	15	15	5	5
Less than 10^{-7}	5	5	1	1

[a] If depth to aquifer is 10 feet or less or if, for the interval being evaluated, all layers that underlie a portion of the sources at the site are karst, assign a value of 35.

[b] Consider only layers at least 3 feet thick. Do not consider layers or portions of layers within the first 10 feet of the depth to the aquifer.

Determine travel time only at locations within 2 miles of the sources at the site, except: if observed ground water contamination attributable to sources at the site extends more than 2 miles beyond these sources, use any location within the limits of this observed ground water contamination when evaluating the travel time factor for any aquifer that does not have an observed release. If the necessary subsurface geologic information is available at multiple locations, evaluate the travel time factor at each location. Use the location having the highest travel time factor value to assign the factor value for the aquifer. Enter this value in Table 3-1.

3.1.2.5 *Calculation of potential to release factor value.* Sum the factor values for net precipitation, depth to aquifer, and travel time, and multiply this sum by the factor value for containment. Assign this product as the potential to release factor value for the aquifer. Enter this value in Table 3-1.

3.1.3 *Calculation of likelihood of release factor category value.* If an observed release is established for an aquifer, assign the observed release factor value of 550 as the likelihood of release factor category value for that aquifer. Otherwise, assign the potential to release factor value for that aquifer as the likelihood of release value. Enter the value assigned in Table 3-1.

3.2 *Waste characteristics.* Evaluate the waste characteristics factor category for an aquifer based on two factors: toxicity/mobility and hazardous waste quantity. Evaluate only those hazardous substances available to migrate from the sources at the site to ground water. Such hazardous substances include:

- Hazardous substances that meet the criteria for an observed release to ground water.
- All hazardous substances associated with a source that has a ground water containment factor value greater than 0 (see sections 2.2.2, 2.2.3, and 3.1.2.1).

3.2.1 *Toxicity/mobility.* For each hazardous substance, assign a toxicity factor value, a mobility factor value, and a combined toxicity/mobility factor value as specified in the following sections. Select the toxicity/mobility factor value for the aquifer being evaluated as specified in section 3.2.1.3.

3.2.1.1 *Toxicity.* Assign a toxicity factor value to each hazardous substance as specified in Section 2.4.1.1.

3.2.1.2 *Mobility.* Assign a mobility factor value to each hazardous substance for the aquifer being evaluated as follows:

- For any hazardous substance that meets the criteria for an observed release by chemical analysis to one or more aquifers underlying the sources at the site, regardless of the aquifer being evaluated, assign a mobility factor value of 1.
- For any hazardous substance that does not meet the criteria for an observed release by chemical analysis to at least one of the aquifers, assign that hazardous substance a mobility factor value from Table 3-8 for the aquifer being evaluated, based on its water solubility and distribution coefficient (K_d).
- If the hazardous substance cannot be assigned a mobility factor value because data on its water solubility or distribution coefficient are not available, use other hazardous substances for which information is available in evaluating the pathway.

TABLE 3-8.—GROUND WATER MOBILITY FACTOR VALUES [a]

Water solubility (mg/l)	Distribution coefficient (K_d) (ml/g)			
	Karst [c]	≤ 10	> 10 to 1,000	> 1,000
Present as liquid [b]	1	1	0.01	0.0001
Greater than 100	1	1	0.01	0.0001
Greater than 1 to 100	0.2	0.2	0.002	2×10^{-5}
Greater than 0.01 to 1	0.002	0.002	2×10^{-6}	2×10^{-7}
Less than or equal to 0.01	2×10^{-5}	2×10^{-6}	2×10^{-7}	2×10^{-9}

[a] Do not round to nearest integer.

[b] Use if the hazardous substance is present or deposited as a liquid.

[c] Use if the entire interval from the source to the aquifer being evaluated is karst.

4

Drainage area. Determine the drainage area for the sources at the site. Include in this drainage area both the source areas and the area upgradient of the sources, but exclude any portion of this drainage area for which runoff is diverted from entering the sources by storm sewers or run-on control and/or runoff management systems. Assign a drainage area value for the watershed from Table 4–3.

Soil group. Based on the predominant soil group within the drainage area described above, assign a soil group designation for the watershed from Table 4–4 as follows:

• Select the predominant soil group as that type which comprises the largest total area within the applicable drainage area.

• If a predominant soil group cannot be delineated, select that soil group in the drainage area that yields the highest value for the runoff factor.

Calculation of runoff factor value. Assign a combined rainfall/runoff value for the watershed from Table 4–5, based on the 2-year, 24-hour rainfall and the soil group designation. Determine the runoff factor value for the watershed from Table 4–6, based on the rainfall/runoff and drainage area values. Enter the runoff factor value in Table 4–1.

TABLE 4–3.—DRAINAGE AREA VALUES

Drainage area (acres)	Assigned value
Less than 50	1
50 to 250	2
Greater than 250 to 1,000	3
Greater than 1,000	4

TABLE 4–4.—SOIL GROUP DESIGNATIONS

Surface soil description	Soil group designation
Coarse-textured soils with high infiltration rates (for example, sands, loamy sands).	A
Medium-textured soils with moderate infiltration rates (for example, sandy loams, loams).	B
Moderately fine-textured soils with low infiltration rates (for example, silty loams, silts, sandy clay loams).	C
Fine-textured soils with very low infiltration rates (for example, clays, sandy clays, silty clay loams, clay loams, silty clays); or impermeable surfaces (for example, pavement).	D

TABLE 4–5.—RAINFALL/RUNOFF VALUES

2-Year, 24-hour rainfall (inches)	Soil group designation			
	A	B	C	D
Less than 1.0	0	0	2	3
1.0 to less than 1.5	0	1	2	3
1.5 to less than 2.0	0	2	3	4
2.0 to less than 2.5	1	2	3	4
2.5 to less than 3.0	2	3	4	4
3.0 to less than 3.5	2	3	4	5
3.5 or greater	3	4	5	6

TABLE 4–6.—RUNOFF FACTOR VALUES

Drainage area value	Rainfall/runoff value						
	0	1	2	3	4	5	6
1	0	0	0	1	1	1	1
2	0	0	1	1	2	3	4
3	0	0	1	3	7	11	15
4	0	1	2	7	17	25	25

4.1.2.1.2.1.3 *Distance to surface water.* Evaluate the distance to surface water as the shortest distance, along the overland segment, from any source with a surface water containment factor value greater than 0 to either the mean high water level for tidal waters or the mean water level for other surface waters. Based on this distance, assign a value from Table 4–7 to the distance to surface water factor for the watershed. Enter this value in Table 4–1.

4.1.2.1.2.1.4 *Calculation of factor value for potential to release by overland flow.* Sum the factor values for runoff and distance to surface water for the watershed and multiply this sum by the factor value for containment. Assign the resulting product as the factor value for potential to release by overland flow for the watershed. Enter this value in Table 4–1.

4.1.2.1.2.2 *Potential to release by flood.* Evaluate potential to release by flood for each watershed as the product of two factors: containment (flood) and flood frequency. Evaluate potential to release by flood separately for each source that is within the watershed. Furthermore, for each source, evaluate potential to release by flood separately for each category of floodplain in which the source lies. (See section 4.1.2.1.2.2.2 for the applicable floodplain categories.) Calculate the value for the potential to release by flood factor as specified in 4.1.2.1.2.2.3.

4.1.2.1.2.2.1 *Containment (flood).* For each source within the watershed, separately evaluate the containment (flood) factor for each category of floodplain in which the source is partially or wholly located. Assign a containment (flood) factor value from Table 4–8 to each floodplain category applicable to that source. Assign a containment (flood) factor value of 0 to each floodplain category in which the source does not lie.

4.1.2.1.2.2.2 *Flood frequency.* For each source within the watershed, separately evaluate the flood frequency factor for each category of floodplain in which the source is partially or wholly located. Assign a flood frequency factor value from Table 4–9 to each floodplain category in which the source is located.

4.1.2.1.2.2.3 *Calculation of factor value for potential to release by flood.* For each source within the watershed and for each category of floodplain in which the source is partially or wholly located, calculate a separate potential to release by flood factor value. Calculate this value as the product of the containment (flood) value and the flood frequency value applicable to the source for the floodplain category. Select the highest value calculated for those sources that meet the minimum size requirement specified in section 4.1.2.1.2.1.1 and assign it as the value for the potential to release by flood factor for the watershed. However, if, for this watershed, no source at the site meets the minimum size requirement, select the highest value calculated for the sources at the site eligible to be evaluated for this watershed and assign it as the value for this factor.

TABLE 4–7.—DISTANCE TO SURFACE WATER FACTOR VALUES

Distance	Assigned value
Less than 100 feet	25
100 feet to 500 feet	20
Greater than 500 feet to 1,000 feet	16
Greater than 1,000 feet to 2,500 feet	9
Greater than 2,500 feet to 1.5 miles	6
Greater than 1.5 miles to 2 miles	3

TABLE 4–8.—CONTAINMENT (FLOOD) FACTOR VALUES

Containment criteria	Assigned value
Documentation that containment at the source is designed, constructed, operated, and maintained to prevent a washout of hazardous substances by the flood being evaluated.	0
Other	10

TABLE 4–9.—FLOOD FREQUENCY FACTOR VALUES

Floodplain category	Assigned value
Source floods annually	50
Source in 10-year floodplain	50
Source in 100-year floodplain	25
Source in 500-year floodplain	7
None of above	0

Enter this highest potential to release by flood factor value for the watershed in Table 4–1, as well as the values for containment (flood) and flood frequency that yield this highest value.

4.1.2.1.2.3 *Calculation of potential to release factor value.* Sum the factor values assigned to the watershed for potential to release by overland flow and potential to release by flood. Assign this sum as the potential to release factor value for the watershed, subject to a maximum value of 500. Enter this value in Table 4–1.

4.1.2.1.3 *Calculation of drinking water threat-likelihood of release factor category value.* If an observed release is established for the watershed, assign the observed release factor value of 550 as the likelihood of release factor category value for that watershed. Otherwise, assign the potential to release factor value for that watershed as the likelihood of release factor category value for that watershed. Enter the value assigned in Table 4–1.

4.1.2.2 *Drinking water threat-waste characteristics.* Evaluate the waste characteristics factor category for each

the hazardous substance with the highest toxicity/persistence factor value for the watershed to assign the toxicity/persistence factor value for the drinking water threat for the watershed. Enter this value in Table 4–1.

4.1.2.2.2 *Hazardous waste quantity.* Assign a hazardous waste quantity factor value for the watershed as specified in section 2.4.2. Enter this value in Table 4–1.

4.1.2.2.3 *Calculation of drinking water threat-waste characteristics factor category value.* Multiply the toxicity/persistence and hazardous waste quantity factor values for the watershed, subject to a maximum product of 1×10^8. Based on this product, assign a value from Table 2–7 (section 2.4.3.1) to the drinking water threat-waste characteristics factor category for the watershed. Enter this value in Table 4–1.

TABLE 4–12.—TOXICITY/PERSISTENCE FACTOR VALUES [a]

Persistence factor value	Toxicity factor value					
	10,000	1,000	100	10	1	0
1.0	10,000	1,000	100	10	1	0
0.4	4,000	400	40	4	0.4	0
0.07	700	70	7	0.7	0.07	0
0.0007	7	0.7	0.07	0.007	0.0007	0

[a] Do not round to nearest integer.

4.1.2.3 *Drinking water threat-targets.* Evaluate the targets factor category for each watershed based on three factors: nearest intake, population, and resources.

To evaluate the nearest intake and population factors, determine whether the target surface water intakes are subject to actual or potential contamination as specified in section 4.1.1.2. Use either an observed release based on direct observation at the intake or the exposure concentrations from samples (or comparable samples) taken at or beyond the intake to make this determination (see section 4.1.2.1.1). The exposure concentrations for a sample (that is, surface water, benthic, or sediment sample) consist of the concentrations of those hazardous substances present that are significantly above background levels and attributable at least in part to the site (that is, those hazardous substance concentrations that meet the criteria for an observed release).

When an intake is subject to actual contamination, evaluate it using Level I concentrations or Level II concentrations. If the actual contamination is based on an observed release by direct observation, use Level II concentrations for that intake. However, if the actual contamination is based on an observed release from samples, determine which level applies for the intake by comparing the exposure concentrations from samples (or comparable samples) to health-based benchmarks as specified in sections 2.5.1 and 2.5.2. Use the health-based benchmarks from Table 3–10 (section 3.3.1) in determining the level of contamination from samples. For contaminated sediments with no identified source, evaluate the actual contamination using Level II concentrations (see section 4.1.1.2).

4.1.2.3.1 *Nearest intake.* Evaluate the nearest intake factor based on the drinking water intakes along the overland/flood hazardous substance migration path for the watershed. Include standby intakes in evaluating this factor only if they are used for supply at least once a year.

Assign the nearest intake factor a value as follows and enter the value in Table 4–1:

- If one or more of these drinking water intakes is subject to Level I concentrations as specified in section 4.1.2.3, assign a factor value of 50.
- If not, but if one or more of these drinking water intakes is subject to Level II concentrations, assign a factor value of 45.
- If none of these drinking water intakes is subject to Level I or Level II concentrations, determine the nearest of these drinking water intakes, as measured from the probable point of entry (or from the point where measurement begins for contaminated sediments with no identified source). Assign a dilution weight from Table 4–13 to this intake, based on the type of surface water body in which it is located. Multiply this dilution weight by 20, round the product to the nearest integer, and assign it as the factor value.

Assign the dilution weight from Table 4–13 as follows:

TABLE 4–13.—SURFACE WATER DILUTION WEIGHTS

gauging station in

Type of surface water body [a]		Assigned dilution weight [b]
Descriptor	Flow characteristics	
Minimal stream	Less than 10 cfs [c]	1
Small to moderate stream	10 to 100 cfs	0.1
Moderate to large stream	Greater than 100 to 1,000 cfs	0.01
Large stream to river	Greater than 1,000 to 10,000 cfs	0.001
Large river	Greater than 10,000 to 100,000 cfs	0.0001
Very large river	Greater than 100,000 cfs	0.00001
Coastal tidal waters [d]	Flow not applicable, depth not applicable	0.0001
Shallow ocean zone [e] or Great Lake	Flow not applicable, depth less than 20 feet	0.0001
Moderate depth ocean zone [e] or Great Lake	Flow not applicable, depth 20 to 200 feet	0.00001
Deep ocean zone [e] or Great Lake	Flow not applicable, depth greater than 200 feet	0.000005
3-mile mixing zone in quiet flowing river	10 cfs or greater	0.5

[a] Treat each lake as a separate type of water body and assign a dilution weight as specified in text.
[b] Do not round to nearest integer.
[c] cfs = cubic feet per second.
[d] Embayments, harbors, sounds, estuaries, back bays, lagoons, wetlands, etc., seaward from mouths of rivers and landward from baseline of Territorial Sea.
[e] Seaward from baseline of Territorial Sea. This baseline represents the generalized U.S. coastline. It is parallel to the seaward limit of the Territorial Sea and other maritime limits such as the inner boundary of the Federal fisheries jurisdiction and the limit of States jurisdiction under the Submerged Lands Act, as amended.

- For a river (that is, surface water body types specified in Table 4–13 as minimal stream through very large river), assign a dilution weight based on the average annual flow in the river at the intake. If available, use the average annual discharge as defined in the U.S. Geological Survey Water Resources Data Annual Report. Otherwise, estimate the average annual flow.
- For a lake, assign a dilution weight as follows:
  - For a lake that has surface water flow entering the lake, assign a dilution weight based on the sum of the

6

4.1.4.2.2 *Hazardous waste quantity.* Assign the same factor value for hazardous waste quantity for the watershed as would be assigned in section 4.1.2.2.2 for the drinking water threat. Enter this value in Table 4–1.

4.1.4.2.3 *Calculation of environmental threat-waste characteristics factor category value.* For the hazardous substance selected for the watershed in section 4.1.4.2.1.4, use its ecosystem toxicity/persistence factor value and ecosystem bioaccumulation potential factor value as follows to assign a value to the waste characteristics factor category. First, multiply the ecosystem toxicity/persistence factor value and the hazardous waste quantity factor value for the watershed, subject to a maximum product of 1×10^8. Then multiply this product by the ecosystem bioaccumulation potential factor value for this hazardous substance, subject to a maximum product of 1×10^{12}. Based on this second product, assign a value from Table 2–7 (section 2.4.3.1) to the environmental threat-waste characteristics factor category for the watershed. Enter this value in Table 4–1.

TABLE 4–22.—ECOLOGICAL-BASED BENCHMARKS FOR HAZARDOUS SUBSTANCES IN SURFACE WATER

- Concentration corresponding to EPA Ambient Water Quality Criteria (AWQC) for protection of aquatic life (fresh water or marine).
- Concentration corresponding to EPA Ambient Aquatic Life Advisory Concentrations (AALAC).
- Select the appropriate AWQC and AALAC as follows:
  - –Use chronic value, if available; otherwise use acute value.
  - –If the sensitive environment being evaluated is in fresh water, use fresh water value, except: if no fresh water value is available, use marine value if available.
  - –If the sensitive environment being evaluated is in salt water, use marine value, except: if no marine value is available, use fresh water value if available.
  - –If the sensitive environment being evaluated is in both fresh water and salt water, or is in brackish water, use lower of fresh water or marine values.

TABLE 4–23.—SENSITIVE ENVIRONMENTS RATING VALUES

Sensitive environment	Assigned value
Critical habitat [a] for Federal designated endangered or threatened species Marine Sanctuary National Park Designated Federal Wilderness Area Areas identified under Coastal Zone Management Act [b] Sensitive areas identified under National Estuary Program [c] or Near Coastal Waters Program [d] Critical areas identified under the Clean Lakes Program [e] National Monument [f] National Seashore Recreational Area National Lakeshore Recreational Area	100
Habitat known to be used by Federal designated or proposed endangered or threatened species National Preserve National or State Wildlife Refuge Unit of Coastal Barrier Resources System Coastal Barrier (undeveloped) Federal land designated for protection of natural ecosystems Administratively Proposed Federal Wilderness Area Spawning areas critical [g] for the maintenance of fish/shellfish species within river, lake, or coastal tidal waters Migratory pathways and feeding areas critical for maintenance of anadromous fish species within river reaches or areas in lakes or coastal tidal waters in which the fish spend extended periods of time Terrestrial areas utilized for breeding by large or dense aggregations of animals [h] National river reach designated as Recreational	75
Habitat known to be used by State designated endangered or threatened species Habitat known to be used by species under review as to its Federal endangered or threatened status Coastal Barrier (partially developed) Federal designated Scenic or Wild River	50
State land designated for wildlife or game management State designated Scenic or Wild River State designated Natural Areas Particular areas, relatively small in size, important to maintenance of unique biotic communities	25
State designated areas for protection or maintenance of aquatic life [i]	5

[a] Critical habitat as defined in 50 CFR 424.02.
[b] Areas identified in State Coastal Zone Management plans as requiring protection because of ecological value.
[c] National Estuary Program study areas (subareas within estuaries) identified in Comprehensive Conservation and Management Plans as requiring protection because they support critical life stages of key estuarine species (Section 320 of Clean Water Act, as amended).
[d] Near Coastal Waters as defined in Sections 104(b)(3), 304(1), 319, and 320 of Clean Water Act, as amended.
[e] Clean Lakes Program critical areas (subareas within lakes, or in some cases entire small lakes) identified by State Clean Lake Plans as critical habitat (Section 314 of Clean Water Act, as amended).
[f] Use only for air migration pathway.
[g] Limit to areas described as being used for intense or concentrated spawning by a given species.
[h] For the air migration pathway, limit to terrestrial vertebrate species. For the surface water migration pathway, limit to terrestrial vertebrate species with aquatic or semiaquatic foraging habits.
[i] Areas designated under Section 305(a) of Clean Water Act, as amended.

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Reference 3

START II

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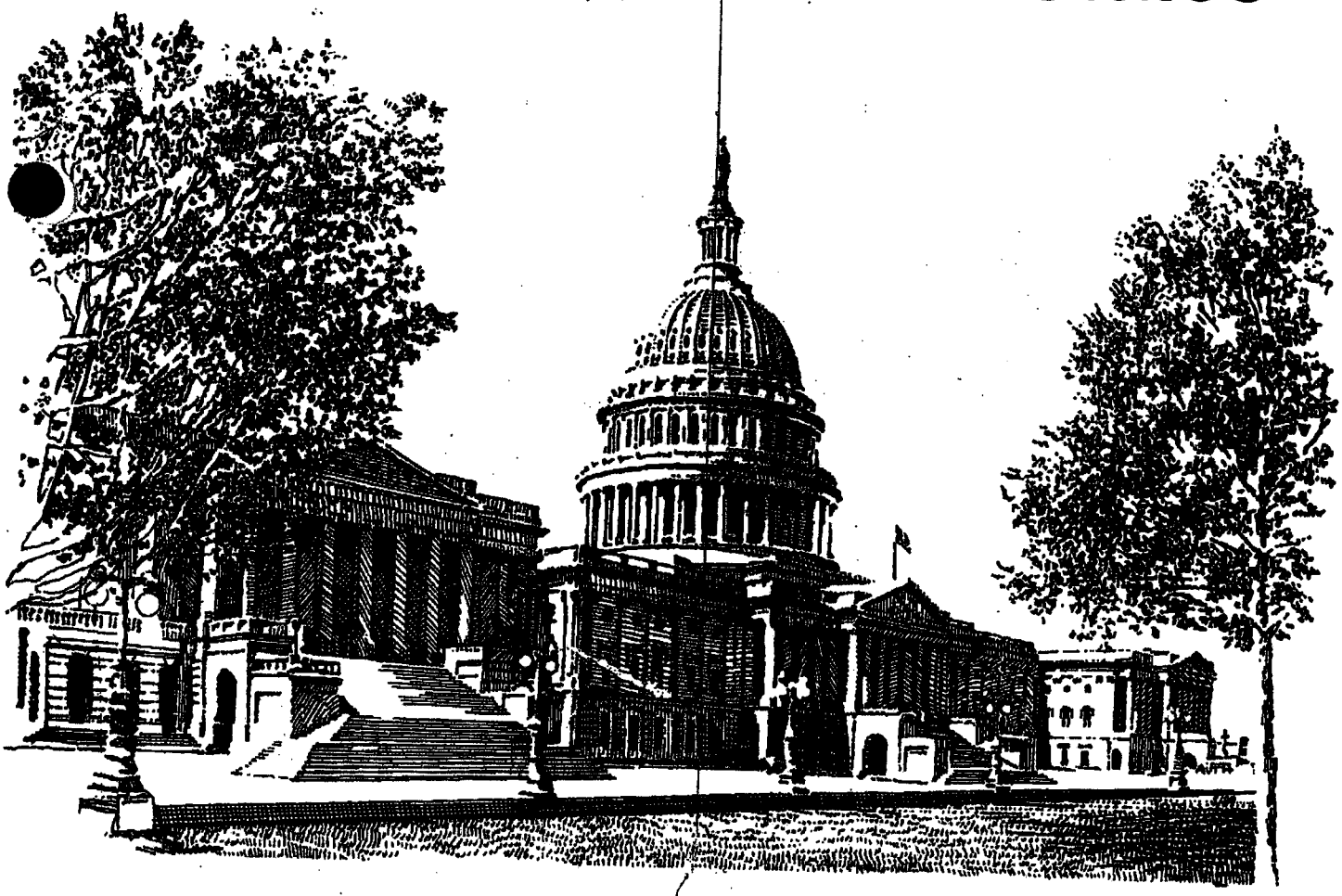
Volume 2

New Jersey - Wyoming,
American Samoa, Guam, Puerto Rico,
and Virgin Islands of the United States

Congressional District Atlas

103rd Congress of the United States



U.S. Department of Commerce
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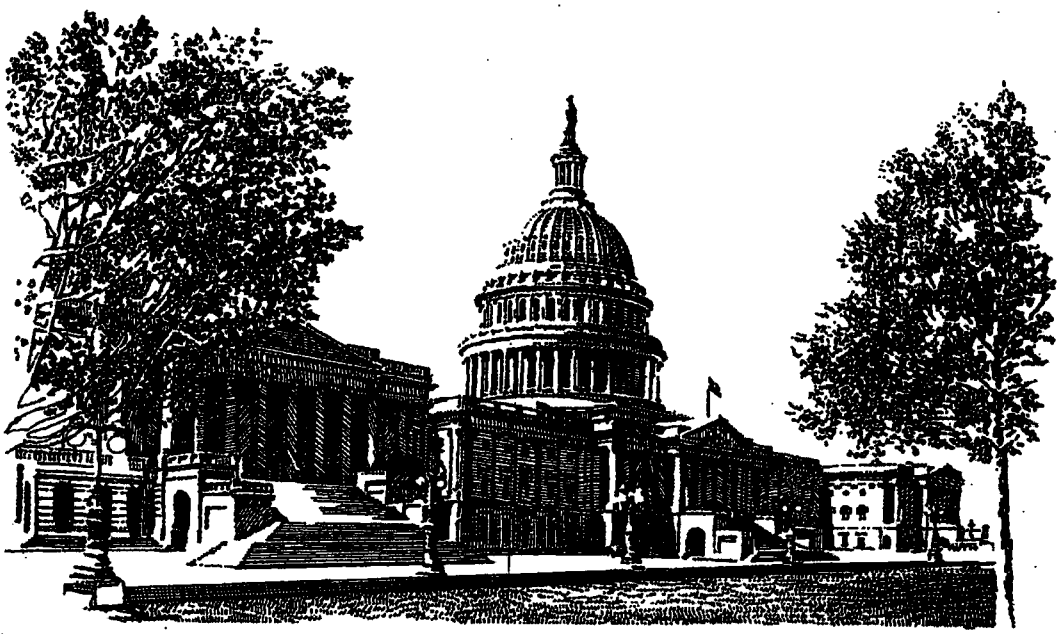
Volume 2

New Jersey - Wyoming,
American Samoa, Guam, Puerto Rico,
and Virgin Islands of the United States

Congressional District Atlas

103rd Congress of the United States

Issued February 1993



U.S. Department of Commerce
Ronald H. Brown, Secretary
John Rollwagen, Deputy Secretary

Economics and Statistics Administration
Jeffrey Mayer, Acting Under Secretary

BUREAU OF THE CENSUS
Harry A. Scarr, Acting Director

(2)

Congressional Districts (13 Districts)

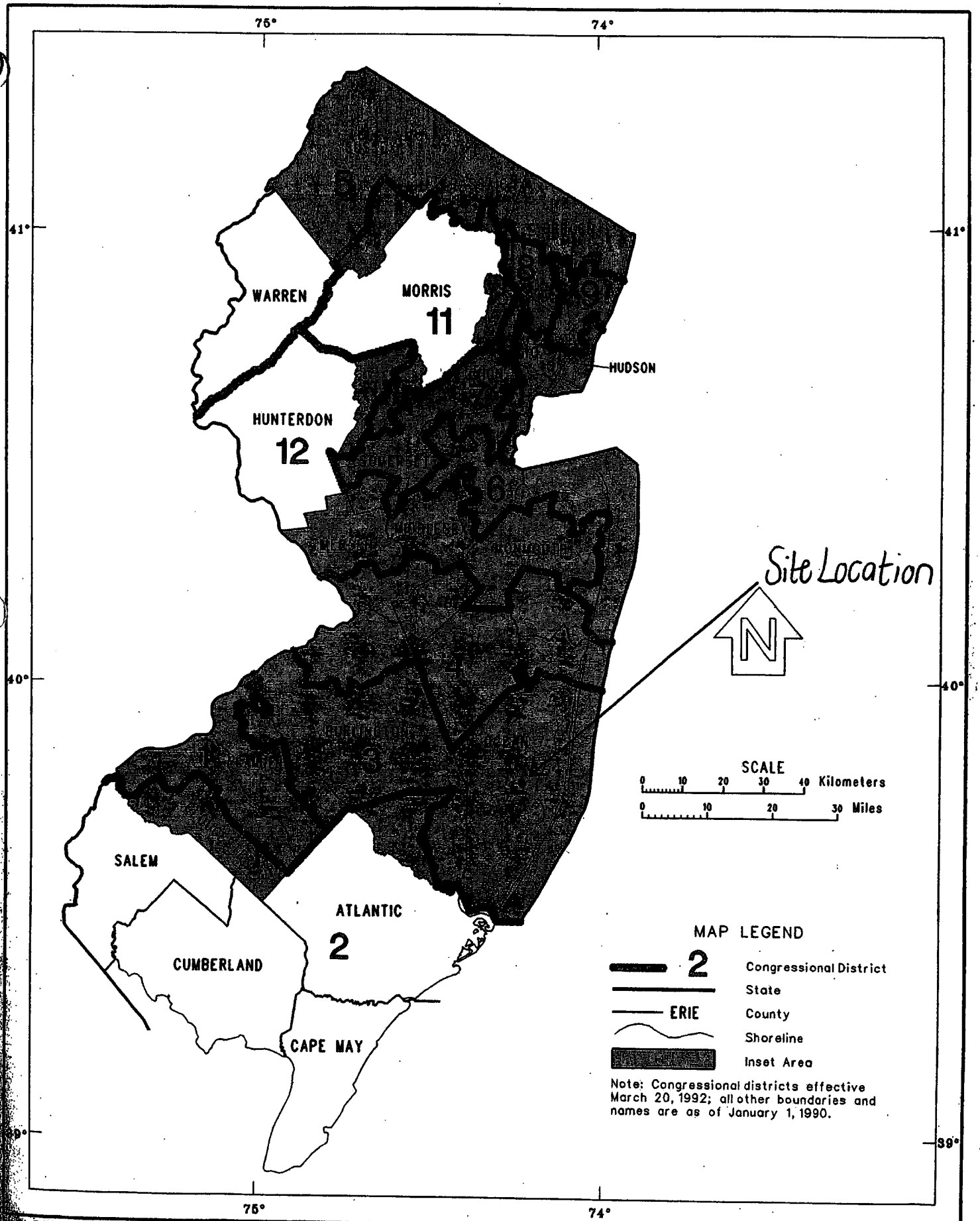


Table 1. **Places**—Con.

Place	County	Congressional district
Shark River Hills CDP	Monmouth	6
Shiloh borough	Cumberland	2
Ship Bottom borough	Ocean	3
Shrewsbury borough	Monmouth	12
Silver Ridge CDP	Ocean	3
Silverton CDP	Ocean	3
Society Hill CDP	Middlesex	6
Somerdale borough	Camden	1
Somerset CDP	Somerset	7
Somers Point city	Atlantic	2
Somerville borough	Somerset	11
South Amboy city	Middlesex	6
South Belmar borough	Monmouth	6
South Bound Brook borough	Somerset	7
South Orange CDP	Essex	8,10
South Plainfield borough	Middlesex	7
South River borough	Middlesex	6
South Toms River borough	Ocean	3
Spotswood borough	Middlesex	6
Springfield CDP	Union	7
Spring Lake borough	Monmouth	6
Spring Lake Heights borough	Monmouth	4,6
Stanhope borough	Sussex	11
Stockton borough	Hunterdon	12
Stone Harbor borough	Cape May	2
Stratford borough	Camden	1
Strathmore CDP	Monmouth	6
Succasunna-Kenvil CDP	Morris	11
Summit city	Union	7
Surf City borough	Ocean	3
Sussex borough	Sussex	5
Swedesboro borough	Gloucester	2
Tavistock borough	Camden	1
Teaneck CDP	Bergen	9
Tenafly borough	Bergen	5
Teterboro borough	Bergen	9
Tinton Falls borough	Monmouth	12
Toms River CDP	Ocean	3
Totowa borough	Passaic	6
Trenton city	Mercer	4
Tuckerton borough	Ocean	3
Turnersville CDP	Gloucester	1
Twin Rivers CDP	Mercer	4
Union CDP	Union	7,10
Union Beach borough	Monmouth	6
Union City city	Hudson	13
Upper Saddle River borough	Bergen	5
Ventnor City city	Atlantic	2
Vernon Valley CDP	Sussex	5
Verona CDP	Essex	8
Victory Gardens borough	Morris	11
Victory Lakes CDP	Gloucester	1
Villas CDP	Cape May	2
Vineland city	Cumberland	2
Waldwick borough	Bergen	5
Wallington borough	Bergen	9
Wanamassa CDP	Monmouth	12
Wanaque borough	Passaic	5
Waretown CDP	Ocean	3
Washington borough	Warren	5
Washington Township CDP	Bergen	5
Watchung borough	Somerset	7
Wayne CDP	Passaic	8
Weehawken CDP	Hudson	13
Wenonah borough	Gloucester	1
West Belmar CDP	Monmouth	4
West Caldwell CDP	Essex	11
West Cape May borough	Cape May	2
Westfield town	Union	7
West Freehold CDP	Monmouth	12
West Long Branch borough	Monmouth	12
West Milford CDP	Passaic	5
West New York town	Hudson	13
West Orange CDP	Essex	8,10
West Paterson borough	Passaic	8
Westville borough	Gloucester	1
West Wildwood borough	Cape May	2
Westwood borough	Bergen	5
Wharton borough	Morris	11
White Horse CDP	Mercer	4
White House Station CDP	Hunterdon	12
White Meadow Lake CDP	Morris	11
Whitesboro-Burleigh CDP	Cape May	2
Wildwood city	Cape May	2
Wildwood Crest borough	Cape May	2
Williamstown CDP	Gloucester	1
Willingboro CDP	Burlington	3
Woodbine borough	Cape May	2
Woodbridge CDP	Middlesex	7,13
Woodbury city	Gloucester	1
Woodbury Heights borough	Gloucester	1
Woodcliff Lake borough	Bergen	5
Woodlynne borough	Camden	1
Wood-Ridge borough	Bergen	9
Woodstown borough	Salem	2
Wrightstown borough	Burlington	3,4
Wyckoff CDP	Bergen	5
Yardville-Groveville CDP	Mercer	4
Yorketown CDP	Monmouth	12

Reference 4

The EDR Radius Map
with GeoCheck®

Center of Pine Oak and Madelin
Center of Pine Oak/Madeline Dr
Tuckerton, NJ 08087

Inquiry Number: 1116160.3s

January 21, 2004

Environmental Data Resources, Inc.

The Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06890

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

FORM-DJV

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

CENTER OF PINE OAK/MADELINE DR
TUCKERTON, NJ 08087

COORDINATES

Latitude (North):	39.606300 - 39' 36' 22.7"
Longitude (West):	74.361200 - 74' 21' 40.3"
Universal Tranverse Mercator:	Zone 18
UTM X (Meters):	554841.2
UTM Y (Meters):	4384047.5
State Plane X (Feet):	2086070.1
State Plane Y (Feet):	281676.9
Elevation:	30 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	39074-E3 TUCKERTON, NJ
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System
CORRACTS..... Corrective Action Report
RCRIS-TSD..... Resource Conservation and Recovery Information System
RCRIS-LQG..... Resource Conservation and Recovery Information System
RCRIS-SQG..... Resource Conservation and Recovery Information System
ERNS..... Emergency Response Notification System

EXECUTIVE SUMMARY

STATE ASTM STANDARD

SWF/LF..... Solid Waste Facility Directory
UST..... Underground Storage Tank Data

FEDERAL ASTM SUPPLEMENTAL

CONSENT..... Superfund (CERCLA) Consent Decrees
ROD..... Records Of Decision
Delisted NPL..... National Priority List Deletions
FINDS..... Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS..... Hazardous Materials Information Reporting System
MLTS..... Material Licensing Tracking System
MINES..... Mines Master Index File
NPL Liens..... Federal Superfund Liens
PADS..... PCB Activity Database System
DOD..... Department of Defense Sites
US BROWNFIELDS..... A Listing of Brownfields Sites
RAATS..... RCRA Administrative Action Tracking System
TRIS..... Toxic Chemical Release Inventory System
TSCA..... Toxic Substances Control Act
SSTS..... Section 7 Tracking Systems
FTTS INSP..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

NJ MAJOR FACILITIES..... List of Major Facilities
NJ Spills..... Spills
NJ Release..... Hazardous Material Incident Database
NJ PF..... Publicly Funded Cleanups Site Status Report
CHROME..... Chromate Chemical Production Waste Sites
NJPDES..... New Jersey Pollutant Discharge Elimination System Dischargers

EDR PROPRIETARY HISTORICAL DATABASES

Coal Gas..... Former Manufactured Gas (Coal Gas) Sites

BROWNFIELDS DATABASES

US BROWNFIELDS..... A Listing of Brownfields Sites
Brownfields..... Brownfields Database
INST CONTROL..... Sites With Closed Case(s) With Restrictions

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

FEDERAL ASTM STANDARD

CERCLIS-NFRAP: As of February 1995. CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund Action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

A review of the CERC-NFRAP list, as provided by EDR, and dated 09/11/2003 has revealed that there is 1 CERC-NFRAP site within approximately 0.375 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
CUMBERLAND FARMS	*RTE 9 & WISTERIA LANE*	*1/4 - 1/2 SSE*	*1*	*6*

STATE ASTM STANDARD

SHWS: Known contaminated sites in New Jersey except those associated with Bureau of Underground Storage Sites (BUST)

A review of the SHWS list, as provided by EDR, has revealed that there are 2 SHWS sites within approximately 1.125 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
SHELL SERVICE STATION TUCKERTO	7 MAIN ST (RTE 9 S)	1 - 2 ESE	A6	8
GETTY SERVICE STATION TUCKERTO	118 WEST MAIN ST	1 - 2 ESE	A7	8

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Protection & Energy's Incident Report.

A review of the LUST list, as provided by EDR, and dated 09/17/2002 has revealed that there are 4 LUST sites within approximately 0.625 miles of the target property.

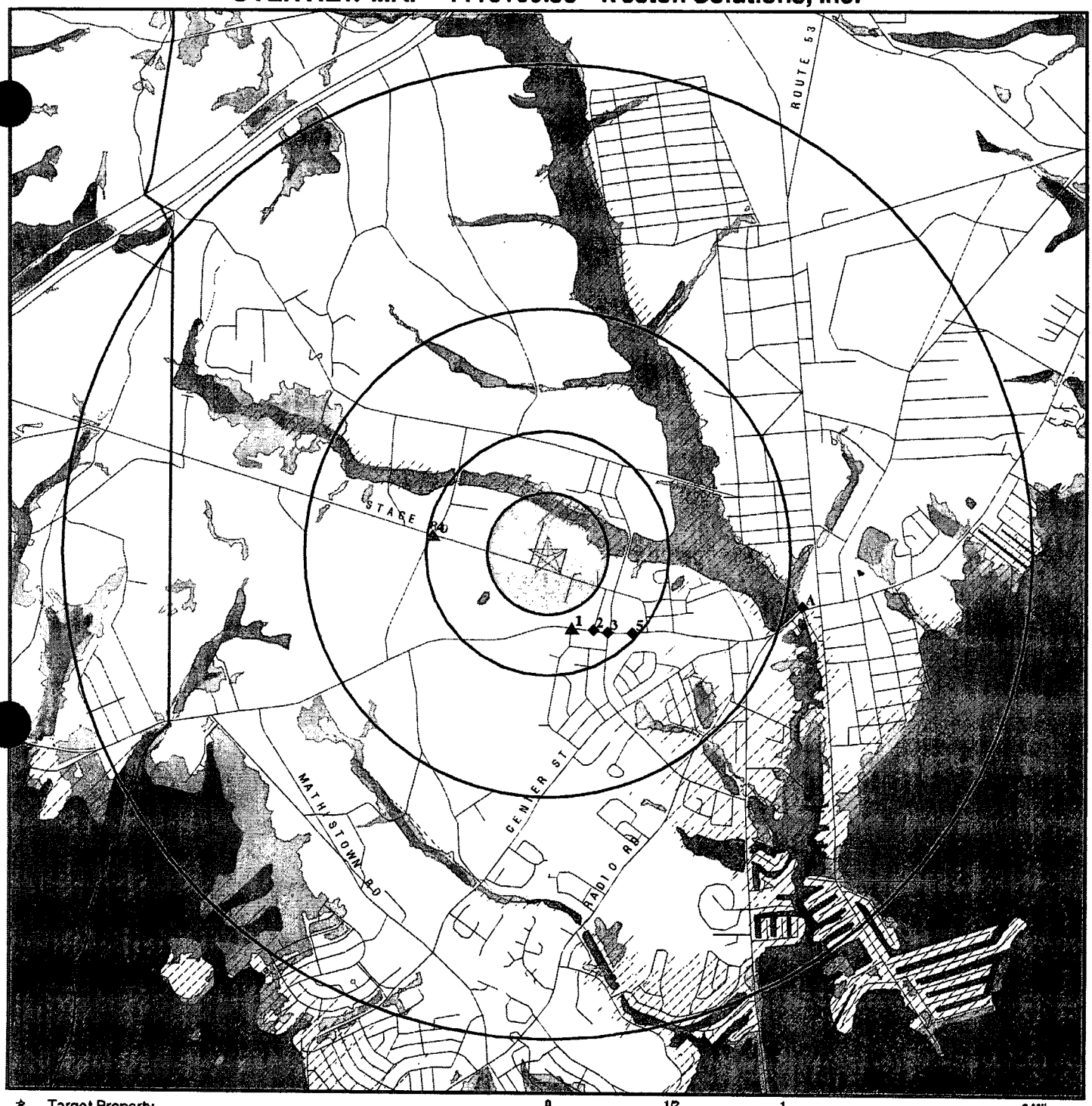
Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
BARRETT ASPHALT PLANT (S. JERS	OTIS BOG RD / STAGE RD.	1/4 - 1/2 W	4	7

Lower Elevation	Address	Dist / Dir	Map ID	Page
LITTLE EGG HARBOR TWP MUNICI	7 GIFFORD RD	1/4 - 1/2 SSE	2	6
WEST TUCKERTON FIREHOUSE (MUNI	505 ROUTE 9 SOUTH	1/4 - 1/2 SE	3	7
TRENTON PETROLEUM - WEST CREEK	439 ROUTE 9 SOUTH	1/4 - 1/2 SE	5	7

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
BARNEGAT BAY DECOY & BAYMENS MUSEU	SHWS, LUST
96 FAIRWAY DR	SHWS
LITTLE EGG HARBOR TOWNSHIP SLF	NJPDES
BAYVIEW PARK LTD	NJPDES
TUCKERTON SAND & GRAVEL SLF	SWF/LF
CUMBERLAND FARMS	LUST
TUCKERTON CENTRAL OFFICE	LUST
B & B HAWTHORNE SERVICENTER INC	UST
NEW GRETNA SERVICE 37599	UST
TUCKERTON ARMORY	RCRIS-SQG, FINDS, UST
AT 2ND LIGHT ON	NJ Spills, NJ Release
EAST END OF:	NJ Spills, NJ Release
IN FRONT OF SHOPPING CENTER	NJ Spills, NJ Release
INFRONT OF:	NJ Spills, NJ Release
ON ROADWAY	NJ Spills, NJ Release
SEWER IN FRONT OF	NJ Spills, NJ Release
WETLAND	NJ Spills, NJ Release
PENNYS RESTAURANT	NJ Spills, NJ Release
AT THE END OF	NJ Spills, NJ Release
AREA OF	NJ Spills, NJ Release
IN THE AREA OF	NJ Spills, NJ Release
IN WOODS	NJ Release
ECKERD DRUGS	NJ Release
BASS RIVER CAMPGROUNDS	NJ Release
TUCKERTON CREEK DAM	NJ Release
BAYMAN'S MUSEUM	NJ Release
USED FURNITURE STORE	NJ Release
AREA OF	NJ Release
74 OAK LEAF DRIVE	FINDS
B&B HAWTHORNE SERVICE CENTER INCOR	FINDS
MARTIN SERVICE CENTER CORP	FINDS

OVERVIEW MAP - 1116160.3s - Weston Solutions, Inc.



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites

0 1/2 1 2 Miles

- County Boundary
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Federal Wetlands
- State Wetlands

TARGET PROPERTY:	Center of Pine Oak and Madelin	CUSTOMER:	Weston Solutions, Inc.
ADDRESS:	Center of Pine Oak/Madeline Dr	CONTACT:	Michele Capriglione
CITY/STATE/ZIP:	Tuckerton NJ 08087	INQUIRY #:	1116160.3s
LAT/LONG:	39.6063 / 74.3612	DATE:	January 21, 2004 4:41 pm

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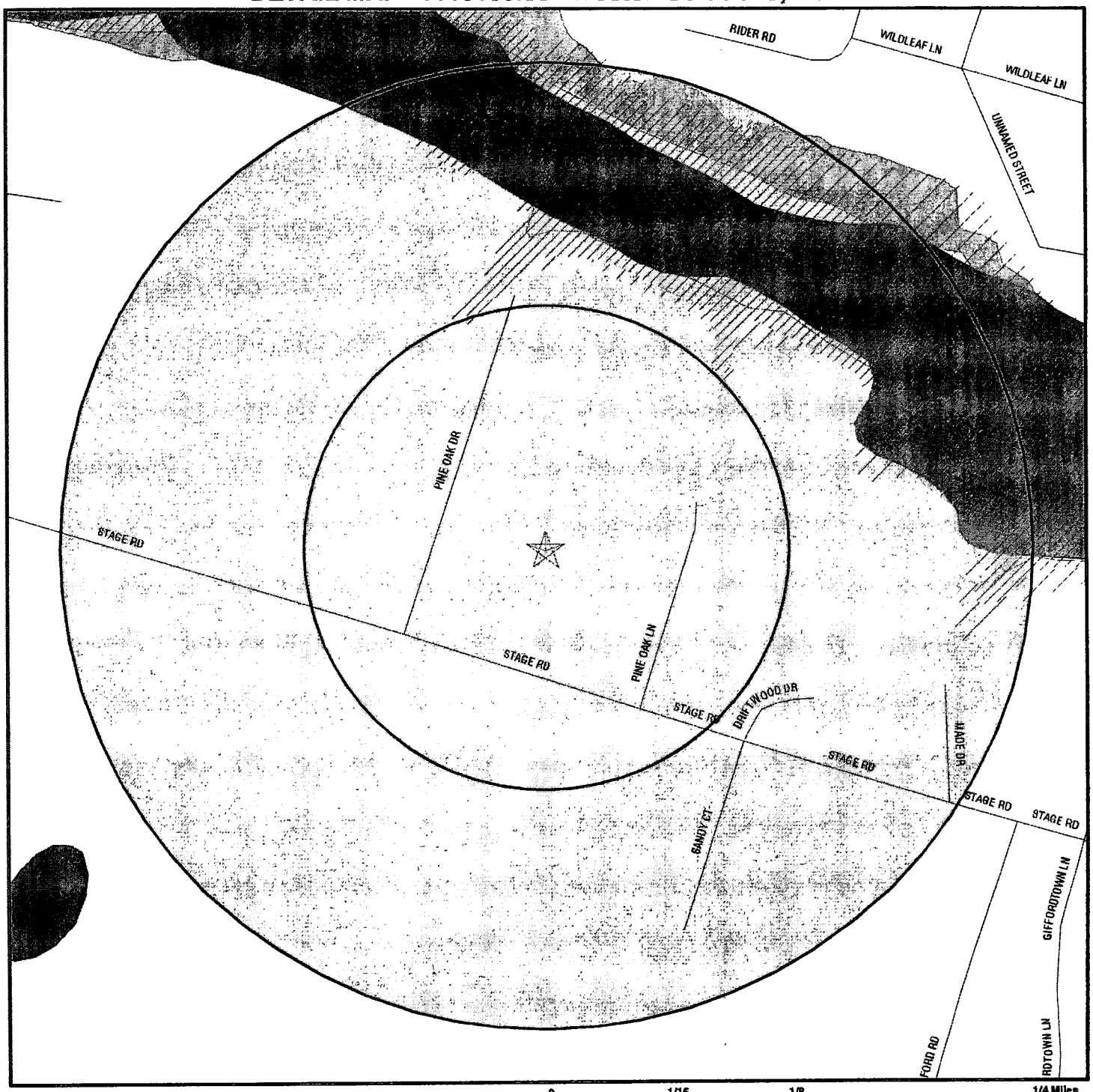
DETAIL MAP - 1116160.3s - Weston Solutions, Inc.



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- County Boundary
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Federal Wetlands
- State Wetlands

TARGET PROPERTY:	Center of Pine Oak and Madelin	CUSTOMER:	Weston Solutions, Inc.
ADDRESS:	Center of Pine Oak/Madeline Dr	CONTACT:	Michele Capriglione
CITY/STATE/ZIP:	Tuckerton NJ 08087	INQUIRY #:	1116160.3s
LAT/LONG:	39.6063 / 74.3612	DATE:	January 21, 2004 4:41 pm

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.125	0	0	0	0	0	0
Proposed NPL		1.125	0	0	0	0	0	0
CERCLIS		0.625	0	0	0	0	NR	0
CERC-NFRAP		0.375	0	0	1	NR	NR	1
CORRACTS		1.125	0	0	0	0	0	0
RCRIS-TSD		0.625	0	0	0	0	NR	0
RCRIS Lg. Quan. Gen.		0.375	0	0	0	NR	NR	0
RCRIS Sm. Quan. Gen.		0.375	0	0	0	NR	NR	0
ERNS		0.125	0	NR	NR	NR	NR	0
STATE ASTM STANDARD								
State Haz. Waste		1.125	0	0	0	0	2	2
State Landfill		0.625	0	0	0	0	NR	0
LUST		0.625	0	0	4	0	NR	4
UST		0.375	0	0	0	NR	NR	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.125	0	0	0	0	0	0
ROD		1.125	0	0	0	0	0	0
Delisted NPL		1.125	0	0	0	0	0	0
FINDS		0.125	0	NR	NR	NR	NR	0
HMIRS		0.125	0	NR	NR	NR	NR	0
MLTS		0.125	0	NR	NR	NR	NR	0
MINES		0.375	0	0	0	NR	NR	0
NPL Liens		0.125	0	NR	NR	NR	NR	0
PADS		0.125	0	NR	NR	NR	NR	0
DOD		1.125	0	0	0	0	0	0
US BROWNFIELDS		0.625	0	0	0	0	NR	0
RAATS		0.125	0	NR	NR	NR	NR	0
TRIS		0.125	0	NR	NR	NR	NR	0
TSCA		0.125	0	NR	NR	NR	NR	0
SSTS		0.125	0	NR	NR	NR	NR	0
FTTS		0.125	0	NR	NR	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
NJ Major Facilities		0.625	0	0	0	0	NR	0
NJ Spills		0.125	0	NR	NR	NR	NR	0
NJ Release		0.125	0	NR	NR	NR	NR	0
NJ PF		0.125	0	NR	NR	NR	NR	0
CHROME		0.125	0	NR	NR	NR	NR	0
NJPDES		0.125	0	NR	NR	NR	NR	0
EDR PROPRIETARY HISTORICAL DATABASES								
Coal Gas		1.125	0	0	0	0	0	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
BROWNFIELDS DATABASES								
US BROWNFIELDS		0.625	0	0	0	0	NR	0
Brownfields		0.625	0	0	0	0	NR	0
INST CONTROL		0.375	0	0	0	NR	NR	0

NOTES:

AQUIFLOW - see EDR Physical Setting Source Addendum

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

---

1 SSE 1/4-1/2 1697 ft.

CUMBERLAND FARMS
RTE 9 & WISTERIA LANE
LITTLE EGG HARBOR TWP, NJ 08087

CERC-NFRAP 1003863360
NJPDES NJD980771554

Relative: Higher
Actual: 36 ft.

CERCLIS-NFRAP Classification Data:
Site Incident Category: Not reported
Non NPL Code: NFRAP
Ownership Status: Other

Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL

CERCLIS-NFRAP Assessment History:

Assessment:	DISCOVERY	Completed:	04/10/1984
Assessment:	ARCHIVE SITE	Completed:	08/01/1984
Assessment:	PRELIMINARY ASSESSMENT	Completed:	08/01/1984

NJ PDES:

NJPDES Permit Number :	NJ0051756
Facility Telephone :	(617) 828-4900
Facility Contact :	PLANT OFFICER
Facility Municipality:	LITTLE EGG HARBOR
Discharger Classification:	Minor
Facility Enforcement region:	CENTRAL
Facility Ownership:	PRIVATE
Facility Primary SIC code:	Not reported
Facility Discharge Basin code:	Not reported
Facility Discharge Basin name:	Not reported
Fac Lat/Long:	393609 / 742138
Facility Lot number:	Not reported
Facility Block number:	Not reported
Date Permit Application Received :	07/24/85
Date Draft Permit Issued To Facility:	/ /
Permittee Name:	CUMBERLAND FARMS INC
PI Number:	Not reported
Permittee Street Address:	777 DEDHAM STREET
	Not reported
	Not reported
Permittee PO Box:	Not reported
	CANTON, MA 02021
Date Final Permit Issued To Facility:	Not reported
Date Final Permit Becomes Effective:	Not reported
Date Final Permit Expires:	Not reported
Permit Discharge Category:	I ,M ,SR
Category Description:	Not reported

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2 SSE 1/4-1/2 1926 ft.

LITTLE EGG HARBOR TWP MUNICI
7 GIFFORD RD
LITTLE EGG HARBOR, NJ

LUST S105487967
N/A

Relative: Lower
Actual: 29 ft.

LUST:

Case ID:	Not reported
Facility Status:	Site Issued Letter of No Further Action
Facility Phone:	(609) 633-1435
UST ID:	0070085
Lead Program Assigned to Case:	Bureau of Field Operations - Initial Notice Section
TMS Number:	C93-0644
Remedial Level:	Site has 1 area of concern with 1 media of concern.
Case Manager:	Rafael Rivera

LITTLE EGG HARBOR TWP MUNICI (Continued) **S105487967**

No Further Action:	12/12/1994 0:00:00
RAW Approved:	Not reported
CEA:	Not reported
Date CEA Lifted:	Not reported
Dead Notice:	Not reported

3
SE
1/4-1/2
2153 ft.

WEST TUCKERTON FIREHOUSE (MUNICIPAL BUILDING) **LUST** **S104387012**
505 ROUTE 9 SOUTH **N/A**
LITTLE EGG HBR TWP, NJ

Relative:
Lower

Actual:
26 ft.

LUST:

Case ID:	Not reported
Facility Status:	Site Issued Letter of No Further Action
Facility Phone:	(609) 292-9519
UST ID:	0273990
Lead Program Assigned to Case:	Bureau of Field Operations - Initial Notice Section
TMS Number:	N99-1027
Remedial Level:	Site has 1 area of concern with 1 media of concern.
Case Manager:	Corbin Weck
No Further Action:	7/14/2000 0:00:00
RAW Approved:	Not reported
CEA:	Not reported
Date CEA Lifted:	Not reported
Dead Notice:	Not reported

4
West
1/4-1/2
2518 ft.

BARRETT ASPHALT PLANT (S. JERSEY ASPHALT **LUST** **S104587787**
OTIS BOG RD / STAGE RD. **N/A**
LITTLE EGG HARBOR, NJ

Relative:
Higher

Actual:
40 ft.

LUST:

Case ID:	88-01-20-04C
Facility Status:	Site Issued Letter of No Further Action
Facility Phone:	Not reported
UST ID:	0056153
Lead Program Assigned to Case:	Bureau of Underground Storage Tanks
TMS Number:	Not reported
Remedial Level:	Not reported
Case Manager:	Not reported
No Further Action:	3/25/1991 0:00:00
RAW Approved:	Not reported
CEA:	Not reported
Date CEA Lifted:	Not reported
Dead Notice:	Not reported

5
SE
1/4-1/2
2526 ft.

TRENTON PETROLEUM - WEST CREEK GULF **LUST** **S105048200**
439 ROUTE 9 SOUTH **N/A**
EAGLESWOOD TOWNSHIP, NJ

Relative:
Lower

Actual:
21 ft.

LUST:

Case ID:	Not reported
Facility Status:	Site Issued Letter of No Further Action
Facility Phone:	(609) 292-9519
UST ID:	0314345
Lead Program Assigned to Case:	Bureau of Field Operations - Initial Notice Section
TMS Number:	N96-0653

TRENTON PETROLEUM - WEST CREEK GULF (Continued) **S105048200**

Remedial Level:	Site has 1 area of concern with 1 media of concern.
Case Manager:	Corbin Weck
No Further Action:	4/14/2000 0:00:00
RAW Approved:	Not reported
CEA:	Not reported
Date CEA Lifted:	Not reported
Dead Notice:	Not reported

A6
ESE
> 1
5661 ft.

SHELL SERVICE STATION TUCKERTON BOROUGH — **SHWS** — **S102876271**
7 MAIN ST (RTE 9 S) — **N/A**
TUCKERTON BOROUGH, NJ

Site 1 of 2 in cluster A

Relative:
Lower

Actual:
10 ft.

SHWS:

Facility ID:	NJD986570463	Case ID:	52157
Contact:	Bureau of Underground Storage Tanks		
Case Status:	ACTIVE		
Sub Section Code:	A		
Status Date:	07/24/1986		
Site Municipality:	1532		
Sub Section Label:	SITES WITH ON-SITE SOURCE(S) OF CONTAMINATION		
Remedial Action Type:	Not reported		
CEA/DER:	Not reported		

A7
ESE
> 1
5740 ft.

GETTY SERVICE STATION TUCKERTON BOROUGH — **SHWS** — **S103032190**
118 WEST MAIN ST — **N/A**
TUCKERTON BOROUGH, NJ

Site 2 of 2 in cluster A

Relative:
Lower

Actual:
10 ft.

SHWS:

Facility ID:	NJL600102214	Case ID:	163947
Contact:	Bureau of Underground Storage Tanks		
Case Status:	ACTIVE		
Sub Section Code:	A		
Status Date:	04/18/1994		
Site Municipality:	1532		
Sub Section Label:	SITES WITH ON-SITE SOURCE(S) OF CONTAMINATION		
Remedial Action Type:	Not reported		
CEA/DER:	Not reported		

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
LITTLE EGG HARBOR	S104712362	IN WOODS	RT 9 / MATHISTOWN	08087	NJ Release
LITTLE EGG HARBOR	S104796855	ECKERD DRUGS	489 RT 9 NORTH	08087	NJ Release
LITTLE EGG HARBOR	S105486259	CUMBERLAND FARMS	RTE 9 / WISTERIA LANE	08087	LUST
LITTLE EGG HARBOR	S105487968	TUCKERTON CENTRAL OFFICE	RT 9 / TAYLOR ST	08087	LUST
LITTLE EGG HARBOR	S102209886	AT 2ND LIGHT ON	GREATBAY BLVD	08087	NJ Spills, NJ Release
LITTLE EGG HARBOR	S104424210	EAST END OF:	L.E.HARBOR BLV.	08087	NJ Spills, NJ Release
LITTLE EGG HARBOR	1007038053	74 OAK LEAF DRIVE	74 OAK LEAF DR	08087	FINDS
LITTLE EGG HARBOR	S104441522	IN FRONT OF SHOPPING CENTER	RT#9+GIFFORDTOWN RD	08087	NJ Spills, NJ Release
LITTLE EGG HARBOR	S105296143	LITTLE EGG HARBOR TOWNSHIP SLF	STAFFORD FORGE ROAD	08087	NJPDES
LITTLE EGG HARBOR	S103896969	BASS RIVER CAMPGROUNDS	STAGE RD	08087	NJ Release
MYSTIC ISLANDS	S104446031	INFRONT OF:	2445 N ENSIGN DR	08087	NJ Spills, NJ Release
MYSTIC ISLANDS	S102201418	ON ROADWAY	FALCON DR	08087	NJ Spills, NJ Release
MYSTIC ISLANDS	S104430372	SEWER IN FRONT OF	5118 LAKE SUPERIOR D	08087	NJ Spills, NJ Release
MYSTIC ISLANDS	S102194492	WETLAND	OFF EAST DORY DR	08087	NJ Spills, NJ Release
NEW GRETNA	U003564160	B & B HAWTHORNE SERVICENTER INC	RT 9	08087	UST
PARKERTOWN	S104656463	PENNYS RESTAURANT	RT#9	08087	NJ Spills, NJ Release
TUCKERTON	U000363563	NEW GRETNA SERVICE 37599	RT 9 BOX 287	08087	UST
TUCKERTON	S105008298	BARNEGAT BAY DECOY & BAYMENS MUSEU	RTE 9		SHWS, LUST
TUCKERTON	S105339845	TUCKERTON CREEK DAM	RT 9		NJ Release
TUCKERTON	S104364543	BAYMAN'S MUSEUM	RTE 9		NJ Release
TUCKERTON	S104481407	AT THE END OF	ADMIRAL DRIVE	08087	NJ Spills, NJ Release
TUCKERTON	S100112604	TUCKERTON SAND & GRAVEL SLF	PO BOX 1080	08087	SWF/LF
TUCKERTON	S104481700	AREA OF	EDGEWATER DR		NJ Spills, NJ Release
TUCKERTON	S105009949	96 FAIRWAY DR	96 FAIRWAY DR		SHWS
TUCKERTON	S104481882	IN THE AREA OF	FIRST AVE / LAKE STREET		NJ Spills, NJ Release
TUCKERTON	S103897403	USED FURNITURE STORE	GREAT BAY BLVD / RT 9		NJ Release
TUCKERTON	S105296916	BAYVIEW PARK LTD	E MAIN ST	08087	NJPDES
TUCKERTON	S104655720	AREA OF	S RT 9		NJ Release
TUCKERTON	1000269649	TUCKERTON ARMORY	STATE HIGHWAY 9	08087	RCRIS-SQG, FINDS, UST
TUCKERTON BORO	1007010712	B&B HAWTHORNE SERVICE CENTER INCOR	ROUTE 9	08087	FINDS
UNION CITY	1007046162	MARTIN SERVICE CENTER CORP	417 12TH ST	08087	FINDS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/21/03
Date Made Active at EDR: 12/08/03
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 11/03/03
Elapsed ASTM days: 35
Date of Last EDR Contact: 11/03/03

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 6
Telephone: 214-655-6659

EPA Region 8
Telephone: 303-312-6774

Proposed NPL: Proposed National Priority List Sites
Source: EPA
Telephone: N/A

Date of Government Version: 10/14/03
Date Made Active at EDR: 12/08/03
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 12/01/03
Elapsed ASTM days: 7
Date of Last EDR Contact: 11/03/03

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 09/11/03
Date Made Active at EDR: 10/29/03
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 09/24/03
Elapsed ASTM days: 35
Date of Last EDR Contact: 12/22/03

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 09/11/03
Date Made Active at EDR: 10/29/03
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 09/24/03
Elapsed ASTM days: 35
Date of Last EDR Contact: 12/22/03

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/17/03
Date Made Active at EDR: 11/11/03
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 10/01/03
Elapsed ASTM days: 41
Date of Last EDR Contact: 12/08/03

RCRIS: Resource Conservation and Recovery Information System
Source: EPA
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs): generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs): generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs): generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/10/03
Date Made Active at EDR: 01/16/04
Database Release Frequency: Varies

Date of Data Arrival at EDR: 12/12/03
Elapsed ASTM days: 35
Date of Last EDR Contact: 11/18/03

ERNS: Emergency Response Notification System
Source: National Response Center, United States Coast Guard
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/02
Date Made Active at EDR: 02/03/03
Database Release Frequency: Annually

Date of Data Arrival at EDR: 01/27/03
Elapsed ASTM days: 7
Date of Last EDR Contact: 10/27/03

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/01/01
Database Release Frequency: Biennially

Date of Last EDR Contact: 12/16/03
Date of Next Scheduled EDR Contact: 03/15/04

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: N/A
Database Release Frequency: Varies

Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision
Source: EPA
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 07/09/03
Database Release Frequency: Annually

Date of Last EDR Contact: 10/08/03
Date of Next Scheduled EDR Contact: 01/05/04

DELISTED NPL: National Priority List Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/21/03
Database Release Frequency: Quarterly

Date of Last EDR Contact: 11/03/03
Date of Next Scheduled EDR Contact: 02/02/04

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/23/03
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/07/03
Date of Next Scheduled EDR Contact: 01/05/04

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 08/11/03
Database Release Frequency: Annually

Date of Last EDR Contact: 10/23/03
Date of Next Scheduled EDR Contact: 01/19/04

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/16/03
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/07/03
Date of Next Scheduled EDR Contact: 01/05/04

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 08/27/03
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 12/29/03
Date of Next Scheduled EDR Contact: 03/29/04

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 202-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 11/21/03
Date of Next Scheduled EDR Contact: 02/23/04

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-564-3887
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 09/30/03
Database Release Frequency: Annually
Date of Last EDR Contact: 11/12/03
Date of Next Scheduled EDR Contact: 02/09/04

DOD: Department of Defense Sites
Source: USGS
Telephone: 703-648-5920
This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 10/01/03
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 11/12/03
Date of Next Scheduled EDR Contact: 02/09/04

STORMWATER: Storm Water General Permits
Source: Environmental Protection Agency
Telephone: 202 564-0746
A listing of all facilities with Storm Water General Permits.

Date of Government Version: N/A
Database Release Frequency: Quarterly
Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

US BROWNFIELDS: A Listing of Brownfields Sites
Source: Environmental Protection Agency
Telephone: 202-566-2777
Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become BCRLF cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 07/15/03
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 12/17/03
Date of Next Scheduled EDR Contact: 03/15/04

RMP: Risk Management Plans
Source: Environmental Protection Agency
Telephone: 202-564-8600
When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: N/A
Database Release Frequency: N/A

Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned

Date of Last EDR Contact: 12/08/03
Date of Next Scheduled EDR Contact: 03/08/04

TRIS: Toxic Chemical Release Inventory System
Source: EPA
Telephone: 202-566-0250
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/01
Database Release Frequency: Annually

Date of Last EDR Contact: 12/22/03
Date of Next Scheduled EDR Contact: 03/22/04

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-5521
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/02
Database Release Frequency: Every 4 Years

Date of Last EDR Contact: 10/20/03
Date of Next Scheduled EDR Contact: 01/19/04

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA
Telephone: 202-564-2501

Date of Government Version: 10/16/03
Database Release Frequency: Quarterly

Date of Last EDR Contact: 12/22/03
Date of Next Scheduled EDR Contact: 03/22/04

SSTS: Section 7 Tracking Systems
Source: EPA
Telephone: 202-564-5008
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/01
Database Release Frequency: Annually

Date of Last EDR Contact: 10/20/03
Date of Next Scheduled EDR Contact: 01/19/04

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-564-2501
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/16/03
Database Release Frequency: Quarterly

Date of Last EDR Contact: 12/22/03
Date of Next Scheduled EDR Contact: 03/22/04

STATE OF NEW JERSEY ASTM STANDARD RECORDS

SHWS: Known Contaminated Sites in New Jersey
Source: New Jersey Department of Environmental Protection
Telephone: 609-292-8761
BE ADVISED THAT THE KNOWN CONTAMINATED SITES DATABASE HAS NOT BEEN UPDATED SINCE 2001. FOR MORE CURRENT STATUS INFORMATION, THE DEP HAS REQUESTED THAT YOU CONTACT THE SITE REMEDIATION PROGRAM AT 800-253-5647 OR 609-984-3081.
The Known Contaminated Sites in New Jersey includes sites under the purview of the Site Remediation Program which have contamination present at levels greater than the applicable cleanup criteria for soil and/or groundwater standards. The sites appearing in Known Contaminated Sites in New Jersey are classified as either active, where the site is assigned to a specific remedial program area, or pending, where the site is awaiting assignment to a specific remedial program area. Sites where no further action (NFA) designation has been given are not included in this report unless there are other areas of identified contamination which have not been remediated. This report includes sites being remediated under all of the various regulatory programs administered by the Site Remediation Program such as: Federal Superfund Program, Federal Resource Conservation and Recovery Act (RCRA), New Jersey's Industrial Site Recovery Act (ISRA), New Jersey's Underground Storage of Hazardous Substances Act, New Jersey's Spill Compensation and Control Act, New Jersey's Solid Waste Management Act, New Jersey's Water Pollution Control Act.

Date of Government Version: 05/01/01
Date Made Active at EDR: 07/25/01
Database Release Frequency: Varies

Date of Data Arrival at EDR: 06/18/01
Elapsed ASTM days: 37
Date of Last EDR Contact: 12/24/03

SWF/LF: Solid Waste Facility Directory
Source: Department of Environmental Protection
Telephone: 609-984-6741
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 06/10/03
Date Made Active at EDR: 07/24/03
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 06/27/03
Elapsed ASTM days: 27
Date of Last EDR Contact: 12/01/03

LUST: Regulated UST Contamination Sites Listing
Source: New Jersey Department of Environmental Protection
Telephone: 609-292-8761
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 09/17/02
Date Made Active at EDR: 01/28/03
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 01/15/03
Elapsed ASTM days: 13
Date of Last EDR Contact: 12/24/03

UST: Underground Storage Tank Data
Source: Department of Environmental Protection
Telephone: 609-633-1455
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 09/15/99
Date Made Active at EDR: 10/18/99
Database Release Frequency: Varies

Date of Data Arrival at EDR: 09/15/99
Elapsed ASTM days: 33
Date of Last EDR Contact: 12/12/03

STATE OF NEW JERSEY ASTM SUPPLEMENTAL RECORDS

NJ MAJOR FACILITIES: List of Major Facilities
Source: Department of Environmental Protection
Telephone: 609-292-1690
Major facilities means all facilities, located on one or more contiguous or adjacent properties owned or operated by the same person, having total combined storage capacity of 20,000 gallons or more for hazardous substances other than petroleum or petroleum products, or 200,000 gallons or more of hazardous substances of all kinds.

Date of Government Version: 01/02/02
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 11/11/03
Date of Next Scheduled EDR Contact: 02/09/04

NJ Spills: Spills
Source: Department of Environmental Protection
Telephone: 609-633-0898
Initial notification information of hazardous material incidents, where there is land contamination, reported to the Department of Environmental Protection's Environmental Action Line. The DEP has not conducted any investigation to determine its validity or accuracy.

Date of Government Version: 03/31/02
Database Release Frequency: Annually
Date of Last EDR Contact: 10/23/03
Date of Next Scheduled EDR Contact: 01/05/04

NJ Release: Hazardous Material Incident Database
Source: Department of Environmental Protection
Telephone: 604-633-0898
Hazardous material release. Initial notification information reported to the Department of Environmental Protection's Environmental Action Line and the office has not conducted any investigations to determine its validity or accuracy.

Date of Government Version: 03/31/02
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 10/23/03
Date of Next Scheduled EDR Contact: 01/05/04

PF: Publicly Funded Cleanups Site Status Report
Source: Department of Environmental Protection
Telephone: 609-292-9418
The report focuses on publicly funded cleanups and features progress achieved and underway at all sites that are being addressed by the NJDEP with public funds.

Date of Government Version: 12/31/01
Database Release Frequency: Annually
Date of Last EDR Contact: 11/24/03
Date of Next Scheduled EDR Contact: 02/23/04

CHROME: Chromate Chemical Production Waste Sites
Source: Department of Environmental Protection
Telephone: 609-984-4071
Known chromate chemical production waste sites.

Date of Government Version: 02/06/03
Database Release Frequency: Varies
Date of Last EDR Contact: 12/24/03
Date of Next Scheduled EDR Contact: 03/08/04

NJPDES: New Jersey Pollutant Discharge Elimination System Dischargers
Source: Department of Environmental Protection
Telephone: 609-242-4543
The NJPDES contains the names, addresses and other information of all permitted New Jersey Pollutant Discharge Elimination Sytem dischargers.

Date of Government Version: 10/16/03
Database Release Frequency: Varies
Date of Last EDR Contact: 12/16/03
Date of Next Scheduled EDR Contact: 03/15/04

EDR PROPRIETARY HISTORICAL DATABASES

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

BROWNFIELDS DATABASES

Brownfields: Brownfields Database
Source: Department of Environmental Protection
Telephone: 609-292-1251
Brownfields are identified as former or current commercial or industrial use sites that are presently vacant or underutilized, on which there is suspected to have been a discharge of a contamination to the soil or groundwater at concentrations greater than applicable cleanup criteria.

Date of Government Version: 10/14/03
Database Release Frequency: Annually
Date of Last EDR Contact: 10/14/03
Date of Next Scheduled EDR Contact: 01/12/04

INST CONTROL: Sites With Closed Case(s) With Restrictions
Source: Department of Environmental Protection
Telephone: 609-292-2943
Sites where engineering and/or institutional controls remain in place as part of a remedial action to address soil and/or groundwater contamination. These restrictions ensure protection of human health and the environment as long as they are maintained.

Date of Government Version: 05/01/01
Database Release Frequency: Varies
Date of Last EDR Contact: 12/24/03
Date of Next Scheduled EDR Contact: 03/22/04

US BROWNFIELDS: A Listing of Brownfields Sites
Source: Environmental Protection Agency
Telephone: 202-566-2777
Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become BCRLF cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: N/A
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: (800) 823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Center Listings
Source: Department of Human Services
Telephone: 609-292-1018

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

New Jersey State Wetlands
Source: New Jersey Department of Environmental Protection
This data was obtained by EDR in 2002 from the New Jersey Department of Environmental Protection.

STREET AND ADDRESS INFORMATION

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GEOCHECK®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CENTER OF PINE OAK AND MADELIN
CENTER OF PINE OAK/MADELINE DR
TUCKERTON, NJ 08087

TARGET PROPERTY COORDINATES

Latitude (North):	39.606300 - 39˚ 36' 22.7"
Longitude (West):	74.361198 - 74˚ 21' 40.3"
Universal Tranverse Mercator:	Zone 18
UTM X (Meters):	554841.2
UTM Y (Meters):	4384047.5
State Plane X (Feet):	2086070.1
State Plane Y (Feet):	281676.9
Elevation:	30 ft. above sea level

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

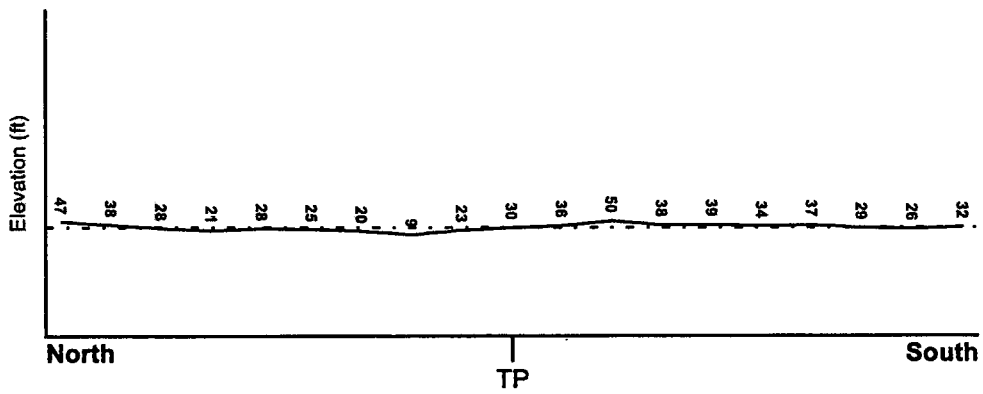
TOPOGRAPHIC INFORMATION

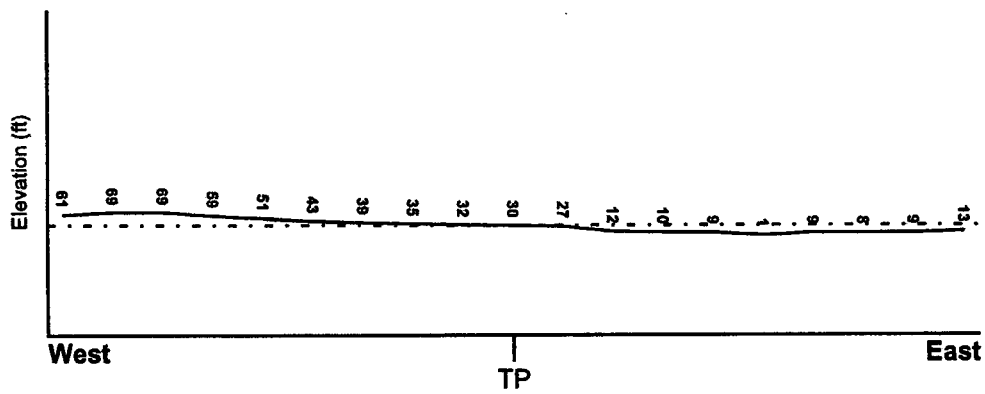
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

USGS Topographic Map:	39074-E3 TUCKERTON, NJ
General Topographic Gradient:	General NE
Source:	USGS 7.5 min quad index

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 30 ft.

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
OCEAN, NJ	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property:	3403800018B
Additional Panels in search area:	3403800019B 3403950002B 3403800027B

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
TUCKERTON	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Cenozoic
System:	Tertiary
Series:	Miocene
Code:	Tm *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	DOWNER
Soil Surface Texture:	loamy sand
Hydrologic Group:	Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
Soil Drainage Class:	Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel:	MODERATE
Depth to Bedrock Min:	> 60 inches
Depth to Bedrock Max:	> 60 inches

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	18 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 20.00 Min: 6.00	Max: 5.50 Min: 3.60
2	18 inches	30 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 5.50 Min: 4.50
3	30 inches	40 inches	stratified	Granular materials (35 pct. or less passing No. 200), Fine Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 20.00 Min: 6.00	Max: 5.50 Min: 4.50
4	40 inches	60 inches	stratified	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 20.00 Min: 0.60	Max: 5.50 Min: 4.50

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: sandy loam
sand
silt loam

Surficial Soil Types: sandy loam
sand
silt loam

Shallow Soil Types: loamy sand
silty clay loam

Deeper Soil Types: sand
sandy loam

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

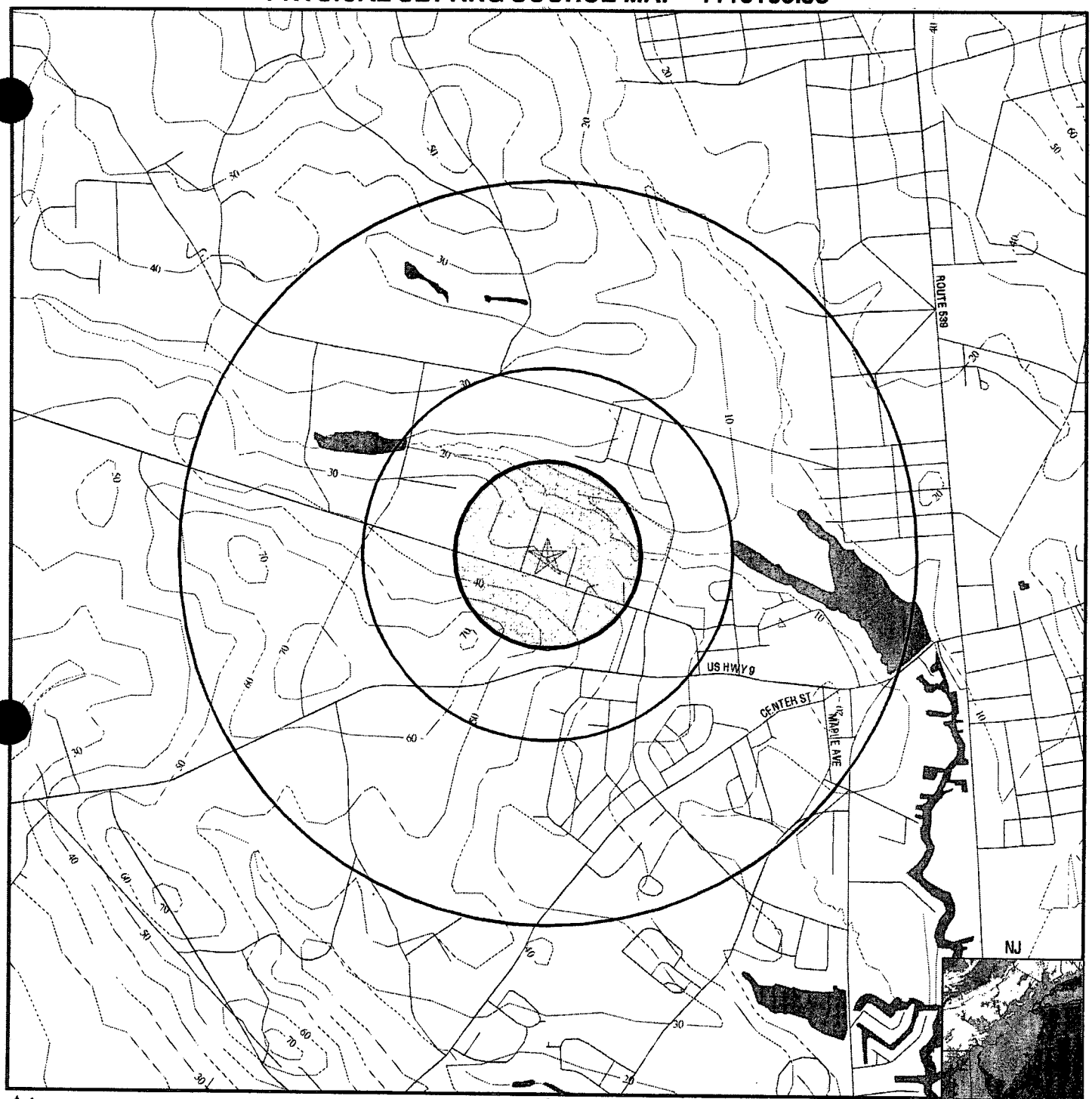
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 1116160.3s



County Boundary
Major Roads
Contour Lines
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

0 1/4 1/2 1 Miles

Groundwater Flow Direction
Indeterminate Groundwater Flow at Location
Groundwater Flow Varies at Location
Closest Hydrogeological Data

TARGET PROPERTY:	Center of Pine Oak and Madelin	CUSTOMER:	Weston Solutions, Inc.
ADDRESS:	Center of Pine Oak/Madeline Dr	CONTACT:	Michele Capriglione
CITY/STATE/ZIP:	Tuckerton NJ 08087	INQUIRY #:	1116160.3s
LAT/LONG:	39.6063 / 74.3612	DATE:	January 21, 2004 4:41 pm

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AREA RADON INFORMATION

State Database: NJ Radon

Tier Assessment Report

Zip	City	Tier	Total Sites	# sites>4 pCi/L
08087	TUCKERTON	3	14	0

Federal EPA Radon Zone for OCEAN County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for OCEAN COUNTY, NJ

Number of sites tested: 83

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area	0.510 pCi/L	100%	0%	0%
Basement	0.900 pCi/L	98%	2%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002. 7.5-Minute DEMs correspond to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

New Jersey State Wetlands
Source: New Jersey Department of Environmental Protection
This data was obtained by EDR in 2002 from the New Jersey Department of Environmental Protection.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

New Jersey Public-Community Water-Supply Wells
Source: New Jersey Department of Environmental Protection
Telephone: 609-292-5550

New Jersey Monitoring Wells
Source: Department of Environmental Quality
Telephone: 609-984-6587
Ambient Groundwater Quality of the New Jersey Part of the Newark Basin. Natural groundwater quality in the Newark Basin summarize natural groundwater quality in sedimentary bedrock formations of the Newark basin part of the Piedmont physiographic province of New Jersey.

RADON

State Database: NJ Radon
Source: Department of Environmental Protection
Telephone: 609-984-5425
Radon Test Results

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Reference 5

PROJECT NOTE **REGION II SITE ASSESSMENT TEAM**

To: Stage Road Groundwater Plume site file **Date:** 23 February 2004 **Page:** 1 of 1

From: Michele Capriglione, Region II SAT

Subject: Groundwater Population

References:

Attachment A -	Summary Table
Attachment B -	U.S. Geological Survey, 4-Mile Radius Well Inventory
Attachment C -	New Jersey Geological Survey, PSW 2000 Public Supply Well Inventory, Search Radius: 21,120 feet, accessed on 18 February 2004.
Attachment D -	NJDEP Preliminary Survey of Water withdrawal Points within 5.0 miles of the Stage Road Groundwater Plume site.
Attachment E -	Records of telephone conversations and correspondence with the municipalities and utility authorities that operate public supply wells (PSWs) within 4 miles of the Stage Road Groundwater Plume site and domestic well records within 1-mile of the site, as well as population apportionment calculations.
Attachment F -	U.S. Census Bureau, State and County Quick Facts, 2000

The attachments to this note document the approximate populations served by public and domestic wells with a 4-mile radius of the Stage Road Groundwater Plume site. The number of domestic wells was obtained from the NJDEP Bureau of Water Allocation Well Inventory. The average number of people per household (2.51) in Ocean County, New Jersey was obtained from 2000 census data and apportioned to each domestic well and service connection. The populations being served by public supply wells was determined by contacting those municipalities and utility authorities listed by the New Jersey Geological Survey (NJGS) and the NJDEP as operating public wells with 4-miles of the Stage Road Groundwater Plume site.

Attachment F documents the average number of people per household (2.51), this number was multiplied by the seven contaminated domestic wells which define the site to obtain the number of people within the 1/4 mile distance ring (7 x 2.51 = 17.57).

Signature Michele Capriglione

Michele Capriglione

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Attachment A

Public and Domestic Water Supply Within 4-miles of the Stage Road Groundwater Plume Site

Site Latitude:	39 36' 22"	Lat. Dec. Degrees(y):	39.606275
Site Longitude:	74 21' 41"	Long. Dec. Degrees(x):	74.361195

Well Name	Well ID	Latitude	Longitude	Water Use	Population	Depth (ft)	Distance (mi)
Borough of Tuckerton	Well 2	393609	742022	PUB	3812.69	489	1.17
Little Egg Harbor MUA	Well 8	393518	742152	PUB	9750	521	1.25
Homes in Little Egg Harbor	166 Domestic Wells			DOM	416.6	110	1.00

Note:
DOM - Domestic Well - Owned by Private Residents
MUA - Municipal Utilities Authority - Well Owned by a Local Government Agency

Population served based on the distance of wells from the site (miles):

0-1/4	18
1/4-1/2	0
1/2-1	417
1-2	13563
2-3	0
3-4	0

Total population served by wells: 13998

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Attachment B

• = public

NJ UID	STATIONS NUMBER	LOCAL NAME	COUNTY	MUNICIPALITY	AQUIFER	WELL DEPTH	DEPTH TO TOP OF OPEN INTERVAL	DEPTH TO BOTTOM OF OPEN INTERFAL	CASING MATERIAL
290463	393316074222001	MYSTIC 1/SEALED	029	LITTLE EGG HARBOR TWP	122KRKDL	547	526	547	
290775	393339074230101	LEHMUA 5 •	029	LITTLE EGG HARBOR TWP	122KRKDU	323	293	318	S
290775	393339074230101	LEHMUA 5 •	029	LITTLE EGG HARBOR TWP	122KRKDU	323			S
290775	393339074230101	LEHMUA 5 •	029	LITTLE EGG HARBOR TWP	122KRKDU	323			S
291430	393404074221401	TEXACO MW-5	029	LITTLE EGG HARBOR TWP	121CKKD	7	2	7	P
290464	393428074220201	MYSTIC 2/SEALED	029	LITTLE EGG HARBOR TWP	122KRKDL	542	485	542	
290813	393504074205101	HOLLY LAKE 6 •	029	LITTLE EGG HARBOR TWP	122KRKDU	340	307	337	S
290813	393504074205101	HOLLY LAKE 6 •	029	LITTLE EGG HARBOR TWP	122KRKDU	340			S
290813	393504074205101	HOLLY LAKE 6 •	029	LITTLE EGG HARBOR TWP	122KRKDU	340			S
290465	393509074204801	HOLLY LAKE 4/SEALED	029	LITTLE EGG HARBOR TWP	122KRKDU	329	308	329	
291063	393511074215801	CENTER STREET WELL 8 •	029	LITTLE EGG HARBOR TWP	122KRKDL	526	474.67	521	S
291063	393511074215801	CENTER STREET WELL 8 •	029	LITTLE EGG HARBOR TWP	122KRKDL	526			S
291063	393511074215801	CENTER STREET WELL 8 •	029	LITTLE EGG HARBOR TWP	122KRKDL	526			
291422	393534074202001	OCUA SPS-3 OW-1/SEALED	029	TUCKERTON BORO	121CKKD	40	30	40	S
291422	393534074202001	OCUA SPS-3 OW-1/SEALED	029	TUCKERTON BORO	121CKKD	40			S
291421	393541074201901	SO GREEN ST OW-3 •	029	TUCKERTON BORO	122KRKDL	516	405	443	S
291421	393541074201901	SO GREEN ST OW-3 •	029	TUCKERTON BORO	122KRKDL	516	481	511	S
291421	393541074201901	SO GREEN ST OW-3 •	029	TUCKERTON BORO	122KRKDL	516			S
291421	393541074201901	SO GREEN ST OW-3 •	029	TUCKERTON BORO	122KRKDL	516			U
291421	393541074201901	SO GREEN ST OW-3 •	029	TUCKERTON BORO	122KRKDL	516			U
291421	393541074201901	SO GREEN ST OW-3 •	029	TUCKERTON BORO	122KRKDL	516			U
051096	393542074235701	RELLA DOM	005	BASS RIVER TWP	121CKKD	70	60	70	P
291540	393550074224001	CF RW-1	029	LITTLE EGG HARBOR TWP	121CKKD	47	12	47	P
291540	393550074224001	CF RW-1	029	LITTLE EGG HARBOR TWP	121CKKD	47			
291541	393550074224002	CF RW-2	029	LITTLE EGG HARBOR TWP	121CKKD	52	20	52	P
291541	393550074224002	CF RW-2	029	LITTLE EGG HARBOR TWP	121CKKD	52			
051138	393550074233601	CEDAR AVE-MW1	005	BASS RIVER TWP	121CKKD	20	5	20	P
051098	393553074233601	BASS RIVER IND	005	BASS RIVER TWP	121CKKD	70	65	70	S
291002	393555074230701	ROBERTS DOM	029	LITTLE EGG HARBOR TWP	121CKKD	70	60	70	P
291003	393602074222301	MILLERS MALL DOM	029	LITTLE EGG HARBOR TWP	121CKKD	105	95	105	P
291092	393607074200701	SO GREEN ST OW-2 •	029	TUCKERTON BORO	122KRKDL	598			
	393608074210001	TIP SEAMAN PK-IRRIGATION	029	TUCKERTON BORO					
290684	393608074210002	TUCKERTON PARK	029	TUCKERTON BORO	121CKKD	90	80	90	P

(3)

LATITUDE	LONGITUDE	DATUM	USE OF SITE	USE OF WATER	NJDEP PERMIT NUMBER
393316	742220	NAD27	Z	U	32-00075
393339.9	742302	NAD27	W	P	32-08715
393339.9	742302	NAD27	W	P	
393339.9	742302	NAD27	W	P	
393404	742214	NAD27	O	U	32-18879-A
393428	742202	NAD27	Z	P	32-00447
393509	742049.6	NAD27	W	P	32-11971
393509	742049.6	NAD27	W	P	
393509	742049.6	NAD27	W	P	
393509	742048	NAD27	Z	U	32-00224
393518.4	742152.2	NAD27	W	P	32-15207
393518.4	742152.2	NAD27	W	P	
393518.4	742152.2	NAD27	W	P	
393534	742020	NAD27	Z	N	32-03825
393534	742020	NAD27	Z	N	
393536.1	742019.4	NAD27	W	P	32-22507
393536.1	742019.4	NAD27	W	P	
393536.1	742019.4	NAD27	W	P	
393536.1	742019.4	NAD27	W	P	
393536.1	742019.4	NAD27	W	P	
393536.1	742019.4	NAD27	W	P	
393542	742357	NAD27	W	H	32-12238
393550	742240	NAD27	W	Z	32-10875
393550	742240	NAD27	W	Z	32-10875-3
393550	742240	NAD27	W	Z	32-12647
393550	742240	NAD27	W	Z	32-12647-6
393550	742336	NAD27	O	U	32-14892-5
393553	742336	NAD27	W	N	32-14891
393555	742307	NAD27	W	H	32-12607
393602	742223	NAD27	W	H	32-13754
393607	742007	NAD27	W	P	32-06055
393608	742100	NAD27	W	I	
393608	742100	NAD27	W	H	32-06602

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290597	393610074202101	TMUA 5(OW2) •	029	TUCKERTON BORO	122KRKDL	500	400	500	
290563	393610074203101	TWWC 4 1926 •	029	TUCKERTON BORO	122KRKDL	486			
290564	393610074203102	TMUA 4 •	029	TUCKERTON BORO	122KRKDL	481	460	481	I
290565	393610074203103	TMUA 4(OW1) •	029	TUCKERTON BORO	122KRKDL	497	462.5	497	S
290565	393610074203103	TMUA 4(OW1) •	029	TUCKERTON BORO	122KRKDL	497			S
050908	393619074253001	NJHA-GSP - BASS RIVER	005	BASS RIVER TWP	121CKKD	43	32.17	43	S
291055	393624074214501	215 PINE OAK	029	LITTLE EGG HARBOR TWP	121CKKD	75	65	75	P
291004	393643074231601	ELEFANTE DOM	029	LITTLE EGG HARBOR TWP	121CKKD	85	75	85	S
051100	393645074252501	NEW GRETNA TOLLS 2 •	005	BASS RIVER TWP	121CKKD	65	50	65	S
290639	393647074192301	HOUSONS 1	029	TUCKERTON BORO	121CKKD	80	70	80	P
291061	393649074213601	MIDDLE SCHOOL IRR OW-1	029	LITTLE EGG HARBOR TWP	121CKKD	90	80	90	P
290640	393653074194501	AT&T 1	029	TUCKERTON BORO	121CKKD	215	205	215	S
291412	393705074225401	NAPPI DOM	029	LITTLE EGG HARBOR TWP	121CKKD	93	83	93	P
291005	393707074231101	BRADSHAW DOM	029	LITTLE EGG HARBOR TWP	121CKKD	83	68	83	P
291006	393709074224601	OLSZEWSKI DOM	029	LITTLE EGG HARBOR TWP	121CKKD	80	70	80	P
291007	393709074230201	FREAS DOM	029	LITTLE EGG HARBOR TWP	121CKKD	75	71	75	S
291008	393713074231701	MULLIGAN DOM	029	LITTLE EGG HARBOR TWP	121CKKD	65	55	65	P
051102	393729074252901	BASS R SF-PZ-2	005	BASS RIVER TWP	121CKKD	18	3	18	P
051103	393729074252902	BASS R SF-MW-1	005	BASS RIVER TWP	121CKKD	60	5	30	P
051103	393729074252902	BASS R SF-MW-1	005	BASS RIVER TWP	121CKKD	60	35	45	P
051103	393729074252902	BASS R SF-MW-1	005	BASS RIVER TWP	121CKKD	60	50	60	P
050003	393731074253101	OW2 •	005	BASS RIVER TWP	121CKKD	88			
290466	393734074223601	USGS T 45	029	LITTLE EGG HARBOR TWP	121CKKD	30			
291256	393740074191801	MATTA DOM	029	LITTLE EGG HARBOR TWP	121CKKD	70	60	70	P
051497	393744074244101	NJDEP BASS RIVER SF MW50	005	BASS RIVER TWP	121CKKD	13.83	8.83	13.83	P
050710	393753074253501	BASS RVR P-1971 •	005	BASS RIVER TWP	121CKKD	121	106	121	
290110	393755074174901	CHAS JOHNSON - 1930	029	EAGLESWOOD TWP	121CKKD	257			
290674	393805074185301	BAKERS ACCESS DOM	029	LITTLE EGG HARBOR TWP	121CKKD	65	47	65	S
290763	393827074183001	SPS-2 •	029	EAGLESWOOD TWP	121CKKD	148	128	148	S
290773	393855074200801	BASS R SF 1	029	LITTLE EGG HARBOR TWP	121CKKD	37	27	37	P
050008	393909074234901	USGS T 40	005	BASS RIVER TWP	121CKKD	22			

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393610.4	742019.7	NAD83	W	P	32-05858
393610	742031	NAD27	W	P	
393610	742031	NAD27	W	P	32-00011
393610	742031	NAD27	W	P	32-00479
393610	742031	NAD27	W	P	
393619	742530	NAD27	W	H	32-00140
393624	742145	NAD27	W	H	32-17360
393643	742316	NAD27	W	H	32-10582
393645	742525	NAD27	W	P	32-08385
393647	741923	NAD27	W	H	33-01355
393649	742136	NAD27	W	I	32-17281
393653	741945	NAD27	W	N	33-01024
393705	742254	NAD27	W	H	32-11539
393707	742311	NAD27	W	H	32-12963
393709	742246	NAD27	W	H	32-12965
393709	742302	NAD27	W	H	32-12457
393713	742317	NAD27	W	H	32-12256
393729	742529	NAD27	O	U	
393729	742529	NAD27	O	U	
393729	742529	NAD27	O	U	
393729	742529	NAD27	O	U	
393731	742531	NAD27	W	P	
393734	742236	NAD27	T	U	
393740	741918	NAD27	W	H	32-18369
393744	742441	NAD27	O	U	32-25194
393753	742535	NAD27	W	P	32-00725
393755	741749	NAD27	U	U	
393805	741853	NAD27	W	H	33-02035
393827	741830	NAD27	W	P	33-04140
393855	742008	NAD27	O	U	32-08458
393909	742349	NAD27	T	U	

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1.41 USE OF WATER
** (SWUSE1/C24 - SECONDARY-KEY CHAR X in 413):

Enter the code indicating the principal use of water from the site. If water from the site is used for more than one purpose, enter the principal use here and enter the subordinate uses in the following two fields. The codes and their meanings are:

A - air conditioning	I - irrigation	R - recreation
B - bottling	J - industrial (cooling)	S - stock
C - commercial	K - mining	T - institution
D - dewater	M - medicinal	U - unused
E - power	N - industrial	Y - desalination
F - fire	P - public supply	Z - other (explain in remarks)
H - domestic	Q - aquaculture	

(A) Air conditioning refers to water supply used solely or principally for heating or cooling a building. Water used to cool industrial machinery belongs in the industrial category, not in the air-conditioning category.

(B) Bottling refers to the storage of water in bottles and use of the water for potable purposes (see Medicinal).

(C) Commercial use refers to use by a business establishment that does not fabricate or produce a product. Filling stations and motels are examples of commercial establishments. If some product is manufactured, assembled, remodeled, or otherwise fabricated, use of water for that plant should be considered industrial, even though the water is not used directly in the product or in the manufacturing of the product.

(D) Dewatering means the water is pumped for dewatering a construction or mining site, or to lower the water table for agricultural purposes. In this respect, it differs from a drainage well that is used to drain surface water underground. If the main purpose for which the water is withdrawn is to provide drainage,

dewater-
ing should be indicated even though the water may be
discharged
into an irrigation ditch and subsequently used to irrigate land.

(E) Power generation refers to use of water for generation of any
type
of power.

(F) Fire protection refers to the principal use of the water
and
should be indicated if the site was constructed principally
for
this purpose even though the water may be used at times to
supple-
ment an industrial or defense supply, to irrigate a golf
course,
fill a swimming pool, or for other use.

(H) Domestic use is water used to supply household needs,
principally
for drinking, cooking, washing, and sanitary purposes, but
includ-
ing watering a lawn and caring for a few pets. Most
domestic
wells will be at suburban or farm homes, but wells supplying
small
quantities of water for domestic purposes for one-
classroom
schools, turnpike gates, and similar installations, should be
in
the domestic category.

(I) Irrigation refers to the use of water to irrigate
cultivated
plants. Most irrigation sites will supply water for farm
crops,
but the category should include wells used to water the grounds
of
schools, industrial plants, or cemeteries, if more than a
small
amount of water is pumped and that is the sole use of the water.

(J) Industrial (cooling) refers to a water supply used solely for
in-
dustrial cooling.

(K) Mining refers to a water supply used solely for mining purposes.

(M) Medicinal refers to water purported to have therapeutic
value.
Water may be used for bathing and/or drinking. If use of water
is
mainly because of its claimed therapeutic value, use this
category
even though the water is bottled.

(N) Industrial use is within a plant that manufactures or fabricates a product. The water may or may not be incorporated into the product being manufactured. Industrial water may be used to cool machinery, to provide sanitary facilities for employees, to air-condition the plant, and to irrigate the ground at the plant.

(P) Public Supply use is water that is pumped and distributed to several homes. Such supplies may be owned by a municipality or community, a water district, or a private concern. In most States, public supplies are regulated by departments of health which enforce minimum safety and sanitary requirements. If the system supplies five or more homes, it should be considered a public supply, as four or less classify use as domestic. Water supplies for trailer or summer camps with five or more living units should be in this category, but motels and hotels are clas-sified as commercial. Most public supply systems also furnish water for a variety of other uses, such as industrial, institu-tional, and commercial.

(Q) Aquaculture refers to a water supply used solely for aquaculture, such as fish farms.

(R) Recreation refers to water discharged into pools, or channels which are dammed downstream to form pools, for swimming, boating, fishing, ice rinks, and other recreational uses.

(S) Stock Supply refers to the watering of livestock.

(T) Institutional refers to water used in the maintenance and opera-tion of institutions such as large schools, universities, hospitals, rest homes, or similar installations. Owners of in-stitutions may be individuals, corporations, churches, or governmental units.

(U) Unused means water is not being removed from the site for one

of the purposes described above. A test hole, oil or gas well, recharge, drainage, observation, or waste-disposal well will be in this category.

Do not use this classification for an irrigation, domestic, stock, or other well during 'off season' or temporary periods of nonuse. The use of water from a newly constructed site should be con- sidered as the use for which it is intended even though it may not yet be in use when inventoried.

(Y) Desalination refers to water used in a desalting process whereby dissolved solids are removed to make water potable or suitable for other uses. Enter the type of use of the desalinated water in the next column, "Secondary Water Use".

(Z) Other refers to miscellaneous uses not included in the listed categories.

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6.7.1.3 UNIT IDENTIFIER

** (LGAQFR/C93 - MANDATORY SECONDARY-KEY CHAR X(8) in 55-62):
Enter the 8-character code identifying the lithologic unit (see app. F). (The terms BASEMENT and BEDROCK will be accepted as legal values.) The unit identifier is mandatory.

100CNZC CENOZOIC ERATHEM
110QRNR QUATERNARY SYSTEM
111ALVM HOLOCENE ALLUVIUM
111BBTM BAY-BOTTOM DEPOSITS
111BECH BEACH DEPOSITS
111DUNE DUNE (AEOLIAN) DEPOSITS
111FILL FILL
111HLCN HOLOCENE SERIES
111LAKE LAKE DEPOSITS
111SLMR SALT-MARSH DEPOSITS
111TRRC TERRACE DEPOSITS
1122OCL 20-FOOT CLAY
112GLCD GLACIAL DELTA DEPOSITS
112GLCLU GLACIAL AQUIFER,UPPER
112GRDR GARDINERS CLAY
112HBHD HARBOR HILL DRIFT
112HBHO HARBOR HILL OUTWASH
112HBHT HARBOR HILL TILL
112HHGM HARBOR HILL GROUND MORAINE
112HHTM HARBOR HILL TERMINAL MORAINE
112ICNC ICE-CONTACT DEPOSITS
112JMCO JAMECO AQUIFER
112KMTC KAME TERRACE DEPOSITS
112LAKE LAKE DEPOSITS
112OTSH OUTWASH
112PGFG PORT WASHINGTON CONFINING UNIT
112PGQF PORT WASHINGTON AQUIFER
112RKGM RONKONKOMA GROUND MORAINE
112RKKD RONKONKOMA DRIFT
112RKKO RONKONKOMA OUTWASH
112RKKT RONKONKOMA TILL
112RKTM RONKONKOMA TERMINAL MORAINE
112SAND SAND
112SDGV SAND AND GRAVEL
112SMTN SMITHTOWN CLAY
112TILL TILL
121MNNT MANNETTO GRAVEL
200MSZC MESOZOIC ERATHEM
210CRCS CRETACEOUS SYSTEM
211CRCSUUPPER CRETACEOUS SERIES
211LLYD LLOYD AQUIFER
211MGTY MAGOTHY AQUIFER
211MMGD MONMOUTH GREENSAND
211MNMG MATAWAN GROUP-MAGOTHY FORMATION
211MNMT MONMOUTH GROUP
211MNMT MONMOUTH GROUP
211MTWN MATAWAN FORMATION

211RCNF RARITAN CONFINING UNIT
211RRTN RARITAN FORMATION
230TRSC TRIASSIC SYSTEM
231BRCK BRUNSWICK FORMATION
231NWRK NEWARK GROUP
231PLSD PALISADE DIABASE
231STCN STOCKTON FORMATION
231TRSCUUPPER TRIASSIC SERIES
300PLZC PALEOZOIC ERATHEM
320PSLV PENNSYLVANIAN SYSTEM
324PSVL POTTSVILLE FORMATION
330MSSP MISSISSIPPIAN SYSTEM
337POCN POCONO GROUP
340DVNN DEVONIAN SYSTEM
341CNDY CANADAWAY GROUP
341CNNG CONEWANGO GROUP
341CNNT CONNEAUT GROUP
341DVNNUDEVONIAN, UPPER
341GENS GENESEE FORMATION
341JVWF JAVA-WEST FALLS FORMATION
341SONY SONYEA FORMATION
344DVNNMDEVONIAN, MIDDLE
344ESPS ESOPUS SHALE
344HMLN HAMILTON GROUP
344ONDG ONONDAGA LIMESTONE
344TLLY TULLY LIMESTONE
347DVNNLDEVONIAN, LOWER
347HDBG HELDERBERG GROUP
347ORSK ORISKANY SANDSTONE
350GRPD GREEN POND CONGLOMERATE
350SLRN SILURIAN SYSTEM
351ACBB AKRON-COBLESVILLE-BERTIE FORMATIONS,UNDIFFERENTIATED
351AKRN AKRON DOLOMITE
351BNTR BINNEWATER SANDSTONE
351BRTI BERTIE LIMESTONE
351CBLK COBLESKILL LIMESTONE
351CMLS CAMILLUS SHALE
351LNGD LONGWOOD SHALE
351SLIN SALINA GROUP
351SLRNUSILURIAN, UPPER
351SRCS SYRACUSE SALT
351VRNN VERNON SHALE
354CLNN CLINTON GROUP
354SLRNMSILURIAN, MIDDLE
354SNGK SHAWANGUNK CONGLOMERATE
355LCKP LOCKPORT DOLOMITE
357ALBN ALBION GROUP
357SLRNLSILURIAN, LOWER
360ODVC ORDOVICIAN SYSTEM
361LRRN LORRAINE SHALE
361ODVCUORDOVICIAN, UPPER
361OSWG OSWEGO SANDSTONE
361QNSN QUEENSTON SHALE
361UTIC UTICA SHALE
364BRKR BERKSHIRE SCHIST
364CHZY CHAZY GROUP
364CNJR CANAJOHARIE SHALE

364NMKL NORMANSKILL FORMATION
364ODVCMORDOVICIAN, MIDDLE
364SKHL SNAKE HILL FORMATION
364TBRV TRENTON-BLACK RIVER GROUP
364TRNN TRENTON GROUP
364WLMC WALLOOMSAC SLATE
367BKMN BEEKMANTOWN GROUP
367ODVCLORDOVICIAN, LOWER
367PLTN POULTNEY SLATE
367TBHL TRIBES HILL LIMESTONE
370CMBR CAMBRIAN SYSTEM
371CMBRMMIDDLE CAMBRIAN SERIES
371CMBRUCAMBRIAN, UPPER
371LLFL LITTLE FALLS DOLOMITE
371PSDM POTSDAM SANDSTONE
371TCSQ TACONIC SEQUENCE
371THRS THERESA DOLOMITE
374CMBRMCAMBRIAN, MIDDLE
374SKBG STOCKBRIDGE GROUP
377BULL BULL SLATE
377CMBRLLOWER CAMBRIAN SERIES
377DLTN DALTON FORMATION
377EZVB ELIZAVILLE AND BERKSHIRE FORMATIONS
377NSSU NASSAU FORMATION
377PGQY POUGHQUAY QUARTZITE
377SCCK SCHODACK FORMATION
377SSNG STISSING DOLOMITE
400BCPX BASEMENT COMPLEX
400PCMB PRECAMBRIAN ERATHEM

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6.7.1.4 LITHOLOGY

** (LGLITH/C96 - SECONDARY-KEY CHAR X(4) in 63-66):

Enter the code indicating the principal lithology of this unit. The codes are:

Rock Term	Abbreviation
Alluvimum	ALVM
Anhydrite	ANDR
Anorthosite	ANRS
Arkose	ARKS
Basalt	BSLT
Bentonite	BNTN
Boulders	BLDR
Boulders and sand	BLSD
Boulders, silt, and clay	BLSC
Breccia	BRCC
Calcite	CLCT
Caliche (hard pan)	CLCH
Chalk	CHLK
Chert	CHRT
Clay	CLAY
Clay, some sand	CLSD
Claystone	CLSN
Coal	COAL
Cobbles	COBB
Cobbles and sand	COSD
Cobbles, silt, and clay	COSC
Colluvium	CLVM
Conglomerate	CGLM
Coquina	CQUN
Diabase	DIBS
Diorite	DORT
Dolomite	DLMT
Drift	DRFT
Evaporite	EVPR
Gabbro	GBBR
Glacial (undifferentiated)	GLCL
Gneiss	GNSS
Granite	GRNT
Granite, gneiss	GRGN
Gravel	GRVL
Gravel and Clay	GRCL
Gravel, cemented	GRCM
Gravel, sand, and silt	GRDS
Gravel, silt and clay	GRSC
Graywacke	GRCK
Greenstone	GNST
Gypsum	GPSM
Hard pan	HRDP
Igneous (undifferentiated)	IGNS
Lignite	LGNT
Limestone	LMSN
Limestone and Dolomite	LMDM

Loam	LOAM
Loess	LOSS
Marble	MRBL
Marl	MARL
Marlstone	MRLS
Metamorphis (undifferentiated)	MMPC
Muck	MUCK
Mud	MUD
Mudstone	MDSN
Other	OTHR
Outwash	OTSH
Overburden	OBDN
Peat	PEAT
Quartzite	QRTZ
Residium	RSDM
Rhyolite	RYLT
Rock	ROCK
Rubble	RBBL
Sand	SAND
Sand and clay	SDCL
Sand and gravel	SDGL
Sand and silt	SDST
Sand, gravel, and clay	SGVC
Sand, some clay	SNCL
Sandstone	SNDS
Sandstone and shale	SDSL
Saprolite	SPRL
Schist	SCST
Sedimentary (undifferentiated)	SDMN
Serpentine	SRPN
Shale	SHLE
Silt	SILT
Silt and clay	STCL
Siltstone	SLSN
Slate	SLTE
Soil	SOIL
Syenite	SYNT
Till	TILL
Travertine	TRVR
Tuff	TUFF
Volcanic (undifferentiated)	VLCC

2.6.2.4 METHOD OF CONSTRUCTION
** (CDCOME/C65 - CHAR X in 57):

Enter the code that best indicates the method by which the site was constructed. Allowable codes are:

A - air-rotary	P - air percussion
B - bored or augered	R - reverse rotary
C - cable-tool	T - trenching
D - dug	V - driven
H - hydraulic rotary	W - drive and wash
J - jetted	Z - other (explain in remarks)

(A) Air-rotary method is one in which a stream of air is used to cool the bit and bring the rock cuttings to the surface.

(B) A bored or augered hole is one in which the earth materials are cut and removed from the hole with an auger. The auger may be powered by hand or machinery.

(C) Cable-tool refers to a well drilled by the familiar "percussion" or "churn-drill" method whereby a heavy drilling tool is raised and lowered with enough force to pulverize the rock. The rock debris is commonly removed from the hole with a bailer. The California mud-scow method is a special variation of the cable-tool method.

(D) Dug holes are excavated by hand tools or power-driven digging equipment. Caissons, Ranney-type collectors, and galleries belong in this classification even though they may have laterals that are driven or jetted. Tunnels would also be in this category.

(H) The hydraulic-rotary well is constructed by rotating a length of pipe (drill stem) equipped with a bit that cuts or grinds the rocks. Water or drilling mud is pumped down the drilling stem. Cuttings are carried to the surface in the annular space between the drilling stem and the wall of the hole. Note that separate categories are provided for air-rotary and reverse-rotary.

(J) Jetted wells are excavated by using high velocity streams of water pumped through a pipe having a restricted opening or "jetting" nozzle. For some types of earth materials a cutting bit is at- tached to the end of the jetting pipe. The material cut or washed from the hole is carried to the surface in the annular space out- side the pipe as by the hydraulic-rotary method. This method is most suitable for construction of small-diameter wells in uncon- solidated material.

(P) An air-percussion drill is a cutting tool powered by compressed air. It uses a rapid percussion effect, coupled with rotary ac- tion, to drill hard rocks. Compressed air also is used to blow the cuttings from the hole. Air-percussion drills are generally used in conjunction with air-rotary drilling rigs.

(R) Reverse rotary is similar to the hydraulic rotary except that the water or drilling mud flows down the annular space between the drilling stem and the wall of the hole and the cuttings are pumped out through the drill stem.

(T) Trenching refers to the construction of a sump or open pit from which ground water may be pumped. Trenching may be done by hand but more commonly power equipment, such as a bulldozer, dragline power shovel, or a backhoe is used. Ponds and drains belong in this category of construction.

(V) Driven wells are constructed by driving a length of pipe, usually of small diameter and generally equipped with a sand point, to the desired depth. The wells may be driven by hand or with air hammer or other power equipment. An essential feature of a driven well is that no earth material is removed as the well is constructed.

(W) Drive and wash wells are constructed by driving a small diameter

the open-end casing a few feet into the earth, then washing out material from inside the casing with a jet of water. The process is repeated until the well has penetrated a sufficient depth into the aquifer.

-

2.6.2.5 TYPE OF FINISH
** (CDCOFI/C66 - CHAR X in 58):

Enter the code indicating the method of finish or the nature of the openings that allow water to enter the well. Allowable codes are:

C - porous concrete	S - screen
F - gravel pack w/perforations	T - sand point
G - gravel pack w/screen	W - walled
H - horizontal gallery	X - open hole
O - open end	Z - other (explain in remarks)
P - perforated or slotted	

(C) Porous concrete is concrete casing that is pervious enough to allow ground water to seep into the well.

(F & G) A gravel pack well is a drilled or dug well that has a gravel envelope opposite the part through which water enters. Commonly, these wells will be finished either with commercial screen or slotted casing.

(H) A horizontal gallery or collector essentially is a horizontal type well in which the screen, slotted pipe, or gravel-filled trench is horizontal. All horizontal wells should be in this class, including Ranney collectors and infiltration galleries.

(O) An open-end well is one that is cased to the bottom of the hole so that water can enter the well only through the bottom of the hole.

(P) Perforated or slotted casing is well pipe that has had holes punched or slots cut in it to admit water. Do not use this designation if the well has a gravel pack. Use "F" instead.

(S) Screen refers to commercial well screen manufactured for the purpose of admitting water to a well. Common types of screen are wire mesh, wrapped trapezoidal wire, and shutter screen. Do not use this designation if the well also has a gravel pack. Use "G" instead.

(T) A sand point is the screen part of a drive point and usually

is part of a driven well.

(W) A walled or shored well is usually a dug well in which the walls have been shored-up with open-jointed fieldstore, brick, tile, concrete blocks, wood cribbing, or other material. A few wells of this type may have gravel walls, however, they should be placed in this category instead of F or G. A dug well that is mostly open hole but has even a few feet of cribbing, corrugated pipe, or other shoring to prevent caving, should be in this category.

(X) An open hole well is one that has a finished open hole in the aquifer. A well belongs in this class even if the casing does not actually extend to the geologic unit or zone from which the water is obtained.

Attachment C

PSW.DAT revision: 643984 04/21/99 3:52P
Search conducted: 02-18-2004 11:25:40 Search radius: 21120 feet
Chosen search parameters were NAD83 geographic coordinates
Location entered: Latitude: 39ø36'22" Longitude: 74ø21'41"
Easting: 531177.015 Northing: 281476.280

Distance: 11626 ft
Permit #: 32-00447
Owner: Little Egg Harbor Twp MUA
Well Name: Well 2
Address: Radio Rd
Operational status: Operational
Latitude: 39ø34'28.037" Longitude: 74ø22'5.343"
Easting: 529404.159 ft Northing: 269986.532 ft
Confinement Status: Confined

Distance: 5776 ft
Permit #: 32-00479
Owner: Tuckerton Water & Sewer Dept
Well Name: Well 1
Address: Water St
Operational status: Operational
Latitude: 39ø36'9.67" Longitude: 74ø20'30.297"
Easting: 536828.053 ft Northing: 280281.292 ft
Confinement Status: Confined

Distance: 6466 ft
Permit #: 32-06055
Owner: Tuckerton Water & Sewer Dept
Well Name: Well 2
Address: Clay St & Rte 9
Operational status: Operational
Latitude: 39ø36'9.946" Longitude: 74ø20'21.236"
Easting: 537537.210 ft Northing: 280310.460 ft
Confinement Status: Confined

Distance: 17503 ft
Permit #: 32-08715
Owner: Little Egg Harbor Twp MUA
Well Name: Well 5
Address: East Shrewsbury Dr
Operational status: Operational
Latitude: 39ø33'39.892" Longitude: 74ø23'2.009"
Easting: 524973.505 ft Northing: 265109.411 ft
Confinement Status: Confined

Distance: 8426 ft
Permit #: 32-11971
Owner: Little Egg Harbor Twp MUA
Well Name: Well 6
Address: Great Bay Blvd
Operational status: Operational
Latitude: 39ø35'9.043" Longitude: 74ø20'49.583"
Easting: 535329.052 ft Northing: 274144.767 ft
Confinement Status: Confined

Distance: 6435 ft
Permit #: 32-15207
Owner: Little Egg Harbor Twp MUA
Well Name: Well 8
Address: Center St & Timbreline Dr

Operational status: Operational
Latitude: 39ø35'18.423" Longitude: 74ø21'52.244"
Easting: 530422.113 ft Northing: 275085.867 ft
Confinement Status: Confined

Distance: 7964 ft
Permit #: 32-22507
Owner: Tuckerton Water & Sewer Dept
Well Name: Well 3
Address: 445 South Green St (Rte 539)
Operational status: New Well
Latitude: 39ø35'36.09" Longitude: 74ø20'19.429"
Easting: 537684.820 ft Northing: 276885.330 ft
Confinement Status: Unknown

Distance: 18035 ft
Permit #: 97-03004
Owner: Bass River State Park
Well Name: Office Well
Address: Stage Rd
Operational status: Operational
Latitude: 39ø37'15.916" Longitude: 74ø25'21.962"
Easting: 513994.400 ft Northing: 286953.600 ft
Confinement Status: To be determined

Distance: 19989 ft
Permit #: 97-03005
Owner: Bass River State Park
Well Name: North Shore Well
Address:
Operational status: Operational
Latitude: 39ø37'57.467" Longitude: 74ø25'25.827"
Easting: 513688.400 ft Northing: 291157.300 ft
Confinement Status: To be determined

Distance: 19686 ft
Permit #: 97-03006
Owner: Bass River State Park
Well Name: Beach Well
Address:
Operational status: Operational
Latitude: 39ø37'31.284" Longitude: 74ø25'37.344"
Easting: 512789.500 ft Northing: 288507.400 ft
Confinement Status: To be determined

Distance: 20646 ft
Permit #: 97-03007
Owner: Bass River State Park
Well Name: South Shore Well
Address:
Operational status: Operational
Latitude: 39ø37'24.217" Longitude: 74ø25'53.573"
Easting: 511520.300 ft Northing: 287791.400 ft
Confinement Status: To be determined

Distance: 13423 ft
Permit #: 97-03014
Owner: KOA - AC North Bass River
Well Name: Office Well
Address: Stage Rd
Operational status: Operational

Latitude: 39ø36'41.274" Longitude: 74ø24'32.095"
Easting: 517899.900 ft Northing: 283452.400 ft
Confinement Status: To be determined

Distance: 13492 ft
Permit #: 97-03016
Owner: KOA - AC North Bass River
Well Name: Pumphouse Well
Address: Stage Rd
Operational status: Operational
Latitude: 39ø36'43.83" Longitude: 74ø24'32.453"
Easting: 517871.600 ft Northing: 283711.000 ft
Confinement Status: To be determined

Distance: 20536 ft
Permit #: 97-03023
Owner: NJ State Police
Well Name: Well
Address: Garden State Parkway
Operational status: Operational
Latitude: 39ø36'18.412" Longitude: 74ø26'4.838"
Easting: 510643.700 ft Northing: 281133.000 ft
Confinement Status: To be determined

End of search; 14 wells found.

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Attachment D

 PRELIMINARY SURVEY OF WATER WITHDRAWAL POINTS WITHIN 5.0 MILES OF 393622 LAT. 742141 LON. (IN ORDER BY PERMIT NUMBER) - 02/18/04

NUMBER	NAME	SOURCEID	LOCID	LAT	LON	LLACC	DISTANCE	COUNTY	MUN	DEPTH	GEO1	GEO2	CAPACITY
10186W	NJ DIV. OF PARKS & FORESTRY	3200725	WELL 1	393756	742531	F	3.8	05	01	121	GTCK		100
10199W	OCEAN CO. U.A. (SPS-2)	3304140	WELL 1	393819	741817	F	3.7	29	08	149	GTCK		110
	OCEAN CO. U.A. (SPS-2)	3304141	WELL 2	393819	741817	F	3.7	29	08	149	GTCK		110
10235W	PINELANDS REGIONAL SCHOOL DIST	3208955	HIGHSCHOOL	393640	742140	F	0.3	29	16	100	GTCH		300
	PINELANDS REGIONAL SCHOOL DIST	3217281	MIDDLE SCH	393650	742140	T	0.5	29	16	90	GTCH		200
	PINELANDS REGIONAL SCHOOL DIST	3224010	HIGH SCH 2	393633	742233	T	0.8	29	16	100	GTCH		75
10798W	EAGLEWOODS VILLAGE	5333482	WELL 1	394001	741654	G	5.9	29	08	77	GTCK		65
	EAGLEWOODS VILLAGE	5333481	WELL 2	394001	741654	G	5.9	29	08	75	GTCK		40
11075W	SEA OAKS COUNTRY CLUB	3223484	WELL 1	393740	742020	T	1.9	29	16	141	GTCH		500
	SEA OAKS COUNTRY CLUB	POND 16	INTAKE 1	393740	742020	T	1.9	29	16		GTCH		1575
11116W	LITTLE EGG HARBOR,TOWNSHIP OF	3225386	WELL 1	393733	742119	T	1.4	29	16	151	GTCK		40
	LITTLE EGG HARBOR,TOWNSHIP OF	3225385	WELL 2	393733	742119	T	1.4	29	16	165	GTCK		250
2322P	OCEAN COUNTY PARKS @ ATLANTIS	POND 1	WILLIS CR.	393459	742131	F	1.6	29	16	10	SCDCE		850
	OCEAN COUNTY PARKS @ ATLANTIS	WILLIS CREEK	INTAKE	393502	742138	F	1.5	29	16		SCDCE		225
2503P	EAGLE LAKE RESERVE INC.	3337958	WELL E-1	394039	741826	U	5.7	29	08	120	GTCH		400
	EAGLE LAKE RESERVE INC.	PROPOSED	E-2	394034	741800	U	5.8	29	08	120	GTCH		400
	EAGLE LAKE RESERVE INC.	POND 1	POND 1	394034	741806	U	5.8	29	08	10	GTCH		8000
5037	LITTLE EGG HARBOR M.U.A.	3200447	WELL 2	393427	742203	G	2.2	29	16	542	GTKWL		250
	LITTLE EGG HARBOR M.U.A.	3208715	WELL 5	393340	742305	G	3.3	29	16	323	GTKRG		350
	LITTLE EGG HARBOR M.U.A.	3211971	WELL 6	393512	742019	G	1.8	29	16	340	GTKRG		380
	LITTLE EGG HARBOR M.U.A.	3212329	WELL 7	393247	742312	G	4.3	29	16	557	GTKWL		1000
	LITTLE EGG HARBOR M.U.A.	3215207	WELL 8	393511	742158	G	1.4	29	16	526	GTKWL		1200
	LITTLE EGG HARBOR M.U.A.	3225614	WELL 9	393520	742146	F	1.2	29	16	527	GTKWL		1200
	LITTLE EGG HARBOR M.U.A.	3223935	WELL 10	393731	742006	F	1.9	29	16	519	GTKWL		1200
	LITTLE EGG HARBOR M.U.A.	PROPOSED	WELL 11	393731	742006	F	1.9	29	16	519	GTKWL		1200
5119	TUCKERTON BOROUGH WATER &SEWER	3200479	1	393609	742031	G	1.1	29	32	497	GTKWL		500
	TUCKERTON BOROUGH WATER &SEWER	3206055	2	393609	742022	G	1.2	29	32	500	GTKWL		500
	TUCKERTON BOROUGH WATER &SEWER	3222507	3	393528	742016	G	1.6	29	32	534	GTKWL		500
	TUCKERTON BOROUGH WATER &SEWER	PROPOSED	4	393534	742027		1.4	29	32	500	GTKWL		500
SA0021	MUSUMECI, SAMUEL F.	POND	2	393936	741630	F	5.9	33	09	10	SDOLD		750

Number of Observations: 30

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Attachment E

WESTON

M. Capriglione
Originator

PHONE CONVERSATION RECORD

Conversation with:
Name Mark Heinrich
Company Little Egg Harbor MUA
Address
Phone (609) 296-1168
Subject Wells operated by LEH MUA

Date 4/11/04
Time _____ AM/PM

☑ Originator Placed Call
☐ Originator Received Call
W.O. No. 20103.001.001.1084.00

Notes:

- well 2 = closed & sealed

- well 5 } operational wells which are considered
- well 6 } secondary; run 6x's year

- well 8 → Primary well serving 7,800 connections
- well 9 → Backup of well 8

- well 10 } will be drilled in the summer
  well 11 }

wells 8 & 9 are screened in the Atlantic City 800 ft. Sands

They are not blended w/ surface water

7800 connections x 2.5 people (county avg.) = 19500

☐ File
☐ Tickle File ___/___/___
☐ Follow-Up By:
☐ Copy/Route To:

Follow-Up-Action:

Originator's Initials

25

RFW 110-4-83

1423-1823 4/16/93

1. Are these wells part of a blended system?

NO

2. What is the total production of the system?

2930 gallons per minute

3. What is the total number of wells in the system?

4

4. Is groundwater blended with surface water prior to distribution (if yes, where are the intakes located and what is their contribution to the total system production)?

NO

5. What is the total population served or the number of service connections in the system (if not a blended system, what is the total population or service connections for each well in the system)?

7,700 service connections

6. Does any well or intake provide more than 40 percent of the system's water (if yes, what is the pumpage capacity for each well in the system [see table])?

yes

7. What is the location of each of the wells in the system (see table)?

Well Name	State Well No.	Top of Screen Elevation	Bottom of Screen Elevation/Depth	Aquifer	Latitude/ Longitude/Nearest Cross Street	Pump Rate or percentage of total production
Well 5	3208715	293'	318'	Upper Kirkwood Cohansey	39 33 39.892 / -74 23 2.009	350 gpm
Well 6	3211971	307'	337'	Upper Kirkwood Cohansey	39 35 9.043 / -74 20 40.583	380 gpm
Well 7	3212329	516'	556'	Lower Kirkwood Cohansey	39 32 51.944 / -74 23 7.992	1000 gpm
Well 8	3215207	474'	521'	Lower Kirkwood Cohansey	39 35 18.423 / -74 21 52.244	1200 gpm
Well 9	3225614	475'	521'	Lower Kirkwood Cohansey		1200 gpm

Well 5+6 are now considered Rio Grande

Well 7,8,9, are Atlantic City 800 foot sands on new diversion permit

code DWR-085
(02/93)
DWR-BSDW-02-A

New Jersey Department of Environmental Protection and Energy
Bureau of Safe Drinking Water
CN 426, Trenton, NJ 08625-0426

Drinking Water Analysis – Volatile Organics

HZ

System Name: Little Egg Harbor MUA Address: 823 Radio Rd City, State, Zip: Little Egg Harbor, NJ 08087 Method: 502 .2 Sample type: P Collection Date: 02/05/03	PWS # 1516001 Facility Name: well 6, Facility ID: 02 Laboratory ID #: 15083 Laboratory Name: J. R. Henderson Analysis Date:02/11/03

Contaminant ID and Name	X if > MCL	MCL	MDL (ug/l)	Analysis Sign (<)	Results ug/l
2212-Dichlorodifluormethane			0.15	<	0.15
2210-Chloromethane			0.22	<	0.22
2976-Vinyl Chloride		2	0.50	<	0.50
2214-Bromomethane			0.24	<	0.24
2216-Chlorethane			0.59	<	0.59
2218-Triclorofluoromethane			0.19	<	0.19
2977-1,1-Dichloroethene		2	0.40	<	0.40
2964 Methylene Chloride		3	0.19	<	0.19
2979-Trans-1,2-Dichlorethene		100	0.27	<	0.27
2978-1,1-Dichlorethane		50	0.23	<	0.23
2416-2,2-Dicloropropane			0.19	<	0.19
2380-cis-1,2-Dicloroethene		70	0.17	<	0.17
2941-Chloroform			0.28	<	0.28
2430-Bromochloromethane			0.23	<	0.23
2981-1,1,1-Trichloroethane		30	0.23	<	0.23
2410-1,1-Dichloropropene			0.20	<	0.20
2982-Carbon Tetrachloride		2	0.23	<	0.23
2990-Benzene		1	0.22	<	0.22
2980-1,2 Dichloroethane		2	0.36	<	0.36
2984-Trichloroethene		1	0.23	<	0.23
2983-1,2-Dichloropropane		5	0.31	<	0.31
2943-Bromodichloromethane			0.25	<	0.25
2408-Dibromomethane			0.16	<	0.16
2228-cis-1,3-Dichloropropene			0.35	<	0.35
2291-Toluene		1000	0.22	<	0.22
2224-Trans-1,3-Dichloropropene			0.32	<	0.32
2985-1,1,2-Trichloroethane		3	0.32	<	0.32
2987-Tetrachloroethene		1	0.21	<	0.21
2412-1,3-Dichloropropane			0.37	<	0.37
2944-Dibromochloromethane			0.27	<	0.27
2946-1,2-Dibromomethane			0.24	<	0.24
2989-Chlorobenzene		50	0.21	<	0.21
2992-Ethyl Benzene		700	0.19	<	0.19
2986-1,1,1,2-Tetrachloroethane			0.24	<	0.24

Client Name: Little Egg Harbor MUA	PWS # 1516001 Sample # well 6, Fac 02 Collection Date: 02/05/03

Contaminant ID & Name	X if > MCL	MCL	MDL (ug/l)	Analysis Sign (>)	Results (ug/l)
2295-m-xylene			0.39	<	0.39
2962-p-xylene			0.39	<	0.39
2997-o-xylene			0.26	<	0.26
2996-Styrene		100	0.27	<	0.27
2994-Isopropylbenzene			0.22	<	0.22
2942-Bromoform			0.25	<	0.25
2988-1,1,2,2-Tetrachloroethane		1	0.47	<	0.47
2414-1,2,3-Trichloropropane			0.15	<	0.15
2998-n-Propylbenzene			0.23	<	0.23
2993-Bromobenzene			0.36	<	0.36
2424-1,3,5-Trimethylbenzene			0.25	<	0.25
2965-2-Chlorotoluene			0.14	<	0.14
2966-4-Chlorotoluene			0.35	<	0.35
2426-tert-Butylbenzene			0.27	<	0.27
2418-1,2,4-Trimethylbenzene			0.29	<	0.29
2428-sec-Butylbenzene			0.25	<	0.25
2030-p-Isopropyltoluene			0.29	<	0.29
2967-1,3-Dichlorobenzene		600	0.30	<	0.30
2969-1,4-Dichlorobenzene		75	0.30	<	0.30
2422-n-Butylbenzene			0.27	<	0.27
2968-1,2-Dichlorobenzene		600	0.38	<	0.38
2931-1,2-Dibromo-3-Chloropropane			0.46	<	0.46
2378-1,2,4-Trichlorobenzene		9	0.29	<	0.29
2246-Hexachlorobutadiene			0.35	<	0.35
2248-Naphthalene		300	0.19	<	0.19
2420-1,2,3-Trichlorobenzene			0.35	<	0.35
2251-MTBE		70	0.31	<	0.31
Total Xylenes		1000	0.39	<	0.39

Lab Sample feb1105
This sample was collected in accordance with approved procedures established by the New Jersey Department of Environmental Protection and Energy from the location described above.

Name: Little Egg Harbor MUA
I certify that this water was analyzed in accordance with the approved procedures established by the New Jersey Department of Environmental Protection and Energy.

Name: M. Ellis Signature: M. Ellis, Pres.

Form Prepared by: Laboratory Phone#: (732)341-1211
Comments:

PWS#1516001	Sample ID: feb 1105

Compound	Method	Concentration (ug/l)	Recovery %	Acceptance Limits
2-Bromochloropropane	502.2	4.0	108	80-120
Fluorobenene	502.2	4.0	108	80-120

code DWR-085
(02/93)
DWR-BSDW-02-A

New Jersey Department of Environmental Protection and Energy
Bureau of Safe Drinking Water
CN 426, Trenton, NJ 08625-0426

Drinking Water Analysis – Volatile Organics

HZ

System Name: Little Egg Harbor MUA Address: 823 Radio Rd City, State, Zip: Little Egg Harbor, NJ 08087 Method: 502 .2 Sample type: P Collection Date: 02/05/03	PWS # 1516001 Facility Name: well 7 Facility ID: 04 Laboratory ID #: 15083 Laboratory Name: J. R. Henderson Analysis Date:02/11/03

Contaminant ID and Name	X if > MCL	MCL	MDL (ug/l)	Analysis Sign (<)	Results ug/l
2212-Dichlorodifluormethane			0.15	<	0.15
2210-Chloromethane			0.22	<	0.22
2976-Vinyl Chloride		2	0.50	<	0.50
2214-Bromomethane			0.24	<	0.24
2216-Chlorethane			0.59	<	0.59
2218-Triclorofluoromethane			0.19	<	0.19
2977-1,1-Dichloroethene		2	0.40	<	0.40
2964 Methylene Chloride		3	0.19	<	0.19
2979-Trans-1,2-Dichlorethene		100	0.27	<	0.27
2978-1,1-Dichlorethane		50	0.23	<	0.23
2416-2,2-Dicloropropane			0.19	<	0.19
2380-cis-1,2-Dicloroethene		70	0.17	<	0.17
2941-Chloroform			0.28	<	0.28
2430-Bromochloromethane			0.23	<	0.23
2981-1,1,1-Trichloroethane		30	0.23	<	0.23
2410-1,1-Dichloropropene			0.20	<	0.20
2982-Carbon Tetrachloride		2	0.23	<	0.23
2990-Benzene		1	0.22	<	0.22
2980-1,2 Dichloroethane		2	0.36	<	0.36
2984-Trichloroethene		1	0.23	<	0.23
2983-1,2-Dichloropropane		5	0.31	<	0.31
2943-Bromodichloromethane			0.25	<	0.25
2408-Dibromomethane			0.16	<	0.16
2228-cis-1,3-Dichloropropene			0.35	<	0.35
2291-Toluene		1000	0.22	<	0.22
2224-Trans-1,3-Dichloropropene			0.32	<	0.32
2985-1,1,2-Trichloroethane		3	0.32	<	0.32
2987-Tetrachloroethene		1	0.21	<	0.21
2412-1,3-Dichloropropane			0.37	<	0.37
2944-Dibromochloromethane			0.27	<	0.27
2946-1,2-Dibromomethane			0.24	<	0.24
2989-Chlorobenzene		50	0.21	<	0.21
2992-Ethyl Benzene		700	0.19	<	0.19
2986-1,1,1,2-Tetrachloroethane			0.24	<	0.24

Client Name: Little Egg Harbor MUA	PWS # 1516001 Sample # well 7, Fac 04 Collection Date: 02/05/03

Contaminant ID & Name	X if > MCL	MCL	MDL (ug/l)	Analysis Sign (>)	Results (ug/l)
2295-m-xylene			0.39	<	0.39
2962-p-xylene			0.39	<	0.39
2997-o-xylene			0.26	<	0.26
2996-Styrene		100	0.27	<	0.27
2994-Isopropylbenzene			0.22	<	0.22
2942-Bromoform			0.25	<	0.25
2988-1,1,2,2-Tetrachloroethane		1	0.47	<	0.47
2414-1,2,3-Trichloropropane			0.15	<	0.15
2998-n-Propylbenzene			0.23	<	0.23
2993-Bromobenzene			0.36	<	0.36
2424-1,3,5-Trimethylbenzene			0.25	<	0.25
2965-2-Chlorotoluene			0.14	<	0.14
2966-4-Chlorotoluene			0.35	<	0.35
2426-tert-Butylbenzene			0.27	<	0.27
2418-1,2,4-Trimethylbenzene			0.29	<	0.29
2428-sec-Butylbenzene			0.25	<	0.25
2030-p-Isopropyltoluene			0.29	<	0.29
2967-1,3-Dichlorobenzene		600	0.30	<	0.30
2969-1,4-Dichlorobenzene		75	0.30	<	0.30
2422-n-Butylbenzene			0.27	<	0.27
2968-1,2-Dichlorobenzene		600	0.38	<	0.38
2931-1,2-Dibromo-3-Chloropropane			0.46	<	0.46
2378-1,2,4-Trichlorobenzene		9	0.29	<	0.29
2246-Hexachlorobutadiene			0.35	<	0.35
2248-Naphthalene		300	0.19	<	0.19
2420-1,2,3-Trichlorobenzene			0.35	<	0.35
2251-MTBE		70	0.31	<	0.31
Total Xylenes		1000	0.39	<	0.39

Lab Sample feb1104
This sample was collected in accordance with approved procedures established by the New Jersey Department of Environmental Protection and Energy from the location described above.

Name: Little Egg Harbor MUA
I certify that this water was analyzed in accordance with the approved procedures established by the New Jersey Department of Environmental Protection and Energy.

Name: M. Ellis Signature: M. Ellis, Pres.

Form Prepared by: Laboratory Phone#: (732)341-1211
Comments:

PWS#1516001	Sample ID: feb 1104

Compound	Method	Concentration (ug/l)	Recovery %	Acceptance Limits
2-Bromochloropropane	502.2	4.0	92	80-120
Fluorobenene	502.2	4.0	82	80-120

code DWR-085
(02/93)
DWR-BSDW-02-A

New Jersey Department of Environmental Protection and Energy
Bureau of Safe Drinking Water
CN 426, Trenton, NJ 08625-0426

Drinking Water Analysis – Volatile Organics

HZ

System Name: Little Egg Harbor MUA Address: 823 Radio Rd City, State, Zip: Little Egg Harbor, NJ 08087 Method: 502 .2 Sample type: P Collection Date: 02/05/03	PWS # 1516001 Facility Name: well 8 Center Street Facility ID: 07 Laboratory ID #: 15083 Laboratory Name: J. R. Henderson Analysis Date:02/11/03

Contaminant ID and Name	X if > MCL	MCL	MDL (ug/l)	Analysis Sign (<)	Results ug/l
2212-Dichlorodifluormethane			0.15	<	0.15
2210-Chloromethane			0.22	<	0.22
2976-Vinyl Chloride		2	0.50	<	0.50
2214-Bromomethane			0.24	<	0.24
2216-Chlorethane			0.59	<	0.59
2218-Triclorofluoromethane			0.19	<	0.19
2977-1,1-Dichloroethene		2	0.40	<	0.40
2964 Methylene Chloride		3	0.19	<	0.19
2979-Trans-1,2-Dichlorethene		100	0.27	<	0.27
2978-1,1-Dichlorethane		50	0.23	<	0.23
2416-2,2-Dicloropropane			0.19	<	0.19
2380-cis-1,2-Dicloroethene		70	0.17	<	0.17
2941-Chloroform			0.28	<	0.28
2430-Bromochloromethane			0.23	<	0.23
2981-1,1,1-Trichloroethane		30	0.23	<	0.23
2410-1,1-Dichloropropene			0.20	<	0.20
2982-Carbon Tetrachloride		2	0.23	<	0.23
2990-Benzene		1	0.22	<	0.22
2980-1,2 Dichloroethane		2	0.36	<	0.36
2984-Trichloroethene		1	0.23	<	0.23
2983-1,2-Dichloropropane		5	0.31	<	0.31
2943-Bromodichloromethane			0.25	<	0.25
2408-Dibromomethane			0.16	<	0.16
2228-cis-1,3-Dichloropropene			0.35	<	0.35
2291-Toluene		1000	0.22	<	0.22
2224-Trans-1,3-Dichloropropene			0.32	<	0.32
2985-1,1,2-Trichloroethane		3	0.32	<	0.32
2987-Tetrachloroethene		1	0.21	<	0.21
2412-1,3-Dichloropropane			0.37	<	0.37
2944-Dibromochloromethane			0.27	<	0.27
2946-1,2-Dibromomethane			0.24	<	0.24
2989-Chlorobenzene		50	0.21	<	0.21
2992-Ethyl Benzene		700	0.19	<	0.19
2986-1,1,1,2-Tetrachloroethane			0.24	<	0.24

Client Name: Little Egg Harbor MUA	PWS # 1516001 Sample # well 8, Center Street, Fac 07 Collection Date: 02/05/03

Contaminant ID & Name	X if > MCL	MCL	MDL (ug/l)	Analysis Sign (>)	Results (ug/l)
2295-m-xylene			0.39	<	0.39
2962-p-xylene			0.39	<	0.39
2997-o-xylene			0.26	<	0.26
2996-Styrene		100	0.27	<	0.27
2994-Isopropylbenzene			0.22	<	0.22
2942-Bromoform			0.25	<	0.25
2988-1,1,2,2-Tetrachloroethane		1	0.47	<	0.47
2414-1,2,3-Trichloropropane			0.15	<	0.15
2998-n-Propylbenzene			0.23	<	0.23
2993-Bromobenzene			0.36	<	0.36
2424-1,3,5-Trimethylbenzene			0.25	<	0.25
2965-2-Chlorotoluene			0.14	<	0.14
2966-4-Chlorotoluene			0.35	<	0.35
2426-tert-Butylbenzene			0.27	<	0.27
2418-1,2,4-Trimethylbenzene			0.29	<	0.29
2428-sec-Butylbenzene			0.25	<	0.25
2030-p-Isopropyltoluene			0.29	<	0.29
2967-1,3-Dichlorobenzene		600	0.30	<	0.30
2969-1,4-Dichlorobenzene		75	0.30	<	0.30
2422-n-Butylbenzene			0.27	<	0.27
2968-1,2-Dichlorobenzene		600	0.38	<	0.38
2931-1,2-Dibromo-3-Chloropropane			0.46	<	0.46
2378-1,2,4-Trichlorobenzene		9	0.29	<	0.29
2246-Hexachlorobutadiene			0.35	<	0.35
2248-Naphthalene		300	0.19	<	0.19
2420-1,2,3-Trichlorobenzene			0.35	<	0.35
2251-MTBE		70	0.31	<	0.31
Total Xylenes		1000	0.39	<	0.39

Lab Sample feb1103
This sample was collected in accordance with approved procedures established by the New Jersey Department of Environmental Protection and Energy from the location described above.

Name: Little Egg Harbor MUA
I certify that this water was analyzed in accordance with the approved procedures established by the New Jersey Department of Environmental Protection and Energy.

Name: M. Ellis Signature: M. Ellis, Pres.

Form Prepared by: Laboratory Phone#: (732)341-1211
Comments:

PWS#1516001	Sample ID: feb 1103

Compound	Method	Concentration (ug/l)	Recovery %	Acceptance Limits
2-Bromochloropropane	502.2	4.0	91	80-120
Fluorobenene	502.2	4.0	100	80-120

WESTON

M. Capriglione
Originator

PHONE CONVERSATION RECORD

Conversation with:
Name Ron Bailey Borough of
Company Tuckerton
Address 140 E. Main St
Tuckerton NJ 08087
Phone (609) 296-9222
Subject wells

Date 5/12/03
Time 2 AM/PM

☑ Originator Placed Call
☐ Originator Received Call
W.O. No. 20103.001.001.1070.00

Notes: When questioned about wells 1, 2, & 3 (municipal wells of Tuckerton) RB stated that all 3 wells are part of one distribution and that the wells are not blended with any surface waters prior to distribution. MC mailed a packet of questions (mainly: the total production of the system?) which he will fill out & return.

☐ File
☐ Tickle File / /
☐ Follow-Up By:
☐ Copy/Route To:

Follow-Up-Action: Letter mailed

Originator's Initials MMC

RFW 110-4-83

37

1423-1823 4/16/93

Founded 1698

RANDY H. BAILEY
SUPERINTENDENT
WATER & SEWER DEPT.
PHONE 609-296-9222
* * *
FAX 609-296-1658
* * *
EMAIL:
TUCKERTONWATERSEWER@COMCAST.NET

BOROUGH OF TUCKERTON

COUNTY OF OCEAN
140 E. MAIN STREET
TUCKERTON, NEW JERSEY 08087

Michele Capriglione
Weston Solutions
205 Campus Drive
Edison, N.J. 08837

RE: PUBLIC SUPPLY WELL INFORMATION
Great Bay Plaza, former dry cleaners site
W.O. N.O.: 20103.001.001.1070.00

Dear Ms. Capriglione,

As per your request of May 2, 2003, please find attached the information of our (3) existing water production wells. I also included the raw water analysis for well # 3. I hope that the information is helpful in your endeavor.

Upon receipt and review of this letter and the attachments, should you have any questions, please do not hesitate to contact me at 1-609-296-9222.

Upon closing, please keep me informed as to the status of this project.

Very Truly Yours,

Randy H. Bailey

cc Honorable Kevin Quinlan, Mayor
Members of Borough Council
Grace DiElmo, Borough Clerk
Christopher Connors, Esq., Borough Attorney
John Hess, P.E., Borough Engineer
file

Quality On Tap!
Our Commitment Our Profession
MEMBER: NJWA, NJWEA, AWWA

Well Name	State Well No.	Top of Screen Elevation	Bottom of Screen Elevation/Depth	Aquifer	Latitude/ Longitude/Nearest Cross Street	Pump Rate or percentage of total production
Well 1	3200479	* UNKNOWN AT THIS TIME		ATLANTIC 800 FT SANDS	LAT 393609	500 GPM
Well 2	3206655	409'5"	489'5"	" "	LONG. 742031 RTE 9 & WATER STREET.	500 GPM
Well 3	3222507	410'0"	490'0"	" "		500 GPM

WELL #2 LAT. 393609
LONG. 742022
FLOYD LANE

WELL #3 LAT 393528
LONG 742016
S. GREEN STREET.

PLEASE NOTE! WELL #2 CURRENTLY IS OUR PRIMARY WELL. WELL #1 HAS LIMITED USE IN SO MUCH THAT THE WELL PUMP IS IN NEED OF REPAIR, HOWEVER WITH THE ANTICIPATION OF WELL #3 BEING PUT BACK ON LINE SHORTLY, THE EXPENDITURE OF REPLACING THE WELL PUMP FOR WELL #1 IS NOT COST EFFECTIVE.

WELL #3 HAS BEEN OUT OF SERVICE SINCE MARCH 18, 2002 DUE TO MECHANICAL/OPERATIONAL PROBLEMS ASSOCIATED WITH WATER TREATMENT FACILITY #2. APPROPRIATIONS ARE UNDERWAY TO MAKE REPAIRS/CORRECTIONS AS NECESSARY TO PUT WELL #3 AND WTF #2 BACK INTO SERVICE. THIS FACILITY HAS NOT BEEN FORMALLY ACCEPTED BY THE BOROUGH OF TULLERTON. WELL #3 AND WTF #2 EXPECTED TO BE RETURNED TO SERVICE IN APPROXIMATELY 2 MONTHS.

1. Are these wells part of a blended system? YES

2. What is the total production of the system? 500 GPM

3. What is the total number of wells in the system? (3) Three

4. Is groundwater blended with surface water prior to distribution (if yes, where are the intakes located and what is their contribution to the total system production)? NO

5. What is the total population served or the number of service connections in the system (if not a blended system, what is the total population or service connections for each well in the system)?

As of December 31, 2002 There was 1,720 Service Connections. (1519 Residential, 97 Commerical, 104 Miscellaneous (Lawn, municipal etc))

6. Does any well or intake provide more than 40 percent of the system's water (if yes, what is the pumpage capacity for each well in the system [see table])?

See Table.

7. What is the location of each of the wells in the system (see table)?

See Table

WSE-008
DWR-018 (PW 2)
5/95

New Jersey Department of Environmental Protection
Water Supply Element - Bureau of Safe Drinking Water

WATER ANALYSES REPORT

98SDW00369

Supply: Tuckerton Water Dept
County/Municipality: Ocean
PWSID: 1532002
Collected by: [illegible]
Memo #: 98-138
Date Collected: 10 28 98
Requested by: Larry

BACTERIOLOGICAL: Coliform organisms are reported in colonies per 100 ml. Chlorine residuals are reported in ppm.

Sample Number	Point of Collection	Sample Type	Time	Water Temp.	Chlorine Residual Free	Chlorine Residual Total	Coliform Organisms Fecal	Coliform Organisms Total
110840	Well #3 S. Green St raw water sample tap	R	1112	6P	0	0		

Sample Type: *C - Check Sample* *D - Regular Distribution System Sample* *M - Maximum Residence Time for THMs* *P - Plant Tap (Treated Water) Sample* *R - Raw Water (Untreated Sample)* *S - Special Sample*

PHYSICAL - CHEMICAL: Analytical results are in ppm except color, odor, turbidity, pH, VO, and Pesticide.
MFL = million fibers / liter AL = action level
(Drinking water standards are in parentheses)

SAMPLE NUMBER	110840	28799
Color (10)	15	
Odor (III)	2	
Turbidity	3.1	
pH (6.5 - 8.5)	6.32	
Alkalinity	14	
Total Dis. Solids (500)	62	
ABS/LAS (0.5)	<0.1	
Chloride (250)	2.8	
Hardness (250)	20.34	
Pesticide 1, 2, 3		
VO Scan	THM's	
trihalo		
Gr R	0.04 pC/l	
Radon	210	
	940686	

SAMPLE NUMBER	110840
Aluminum (0.05)	.036
Antimony (0.006)	<.001
Arsenic (0.05)	<.001
Asbestos (7 MFL)	ANR
Barium (2)	.026
Beryllium (0.004)	<.001
Cadmium (0.005)	<.001
Chromium (0.1)	<.001
Copper (1.3 AL)	.001
Cyanide (0.2)	<0.01
Fluoride (4)	0.26
Iron (0.3)	.456

SAMPLE NUMBER	110840
Lead (0.015 AL)	<.001
Manganese (0.05)	.0375
Mercury (0.002)	<.000040
Nickel (0.1)	<.001
Nitrate (N) (10)	.06
Nitrite (N) (1)	<.003
Selenium (0.05)	<.001
Silver (0.1)	<.001
Sodium (50)	3.1
Sulfate (250)	7.8
Thallium (0.002)	<.001
Zinc (5)	.013

DEP Agency # 210 DEP Project Code 266 Trip Blank # 28799

Comments

REPORT SUBMITTED
MAR 01 1999
NJDOH Environmental Chemistry

Copies: *White - Bureau of Safe Drinking Water* *Blue - Water Purveyor* *Green - Health Authority* *Canary - Chemistry Lab* *Pink - Bacteriological Lab* *Gold - Extra*

WSE-008
DWR-018 (PW 2)
5/95

MF exam @ 9:00 am 10/29

New Jersey Department of Environmental Protection
Water Supply Element - Bureau of Safe Drinking Water

10/29/98
98SDW00368

WATER ANALYSES REPORT

Supply: TUCKERTON WATER DEPT PWSID: 1532002
County/Municipality: OCEAN Date Collected: 10.28.98
Collected by: [signature] Memo #: 98-138 Requested by: Larry C

BACTERIOLOGICAL: Coliform organisms are reported in colonies per 100 ml. Chlorine residuals are reported in ppm.

Sample Number	Point of Collection		Sample Type	Time	Water Temp.	Chlorine Residual Free	Chlorine Residual Total	Coliform Organisms Fecal	Coliform Organisms Total
110834	Well #3 So. Green St	0 raw water	R	1010	61°	0	0		0
110835		5 Sample		1015	61°	0	0		0
110936		10 tap		1020					0
110937		15		1025					0
110938		30		1040					0
110939		60		1110					0

Sample Type: *C - Check Sample* *D - Regular Distribution System Sample* *M - Maximum Residence Time for THMs* *P - Plant Tap (Treated Water) Sample* *R - Raw Water (Untreated Sample)* *S - Special Sample*

PHYSICAL - CHEMICAL: Analytical results are in ppm except color, odor, turbidity, pH, VO, and Pesticide.
MFL = million fibers / liter AL = action level
(Drinking water standards are in parentheses)

SAMPLE NUMBER			SAMPLE NUMBER			SAMPLE NUMBER		
Color (10)			Aluminum (0.05)			Lead (0.015 AL)		
Odor (III)			Antimony (0.006)			Manganese (0.05)		
Turbidity			Arsenic (0.05)			Mercury (0.002)		
pH (6.5 - 8.5)			Asbestos (7 MFL)			Nickel (0.1)		
Alkalinity			Barium (2)			Nitrate (N) (10)		
Total Dis. Solids (500)			Beryllium (0.004)			Nitrite (N) (1)		
ABS/LAS (0.5)			Cadmium (0.005)			Selenium (0.05)		
Chloride (250)			Chromium (0.1)			Silver (0.1)		
Hardness (250)			Copper (1.3 AL)			Sodium (50)		
Pesticide 1, 2, 3			Cyanide (0.2)			Sulfate (250)		
VO Scan			Fluoride (4)			Thallium (0.002)		
			Iron (0.3)			Zinc (5)		
GA	0.04	pCi/L						
Radon	210							

ANALYSIS COMPLETED
OCT 30 1998
REPORT SUBMITTED

DEP Agency # 210 DEP Project Code 269 Trip Blank #

Comments: tap was flamed NOV 12 1998

Copies: *White - Bureau of Safe Drinking Water* *Blue - Water Purveyor* *Green - Health Authority* *Canary - Chemistry Lab* *Pink - Bacteriological Lab* *Gold - Extra*

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1115 PROP 3.1-4.0 303
1120 above gr turbine next to

NEW JERSEY STATE DEPARTMENT of HEALTH and SENIOR SERVICES
ENVIRONMENTAL and CHEMICAL LABORATORY SERVICES
GENERAL CHEMISTRY

Laboratory Sample No. 9806806
Receipt Date: 981028.1455
Laboratory Batch No. 98SDW00369

Field No: 110840
Collection Date: 981028.1110
Report Date: ... DEC. 10 1998

	Sample Results	Result Qualifier	MDL	Analysis Date
Asbestos in Million Fibers/L	ANR			
Fiber Identification				
Nitrite Nitrogen	0.003	K	0.003	981029
Nitrite & Nitrate Nitrogen	0.06		0.02	981029
Nitrate Nitrogen	.06	see above	----	see note 1
Ammonia Nitrogen	ANR		0.03	
Total Kjeldahl Nitrogen	ANR		0.03	
Color in Platinum in Cobalt Units	15		5	981029
Odor in T.O.N.	2		I	981029
Turbidity in NTU	3.1		0.05	981029
Filterable Residue	62		2	981029
pH in pH Units	6.32	JHTF	-	981105
Alkalinity	14		1	981105
Acidity	ANR		1	
Chloride	2.8		2	981030
MBAS	0.1	K	0.1	981029
Hardness	20.34		5	981102
Sulfate	7.78		1	981102
Cyanide	0.01	K	0.010	981106
Conductane in umhos	ANR		0.010	
Fluoride	0.26	JHT	0.1	981130
TOC	ANR		0.1	
TOX	ANR		0.005	

NOTE 1: Nitrate nitrogen is determined by difference.
nitrate = nitrate & nitrite - nitrite
ECLS started this proceedure 3/30/92.
NOTE 2: Sample results, method blanks and MDLs are expressed in parts per million (ppm), unless otherwise specified.
ANR = Analyte Not Requested QNS = Quantity Not Sufficient
NRP = No Result Possible / analytical problems
J-MI = Approximate value due to matrix interferences
J-QC = Approximate value due to quality control problems.
J-EHT or HT = Approximate value due to the sample exceeding the holding time.
NA = Not Applicable EFAILURE = Equipment failure
This is an abbreviated General Chemistry report form. Use only for reporting routine Safe Drinking Water samples.

LB/SDW01.RPT

MAR 0 1 1999

NJDOH Environmental Chemistry

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NEW JERSEY STATE DEPARTMENT of HEALTH and SENIOR SERVICES
ENVIRONMENTAL and CHEMICAL LABORATORY SERVICES
METALS LABORATORY

Laboratory Sample No. 9806806 Field No: 110840

Receipt Date: 981028.1455 Collection Date: 981028.1110
Laboratory Batch No. 98SDW00369 Report Date: DEC. 2 1998

Matrix: WATER - RAW WATER(UNTREATED SAMPLE) SDW

Analyte	Result ug/L *	Result Qualifer	Detection Limit	Analysis Date
Aluminum	36.7		5.0	981104
Antimony	1.0	K	1.0	981106
Arsenic	1.0	K	1.0	981030
Barium	2.6		1.0	981104
Beryllium	1.0	K	1.0	981104
Boron	ANR			
Calcium *	ANR			
Cadmium	1.0	K	1.0	981104
Chromium hex.	ANR			
Chromium	1.0	K	1.0	981104
Cobalt	ANR			
Copper	1.0		1.0	981104
Iron	456.0		1.0	981104
Lead	1.0	K	1.0	981109
Magnesium *	ANR			
Manganese	39.5		1.0	981104
Mercury	.040	K	0.04	981118
Molybdenum	ANR			
Nickel	1.0	K	1.0	981104
Potassium *	ANR			
Selenium	1.0	K	1.0	981102
Silver	1.0	K	1.0	981104
Sodium *	3.1		0.1	981119
Strontium	ANR			
Thallium	1.0	K	1.0	981030
Tin	ANR			
Zinc	13.0		2.0	981104

* Results for Ca, Mg, K and Na are reported as mg/L.
ANR = Analyte Not Requested
J-MI = Approximate value due to matrix interferences.
J-QC = Approximate value due to quality control problems.
Comments:

LB/ME_NP01.RPT

MAR 0 1 ...
NJDOH ...

VOLATILE ORGANICS ANALYSIS DATA SHEET
DOH MODIFIED EPA METHOD 524.2

FIELD SAMPLE NO.

110840

Lab Name: NJDHSS

Matrix: (soil/water) Water

Column: Capillary-[DB-624]

Level: (low/med) Low

Dilution Factor: 1.00000

Batch Number: 98SDW00369

Lab Sample ID: 9806806

Lab File ID: >K7568::D1

Date Collected: 10/28/98

Date Analyzed: 11/10/98 14:28

CONCENTRATION UNITS:

CAS NO.	COMPOUND	ug/L	Q
75-71-8	Dichlorodifluoromethane	.8	U
74-87-3	Chloromethane	.7	U
75-01-4	Vinyl Chloride	.6	U
74-83-9	Bromomethane	.6	U
75-00-3	Chloroethane	2.	U
75-69-4	Trichlorofluoromethane	.6	U
60-29-7	Diethyl Ether	.5	U
75-35-4	1,1-Dichloroethene	.3	J
67-64-1	Acetone	2.	B ***
74-88-4	Methyl Iodide	.6	U
75-15-0	Carbon Disulfide	.08	J
107-05-1	Allyl Chloride	1.	U
75-09-2	Methylene_Chloride	.4	U
75-65-0	tert-Butyl_Alcohol	.3	U
107-13-1	Acrylonitrile	.6	U
156-60-5	trans-1,2-Dichloroethene	.4	U
1634-04-4	Methyl tert-Butyl_Ether	.5	U
75-34-3	1,1-Dichloroethane	.4	U
590-20-7	2,2-Dichloropropane	.5	U
156-59-4	cis-1,2-Dichloroethene	.4	U
78-93-3	2-Butanone	1.	B ***
107-12-0	Propionitrile	.8	U
96-33-3	Methyl Acrylate	.5	U
74-97-5	Bromochloromethane	.2	U
126-98-7	Methacrylonitrile	.5	U
109-99-9	Tetrahydrofuran	.7	U
67-66-3	Chloroform	2.	
71-55-6	1,1,1-Trichloroethane	.5	U
56-23-5	Carbon Tetrachloride	.5	U
109-69-3	1-Chlorobutane	.4	U
563-58-6	1,1-Dichloropropene	.2	J
71-43-2	Benzene	.4	U
107-02-2	1,2-Dichloroethane	.2	U
79-01-6	Trichloroethene	.4	U
78-87-5	1,2-Dichloropropane	.3	U

THM

FORM I VOA-1

1/87 Re

45

VOLATILE ORGANICS ANALYSIS DATA SHEET
DOH MODIFIED EPA METHOD 524.2

FIELD SAMPLE NO.

110840

Lab Name: NJDHSS

Matrix: (soil/water) Water

Column: Capillary-[DB-624]

Level: (low/med) Low

Dilution Factor: 1.00000

Batch Number: 98SDW00369

Lab Sample ID: 9806806

Lab File ID: >K7568::D1

Date Collected: 10/28/98

Date Analyzed: 11/10/98 14:28

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L	Q
74-95-3	Dibromomethane	.2	U
80-62-6	Methylmethacrylate	.5	U
75-27-4	Bromodichloromethane	.2	U
79-46-9	2-Nitropropane	.4	U
107-14-2	Chloroacetonitrile	.5	U
10061-01-5	cis-1,3-Dichloropropene	.2	U
513-88-2	1,1-Dichloropropanone	1.	U
108-10-1	4-Methyl-2-pentanone	1.	U
108-88-3	Toluene	.4	U
10061-02-6	trans-1,3-Dichloropropene	.2	U
79-00-5	1,1,2-Trichloroethane	.2	U
97-63-2	Ethyl Methacrylate	.5	U
127-18-4	Tetrachloroethene	.5	U
142-28-9	1,3-Dichloropropane	.2	U
591-78-6	2-Hexanone	.5	U
124-48-1	Dibromochloromethane	.2	U
106-93-4	1,2-Dibromoethane	.1	U
108-90-7	Chlorobenzene	.3	U
630-20-6	1,1,1,2-Tetrachloroethane	.3	U
100-41-4	Ethylbenzene	.5	U
*	m/p-Xylene	.9	U
95-47-6	o-Xylene	.4	U
100-42-5	Styrene	.3	U
75-25-2	Bromoform	.2	U
98-82-8	Isopropylbenzene	.6	U
108-86-1	Bromobenzene	.3	U
79-34-5	1,1,2,2-Tetrachloroethane	.2	U
96-18-4	1,2,3-Trichloropropane	.3	U
110-57-6	trans-1,4-Dichloro-2-Butene	.6	U
103-65-1	n-Propylbenzene	.5	U
95-49-8	2-Chlorotoluene	.6	U
106-43-4	4-Chlorotoluene	.4	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
DOH MODIFIED EPA METHOD 524.2

FIELD SAMPLE NO.

110840

Lab Name: NJDHSS

Matrix: (soil/water) Water

Column: Capillary-[DB-624]

Level: (low/med) Low

Dilution Factor: 1.00000

Batch Number: 98SDW00369

Lab Sample ID: 9806806

Lab File ID: >K7568::D1

Date Collected: 10/28/98

Date Analyzed: 11/10/98 14:28

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L	Q
108-67-8	1,3,5-Trimethylbenzene	.5	U
98-06-6	tert-Butylbenzene	.4	U
76-01-7	Pentachloroethane	.3	U
95-63-6	1,2,4-Trimethylbenzene	.4	U
135-98-8	sec-Butylbenzene	.5	U
541-73-1	1,3-Dichlorobenzene	.4	U
106-46-7	1,4-Dichlorobenzene	.3	U
99-87-6	p-Isopropyltoluene	.5	U
95-50-1	1,2-Dichlorobenzene	.2	U
104-51-8	n-Butylbenzene	.5	U
67-72-1	Hexachloroethane	.3	U
96-12-8	1,2-Dibromo-3-Chloropropane	.3	U
98-95-3	Nitrobenzene	1.	U
120-82-1	1,2,4-Trichlorobenzene	.4	U
87-68-3	Hexachlorobutadiene	.5	U
91-20-3	Naphthalene	.2	U
87-61-6	1,2,3-Trichlorobenzene	.3	U

* Mixture of m-Xylene (CAS# 108-38-3) and p-Xylene (CAS# 106-42-3).

ANALYST: Arthur A. DalCorso SIGNATURE: Arthur A. DalCorso DATE: 11/10/98

REVIEWER: Richard L. Whitehill SIGNATURE: Richard L. Whitehill DATE: 3/1/99

COMMENTS: Peak @ 2 minutes is CO2 used for sub-ambient column cooling..

- No Non-Target Peaks were detected in this Sample.

*** - Laboratory has been experiencing random contamination problem with Acetone,2-Butanone,and Chloromethane. Results for these compounds are suspect. This problem is under investigation.

FORM I VOA-3

1/87 Rev

NEW JERSEY DEPARTMENT OF HEALTH AND SENIOR SERVICES
ENVIRONMENTAL AND CHEMICAL LABORATORY SERVICES
RADIOANALYTICAL SERVICES
PO BOX 361
TRENTON, NJ 08625-0361

93-138

Lab Control No.	9806808
Lab Batch No.	98SDW003370
Requested Processing:	☐ Routine ☒ Priority ☐ Emergency
State Container	☑

REQUEST FOR ANALYSIS AND CHAIN OF CUSTODY RECORD

Use a separate form for each sample.

Sample will be discarded after analysis unless noted below under "Remarks."

Sampling Location: Well #3 S Green St Tuckerton WD Ocean Co

PWSID: 1532002

Field Sample ID	Sample Type/Code*	Vol/Wt	Preserved
110941	R1	1gal, 2x1Dr	☑

Responsible Agency: LUM/B. SDW

Person Authorized to Request Analysis: J Serchtold

Collection Interval	Mo	Day	Yr	Time 24 Hr.
Start:				
Stop:	10	28	98	1115

Telephone No.: 2-3311

Send Results to (Name): LARRY C

Name and Address of Unit: LUM/Bureau of Safe Drinking Water HDIE Flat 1

Remarks: Water 6P Chrome 3 Raw water sample tap NWT

Analyses to be Performed

- ☒ Gross Alpha (Total)
- ☐ Gross Beta (Total)
- ☐ Gross Alpha (Sus., Dis.)
- ☐ Gross Beta (Sus., Dis.)
- ☐ Gamma Spec.
- ☐ Tritium
- ☐ Sr-89/90
- ☐ Sr-90
- ☐ I-131 Radiochem.
- ☐ I-131 Gamma Spec.
- ☒ Rn-222
- ☐ Ra-224
- ☐ Ra-226
- ☐ Ra-228
- ☐ Uranium
- ☐ Thorium
- ☐ Other, Specify: _____

Relinquished By	Received By	Date	Time	Reason for Change of Custody
[illegible]	[illegible]	1155	[illegible]	[illegible]
[illegible]	A. WARD	[illegible]		[illegible]

REPORT SUBMITTED
NOV 6 1998
NJDHSS
PHEL/ECLS

RAD-4
SEPT 97

Distribution: White - Sample Folder Canary - Laboratory Pink - Sample Receipt Gold - Client

*D - Regular Distribution System Sample P - Plant Tap (Treated Water) Sample (POE) R- Raw Water (Untreated Sample)

G6025^

DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

E
DMQ

Well Permit Number
32 — 23366

Atlas Sheet Coordinates
32 : 34 : 956

OWNER CARLSON, DAVID
Address 139 BEACH AVE.
City MANAHAWKIN State NJ Zip Code

WELL LOCATION ADDRESS 11 ARLENE DR. **Owner's Well No.** #
County OCEAN Municipality LITTLE EGG HARB Lot No. 8.09 Block No. 262

WELL USE DOMESTIC **DATE WELL STARTED** 5 / 25 / 99
DATE WELL COMPLETED 5 / 25 / 99

WELL CONSTRUCTION

Total Depth Drilled 100' ft.
Finished Well Depth 100' ft.
Borehole Diameter:
Top 8" in.
Bottom 8" in.
Well Casing Begins:
1.0' ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.0'	90'	4"PVC	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 015)	90'	100'	4"PVC	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	90'	100'		#1sand	
Grout	3.5	90'		Neat Cement / Bentonite	lbs / 295 lbs

RECORD OF TEST
Test Date 5 / 25 / 99
Static Water Level ft. below land surface
Water Level Measured Using 24 M.SCOPE
Pumping Water Level 25 ft. below land surface
Well Was Pumped Using AIR LIFT
Well Yield 50 gpm
If Pump Tested: Discharge Rate 20 gpm
Duration of Test 1 hours

Grouting Method PRESSURE THRU TREMI
Drilling Method MUD ROTARY

PERMANENT PUMPING EQUIPMENT
Installed by L.PASCALE Reg. No. J1093
Pump Type SUBMERSIBLE
Depth of Pump below land surface 50' ft.
Capacity 10 gpm Horsepower 1.0

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0"--06'-Medium Sand + Gravel
06'-12'-medium sand
12'-23'-silty sand yel clay
23'-30'-white clay
30'-45'-fine sand
45'-68'-medium sand
68'-77'-medium sand
77'-90'-medium sand
90'-100'-coarse sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company CLEARWATER WELL DRILLING
Well Driller (Print) LESLIE A. PASCALE
Driller's Signature
Registration No. J1093 Date 5/28/99

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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DWR-138
5/95

E
ML

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number
32 — 24250

Atlas Sheet Coordinates
32 : 34 : 956

OWNER FORD, GROVER W

Address 641 NEUGENTOWN RD

City TUCKERTON State N.J Zip Code

WELL LOCATION ADDRESS 641 NEUGENTOWN RD Owner's Well No.

County OCEAN Municipality LITTLE EGG HARB Lot No. 2 Block No. 264

WELL USE DOMESTIC REPLACEMENT

DATE WELL STARTED 10/25/99
DATE WELL COMPLETED 10/25/99

WELL CONSTRUCTION

Total Depth Drilled 95 ft.

Finished Well Depth 90 ft.

Borehole Diameter:
Top 8 1/2 in.
Bottom 8 1/2 in.

Well Casing Begins:
1.5 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.5	80	4	P.V.C.	Sch.40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 1)	80	90	4	P.V.C.	Sch.40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	79	90		#1 Sand	600 lbs.
Grout	4	79		Neat Cement / Bentonite	752 lbs / lbs

RECORD OF TEST

Test Date 10/25/99

Static Water Level 7 ft. below land surface

Water Level Measured Using M-Scope

Pumping Water Level 16 ft. below land surface

Well Was Pumped Using Submersible

Well Yield 25 gpm

If Pump Tested: Discharge Rate 25 gpm
Duration of Test 2 hours

Grouting Method Pressure thru tremmie pipe

Drilling Method Mud Rotary

PERMANENT PUMPING EQUIPMENT

Installed by Robert Lloyd Reg. No. SD 1284

Pump Type Submersible

Depth of Pump below land surface 30 ft.

Capacity 25 gpm Horsepower 1

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company GLENN'S PUMP & WELL / R. LLOYD

Well Driller (Print) Robert Lloyd

Driller's Signature

Registration No. SD 1284 Date 11/29/99

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0'-3' top soil
3'-7' white sand
7'-11' white clay
11'-19' white sand
19'-24' orange clay
24'-33' orange sand
33'-39' grey clay
39'-47' grey sand
47'-63' grey clay
63'-71' yellow sand
71'-75' brown clay
75'-78' grey clay
78'-95' grey sand

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-138
1/01

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

E

Well Permit Number 32 - 25800

Atlas Sheet Coordinates 32 : 34 : 956

OWNER: K & R HOMES

Address: MARYBELL ROAD

City: MANAHAWKIN State: NJ Zip Code: #

WELL LOCATION ADDRESS: NUGENTOWN ROAD Owner's Well No.:

County: OCEAN Municipality: ~~LITTLE EGG HARB~~ Lot No. 8.07 Block No. 261.01

WELL USE: DOMESTIC

DATE WELL STARTED 12 / 4 / 01
DATE WELL COMPLETED 12 / 4 / 01

WELL CONSTRUCTION

Total Depth Drilled 80' ft.

Finished Well Depth 80' ft.

Borehole Diameter:
Top 8" in.
Bottom 8" in.

Well Casing Begins:
+1.0' ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.0'	70'	4"PVC	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .015)	70'	80'	4"PVC	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	70'	80'		#1sand	
Grout	3.5	70'		Neat Cement / Bentonite	~~235~~ lbs. / lbs.

PRESSURE THRU TREMI

RECORD OF TEST

Test Date 12 / 4 / 01
Static Water Level 20 ft. below land surface
Water Level Measured Using M.SCOPE
Pumping Water Level 21 ft. below land surface
Well Was Pumped Using AIR LIFT
Well Yield ~~50~~ 20 gpm
If Pump Tested: Discharge Rate ~~1~~ gpm
Duration of Test ~~1~~ hours

Grouting Method
Drilling Method MUD ROTARY

PERMANENT PUMPING EQUIPMENT

Installed by L.Pascale Reg. No. J1093
Pump Type Submersible
Depth of Pump below land surface 50' ft.
Capacity 12 gpm Horsepower 1/2

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drillling Company CLEARWATER WELL DRILLING

Well Driller (Print) Leslie Pascale

Driller's Signature

Registration No. J1093 Date 12/5/01

GEOLOGIC LOG

Note depths where water was encountered in consolidated formations.

0"--15'-Medium Sand + Gravel
15'-25'-medium sand
25'-30'-silty sand/ clay
30'-31'-yellow clay
31-45 Sandy Clay
45'-50'-medium sand
50'-80'-coarse sand

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __°__'__.__" LONGITUDE: __°__'__.__"

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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1/01

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

E

Well Permit Number 32 -- 25810

Atlas Sheet Coordinates 32 : 34 : 956

OWNER: FRANSIS, CHARLIE

Address: 16 FOREST EDGE ROAD

City: TUCKERTON State: NJ Zip Code:

WELL LOCATION ADDRESS: 17 FOREST EDGE ROAD Owner's Well No.:

County: OCEAN Municipality: ~~LITTLE EGG HARB~~ Lot No.: ~~8.03~~ Block No.: ~~261.01~~

WELL USE: DOMESTIC REPLACEMENT

DATE WELL STARTED 8/30/01
DATE WELL COMPLETED 8/30/01

WELL CONSTRUCTION

Total Depth Drilled 80 ft.

Finished Well Depth 79 ft.

Borehole Diameter: Top 8 1/2 in. Bottom 8 1/2 in.

Well Casing Begins: 1.5 ft. above grade or ____ ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.5	69	4	P.V.C	Sch.40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 1)	69	79	4	P.V.C	Sch.40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	68	79		#1 Sand	600 lbs
Grout	4	68		Neat Cement / Bentonite	650 lbs. ____ lbs.

RECORD OF TEST

Test Date 8/30/01
Static Water Level 3 ft. below land surface
Water Level Measured Using M-Scope
Pumping Water Level 10 ft. below land surface
Well Was Pumped Using Submersible
Well Yield 10 gpm
If Pump Tested: Discharge Rate 10 gpm
Duration of Test 2 hours

Grouting Method Pressure thru tremie pipe
Drilling Method Mud Rotary

PERMANENT PUMPING EQUIPMENT

Installed by Robert Lloyd Reg. No. SD 1284
Pump Type Submersible
Depth of Pump below land surface 25 ft.
Capacity 10 gpm Horsepower 1/2

GEOLOGIC LOG

Note depths where water was encountered in consolidated formations.

0-4' fine yellow sand
4'-10' yellow clay
10'-14' med tan sand
14'-17' yellow clay
17'-27' fine tan sand
27'-43' white clay
43'-50' med tan sand
50'-53' tan clay
53'-80' med white sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drillling Company: GLENN'S PUMP & WELL / R. LLOYD

Well Driller (Print): Robert Lloyd

Driller's Signature: [signature]

Registration No. SD 1284 Date 9/4/01

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __°__'__.__" LONGITUDE: __°__'__.__"

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DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number
~~32~~ 24244

Atlas Sheet Coordinates
~~32~~ ~~34~~ ~~962~~

OWNER MACPHEE, DANIEL & MARGARE

Address 20 FAZIO COURT

City LITTLE EGG HARBOR State NJ Zip Code

WELL LOCATION ADDRESS 12 CONIFER COURT **Owner's Well No.**

County OCEAN Municipality LITTLE EGG HARB Lot No. 15.02 Block No. 258

WELL USE DOMESTIC

DATE WELL STARTED 11 / 10 / 99
DATE WELL COMPLETED 11 / 10 / 99

WELL CONSTRUCTION

Total Depth Drilled 60 ft.

Finished Well Depth 60 ft.

Borehole Diameter
Top 8 in.
Bottom 8 in.

Well Casing Begins:
+1.5 ft. above grade or
_____ ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.5	50	4	PVC	Sch40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	50	60	4	PVC	Sch40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	48	60		#1 morie	
Grout	0	48		Neat Cement / Bentonite	lbs / 400 lbs

RECORD OF TEST
Test Date 11 / 11 / 99
Static Water Level 17 ft. below land surface
Water Level Measured Using M-Scope
Pumping Water Level 37 ft. below land surface
Well Was Pumped Using Airlift
Well Yield 70 gpm
If Pump Tested: Discharge Rate 20 gpm
Duration of Test 2 hours

Grouting Method Pressure thru tremmie pipe
Drilling Method mud rotary

PERMANENT PUMPING EQUIPMENT
Installed by Ross Restucci Jr Reg. No. 2421
Pump Type Submersible
Depth of Pump below land surface 35 ft.
Capacity 20 gpm Horsepower 1

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-5 Brown sand & Gravel
5-15 coarse brown sand
15-25 White & black Clay
25-40 White sand & clay
40-100 Coarse White stone

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company SOUTH JERSEY WELL DRILLING
Well Driller (Print) Domenick Restucci Jr.
Driller's Signature [signature]
Registration No. 1233 Date 11 / 15 / 99

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number
32 — 25558

Atlas Sheet Coordinates
32 : 34 : 964

OWNER MOUNTAIN LAUREL HOMES
Address 1095 WINDLASS AVE.
City MANAHAWKIN State NJ Zip Code

WELL LOCATION ADDRESS 7 HAY ROAD **Owner's Well No.** 1
County OCEAN Municipality LITTLE EGG HARB Lot No. 3 Block No. 263

WELL USE DOMESTIC

DATE WELL STARTED 4/3/2001
DATE WELL COMPLETED 4/3/2001

WELL CONSTRUCTION

Total Depth Drilled 75' ft.
Finished Well Depth 75' ft.
Borehole Diameter: 8
Top 8 in.
Bottom 8 in.
Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+12"	65	4	PVC	sch40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 1)	65	75	4	PVC sch40	.015 slot
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	63	75	8	#2 well sand	
Grout	0	63	8	X Neat Cement / Bentonite	300 lbs / lbs

RECORD OF TEST
Test Date 4/3/2001
Static Water Level 18 ft. below land surface
Water Level Measured Using Water tape
Pumping Water Level 18 ft. below land surface
Well Was Pumped Using Sub pump
Well Yield 26 gpm
If Pump Tested: Discharge Rate 26 gpm
Duration of Test 1 hours

Grouting Method Pressure Grout
Drilling Method Hollow Stem

PERMANENT PUMPING EQUIPMENT
Installed by Claude Britton Reg. No. J1098
Pump Type STA RITE SUBM
Depth of Pump below land surface 50 ft.
Capacity 26 gpm Horsepower 1

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company AQUA WELL DRILLING
Well Driller (Print) Claude Britton
Driller's Signature Claude B Britton
Registration No. J1098 Date 4/6/2001

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0'-16' SC
16'-28' Clay
28'-40' SC
40'-50' Clay
50'-62' SM
62'-75' SW

54 COPIES: *White - DEP* *Canary - Driller* *Pink - Owner* *Goldenrod - Health Dept.*

DWR-138
1/01

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

E

Well Permit Number
32 -- 25621

Atlas Sheet Coordinates
32 : 34 964

OWNER LIBERTY CUSTOM HOMES

Address LIGHTHOUSE DRIVE

City MANAHAWKIN State NJ Zip Code

WELL LOCATION ADDRESS 11 HAY ROAD Owner's Well No. 1

County OCEAN Municipality LITTLE EGG HARB Lot No. 2.02 Block No. 263

WELL USE DOMESTIC

DATE WELL STARTED 11 / 7 / 2001
DATE WELL COMPLETED 11 / 7 / 2001

WELL CONSTRUCTION

Total Depth Drilled 80 ft.

Finished Well Depth 80 ft.

Borehole Diameter:
Top 8 in.
Bottom 8 in.

Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+12"	70	4	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 1)	70	80	4	Pre set 40	10 Slot
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	68	80	8	#1 Well Sand	Sooth
Grout	0	68	8	☒ Neat Cement ☒ Bentonite	lbs. 300 lbs.

RECORD OF TEST

Test Date 11 / 7 / 2001
Static Water Level 19 ft. below land surface
Water Level Measured Using Water tape
Pumping Water Level 19 ft. below land surface
Well Was Pumped Using Sub pump
Well Yield 26 gpm
If Pump Tested: Discharge Rate 26 gpm
Duration of Test 1 hours

Grouting Method Pressure Grout
Drilling Method Mud Rotary

PERMANENT PUMPING EQUIPMENT

Installed by Claude Britt Reg. No. J1098
Pump Type STA RITE SUBM.
Depth of Pump below land surface 50 ft.
Capacity 26 gpm Horsepower 1

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drillling Company Aquawell Drilling

Well Driller (Print) Claude Britt

Driller's Signature ~~AQUA WELL DRILLING~~ Claude Britt

Registration No. J1098 Date 11 / 9 / 2001

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

GEOLOGIC LOG

Note depths where water was encountered in consolidated formations.

0' - 11' SM
11' - 23' Clay
23' - 35' SC
35' - 50' Clay
50' - 65' SC
65' - 80 SW

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __°__'__.__" LONGITUDE: __°__'__.__"

55

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1/01

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

E

Well Permit Number 32 -- 26009

Atlas Sheet Coordinates 32 34 964

OWNER: MT LAUREL HOMES

Address: 1095 WINDLASS AVE

City: MANAHAWKIN State: NJ Zip Code:

WELL LOCATION ADDRESS: HAY RD Owner's Well No. 1

County: OCEAN Municipality: LITTLE EGG HARB Lot No. 12.08 Block No. 262

WELL USE: DOMESTIC

DATE WELL STARTED 2 / 16 / 2002
DATE WELL COMPLETED 2 / 16 / 2002

WELL CONSTRUCTION

Total Depth Drilled 80 ft.

Finished Well Depth 80 ft.

Borehole Diameter:
Top 8 in.
Bottom 8 in.

Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+12"	70	4	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 1)	70	80	4	PVC Sch 40	.01 Slot
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	68	80	8	#2 well sand	
Grout	0	68	8	Neat Cement / Bentonite	lbs. / 30 lbs.

RECORD OF TEST

Test Date 2 / 16 / 2002
Static Water Level 20 ft. below land surface
Water Level Measured Using Water Tape
Pumping Water Level 20 ft. below land surface
Well Was Pumped Using Sub pump
Well Yield 26 gpm
If Pump Tested: Discharge Rate 26 gpm
Duration of Test 1 hours

Grouting Method Pressure Grout
Drilling Method Mud Rotary

PERMANENT PUMPING EQUIPMENT

Installed by Claude Britt Reg. No. J1098
Pump Type STA Rite Sub
Depth of Pump below land surface 50 ft.
Capacity 26 gpm Horsepower 1

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

AQUA WELL DRILLING

Drillling Company

Well Driller (Print) Claude Britt

Driller's Signature Claude Britt

Registration No. J1098 Date 2 / 19 2002

GEOLOGIC LOG

Note depths where water was encountered in consolidated formations.

0' - 13' SC
13' - 25' Clay
25' - 30' SC
30' - 48' Clay
48' - 60' Sm
60' - 80' SC

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __ ° __ ' __ . __ " LONGITUDE: __ ° __ ' __ . __ "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

E
DMQ

Well Permit Number 32 24019

Atlas Sheet Coordinates 32 :34 :967

OWNER KENNY, M.
Address 895 NUGENTOWN RD.
City LITTLE EGG HARBOR State NJ Zip Code
WELL LOCATION ADDRESS 895 NUGENTOWN RD. **Owner's Well No.** #
County ~~OCEAN~~ Municipality ~~LITTLE EGG HARB~~ Lot No. ~~8F~~ Block No. ~~262~~
WELL USE DOMESTIC REPLACEMENT **DATE WELL STARTED** 6 / 29 / 99
DATE WELL COMPLETED ~~6 / 29 / 99~~

WELL CONSTRUCTION

Total Depth Drilled 80' ft.
Finished Well Depth 80' ft.
Borehole Diameter:
Top 8" in.
Bottom 8" in.
Well Casing Begins:
1.0 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.0'	70'	4"PVC	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .015)	70'	80'	4"PVC	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	70'	80'		#1sand	
Grout	3.5	70'		Neat Cement / Bentonite	lbs / 235 lbs

RECORD OF TEST

Test Date 6 / 29 / 99
Static Water Level 22 ft. below land surface
Water Level Measured Using M.SCOPE
Pumping Water Level 23 ft. below land surface
Well Was Pumped Using AIR LIFT
Well Yield 50 gpm
If Pump Tested: Discharge Rate 20 gpm
Duration of Test 1 hours

Grouting Method PRESSURE THRU TREMI
Drilling Method MUD ROTARY

PERMANENT PUMPING EQUIPMENT

Installed by L.PASCALE Reg. No. J1093
Pump Type SUBMERSIBLE
Depth of Pump below land surface 50' ft.
Capacity 10 gpm Horsepower 1.0

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company CLEARWATER WELL DRILLING
Well Driller (Print) Leslie Pascale
Driller's Signature
LESLIE A. PASCALE
Registration No. J1093 Date 7 / 9 / 99

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

~~0'-10'-Medium Sand + Gravel~~
~~10'-20'-medium sand~~
~~20'-30'-silty sand/ clay~~
~~30'-35'-medium sand~~
~~35'-45'-fine sand/ clay~~
~~45'-50'-medium sand~~
~~50'-80'-coarse sand~~

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number ~~32~~ ~~25367~~

Atlas Sheet Coordinates 32 : 34 : 967

OWNER MAXWELL, BRIAN

Address 160 MATHISTOWN RD.

City LITTLE EGG HARBOR State NJ Zip Code

WELL LOCATION ADDRESS 711 NUGENTOWN ROAD **Owner's Well No.** #

County OCEAN Municipality LITTLE EGG HARB Lot No. 12.04 Block No. 262

WELL USE DOMESTIC

DATE WELL STARTED 12/12/00

DATE WELL COMPLETED ~~12/12/00~~

WELL CONSTRUCTION

Total Depth Drilled 80' ft.

Finished Well Depth 80' ft.

Borehole Diameter:
Top 8" in.
Bottom 8" in.

Well Casing Begins:
1.0 ft. above grade or
_____ ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.0'	70'	4"PVC	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 015)	70'	80'	4"PVC	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	70'	80'		#1SAND	
Grout	3.5	70'		Neat Cement ____ lbs Bentonite 235 lbs	

RECORD OF TEST

Test Date 12/12/00

Static Water Level 22 ft. below land surface

Water Level Measured Using M.SCOPE

Pumping Water Level 23 ft. below land surface

Well Was Pumped Using AIR LIFT

Well Yield 50 gpm

If Pump Tested: Discharge Rate 20 gpm
Duration of Test 1 hours

Grouting Method PRESSURE THRU TREMI

Drilling Method MUD ROTARY

PERMANENT PUMPING EQUIPMENT

Installed by L.PASCALE Reg. No. J1093

Pump Type submersible

Depth of Pump below land surface 50' ft.

Capacity 10 gpm Horsepower 1.0

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company CLEARWATER WELL DRILLING

Well Driller (Print) LESLIE A. PASCALE

Driller's Signature

Registration No. J1093 Date 12/18/00

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0"--08'-Medium Sand + Gravel
08'-15'-medium sand
15'-23'-silty sand/ clay
23'-28'-yellow clay
28'-46'-fine sand/ clay
46'-51'-medium sand
51'-80'-coarse sand

58 COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number
32 -- 26183

Atlas Sheet Coordinates
32 34 967

OWNER SADOWSKI, CHARLES

Address 19 JOHN ST

City LITTLE EGG HARBOR State NJ Zip Code

WELL LOCATION ADDRESS 19 JOHN ST Owner's Well No.

County OCEAN Municipality LITTLE EGG HARB Lot No. 5.10 Block No. 262

WELL USE DOMESTIC REPLACEMENT

DATE WELL STARTED 3 / 21 / 02
DATE WELL COMPLETED 3 / 21 / 02

WELL CONSTRUCTION

Total Depth Drilled 80 ft.

Finished Well Depth 80 ft.

Borehole Diameter:
Top 8 in.
Bottom 8 in.

Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	70	4	PVC	sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	70	80	4	PVC	sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	70	80		bar sand	
Grout	4	70		Neat Cement / Bentonite	lbs. / 350 lbs.

RECORD OF TEST

Test Date 3 / 22 / 02
Static Water Level 10 ft. below land surface
Water Level Measured Using tape
Pumping Water Level 20 ft. below land surface
Well Was Pumped Using airlift
Well Yield 50 gpm
If Pump Tested: Discharge Rate gpm
Duration of Test hours

Grouting Method pressure thru tremie
Drilling Method rotary

GEOLOGIC LOG

Note depths where water was encountered in consolidated formations.

0-5 top soil
5-20 fine sand
20-25 clay
25-40 fine sand
40-50 clay
50-70 med sand w/stones
70-80 coarse sand

PERMANENT PUMPING EQUIPMENT

Installed by Callahan well Reg. No. J1106
Pump Type submersible
Depth of Pump below land surface 50 ft.
Capacity 12 gpm Horsepower 1/2

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drillling Company THOMAS CALLAHAN WELL

Well Driller (Print) Callahan well Drilling

Driller's Signature Thomas Callahan/CC

Registration No. J1106 Date 4 / 20 / 02

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __°__'__.__" LONGITUDE: __°__'__.__"

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1/01

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number
32 -- 26121

Atlas Sheet Coordinates
32 : 34 : 968

OWNER MOUNTAIN LAUREL HOMES

Address 1095 WINDLASS AVE

City MANAHAWKIN State NJ Zip Code

WELL LOCATION ADDRESS HAY RD Owner's Well No. 1

County OCEAN Municipality LITTLE EGG HARB Lot No. 2.01 Block No. 263

WELL USE DOMESTIC

DATE WELL STARTED 4/1/02
DATE WELL COMPLETED 4/1/02

WELL CONSTRUCTION

Total Depth Drilled 70 ft.

Finished Well Depth 70 ft.

Borehole Diameter:
Top 8 in.
Bottom 8 in.

Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+12"	60	4	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 1)	60	70	4	PVC Sch 40	.015 Slot
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	58	70	8	#1 well sand	50 lb
Grout	0	58	8	Neat Cement / Bentonite	300 lbs. / lbs.

Grouting Method Pressure Grout
Drilling Method Mud Rotary

RECORD OF TEST

Test Date 4/1/02
Static Water Level 22 ft. below land surface
Water Level Measured Using Water Tape
Pumping Water Level 22 ft. below land surface
Well Was Pumped Using Submersible Pump
Well Yield 26 gpm
If Pump Tested: Discharge Rate 26 gpm
Duration of Test 1 hours

PERMANENT PUMPING EQUIPMENT

Installed by Claude Butler Reg. No. J1098
Pump Type STA RITE Submersible
Depth of Pump below land surface 50 ft.
Capacity 26 gpm Horsepower 1

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drillling Company AQUA WELL DRILLING

Well Driller (Print) Claude Butler

Driller's Signature Claude Butler

Registration No. J1098 Date 4/1/02

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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GEOLOGIC LOG

Note depths where water was encountered in consolidated formations.

0'-12' SC
12'-27' Clay
27'-32' SM
32'-50' Clay
50'-60' SM
60'-70' SW

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: ___°___'___.___" LONGITUDE: ___°___'___.___"

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New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number
32 — 23855

Atlas Sheet Coordinates
32 : 34 : 982

OWNER NIZILOK, DAVID
Address 86 CEDARBROOK LA
City TUCKERTON State NJ Zip Code
WELL LOCATION ADDRESS 28 STAGECOACH CT Owner's Well No. #
County ~~OCEAN~~ Municipality ~~LITTLE EGG HARB~~ Lot No. ~~32~~ Block No. ~~262~~
WELL USE DOMESTIC
DATE WELL STARTED 5 / 18 / 00
DATE WELL COMPLETED ~~5 / 18 / 00~~

WELL CONSTRUCTION

Total Depth Drilled 80' ft.
Finished Well Depth 80' ft.
Borehole Diameter:
Top 8" in.
Bottom 8" in.
Well Casing Begins:
1.0 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.0'	70'	4"PVC	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .015)	70'	80'	4"PVC	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	70'	80'		#1SAND	
Grout	3.5	70'		Neat Cement ____ lbs Bentonite 235 lbs	

RECORD OF TEST

Test Date 5 / 18 / 00
Static Water Level 15 ft. below land surface
Water Level Measured Using M.SCOPE
Pumping Water Level 16 ft. below land surface
Well Was Pumped Using AIR LIFT
Well Yield 50 gpm
If Pump Tested: Discharge Rate 20 gpm
Duration of Test 1 hours

Grouting Method PRESSURE THRU TREMI
Drilling Method MUD ROTARY

PERMANENT PUMPING EQUIPMENT

Installed by L.PASCALE Reg. No. J1093
Pump Type submersible
Depth of Pump below land surface 50' ft.
Capacity 10 gpm Horsepower 1.0

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company CLEARWATER WELL DRILLING
Well Driller (Print) LESLIE A. PASCALE
Driller's Signature
Registration No. J1093 Date 5/19/00

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

~~0"--08' Medium Sand + Gravel~~
~~08'-15' medium sand~~
~~15'-23' silty sand/ clay~~
~~23'-28' yellow clay~~
~~28'-46' fine sand/ clay~~
~~46'-51' medium sand~~
~~51'-80' coarse sand~~

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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ENTERED
CK

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number
32 — 24735

Atlas Sheet Coordinates
32 : 34 : 986

OWNER K&R CONST

Address 146 CAROLYN DR

City MANAHAWKIN State NJ Zip Code

WELL LOCATION ADDRESS CAROLYN DR **Owner's Well No.** #

County OCEAN Municipality LITTLE EGG HARB Lot No. 1.04 Block No. 280

WELL USE DOMESTIC

DATE WELL STARTED 7 / 9 / 01

DATE WELL COMPLETED 7 / 9 / 01

WELL CONSTRUCTION

Total Depth Drilled 110' ft.

Finished Well Depth 110' ft.

Borehole Diameter:
Top 8" in.
Bottom 8" in.

Well Casing Begins:
1.0 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.0'	100'	4"PVC	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .015)	100'	110'	4"PVC	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	100'	110'		#1SAND	
Grout	3.5	100'		Neat Cement / Bentonite	lbs / 325 lbs

RECORD OF TEST

Test Date 8 / 7 / 01

Static Water Level 42 ft. below land surface

Water Level Measured Using M.SCOPE

Pumping Water Level 43 ft. below land surface

Well Was Pumped Using AIR LIFT

Well Yield 50 gpm

If Pump Tested: Discharge Rate 20 gpm

Duration of Test 1 hours

Grouting Method PRESSURE THRU TREMI

Drilling Method ROTARY

PERMANENT PUMPING EQUIPMENT

Installed by L.PASCALE Reg. No. J1093

Pump Type SUBMERSIBLE

Depth of Pump below land surface 60' ft.

Capacity 10 gpm Horsepower 1/2

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company CLEARWATER WELL DRILLING

Well Driller (Print) LESLIE A. PASCALE

Driller's Signature

Registration No. J1093 Date 8 / 7 / 01

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0" - 11' Medium Sand + Gravel
11' - 24' medium sand + clay
24' - 47' silty sand + clay
47' - 55' white clay
55' - 65' fine sand + CLAY
65' - 75' medium sand
75' - 86' medium sand + clay
86' - 88' medium sand
88' - 110' coarse + med sand

62 COPIES: *White - DEP* *Canary - Driller* *Pink - Owner* *Goldenrod - Health Dept.*

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New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number ~~32 - 25264~~

Atlas Sheet Coordinates ~~32 : 34 : 986~~

OWNER K & R HOMES

Address MARRYBELL RD.

City MANAHAWKIN State NJ Zip Code

WELL LOCATION ADDRESS OTIS BOG & BAYBERRY DR. Owner's Well No. #

County OCEAN Municipality LITTLE EGG HARB Lot No. 20.01 Block No. 264

WELL USE DOMESTIC

DATE WELL STARTED 5 / 2 / 01

DATE WELL COMPLETED ~~5 / 2 / 01~~

WELL CONSTRUCTION

Total Depth Drilled 80' ft.

Finished Well Depth 80' ft.

Borehole Diameter:
Top 8" in.
Bottom 8" in.

Well Casing Begins:
~~1.0~~ ft. above grade or
_____ ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.0'	70'	4"PVC	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .015)	70'	80'	4"PVC	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	70'	80'		#1SAND	
Grout	3.5	70'		Neat Cement / Bentonite	____ lbs / 235 lbs

Grouting Method PRESSURE THRU TREMI

Drilling Method MUD ROTARY

RECORD OF TEST

Test Date 5 / 2 / 01

Static Water Level 14 ft. below land surface

Water Level Measured Using M.SCOPE

Pumping Water Level 15 ft. below land surface

Well Was Pumped Using AIR LIFT

Well Yield 50 gpm

If Pump Tested: Discharge Rate 20 gpm

Duration of Test 1 hours

PERMANENT PUMPING EQUIPMENT

Installed by L.PASCALE Reg. No. J1093

Pump Type submersible

Depth of Pump below land surface 50' ft.

Capacity 10 gpm Horsepower 1/2

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company CLEARWATER WELL DRILLING

Well Driller (Print) LESLIE A. PASCALE

Driller's Signature

Registration No. J1093 Date 5/18/01

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

~~0"--08'-Medium Sand + Gravel~~
~~08'-15'-medium sand~~
~~15'-23'-silty sand/ clay~~
~~23'-28'-yellow clay~~
~~28'-46'-fine sand/ clay~~
~~46'-51'-medium sand~~
~~51'-80'-coarse sand~~

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 — 24759

Atlas Sheet Coordinates 32 : 35 : 755

OWNER MEE, CRAIG

Address 109 BARNEGAT AVE.

City SURF CITY State NJ Zip Code

WELL LOCATION ADDRESS MAGNOLIA COURT **Owner's Well No.**

County OCEAN Municipality LITTLE EGG HARB Lot No. 7.05 Block No. 261

WELL USE DOMESTIC

DATE WELL STARTED 8 / 29 / 00
DATE WELL COMPLETED 8 / 29 / 00

WELL CONSTRUCTION

Total Depth Drilled 100 ft.

Finished Well Depth 100 ft.

Borehole Diameter:
Top 8 in.
Bottom 8 in.

Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	90	4	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	90	100	4	PVC	sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	90	100		barsand	
Grout	4	90		Neat Cement Bentonite	lbs 300 lbs

RECORD OF TEST

Test Date 8 / 30 / 00

Static Water Level 15 ft. below land surface

Water Level Measured Using tape

Pumping Water Level 20 ft. below land surface

Well Was Pumped Using air lift

Well Yield 50 gpm

If Pump Tested: Discharge Rate gpm
Duration of Test hours

Grouting Method pressure thru tremie

Drilling Method rotary

PERMANENT PUMPING EQUIPMENT

Installed by Callahan Well Reg. No. J1106

Pump Type submersible

Depth of Pump below land surface 50 ft.

Capacity 20 gpm Horsepower 1

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company THOMAS CALLAHAN WELL

Well Driller (Print) Callahan Well Drilling

Driller's Signature Thomas Callahan/cc

Registration No. J1106 Date 10 / 30 / 00

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-10 Tan sand
10-15 white clay
15-22 yellow clay
22-36 Coarse yellow sand
36-60 white clay
60-62 grey clay
62-65 Tan sand
65-68 grey fine sand
68-75 Coarse Tan sand
75-100 Coarse white sand

64 COPIES: *White - DEP* *Canary - Driller* *Pink - Owner* *Goldenrod - Health Dept.*

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ML

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 — 23649

Atlas Sheet Coordinates 32 35 : 758

OWNER FRANCIS SR, CHARLES
Address 17 FOREST EDGE DR
City TUCKERTON State NJ Zip Code

WELL LOCATION ADDRESS 17 FOREST EDGE DR Owner's Well No.
County OCEAN Municipality LITTLE EGG HARB Lot No. 14.01 Block No. 258

WELL USE DOMESTIC

DATE WELL STARTED 10/13/99
DATE WELL COMPLETED 10/13/99

WELL CONSTRUCTION

Total Depth Drilled 110 ft.

Finished Well Depth 105 ft.

Borehole Diameter:
Top 8 1/2 in.
Bottom 8 1/2 in.

Well Casing Begins:
1.5 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.5	95	4	P.V.C.	Sch.40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 1)	95	105	4	P.V.C.	Sch.40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	94	105		#1 Sand	600 lbs.
Grout	4	94		Neat Cement / Bentonite	940 lbs / lbs

RECORD OF TEST

Test Date 10/13/99
Static Water Level 9 ft. below land surface
Water Level Measured Using M-Scope
Pumping Water Level 17 ft. below land surface
Well Was Pumped Using Submersible
Well Yield 10 gpm
If Pump Tested: Discharge Rate 10 gpm
Duration of Test 2 hours

Grouting Method Pressure thru tremmie pipe
Drilling Method Mud Rotary

PERMANENT PUMPING EQUIPMENT

Installed by Robert Lloyd Reg. No. JD 1284
Pump Type Submersible
Depth of Pump below land surface 30 ft.
Capacity 10 gpm Horsepower 1/2

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company GLENN'S PUMP & WELL / R. LLOYD
Well Driller (Print) Robert Lloyd
Driller's Signature [signature]
Registration No. JD 1284 Date 11/29/99

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0'-3' top soil
3'-7' Blk + white sand
7'-11' tan clay
11'-16' Brown sand
16'-24' Orange clay
24'-42' Orange sand
42'-47' White clay
47'-55' White sand
55'-63' yellow sand
63'-80' yellow sand
80'-84' Brown clay
84'-87' Blk clay
87'-94' Grey clay
94'-106' Grey sand
106 - 110' Grey clay

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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0

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number ~~32~~ ~~25972~~

Atlas Sheet Coordinates ~~32~~ ~~35~~ : ~~779~~ :

OWNER STANISH, JEAN

Address 18 MAYFLOWER DRIVE

City LITTLE EGG HARBOR State NJ Zip Code 08087

WELL LOCATION ADDRESS 18 MAYFLOWER DRIVE Owner's Well No.

County OCEAN Municipality LITTLE EGG HARB Lot No. 7 Block No. 290

WELL USE DOMESTIC REPLACEMENT

DATE WELL STARTED 12 / 1 / 01
DATE WELL COMPLETED 12 / 1 / 01

WELL CONSTRUCTION

Total Depth Drilled 80 ft.

Finished Well Depth 80 ft.

Borehole Diameter:
Top 8 in.
Bottom 8 in.

Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	70	4	PVC	sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	70	80	4	PVC	sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	70	80		bursand	
Grout	4	70		Neat Cement / Bentonite	lbs. / 300 lbs.

RECORD OF TEST

Test Date 12 / 07 / 01
Static Water Level 20 ft. below land surface
Water Level Measured Using tape
Pumping Water Level 23 ft. below land surface
Well Was Pumped Using airlift
Well Yield 50 gpm
If Pump Tested: Discharge Rate gpm
Duration of Test hours

Grouting Method pressure thru tremie
Drilling Method rotary

PERMANENT PUMPING EQUIPMENT

Installed by Callahan well Reg. No. J1106
Pump Type submersible
Depth of Pump below land surface 50 ft.
Capacity 12 gpm Horsepower 1/2

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drillling Company THOMAS CALLAHAN WELL

Well Driller (Print) Callahan well Drilling

Driller's Signature Thomas Callahan/cc

Registration No. J1106 Date 12 / 20 / 01

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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GEOLOGIC LOG

Note depths where water was encountered in consolidated formations.

0 - 2 top soil
2 - 10 lite brn sand
10 - 25 tan sand w/ yellow clay
25 - 29 yellow clay
29 - 80 med and ~~med~~ coarse white sand

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____

OR

LATITUDE: ___°___'___.__" LONGITUDE: ___°___'___.__"

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New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 — 24476

Atlas Sheet Coordinates 32 : 35 : 791

OWNER BAYSHORE BUILDING CO.

Address 600 RT. 539 PO BOX 8

City TUCKERTON State NJ Zip Code

WELL LOCATION ADDRESS FIRST AVENUE **Owner's Well No.**

County OCEAN Municipality TUCKERTON BORO Lot No. 1 & 30 Block No. 13

WELL USE DOMESTIC

DATE WELL STARTED 4 / 7 / 2000

DATE WELL COMPLETED 4 / 7 / 2000

WELL CONSTRUCTION

Total Depth Drilled 73 ft.

Finished Well Depth 73 ft.

Borehole Diameter
Top 8 in.
Bottom 8 in.

Well Casing Begins:
+15 ft. above grade or
_____ ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+15	63	4	PVC	Sch40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	63	73	4	PVC	Sch40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	61	73		#1 morie	
Grout	0	61		Neat Cement Bentonite	lbs 400 lbs

RECORD OF TEST

Test Date 4 / 19 / 2000

Static Water Level 4 ft. below land surface

Water Level Measured Using M-Scope

Pumping Water Level 14 ft. below land surface

Well Was Pumped Using airlift

Well Yield 60 gpm

If Pump Tested: Discharge Rate 30 gpm

Duration of Test 2 hours

Grouting Method Mud rotary

Drilling Method pressure thru fremie

PERMANENT PUMPING EQUIPMENT

Installed by Ross Restuccia Jr. Reg. No. 2421

Pump Type Submersible

Depth of Pump below land surface 34 ft.

Capacity 30 gpm Horsepower 1 1/2

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company SOUTH JERSEY WELL DRILLING

Well Driller (Print) Domenic Restuccia

Driller's Signature [signature]

Registration No. 1233 Date 4 / 20 / 2000

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-6 Coarse brown gravel.
6-13 dark brown clay w/strips of white clay
13-35 coarse white sand
35-43 light brown clay
43-62 light brown sand
62-63 white clay
63-73 Coarse brown sand

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 25742

Atlas Sheet Coordinates 32 : 35 : 794

OWNER DISBROW, HARRY JR.

Address PO BOX 8

City TUCKERTON State NJ Zip Code

WELL LOCATION ADDRESS 1 PHARO STREET Owner's Well No.

County OCEAN Municipality TUCKERTON BORO Lot No. 1.03 Block No. 13

WELL USE DOMESTIC

DATE WELL STARTED 7 / 19 / 01
DATE WELL COMPLETED 7 / 19 / 01

WELL CONSTRUCTION

Total Depth Drilled 80 ft.

Finished Well Depth 80 ft.

Borehole Diameter:
Top 9 in.
Bottom 9 in.

Well Casing Begins:
+1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	70	4	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	70	80	4	PVC	.020 Slot
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	68	80		#1 morie	
Grout	0	68		Neat Cement / Bentonite	lbs. / 2 sc. lbs.

RECORD OF TEST

Test Date 7 / 19 / 01
Static Water Level 12 ft. below land surface
Water Level Measured Using tape
Pumping Water Level 52 ft. below land surface
Well Was Pumped Using Air lift
Well Yield 60+ gpm
If Pump Tested: Discharge Rate 60+ gpm
Duration of Test 1 hours

Grouting Method Tremie grout
Drilling Method Mud Rotary

PERMANENT PUMPING EQUIPMENT

Installed by Ross Restuccio Reg. No. 2421
Pump Type Submersible
Depth of Pump below land surface 55 ft.
Capacity 40 gpm Horsepower 2

GEOLOGIC LOG

Note depths where water was encountered in consolidated formations.

0-15 - Solid orange clay
15-30 - Coarse red sand
30-45 - Solid Black clay
45-60 - Coarse Red sand
60-80 coarse Red - Brown sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drillling Company SOUTH JERSEY WELL DRILLING

Well Driller (Print) Domenick Restuccio

Driller's Signature Domenick Restuccio

Registration No. 1233 Date 7 / 23 / 01

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: ___°___'___.___" LONGITUDE: ___°___'___.___"

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

E

Well Permit Number
32 - 25916

Atlas Sheet Coordinates
32 44 334

OWNER: MC KENNA, C

Address: 59 LEITZ BLVD

City: TUCKERTON State: NJ Zip Code:

WELL LOCATION ADDRESS: 59 LEITZ BLVD Owner's Well No.: #

County: OCEAN Municipality: LITTLE EGG HARB Lot No.: 16 Block No.: 287.05

WELL USE: DOMESTIC

DATE WELL STARTED: 10/8/01
DATE WELL COMPLETED: 10/8/01

WELL CONSTRUCTION

Total Depth Drilled: 80' ft.

Finished Well Depth: 80' ft.

Borehole Diameter:
Top: 8" in.
Bottom: 8" in.

Well Casing Begins:
1.0' ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.0'	70'	4"PVC	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .015)	70'	80'	4"PVC	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	70'	80'		#1SAND	
Grout	3.5	70'		Neat Cement / Bentonite	___ lbs. / 285 lbs.

RECORD OF TEST

Test Date: 10/8/01
Static Water Level: 19 ft. below land surface
Water Level Measured Using: M.SCOPE
Pumping Water Level: 20 ft. below land surface
Well Was Pumped Using: AIR LIFT
Well Yield: 50 gpm
If Pump Tested: Discharge Rate: 20 gpm
Duration of Test: 1 hours

Grouting Method: PRESSURE THREW TREMI PIPE
Drilling Method: MUD ROTARY

PERMANENT PUMPING EQUIPMENT

Installed by: L.Pascale Reg. No.: J1093
Pump Type: Submersible
Depth of Pump below land surface: 50' ft.
Capacity: 10 gpm Horsepower: 1/2

GEOLOGIC LOG

Note depths where water was encountered in consolidated formations.

0"--05'-Medium Sand + Gravel
05'-22'-medium sand
22'-25'-silty sand/ clay
25'-35'-yellow clay
35'-47'-fine sand/ clay
47'-52'-white clay
52'-65'-medium sand
65'-80'-coarse sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drillling Company: CLEARWATER WELL DRILLING

Well Driller (Print): Leslie Pascale

Driller's Signature:

Registration No.: J1093 Date: 10/8/01

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __°__'__.__" LONGITUDE: __°__'__.__"

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New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 _ 24574

Atlas Sheet Coordinates 32 : 45 : 112

OWNER DUELLY, FRANK & DAWN

Address ~~70 LEITZ BLVD~~

City LITTLE EGG HARBOR State NJ Zip Code

WELL LOCATION ADDRESS ~~70 LEITZ BLVD~~ Owner's Well No.

County ~~OCEAN~~ Municipality ~~LITTLE EGG HARB~~ Lot No. ~~13~~ Block No. ~~287.09~~

WELL USE ~~DOMESTIC REPLACEMENT~~

DATE WELL STARTED 4/27/00
DATE WELL COMPLETED 4/27/00

WELL CONSTRUCTION

Total Depth Drilled 110 ft.

Finished Well Depth 108 ft.

Borehole Diameter:
Top 8 1/2 in.
Bottom 8 1/2 in.

Well Casing Begins:
1.5 ft. above grade or
_____ ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.5	98	4	P.V.C.	Sch.40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 1)	98	108	4	P.V.C.	Sch.40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	97	108		#1 Sand	600 lbs.
Grout	4	97		Neat Cement / Bentonite	940 lbs / ____ lbs

RECORD OF TEST

Test Date 4/27/00
Static Water Level 8 ft. below land surface
Water Level Measured Using M-Scope
Pumping Water Level 19 ft. below land surface
Well Was Pumped Using Submersible
Well Yield 10 gpm
If Pump Tested: Discharge Rate 10 gpm
Duration of Test 2 hours

Grouting Method Pressure thru tremie pipe
Drilling Method Mud Rotary

PERMANENT PUMPING EQUIPMENT

Installed by Robert Lloyd Reg. No. JD 12284
Pump Type Submersible
Depth of Pump below land surface 30 ft.
Capacity 10 gpm Horsepower 1/2

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company GLENN'S PUMP & WELL / R. LLOYD
Well Driller (Print) Robert Lloyd
Driller's Signature [signature]
Registration No. JD 12284 Date 5/18/00

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-8' GRAVEL
8'-14' FINE yellow SAND
14'-22' Red SAND
22'-30' ORANGE SAND
30'-33' ORANGE CLAY
33'-40' White CLAY
40'-44' white SAND
44'-55' Grey CLAY
55'-62' TAN SAND
62'-65' white CLAY
65'-72' white SAND
72'-75' TAN BOG
75'-92' Red SAND
92'-96' TAN SAND
96'-110' white SAND

70 COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 — 25391

Atlas Sheet Coordinates 32 : 45 : 112

OWNER WILLIAMS, DAVID
Address 102 LEITZ BLVD.
City TUCKERTON State NJ Zip Code

WELL LOCATION ADDRESS ~~102 LEITZ BLVD.~~ Owner's Well No.
County ~~OCEAN~~ Municipality ~~LITTLE EGG HARB~~ Lot No. ~~5~~ Block No. ~~287.09~~

WELL USE ~~DOMESTIC REPLACEMENT~~ DATE WELL STARTED 11/29/00
DATE WELL COMPLETED 11/29/00

WELL CONSTRUCTION

Total Depth Drilled 125 ft.
Finished Well Depth 125 ft.
Borehole Diameter: Top 8 1/2 in. Bottom 8 1/2 in.
Well Casing Begins: 1.5 ft. above grade or ____ ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.5	115	4	P.V.C.	Sch.40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 1)	115	125	4	P.V.C.	Sch.40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	114	125		#1 Sand	600 lbs.
Grout	4	114		Neat Cement / Bentonite	1,316 lbs / ____ lbs

RECORD OF TEST

Test Date 11/29/00
Static Water Level 11 ft. below land surface
Water Level Measured Using M-Scope
Pumping Water Level 19 ft. below land surface
Well Was Pumped Using Submersible
Well Yield 20 gpm
If Pump Tested: Discharge Rate 20 gpm
Duration of Test 2 hours

Grouting Method Pressure thru tremmie pipe
Drilling Method Mud Rotary

PERMANENT PUMPING EQUIPMENT

Installed by Robert Lloyd Reg. No. JD 1284
Pump Type Submersible
Depth of Pump below land surface 40 ft.
Capacity 20 gpm Horsepower 1

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company ~~GLENN'S PUMP & WELL~~ / R. LLOYD
Well Driller (Print) Robert Lloyd
Driller's Signature [signature]
Registration No. JD 1284 Date 12/16/00

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-7' Orange Sand + clay
7'-15' white clay
15'-23' orange clay
23'-30' med yellow sand
30'-36' fine orange sand + clay
36'-41' med tan sand
41'-46' fine yellow sand + clay
46'-51' med yellow sand
51'-58' grey clay
58'-70' white clay
70'-77' med red sand
77'-88' coarse red sand
88'-90' red sand
90'-103' coarse red sand
103'-105' fine white sand + white clay
105'-125' med tan sand

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 -- 26300

Atlas Sheet Coordinates 32 45 112

OWNER STEINHAUER, PAUL

Address ~~21 LAUREL LANE~~

City LITTLE EGG HARBOR TWP State NJ Zip Code

WELL LOCATION ADDRESS ~~21 LAUREL LANE~~ Owner's Well No.

County OCEAN Municipality LITTLE EGG HARB Lot No. 15 Block No. 287.08

WELL USE ~~DOMESTIC REPLACEMENT~~

DATE WELL STARTED 5 / 29 / 02
DATE WELL COMPLETED 5 / 29 / 02

WELL CONSTRUCTION

Total Depth Drilled 80 ft.

Finished Well Depth 80 ft.

Borehole Diameter:
Top 9 in.
Bottom 9 in.

Well Casing Begins:
+1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	70	4	PVC	sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	70	80	4	PVC	.012 slot
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	68	80		#1 Morie	
Grout	0	68		Neat Cement / Bentonite	lbs. / 175 lbs.

RECORD OF TEST

Test Date 5 / 29 / 02
Static Water Level 8 ft. below land surface
Water Level Measured Using Tape
Pumping Water Level 38 ft. below land surface
Well Was Pumped Using Air
Well Yield 60+ gpm
If Pump Tested: Discharge Rate 60+ gpm
Duration of Test 1 hours

Grouting Method Tremie pipe
Drilling Method Mud rotary

PERMANENT PUMPING EQUIPMENT

Installed by R. Restuccio Reg. No. 2421
Pump Type sub
Depth of Pump below land surface 35 ft.
Capacity 12 gpm Horsepower 1/2

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drillling Company SOUTH JERSEY WELL DRILLING

Well Driller (Print) R. Restuccio

Driller's Signature [signature]

Registration No. 2421 Date 6 / 7 / 02

GEOLOGIC LOG

Note depths where water was encountered in consolidated formations.

0-1 TOPSOIL
1-8 Coarse orange gravel
8-22 Orange gravel & clay
22-27 orange & yellow clay
27-35 Coarse red sand
35-58 Coarse red sand & red clay
58-65 Brown clay
65-80 Coarse brown sand

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __°__'__.__" LONGITUDE: __°__'__.__"

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 — 25417

Atlas Sheet Coordinates 32 : 45 : 113

OWNER I.M. LAND
Address 8003 LAGOON BLVD.
City MARGATE State NJ Zip Code

WELL LOCATION ADDRESS ~~LAUREL LANE~~ Owner's Well No. 1
County ~~OCEAN~~ Municipality ~~LITTLE EGG HARB~~ Lot No. ~~17~~ Block No. ~~287.08~~

WELL USE ~~DOMESTIC~~
DATE WELL STARTED 3 / 12 / 01
DATE WELL COMPLETED 3 / 12 / 01

WELL CONSTRUCTION

Total Depth Drilled 92 ft.
Finished Well Depth 92 ft.
Borehole Diameter:
Top 8 in.
Bottom 8 in.
Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	82	4	PVC	Sch. 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	82	92	4	PVC	Sch. 40 .015 slot
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	80	92	4	#2 Morie	800 lbs.
Grout	o	80	4	Neat Cement Bentonite	lbs 300 lbs

RECORD OF TEST

Test Date 3 / 12 / 01
Static Water Level 12 ft. below land surface
Water Level Measured Using Contact Meter
Pumping Water Level n/a ft. below land surface
Well Was Pumped Using Air Lift
Well Yield 60 gpm
If Pump Tested: Discharge Rate n/a gpm
Duration of Test n/a hours

Grouting Method Tremie Pipe
Drilling Method Mud Rotary

PERMANENT PUMPING EQUIPMENT

Installed by Mark McGinnis Reg. No. JD1285
Pump Type Submersible
Depth of Pump below land surface 55 ft.
Capacity 12 gpm Horsepower 1/2

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company MCGINNIS DRILLING
Well Driller (Print) MARK McGINNIS
Driller's Signature
Registration No. JD1285 Date 3 / 14 / 01

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0 - 17	Coarse Sand Brown & Gray w/ 3/8" to 1/2" Gravel
17 - 32	Coarse sand Brown & Gray with 3/8" Gravel
32 - 47	Very Coarse - Coarse Sand Red, Clean
47 - 80	Very Coarse Sand Red w/ Ironstone
80 - 92	Med-Coarse Sand Brown w/ Some Gravel Clean

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 25659

Atlas Sheet Coordinates 32 45 113

OWNER I M LAND

Address 8003 LAGOON BLVD

City MARGATE State NJ Zip Code

WELL LOCATION ADDRESS 17 LAUREL LANE Owner's Well No.

County OCEAN Municipality LITTLE EGG HARB Lot No. 17 Block No. 287.08

WELL USE DOMESTIC Domestic

DATE WELL STARTED 05 / 09 / 01
DATE WELL COMPLETED 05 / 09 / 01

WELL CONSTRUCTION

Total Depth Drilled 92 ft.

Finished Well Depth 92 ft.

Borehole Diameter:
Top 8 in.
Bottom 8 in.

Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	82	4	PVC	Sch.40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	82	92	4	PVC	Sch.40 .015 slot
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	80	92	4	#2Morie	800lbs
Grout	0	80	4	Neat Cement Bentonite	lbs. 300 lbs.

RECORD OF TEST

Test Date 5 / 9 / 01
Static Water Level 12 ft. below land surface
Water Level Measured Using contact meter
Pumping Water Level n/a ft. below land surface
Well Was Pumped Using Air Lift
Well Yield 60 gpm
If Pump Tested: Discharge Rate n/a gpm
Duration of Test n/a hours

Grouting Method Tremie Pipe
Drilling Method Mud Rotary

PERMANENT PUMPING EQUIPMENT

Installed by Mark McGinnis Reg. No. JD 1285
Pump Type Submersible
Depth of Pump below land surface 55 ft.
Capacity 12 gpm Horsepower 1/2

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drillling Company MCGINNIS DRILLING

Well Driller (Print) Mark McGinnis

Driller's Signature

Registration No. JD1285 Date 5 / 11 /01

GEOLOGIC LOG

Note depths where water was encountered in consolidated formations.

0-17 Coarse Sand Brown & Gray with 3/8" to 1/2" gravel
17-32 Coarse sand brown & gray with 3/8" gravel
32-47 Very coarse-coarse sand red, clean
47-80 Very coarse sand red with ironstone
80-92 Med-coarse sand brown with some gravel, clean

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __°__'__.__" LONGITUDE: __°__'__.__

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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1/01

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

E

Well Permit Number 32 -- 25847

Atlas Sheet Coordinates 32 45 : 113 :

OWNER K & R BUILDERS

Address MARRYBELL RD

City MANAHAWKIN State NJ Zip Code

WELL LOCATION ADDRESS LAUREL LANE Owner's Well No. #

County OCEAN Municipality LITTLE EGG HARB Lot No. 9 Block No. 287.08

WELL USE DOMESTIC

DATE WELL STARTED 2 / 7 / 02
DATE WELL COMPLETED 2 / 7 / 02

WELL CONSTRUCTION

Total Depth Drilled 90' ft.

Finished Well Depth 90' ft.

Borehole Diameter: 8"
Top 8" in.
Bottom 8" in.

Well Casing Begins:
1.0 ft. above grade or
_____ ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.0'	80'	4"PVC	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)					
Blank Casings .015 (No. Used)	80'	90'	4"PVC	PVC	40
Tail Piece					
Gravel Pack	80'	90'		#1sand	
Grout	3.5	80'		Neat Cement / Bentonite	___ lbs. / 265 lbs.

RECORD OF TEST

Test Date 2 / 7 / 02
Static Water Level 15 ft. below land surface
Water Level Measured Using m scope
Pumping Water Level 16 ft. below land surface
Well Was Pumped Using air lift
Well Yield 50 gpm
If Pump Tested: Discharge Rate 20 gpm
Duration of Test 20 / hours

Grouting Method pressure threw tremi
Drilling Method Mud Rotary

PERMANENT PUMPING EQUIPMENT 1
Installed by L Pascale Reg. No. J1093
Pump Type L. Pascale Submersible J1093
Depth of Pump below land surface 50 ft.
Capacity 10 gpm Horsepower 1/2
Submersible

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drillling Company CLEARWATER WELL DRILLING

Well Driller (Print) Leslie Pascale

Driller's Signature Leslie Pascale

Registration No. J1093 Date 2 / 7 / 02

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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GEOLOGIC LOG

Note depths where water was encountered in consolidated formations.

0"--06'-Medium Sand + Gravel
06'-12'-medium sand
12'-23'-silty sand yel clay

23'-30'-white clay
30'-45'-fine sand
45'-68'-medium sand
68'-77'-medium sand
77'-90'-medium sand

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __°__'__.__" LONGITUDE: __°__'__.__"

DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number
32 — 25252

Atlas Sheet Coordinates
32 : 45 : 115

OWNER LAND, I M

Address ~~8003 LAGOON DR~~

City MARGATE State NJ Zip Code

WELL LOCATION ADDRESS ~~133 LEITZ BLVD~~ **Owner's Well No.** 1

County ~~OCEAN~~ Municipality ~~LITTLE EGG HARB~~ Lot No. ~~6~~ Block No. ~~287.06~~

WELL USE ~~DOMESTIC~~

DATE WELL STARTED 12 / 28 / 00
DATE WELL COMPLETED 12 / 28 / 00

WELL CONSTRUCTION

Total Depth Drilled 90 ft.

Finished Well Depth 90 ft.

Borehole Diameter:
Top 8 in.
Bottom 8 in.

Well Casing Begins:
1 ft. above grade or
_____ ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	80	4	PVC	Sch. 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	80	90	4	PVC	.015 slot Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	78	90	4	#2 Morie	800 lbs
Grout	0	78	4	Neat Cement Bentonite	____ lbs 300 lbs

RECORD OF TEST

Test Date 12 / 28 / 00

Static Water Level 21 ft. below land surface

Water Level Measured Using Contact Meter

Pumping Water Level N/A ft. below land surface

Well Was Pumped Using Air Lift

Well Yield 60 gpm

If Pump Tested: Discharge Rate N/A gpm
Duration of Test N/A hours

Grouting Method Tremie Pipe

Drilling Method Mud Rotary

PERMANENT PUMPING EQUIPMENT

Installed by Mark McGinnis Reg. No. JD1285

Pump Type Submersible

Depth of Pump below land surface 60 ft.

Capacity 10 gpm Horsepower 1/2

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company MCGINNIS DRILLING

Well Driller (Print) Mark McGinnis

Driller's Signature

Registration No. JD1285 Date 12 / 28 / 00

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0 - 43 Med-Cor Sand Gray Yellow Clean with 3/8" Gravel

43 - 62 Med-Cor Sand Red + Dark Brown Clean

62 - 90 Med-Cor Sand Brown clean

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COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number ~~32~~ -- ~~25929~~

Atlas Sheet Coordinates ~~32~~ : ~~45~~ : ~~115~~

OWNER STILES, RICHARD

Address 145 LEITZ BLVD

City LITTLE EGG HARBOR State NJ Zip Code

WELL LOCATION ADDRESS 145 LEITZ BLVD Owner's Well No. 3

County OCEAN Municipality LITTLE EGG HARB Lot No. Block No. 287.06

WELL USE DOMESTIC REPLACEMENT

DATE WELL STARTED 10 / 09 / 01
DATE WELL COMPLETED 10 / 9 / 01

WELL CONSTRUCTION

Total Depth Drilled 90 ft.

Finished Well Depth 90 ft.

Borehole Diameter:
Top 8½ in.
Bottom 8½ in.

Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	80	4	PVC	sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 12 Slot)	80	90	4	PVC	sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	75	90	8½	#1 Sand	700 lbs
Grout	4	75	8½	Neat Cement / Bentonite	lbs. / 330 lbs.

RECORD OF TEST

Test Date 10 / 10 / 01
Static Water Level 23 ft. below land surface
Water Level Measured Using Water Level Ind
Pumping Water Level 30 ft. below land surface
Well Was Pumped Using Air Compressor
Well Yield 100 gpm
If Pump Tested: Discharge Rate gpm
Duration of Test hours

Grouting Method Pressure Grout
Drilling Method Rotary

GEOLOGIC LOG

Note depths where water was encountered in consolidated formations.

0- 28 med sand
28-43 Clay
43- 54 Coarse sand
54-63 Clay
63- 90 Coarse sand

PERMANENT PUMPING EQUIPMENT

Installed by John Robertson Reg. No. 1384
Pump Type Submersible
Depth of Pump below land surface 50 ft.
Capacity 12 gpm Horsepower ½

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drillling Company PURE PRESSURE WATER SYSTEMS

Well Driller (Print) JOHN ROBERTSON

Driller's Signature

Registration No. 1384 Date 11 / 6 / 01

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____

OR

LATITUDE: __°__'__.__" LONGITUDE: __°__'__.__"

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New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number
32 — 24754

Atlas Sheet Coordinates
32 : 45 : 116

OWNER K AND R CONSTRUCTION

Address 146 MARY BELL ROAD

City BARNEGAT State NJ Zip Code

WELL LOCATION ADDRESS MAYFLOWER DRIVE **Owner's Well No.**

County OCEAN Municipality LITTLE EGG HARB Lot No. 13 Block No. 290

WELL USE DOMESTIC

DATE WELL STARTED 1/06/01
DATE WELL COMPLETED 1/06/01

WELL CONSTRUCTION

Total Depth Drilled 90 ft.

Finished Well Depth 90 ft.

Borehole Diameter:
Top 8½ in.
Bottom 8½ in.

Well Casing Begins:
1 ft. above grade or
_____ ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	80	4	PVC	sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 12 slot)	80	90	4	PVC	sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	77	90	8½	#1 Sand	700 lbs
Grout	4	77	8½	Neat Cement / Bentonite	____ lbs / 350 lbs

RECORD OF TEST

Test Date 1/09/01

Static Water Level 22 ft. below land surface

Water Level Measured Using Water Level Ind.

Pumping Water Level 30 ft. below land surface

Well Was Pumped Using Air Compressor

Well Yield 140 gpm

If Pump Tested: Discharge Rate _____ gpm
Duration of Test _____ hours

Grouting Method Pressure Grout

Drilling Method Rotary

PERMANENT PUMPING EQUIPMENT

Installed by John Robertson Reg. No. 1384

Pump Type Submersible

Depth of Pump below land surface 50 ft.

Capacity 25 gpm Horsepower 1

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0- 53 med sand
53-65 Clay
65-90 med sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company PURE PRESSURE WATER SYSTEMS

Well Driller (Print) JOHN ROBERTSON

Driller's Signature John R

Registration No. 1384 Date 1/28/01

78 *COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.*

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New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number
~~32 — 23487~~

Atlas Sheet Coordinates
~~32 : 35 : 775~~

OWNER ~~FOLEY, JAMES~~
Address 436 STAGE RD.
City TUCKERTON State NJ Zip Code

WELL LOCATION ADDRESS 436 STAGE RD. Owner's Well No.
County OCEAN Municipality LITTLE EGG HARB Lot No. 22 Block No. 262

WELL USE DOMESTIC REPLACEMENT
DATE WELL STARTED 10/13/98
DATE WELL COMPLETED 10/13/98

WELL CONSTRUCTION

Total Depth Drilled 80 ft.

Finished Well Depth 80 ft.

Borehole Diameter:
Top 8 in.
Bottom 8 in.

Well Casing Begins:
+1 ft. above grade or
_____ ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	70	4	PVC	sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	70	80	4	PVC	sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	70	80		barsand	
Grout	4	70		Neat Cement Bentonite	____ lbs 300 lbs

RECORD OF TEST
Test Date 10/14/98
Static Water Level 15 ft. below land surface
Water Level Measured Using tape
Pumping Water Level 25 ft. below land surface
Well Was Pumped Using airlift
Well Yield 50 gpm
If Pump Tested: Discharge Rate _____ gpm
Duration of Test _____ hours

Grouting Method pressure thru tremie
Drilling Method rotary

PERMANENT PUMPING EQUIPMENT
Installed by Callahan Well Reg. No. J1106
Pump Type sub mersible
Depth of Pump below land surface 45 ft.
Capacity 12 gpm Horsepower 1/2

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company THOMAS CALLAHAN WELL
Well Driller (Print) Callahan Well
Driller's Signature Thomas Callahan/cc
Registration No. J1106 Date 11/13/98

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-2 top soil
2-40 clay
40-65 gravel + yellow sand
65-80 coarse sand/water

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

C
LP

WELL RECORD

Well Permit No. 32 - 20384
Atlas Sheet Coordinates 32 : 45 : 119

OWNER IDENTIFICATION - Owner MYERS, KATHERYN
Address 310 STAGE ROAD
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No. 1
Address same as above
County OCEAN Municipality LITTLE EGG HARB Lot No. 7.02 Block No. 253

WELL USE domestic Status in use

WATER USE domestic Average 75 gals. daily Maximum 300 gals. daily

WELL CONSTRUCTION Date well completed 3, 10, 95
BOREHOLE DIMENSIONS Depths: Total 105 ft. Finished 105 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well 50 ft. Elevation was determined using Atlas #32
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1		95	4	PVC
Casing 2				
Casing 3	95	10	4	PVC 15 slot
Screen 1				
Screen 2				
Tail Piece				
Gravel Pack	3	95		Bentonite
Grout				
Grouting Method		Pressure grouted		

WELL FLOWS NATURALLY _____ gals. per min. at _____ ft. above the land surface.
Water rises to _____ ft. above the land surface.

RECORD OF TEST Test Date 3, 10, 95
Static water-level before pumping 15 ft. below land surface. Water level 30 ft. below land surface after 4 hrs. of pumping.
Water level was measured using tape Drawdown 15 ft.
Discharge rate measured using bucket Discharge Rate 20 gals. per min.
Well was pumped using pump Specific Capacity 4 gals. per min. per ft. of drawdown
Observed effects on nearby wells none
Water Quality (taste, odor, color, etc.) taste - none, odor - none, color - clear

PERMANENT PUMPING EQUIPMENT Installed by B & E Well Drilling Pump Type sub
Mfrs. Name Myers Model SJ100
CAPACITY: Pump delivers 10 GPM at 40 PSI pressure.
POWER: 1/2 HP at 3400 RPM Power Source electric
DEPTHS: Pump _____ ft. Footpiece _____ ft. Airline _____ ft.
FLOW METER: Model _____ installed on _____ in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor B & E WELL DRILLING INC.
Address 3 Old Stagecoach Road
City Little Egg Harbor State NJ Zip Code 08087
Name of Driller William Michaels License No. 1029

Signature of Contractor William Michaels Date 3, 13, 95

COPIES: White - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 168 2881

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New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

WELL RECORD

Well Permit No. 32 - 20384

32.45.119

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☑ No

Drilling Method Rotary

Type of Rig Rotary

Aquifer/Geo. Fm. Cohansey

LOG

0-10 gravel
10-50 clay & sand
50-100 clay
100-105 sand

SWL-15 ft.

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ____ / ____ / ____

Thick.	Lith.	Fm.

GWPI No. ____ - _____

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

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New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

WELL RECORD

Well Permit No. 32 - 19611
Atlas Sheet Coordinates 32 : 34 : 991

OWNER IDENTIFICATION - Owner BUZBY, SR., RICHARD
Address 237A STAGE ROAD
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address SAME
County OCEAN Municipality LITTLE EGG HARB Lot No. 5 Block No. 278

WELL USE Domestic Status

WATER USE Domestic Average 100 gals. daily Maximum 150 gals. daily

WELL CONSTRUCTION
BOREHOLE DIMENSIONS
Date well completed 12 / 2 / 93
Depths: Total 80 ft. Finished 79 ft.
Diameter: Top 8½ in. Bottom 8½ in.
Land Surface Elevation at well ft. Elevation was determined using
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1		69	4	PVC Sch. 40
Casing 2				
Casing 3				
Screen 1	69	10	4	PVC Sch 40, 12 slot
Screen 2				
Tail Piece				
Gravel Pack	68	11		#1 sand
Grout	4	64		Portland
Grouting Method	Haliburton			

WELL FLOWS NATURALLY gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 12 / 2 / 93
Static water-level before pumping 26 ft. below land surface. Water level N/A ft. below land surface after hrs. of pumping.
Water level was measured using water level indicator Drawdown 2 ft.
Discharge rate measured using 5 gallon bucket & watch Discharge Rate 5 gals. per min.
Well was pumped using compressor Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells none
Water Quality (taste, odor, color, etc.) good

PERMANENT PUMPING EQUIPMENT Installed by John Robertson Pump Type jet pump
Mfrs. Name Goulds Model JOSN
CAPACITY: Pump delivers 5 GPM at 50 PSI pressure.
POWER: ½ HP at RPM Power Source 115
DEPTHS: Pump ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

PURE PRESSURE WATER SYSTEMS

CONTRACTOR - Name of Drilling Contractor
Address 65 Mermaid Drive
City Manahawkin State NJ Zip Code 08050
Name of Driller John Robertson License No. 1384

Signature of Contractor John Robertson Date 12 / 13 / 93

COPIES: White - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

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New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

WELL RECORD

Well Permit No. 32 - 19611
32.34.991

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☑ No

Drilling Method Rotary

Type of Rig DSI QuikDrill

Aquifer/Geo. Fm.

DEP USE ONLY

Storet Hydrogeo Code
USGS Hydrogeo Code
Depth to Bedrock ft.
Bedrock Lith. Code
Bedrock Fm. Code

Completed by
Date / /

LOG

		Thick.	Lith.	Fm.
0-14	medium coarse sand			
14-22	orange clay			
22-35	medium sand			
35-50	orange clay			
50-56	coarse sand			
56-60	gray clay			
60-80	medium coarse sand			

GWPI No. -
NJPDES No. -
Latitude ° ' "
Longitude ° ' "
Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"
USGS Quadrangle
Drainage Basin Code
County/Municipality Code
OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by
Date / /

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8/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

PAGE 2

WELL RECORD

Well Permit No. 32 – 19553
Atlas Sheet Coordinates 32 : 35 : 755

OWNER IDENTIFICATION - Owner KITA, CHARLES & SHIRLA
Address 223 STAGE ROAD
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address same
County OCEAN Municipality LITTLE EGG HARB Lot No. 21 Block No. 264

WELL USE withdrawal Status in use

WATER USE domestic Average 125 gals. daily Maximum 500 gals. daily

WELL CONSTRUCTION Date well completed 10 / 29 / 93
BOREHOLE DIMENSIONS Depths: Total 80 ft. Finished 80 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well ft. Elevation was determined using tape
Casing Height (stick-up) above land surface 1 ft.

		DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1	70		70	4	pvc
Casing 2					
Casing 3					
Screen 1	70		10	4	15 slot sch 40 pvc
Screen 2					
Tail Piece		no			
Gravel Pack		65	15		morie sand #2
Grout		4	61		bentonite
Grouting Method		pressure			

WELL FLOWS NATURALLY no gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 10 / 29 / 93
Static water-level before pumping 25 ft. below land surface. Water level 29 ft. below land surface after 1 hrs. of pumping.
Water level was measured using tape Drawdown 4 ft.
Discharge rate measured using airlift Discharge Rate 12 gals. per min.
Well was pumped using airlift Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells none
Water Quality (taste, odor, color, etc.) good/none/clear

PERMANENT PUMPING EQUIPMENT Installed by Callahan Well Drilling Pump Type submersible
Mfrs. Name myers Model ½hp
CAPACITY: Pump delivers 12 GPM at 50 PSI pressure.
POWER: ½ HP at 3450 RPM Power Source electric
DEPTHS: Pump 45 ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor
Address THOMAS CALLAHAN WELL
City 177a North Ave West Berlin State NJ Zip Code 08091
Name of Driller Thomas Callahan License No. J-1106

Signature of Contractor Thomas Callahan Date 11 / 4 / 93

COPIES: White - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 168 1517

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

WELL RECORD

Well Permit No. 32 - 19553
32 35755

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method rotary

Type of Rig mud rotary

Aquifer/Geo. Fm. sand

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ____ / ____ / ____

LOG

	Thick.	Lith.	Fm.
0-2 top soil			
2-40 fine sand			
40-55 clay			
55-80 coarse sand stoners water			

GWPI No. ____ - _____

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

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Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 – 17360
Atlas Sheet Coordinates 32 : 34 : 994

OWNER IDENTIFICATION - Owner KEN MAXWELL BUILDERS
Address P O BOX 282
City WEST CREEK State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County PINE OAK LA OCEAN Municipality LITTLE EGG HARB Lot No. 48 Block No. 264

WELL USE WITHDRAWAL Status IN USE

WATER USE DOMESTIC Average 100 gals. daily Maximum 200 gals. daily

WELL CONSTRUCTION Date well completed 12 / 2 / 90
BOREHOLE DIMENSIONS Depths: Total 75" ft. Finished 75" ft.
Diameter: Top 8" in. Bottom 8" in.
Land Surface Elevation at well 10" ft. Elevation was determined using SITE PLAN
Casing Height (stick-up) above land surface 1.0" ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1		65"	4"	P.V.C.
Casing 2				
Casing 3				
Screen 1	65"	10"	4"	P.V.C. .015
Screen 2				
Tail Piece				
Gravel Pack	65	10"	1/4"	STERILIZED GRITT
Grout	5	60"		PURE SODIUM BENTONITE
Grouting Method	PRESSURE PUMP / TREME PIPE			

WELL FLOWS NATURALLY – gals. per min. at – ft. above the land surface.
Water rises to – ft. above the land surface.

RECORD OF TEST Test Date 12 / 3 / 90
Static water-level before pumping 14 ft. below land surface. Water level 15 ft. below land surface after 1 hrs. of pumping.
Water level was measured using TAPE Drawdown 1 ft.
Discharge rate measured using ELUMLATOR Discharge Rate 25 gals. per min.
Well was pumped using AIR Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) GOOD

PERMANENT PUMPING EQUIPMENT Installed by Pascale L. Pump Type SUBMERSIBLE
Mfrs. Name red jacket Model
CAPACITY: Pump delivers 20 GPM at 30 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source ELECTRIC
DEPTHS: Pump 50 ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on 1" in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor CLEARWATER WELL DRILLING
Address
City 515 ROUTE #9 State Zip Code
Name of Driller BARNEGAT N.J. License No. 08005
PASCALE 1093

Signature of Contractor Date 12/28/90

COPIES: *White - DEP* *Canary - Driller* *Pink - Owner* *Goldenrod - Health Dept.*

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WELREC 168 1438

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 17360
32 34 994

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method: Rotary

Type of Rig: Cyclone

Aquifer/Geo. Fm.: Cohansey

LOG

0'-6' Medium Sand
6'-26' Clay
26'-35' Silty Clay
35'-45' Silty Sand
45'-60' Fine Sand
60'-75' Medium Sand

DEP USE ONLY

Storet Hydrogeo Code
USGS Hydrogeo Code
Depth to Bedrock ft.
Bedrock Lith. Code
Bedrock Fm. Code

Completed by
Date / /

Thick.	Lith.	Fm.

GWPI No. -
NJPDES No. -
Latitude ° ' "
Longitude ° ' "
Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"
USGS Quadrangle
Drainage Basin Code
County/Municipality Code
OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by
Date / /

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Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 17192
Atlas Sheet Coordinates 32 : 35 : 775

OWNER IDENTIFICATION - Owner ~~MAVELIX, HERBEY~~
Address ~~286 STAGE ROAD~~
City ~~TUCKERTON~~ State ~~NJ~~ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address 286 Stage Road
County Ocean Municipality ~~LITTLE EGG HARB~~ Lot No. ~~7~~ Block No. ~~278~~

WELL USE with drawal Status in use

WATER USE domestic Average 375 gals. daily Maximum 500 gals. daily

WELL CONSTRUCTION
BOREHOLE DIMENSIONS
Date well completed 8 / 3 / 90
Depths: Total 80 ft. Finished 80 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well ____ ft. Elevation was determined using
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1	70	70	4	pvc
Casing 2				
Casing 3				
Screen 1	70	10	4	sch 40 pvc slot 15
Screen 2				
Tail Piece	no			
Gravel Pack	70	10		
Grout	x3	67		bentonite
Grouting Method	pressure			

WELL FLOWS NATURALLY no gals. per min. at ____ ft. above the land surface.
Water rises to ____ ft. above the land surface.

RECORD OF TEST Test Date 8 / 3 / 90
Static water-level before pumping 18 ft. below land surface. Water level 22 ft. below land surface after 1 hrs. of pumping.
Water level was measured using tape Drawdown 4 ft.
Discharge rate measured using Discharge Rate 8 gals. per min.
Well was pumped using airlift Specific Capacity ____ gals. per min. per ft. of drawdown
Observed effects on nearby wells none
Water Quality (taste, odor, color, etc.) good-none-clear

PERMANENT PUMPING EQUIPMENT WELL ONLY Installed by Pump Type Jet
Mfrs. Name Model 1/2hp
CAPACITY: Pump delivers 8 GPM at 50 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source electric
DEPTHS: Pump 18 ft. Footpiece ____ ft. Airline ____ ft.
FLOW METER: Model installed on ____ in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor ~~THOMAS CALLAHAN WELL~~
Address 177A North Ave
City West Berlin, State NJ Zip Code 08091
Name of Driller %Thomas Callahan License No. J-1106

Signature of Contractor Thomas Callahan Date 8 / 20 / 90

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 17192
32 35 775

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method Rotary

Type of Rig Mud Rotary

Aquifer/Geo. Fm. _____

DEP USE ONLY

Storet Hydrogeo Code _____
USGS Hydrogeo Code _____
Depth to Bedrock _____ ft.
Bedrock Lith. Code _____
Bedrock Fm. Code _____

Completed by _____
Date ___ / ___ / ___

LOG

0-2 top soil
2-20 sand
20-35 sand and clay
35-70 fine sand
70-80 coarse sand and water

Thick.	Lith.	Fm.

GWPI No. ___ - _____

NJPDES No. _____ - ___

Latitude ___ ° ___ ' ___ "

Longitude ___ ° ___ ' ___ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ___ / ___ / ___

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Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 16301
Atlas Sheet Coordinates 32 : 35 : 749

OWNER IDENTIFICATION - Owner LITTLE EGG BUILDERS
Address ROUTE 9
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address STAGE RD
County OCEAN Municipality LITTLE EGG HARB Lot No. 47 Block No. 262

WELL USE WITHDRAWAL Status IN USE

WATER USE DOMESTIC Average 100 gals. daily Maximum 200 gals. daily

WELL CONSTRUCTION Date well completed 3 / 2 / 90
BOREHOLE DIMENSIONS Depths: Total 100" ft. Finished 100" " ft.
Diameter: Top 8" in. Bottom 8" in.
Land Surface Elevation at well 10" ft. Elevation was determined using SITE PLAN
Casing Height (stick-up) above land surface 1.0' ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1		95	4"	P.V.C.
Casing 2				
Casing 3				
Screen 1	95	10'	4"	P.V.C. .015
Screen 2				
Tail Piece				
Gravel Pack	95	10'	1/4"	STERILIZED GRITT
Grout	5	90		BENSEAL
Grouting Method	PRESSURE PUMP			

WELL FLOWS NATURALLY - gals. per min. at - ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 3 / 5 / 90
Static water-level before pumping 29 ft. below land surface. Water level 30 ft. below land surface after 1 hrs. of pumping.
Water level was measured using TAPE Drawdown 1 ft.
Discharge rate measured using FLOMULATOR Discharge Rate 25 gals. per min.
Well was pumped using AIR Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) GOOD

PERMANENT PUMPING EQUIPMENT Installed by Pascale L. Pump Type SUBMERSIBLE
Mfrs. Name red jacket Model
CAPACITY: Pump delivers 20 GPM at 30 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source ELECTRIC
DEPTHS: Pump 50 ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor CLEARWATER WELL DRILLING
Address 515 ROUTE #9
City BARNEGAT State N.J. Zip Code 08005
Name of Driller PASCALE License No. 1093

Signature of Contractor [signature] Date 3 / 6 / 90

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 16301
32 35719

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method: Rotary

Type of Rig: Cyclone

Aquifer/Geo. Fm.: Cohansey.

LOG

0'-4' Coarse + Fine Sand.
4'-22' Clay
22'-70' Medium Sand
70'-71' Clay
71'-90' Medium to Fine Sand
90'-100' Coarse Sand.

DEP USE ONLY

Storet Hydrogeo Code
USGS Hydrogeo Code
Depth to Bedrock ft.
Bedrock Lith. Code
Bedrock Fm. Code

Completed by
Date / /

Thick.	Lith.	Fm.

GWPI No. - NJPDES No. -

Latitude ° ' " Longitude ° ' "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle

Drainage Basin Code County/Municipality Code

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by Date / /

WELREC 168 1502

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 15516
Atlas Sheet Coordinates 32 : 34 : 996

OWNER IDENTIFICATION - Owner TAMPLE, FRANK
Address 37 COUNTRY CLUB BLVD
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address PINE OAK DRIVE
County OCEAN Municipality LITTLE EGG HARB Lot No. 38 Block No. 264

WELL USE DOMESTIC SUPPLY Status IN USE

WATER USE DOMESTIC Average 500 gals. daily Maximum 1000 gals. daily

WELL CONSTRUCTION Date well completed 3 / 28 / 89
BOREHOLE DIMENSIONS Depths: Total 80 ft. Finished 80 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well 46 ft. Elevation was determined using ESTIMATE
Casing Height (stick-up) above land surface ____ ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1		70	4"	F480 PVC
Casing 2				
Casing 3				
Screen 1	70	10	4	.012 PVC
Screen 2				
Tail Piece				
Gravel Pack	65	10	8	NATURAL
Grout	5			BENTONITE KLAY
Grouting Method	GRAVITY			

WELL FLOWS NATURALLY ____ gals. per min. at ____ ft. above the land surface.
Water rises to ____ ft. above the land surface.

RECORD OF TEST Test Date 3 / 28 / 89
Static water-level before pumping 17 ft. below land surface. Water level 17 ft. below land surface after 2 hrs. of pumping.
Water level was measured using TAPE Drawdown — ft.
Discharge rate measured using WATCH / BUCKET Discharge Rate 55 gals. per min.
Well was pumped using AIR LIFT Specific Capacity ____ gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) GOOD, NONE CLEAR

PERMANENT PUMPING EQUIPMENT Installed by MIKE TURNER Pump Type SUBMERSIBLE
Mfrs. Name RED JACKET Model
CAPACITY: Pump delivers 22 GPM at 100 PSI pressure.
POWER: 1 HP at 3450 RPM Power Source ELECTRIC
DEPTHS: Pump 65 ft. Footpiece ____ ft. Airline ____ ft.
FLOW METER: Model ____ installed on ____ in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor MICHAEL TURNER
Address 279 MAIN ST
City PORT REPUBLIC State NJ Zip Code 08241
Name of Driller MIKE TURNER License No. 1250

Signature of Contractor Mike Turner Date 3 / 29 / 89

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 022 3152

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32-15516
32,34,996

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method Rotary

Type of Rig TOP HEAD

Aquifer/Geo. Fm. SAND

DEP USE ONLY

Storet Hydrogeo Code _____
USGS Hydrogeo Code _____
Depth to Bedrock _____ ft.
Bedrock Lith. Code _____
Bedrock Fm. Code _____

Completed by _____
Date ____ / ____ / ____

LOG	Thick.	Lith.	Fm.
0-1 SANDY TOPSOIL			
1-10 SANDY ORG & WH CLAY /FE STONE			
10-20 SANDY WH & PINK CLAY			
20-30 WH & PINK CLAY W/FINE SAND			
30-40 MED COARSE TAN SAND W/FE CLAY			
40-50 MED COARSE TAN SAND W/FE CLAY			
50-60 MED FINE TO COARSE TAN SAND			
60-65 COARSE TAN SAND			
65-67 COARSE BROWN & ORG SAND			
67-70 COARSE LIGHT TAN SAND			
70-80 COARSE LIGHT TAN SAND			

GWPI No. ____ - ____ NJPDES No. ____ - ____

Latitude ____ ° ____ ' ____ " Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____ County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data
☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____ Date ____ / ____ / ____

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 _ 14172
Atlas Sheet Coordinates 32 : 35 : 746

OWNER IDENTIFICATION - Owner AVIVA ENGINEERING
Address 24 PINETREE DRIVE
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address STAGE RD.
County OCEAN Municipality LITTLE EGG HARB Lot No. 48 Block No. 262

WELL USE WITHDRAWAL Status IN USE

WATER USE DOMESTIC Average 100 gals. daily Maximum 200 gals. daily

WELL CONSTRUCTION Date well completed 8 / 26 / 88
BOREHOLE DIMENSIONS Depths: Total 100" ft. Finished 100" ft.
Diameter: Top 8" in. Bottom 8" in.

Land Surface Elevation at well 10" ft. Elevation was determined using SITE PLAN
Casing Height (stick-up) above land surface 1.0" ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1			4"	P.V.C.
Casing 2				
Casing 3				
Screen 1		10"	4"	P.V.C. .015
Screen 2				
Tail Piece				
Gravel Pack		10"	1/4"	STERILIZED GRITT
Grout				BENSEAL

Grouting Method TREME

WELL FLOWS NATURALLY — gals. per min. at — ft. above the land surface.
Water rises to — ft. above the land surface.

RECORD OF TEST Test Date 8 / 27 / 88
Static water-level before pumping 30 ft. below land surface. Water level 31 ft. below land surface after 1 hrs. of pumping.
Water level was measured using TAPE Drawdown 1 ft.
Discharge rate measured using FLOWLATOR Discharge Rate 25 gals. per min.
Well was pumped using AIR Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) GOOD

PERMANENT PUMPING EQUIPMENT Installed by Pascale L. Pump Type SUBMERSIBLE
Mfrs. Name GOULDS Model
CAPACITY: Pump delivers 20 GPM at 30 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source ELECTRIC
DEPTHS: Pump 50 ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor CLEARWATER WELL DRILLING
Address 515 ROUTE #9
City State Zip Code
Name of Driller BARNEBAT PASCALE N.J. License No. 08005 1093

Signature of Contractor Date 8/31/88

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 022 3229

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 14172
32: 35: 74k

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method: Rotary

Type of Rig: cyclone

Aquifer/Geo. Fm.: cohansey

LOG

0 - 30 clay

30 - 60 50/50 clay sand mix

60 - 90 soft clay

90 - 100' coarse sand

DEP USE ONLY

Storet Hydrogeo Code _____
USGS Hydrogeo Code _____
Depth to Bedrock _____ ft.
Bedrock Lith. Code _____
Bedrock Fm. Code _____

Completed by _____
Date ____ / ____ / ____

Thick.	Lith.	Fm.

GWPI No. ____ - _____

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

WELREC 022 3230

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 12792
Atlas Sheet Coordinates 32 : 35 : 779

OWNER IDENTIFICATION - Owner RESCH, THOMAS J.
Address 230 STAGE ROAD
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County Municipality LITTLE EGG HARB Lot No. 4 Block No. 276

WELL USE WITHDRAWAL Status IN USE

WATER USE DOMESTIC Average 100 gals. daily Maximum 200 gals. daily

WELL CONSTRUCTION Date well completed 03 / 25 / 87
BOREHOLE DIMENSIONS Depths: Total 75' ft. Finished 75' ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well 10 ft. Elevation was determined using SITE PLAN
Casing Height (stick-up) above land surface 1.0 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1			4"	P.V.C.
Casing 2				
Casing 3				
Screen 1		10'	4"	P.V.C. .015"
Screen 2				
Tail Piece				
Gravel Pack				
Grout				benseal
Grouting Method	pump			

WELL FLOWS NATURALLY - gals. per min. at - ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 03 / 25 / 87
Static water-level before pumping 18' ft. below land surface. Water level 19' ft. below land surface after hrs. of pumping.
Water level was measured using TAPE Drawdown 1 ft.
Discharge rate measured using FLOWOLATER Discharge Rate 15 gals. per min.
Well was pumped using AIR Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) GOOD

PERMANENT PUMPING EQUIPMENT Installed by PASCALE L. Pump Type SUBMERSIBLE
Mfrs. Name GOULDS Model
CAPACITY: Pump delivers 20 GPM at 30 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source ELECTRIC
DEPTHS: Pump ft. Footpiece ft. Airline ft.
FLOW METER: Model Installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor CLEARWATER WELL DRILLING
Address 515 ROUTE 9
City BARNEGAT State N.J. Zip Code 08005
Name of Driller PASCALE License No. 1093

LES PASCALE
Owner
LIC. #1093
Signature of Contractor Date 03 / 25 / 87

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 022 3270

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32-12792
32.35.779

Driller; Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method Rotary

Type of Rig Cyclone

Aquifer/Geo. Fm. Cohancey

LOG

0" – 6' Pea grav. Stones
6' - 25' Coarse sands
25' - 27' 50/50 Clay + Sand mix
27' - 60' Medium Sand
60' - 75' Medium Sand To Coarse Sand

DEP USE ONLY

Storet Hydrogeo Code _____
USGS Hydrogeo Code _____
Depth to Bedrock _____ ft.
Bedrock Lith. Code _____
Bedrock Fm. Code _____

Completed by _____
Date ____ / ____ / ____

Thick.	Lith.	Fm.

GWPI No. ____ - _____ NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ " Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____ County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____ Date ____ / ____ / ____

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

DMR

Well Permit Number ~~32 - 21645~~

Atlas Sheet Coordinates ~~32 : 35 : 770~~

OWNER ~~GOLON, FRANK~~
Address 184 WILLIAM COOK BLVD
City MANAHAWKIN State NJ Zip Code 08050

WELL LOCATION ADDRESS STAGE RD Owner's Well No. 32-21645
County OCEAN Municipality LITTLE EGG HARB Lot No. 24 Block No. 264

WELL USE DOMESTIC
DATE WELL STARTED 8 / 28 / 96
DATE WELL COMPLETED 8 / 28 / 96

WELL CONSTRUCTION

Total Depth Drilled 75 ft.

Finished Well Depth 75 ft.

Borehole Diameter:
Top 8 in.
Bottom 8 in.

Well Casing Begins:
1.5 ft. above grade or
_____ ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.5	65	4	P.V.C.	Sch.40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .015)	65	75	4	P.V.C.	Sch.40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	60	75	8	#1 sand	
Grout	3.5	60		Neat Cement Bentonite	564 lbs _____ lbs

RECORD OF TEST

Test Date 8 / 28 / 96
Static Water Level 20 ft. below land surface
Water Level Measured Using tape
Pumping Water Level 30 ft. below land surface
Well Was Pumped Using air lift
Well Yield 50 gpm
If Pump Tested: Discharge Rate 10 gpm
Duration of Test 2 hours

Grouting Method pressure thru tremie
Drilling Method mud rotary

PERMANENT PUMPING EQUIPMENT

Installed by Wm. Haddon Reg. No. J1017
Pump Type submersible
Depth of Pump below land surface 40 ft.
Capacity 10 gpm Horsepower ½

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0 - 2 peat
2 - 25 silt gravel
25 - 35 clay
35 - 50 silt sand
50 - 60 poor grade sand
60 - 75 well grade sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company WILLIAM HADDON
Well Driller (Print) Wm. Haddon
Driller's Signature [signature]
Registration No. J1017 Date 8 / 28 / 96

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 168 1554

DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

E DMR

Well Permit Number
32 – 21202

Atlas Sheet Coordinates
32 : 45 : 123

OWNER A.H. BURR, INC.
Address R.R. #2 BOX 320 D
City LITTLE EGG HARBOR State NJ Zip Code

WELL LOCATION ADDRESS 39 MAYFLOWER DR. Owner's Well No.
County OCEAN Municipality LITTLE EGG HARB Lot No. 12 Block No. 287.10

WELL USE DOMESTIC

DATE WELL STARTED 2 / 1 / 96
DATE WELL COMPLETED 2 / 1 /96

WELL CONSTRUCTION

Total Depth Drilled 65 ft.

Finished Well Depth 65 ft.

Borehole Diameter:
Top 8 in.
Bottom 8 in.

Well Casing Begins:
+1 ft. above grade or
_____ ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	55	4	PVC	sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	55	65	4	PVC	sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	53	65		#2 Morie	sch 40
Grout	0	53		Neat Cement ____ lbs Bentonite 400 lbs	

RECORD OF TEST

Test Date 2 / 1 / 96
Static Water Level 12 ft. below land surface
Water Level Measured Using chalkline
Pumping Water Level 22 ft. below land surface
Well Was Pumped Using pump
Well Yield 11 gpm
If Pump Tested: Discharge Rate 11 gpm
Duration of Test 4 hours

Grouting Method Pressure grouted thru tremie
Drilling Method pipe / Mud rotary

PERMANENT PUMPING EQUIPMENT

Installed by So. Jersey Well Reg. No. 1181
Pump Type submersible
Depth of Pump below land surface 42 ft.
Capacity 11 gpm Horsepower ½

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-20 Gravel silt and sand
20-45 Solid brown clay
45-65 Coarse brown sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company SOUTH JERSEY WELL DRILLING
Well Driller (Print) Domenic Restuccio
Driller's Signature
Registration No. 1233 Date 2 / 1 / 96

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 168 2889

DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

E DMR

Well Permit Number 32 – 21981

Atlas Sheet Coordinates 32 45 : 115

OWNER JOHNSON, STEVEN
Address LEITZ BOULEVARD
City TUCKERTON State NJ Zip Code

WELL LOCATION ADDRESS LEITZ BOULEVARD Owner's Well No.
County OCEAN Municipality LITTLE EGG HARB Lot No. 4 Block No. 287.9

WELL USE DOMESTIC REPLACEMENT

DATE WELL STARTED 2/12/97
DATE WELL COMPLETED 2/15/97

WELL CONSTRUCTION

Total Depth Drilled 90 ft.
Finished Well Depth 85 ft.
Borehole Diameter:
Top 8½ in.
Bottom 8½ in.
Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	75	4	PVC	sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 15 slots)	75	85	4	PVC	sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	70	85	8½	#1 sand	200 lbs
Grout	4	70	8½	Neat Cement / Bentonite	lbs / 350 lbs

RECORD OF TEST

Test Date 2/15/97
Static Water Level 23 ft. below land surface
Water Level Measured Using Level Sucl
Pumping Water Level 26 ft. below land surface
Well Was Pumped Using Air compressor
Well Yield 160 gpm
If Pump Tested: Discharge Rate gpm
Duration of Test hours

Grouting Method Pressure Grout
Drilling Method Rotary

PERMANENT PUMPING EQUIPMENT

Installed by John Robertson Reg. No. 1384
Pump Type Submersible
Depth of Pump below land surface 40 ft.
Capacity 10 gpm Horsepower ½

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-26 med sand
26-58 clay
58-51 med sand
51-67 clay
67-90 med sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company PURE PRESSURE WATER SYSTEMS
Well Driller (Print) John Robertson
Driller's Signature
Registration No. 1384 Date 3/18/97

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 168 2875

DWR-136
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

DMR

Well Permit Number 32 — 22115

Atlas Sheet Coordinates 32 : 45 : 115

OWNER CLAYTON, MARIE
Address 12 GARDEN TERRACE
City TUCKERTON State NJ Zip Code

WELL LOCATION ADDRESS 12 GARDEN TERRACE Owner's Well No.
County OCEAN Municipality LITTLE EGG HARB Lot No. 21 Block No. 289

WELL USE DOMESTIC REPLACEMENT

DATE WELL STARTED 4/23/97
DATE WELL COMPLETED 4/23/97

WELL CONSTRUCTION

Total Depth Drilled 90 ft.
Finished Well Depth 90 ft.
Borehole Diameter:
Top 8½ in.
Bottom 8½ in.
Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	80	4	PVC	sch40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 15 slot)	80	90	4	PVC	sch40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	22	90	8½	#1 SAND	700 LBS
Grout	4	22	8½	Neat Cement / Bentonite	lbs / 400 lbs

RECORD OF TEST

Test Date 4/23/97
Static Water Level 23 ft. below land surface
Water Level Measured Using Level Tape
Pumping Water Level 26 ft. below land surface
Well Was Pumped Using Air compressor
Well Yield 200 gpm
If Pump Tested: Discharge Rate gpm
Duration of Test hours

Grouting Method Pressure Grout
Drilling Method Rotary

PERMANENT PUMPING EQUIPMENT

Installed by John Robertson Reg. No. 1384
Pump Type Submersible
Depth of Pump below land surface 40 ft.
Capacity 10 gpm Horsepower ½

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0 - 23 med sand
23 - 28 clay
28 - 60 med sand
60 - 72 clay
72 - 90 coarse sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company PURE PRESSURE WATER SYSTEMS
Well Driller (Print) John Robertson
Driller's Signature
Registration No. 1384 Date 5/19/97

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 168 2876

DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 — 22357

Atlas Sheet Coordinates 32 : 45 : 127

OWNER LONGINETTI, J.
Address 7 CHAMPIONS DR.
City TUCKERTON State NJ Zip Code #

WELL LOCATION ADDRESS 7 CHAMPIONS DR. Owner's Well No.
County OCEAN Municipality LITTLE EGG HARB Lot No. 15 Block No. 330-10

WELL USE DOMESTIC REPLACEMENT DATE WELL STARTED 8/19/97
DATE WELL COMPLETED 8/19/97

WELL CONSTRUCTION

Total Depth Drilled 110' ft.
Finished Well Depth 110' ft.

Borehole Diameter 8"
Top 8" in.
Bottom in.

Well Casing Begins:
1.0' ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	1.0'	100'	4"PVC	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	100'	110'	4"PVC	PVC	40
Blank Casings (No. Used)					
Tail Piece	100'	110'		#1sand	
Gravel Pack					
Grout	3.5	100'		Neat Cement / Bentonite	lbs / 325 lbs

RECORD OF TEST 8/19/97
Test Date / /
Static Water Level 4 ft. below land surface
Water Level Measured Using M.SCOPE
Pumping Water Level 5 ft. below land surface
Well Was Pumped Using AIR LIFT
Well Yield 50 gpm
If Pump Tested: Discharge Rate 20 gpm
Duration of Test 1 hours

Grouting Method PRESSURE THRU TREMI
Drilling Method ROTARY

PERMANENT PUMPING EQUIPMENT
Installed by L.PASCALE Reg. No. J1093
Pump Type SUBMERSIBLE
Depth of Pump below land surface 50' ft.
Capacity 10 gpm Horsepower 1/2

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company CLEARWATER WELL DRILLING
Well Driller (Print) LESLIE A. PASCALE
Driller's Signature
Registration No. J1093 Date 8/26/97

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0"--11'-Medium Sand + Gravel
11'-24'-medium sand +clay
24'-47'-silty sand +clay
47'-55'-white clay
55'-65'-fine sand + CLAY
65'-75'-medium sand
75'-86'-medium sand + clay
86'-88'-medium sand
88'-110'-coarse sand

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 168 2907

DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number
32 — 25243

Atlas Sheet Coordinates
32 : 44 : 331

OWNER COON, CANDICE A

Address ~~164 STAGE RD~~

City TUCKERTON State NJ Zip Code

WELL LOCATION ADDRESS ~~164 STAGE RD~~ **Owner's Well No.**

County ~~OCEAN~~ Municipality ~~LITTLE EGG HARB~~ Lot No. ~~14~~ Block No. ~~264~~

WELL USE ~~DOMESTIC REPLACEMENT~~

DATE WELL STARTED 9/25/00
DATE WELL COMPLETED 9/25/00

WELL CONSTRUCTION

Total Depth Drilled 80 ft.

Finished Well Depth 78 ft.

Borehole Diameter
Top 8 1/2 in.
Bottom 8 1/2 in.

Well Casing Begins:
1.5 ft. above grade or
_____ ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.5	68	4	P.V.C.	Sch.40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 1)	68	78	4	P.V.C.	Sch.40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	67	78		#1 Sand	600lbs.
Grout	4	67		Neat Cement / Bentonite	658 lbs / ____ lbs

RECORD OF TEST
Test Date 9/25/00
Static Water Level 5 ft. below land surface
Water Level Measured Using M-Scope
Pumping Water Level 14 ft. below land surface
Well Was Pumped Using Submersible
Well Yield 10 gpm
If Pump Tested: Discharge Rate 10 gpm
Duration of Test 2 hours

Grouting Method Pressure thru tremmie pipe
Drilling Method Mud Rotary

PERMANENT PUMPING EQUIPMENT
Installed by Robert Lloyd Reg. No. JD 1284
Pump Type Submersible
Depth of Pump below land surface 20 ft.
Capacity 10 gpm Horsepower 1/2

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company ~~GLENN'S PUMP & WELL / R. LLOYD~~
Well Driller (Print) Robert Lloyd
Driller's Signature [signature]
Registration No. JD 1284 Date 10/18/00

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-4' med yellow sand
4'-13' white clay
13'-15' orange clay + fine sand
15'-18' med tan sand
18'-22' white clay
22'-29' med tan sand
29'-31' white clay
31'-34' med yellow sand
34'-36' grey clay
36'-43' fine tan sand
43'-51' med orange sand
51'-55' med red sand
55'-62' med orange sand
62'-80' med tan sand

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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1/01

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

E

Well Permit Number 32 - 26204

Atlas Sheet Coordinates 32 35 775

OWNER VENTURA, CHARLES A & BANF

Address 18 FOX RD

City EDISON State NJ Zip Code

WELL LOCATION ADDRESS STAGE RD Owner's Well No.

County OCEAN Municipality LITTLE EGG HARB Lot No. 6.01 Block No. 280

WELL USE DOMESTIC

DATE WELL STARTED 4 / 12 / 02
DATE WELL COMPLETED 4 / 12 / 02

WELL CONSTRUCTION

Total Depth Drilled 80 ft.

Finished Well Depth 80 ft.

Borehole Diameter:
Top 8 in.
Bottom 8 in.

Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	70	4	PVC	sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	70	80	4	PVC	sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	70	80		bar sand	
Grout	4	70		Neat Cement Bentonite	lbs. 300 lbs.

RECORD OF TEST

Test Date 4 / 13 / 02
Static Water Level 10 ft. below land surface
Water Level Measured Using tape
Pumping Water Level 15 ft. below land surface
Well Was Pumped Using airlift
Well Yield 50 gpm
If Pump Tested: Discharge Rate gpm
Duration of Test hours

Grouting Method pressure thru tremie
Drilling Method rotary

GEOLOGIC LOG

Note depths where water was encountered in consolidated formations.

0-5 top soil
5-40 Clay
40-65 coarse yellow sand
65-80 Coarse sand w/water

PERMANENT PUMPING EQUIPMENT

Installed by Callahan well Reg. No. J1106
Pump Type Submersible
Depth of Pump below land surface 50 ft.
Capacity 12 gpm Horsepower 1/2

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drillling Company THOMAS CALLAHAN WELL

Well Driller (Print) Callahan well Drilling

Driller's Signature Thomas Callahan/cc

Registration No. J 1106 Date 4 / 22 / 02

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEE

NORTHING: _____ EASTING: _____
OR
LATITUDE: __0__'__.__" LONGITUDE: __0__'__.__"

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New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 24602

Atlas Sheet Coordinates 32 : 35 : 774

OWNER F & G BUILDERS

Address ~~216 NAUTILUS DR.~~

City MANAHAWKIN State NJ Zip Code

WELL LOCATION ADDRESS ~~STAGE RD.~~ **Owner's Well No.**

County ~~OCEAN~~ Municipality ~~LITTLE EGG HARB~~ Lot No. ~~4.03~~ Block No. ~~278~~

WELL USE ~~DOMESTIC~~

DATE WELL STARTED 2 /27 /01

DATE WELL COMPLETED 2 /27 /01

WELL CONSTRUCTION

Total Depth Drilled 81 ft.

Finished Well Depth 81 ft.

Borehole Diameter:
Top 8 in.
Bottom 8 in.

Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	76	4	40 #[redacted] PVC	
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	76	81	4	#40 PVC	
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	74	81	8	#1 GRIT	
Grout	[redacted] 4	74	8	Neat Cement / Bentonite	lbs / 300 lbs

RECORD OF TEST

Test Date 2 27/ 01

Static Water Level 22 ft. below land surface

Water Level Measured Using TAPE

Pumping Water Level 25 ft. below land surface

Well Was Pumped Using AIR

Well Yield 20 gpm

If Pump Tested: Discharge Rate gpm

Duration of Test hours

Grouting Method PRESSURE/TREMMIE

Drilling Method ~~MUD ROTARY~~

PERMANENT PUMPING EQUIPMENT

Installed by CONT. Reg. No. J1015

Pump Type SUB

Depth of Pump below land surface 55 ft.

Capacity 10 gpm Horsepower ½

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-6 SW SM
6-10 CL
10-22 SC
22-35 SW
35-42 SC
42-60 SW SM
60-81 SW

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company KRIS ENDRESON

Well Driller (Print) KRIS ENDRESON

Driller's Signature

Registration No. [redacted] J1015 Date 2 / 27 01

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 — 24023

Atlas Sheet Coordinates 32 : 34 : 982

OWNER PARISE, MARJORIE

Address 146 MARY BELL RD.

City MANAHAWKIN State NJ Zip Code

WELL LOCATION ADDRESS STAGE RD. **Owner's Well No.** #

County OCEAN Municipality LITTLE EGG HARB Lot No. 14 Block No. 280

WELL USE DOMESTIC

DATE WELL STARTED 2 / 8 / 00

DATE WELL COMPLETED 2 / 8 / 00

WELL CONSTRUCTION

Total Depth Drilled 80' ft.

Finished Well Depth 80' ft.

Borehole Diameter:
Top 8" in.
Bottom 8" in.

Well Casing Begins:
1.0 ft. above grade or
_____ ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.0'	70'	4"PVC	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .015)	70'	80'	4"PVC	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	70'	80'		#1SAND	
Grout	3.5	70'		Neat Cement Bentonite	_____ lbs 235 lbs

RECORD OF TEST

Test Date 2 / 8 / 00

Static Water Level 31 ft. below land surface

Water Level Measured Using M.SCOPE

Pumping Water Level 32 ft. below land surface

Well Was Pumped Using AIR LIFT

Well Yield 50 gpm

If Pump Tested: Discharge Rate 20 gpm

Duration of Test 1 hours

Grouting Method PRESSURE THREW TREMI PIPE

Drilling Method MUD ROTARY

PERMANENT PUMPING EQUIPMENT

Installed by L.PASCALE Reg. No. J1093

Pump Type SUBMERSIBLE

Depth of Pump below land surface 50' ft.

Capacity 10 gpm Horsepower 1.0

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company CLEARWATER WELL DRILLING

Well Driller (Print) LESLIE A. PASCALE

Driller's Signature

Registration No. J1093 Date 3 / 8 / 00

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0" - 25' - Medium Sand + Gravel
25' - 32' - medium sand
32' - 40' - silty sand
40' - 42' - white clay
42' - 45' - fine sand/ clay
45' - 80' - medium sand

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number
~~32 24094~~

Atlas Sheet Coordinates
~~32 34 983~~

OWNER ~~HUNRATH, J.~~
Address STAGE RD.
City LITTLE EGG HARBOR State NJ Zip Code #
WELL LOCATION ADDRESS STAGE RD. **Owner's Well No.**
County OCEAN Municipality LITTLE EGG HARB Lot No. 6.02 Block No. 263

WELL USE DOMESTIC **DATE WELL STARTED** 1/12/00
DATE WELL COMPLETED ~~1/12/00~~

WELL CONSTRUCTION

Total Depth Drilled 80' ft.
Finished Well Depth 80' ft.
Borehole Diameter:
Top 8" in.
Bottom 8" in.
Well Casing Begins:
1.0 ft. above grade or
_____ ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.0'	70'	4"PVC	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .015)	70'	80'	4"PVC	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	70'	80'		#1SAND	
Grout	3.5	70'		Neat Cement / Bentonite	lbs / 235 lbs

RECORD OF TEST
Test Date 1/12/00
Static Water Level 25 ft. below land surface
Water Level Measured Using M.SCOPE
Pumping Water Level 26 ft. below land surface
Well Was Pumped Using AIR LIFT
Well Yield 50 gpm
If Pump Tested: Discharge Rate 20 gpm
Duration of Test 1 hours

Grouting Method PRESSURE THREW TREMI PIPE
Drilling Method MUD ROTARY

PERMANENT PUMPING EQUIPMENT
Installed by L.PASCALE Reg. No. J1093
Pump Type ~~SUBMERSIBLE~~
Depth of Pump below land surface 50' ft.
Capacity 10 gpm Horsepower 1.0

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0"--10'-Medium Sand + Gravel
10'-12'-medium sand
12'-13'-white clay
13'-14'-silty sand clay
14'-47'-fine sand
47'-52'-medium sand
52'-80'-coarse sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company CLEARWATER WELL DRILLING
Well Driller (Print) LESLIE A. PASCALE
Driller's Signature
Registration No. J1093 Date 1/12/00

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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5/95

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New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 — 24371

Atlas Sheet Coordinates 32 : 34 : 986

OWNER SZABATIN, S.
Address STAGE ROAD
City LITTLE EGG State NJ Zip Code

WELL LOCATION ADDRESS STAGE RD. **Owner's Well No.** #
County OCEAN Municipality LITTLE EGG HARB Lot No. 1.07 Block No. 280

WELL USE DOMESTIC **DATE WELL STARTED** 1 / 5 / 00
DATE WELL COMPLETED 1 / 5 / 00

WELL CONSTRUCTION

Total Depth Drilled 100' ft.

Finished Well Depth 100' ft.

Borehole Diameter:
Top 8" in.
Bottom 8" in.

Well Casing Begins:
1.0 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.0'	90'	4"PVC	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .015)	90'	100'	4"PVC	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	90'	100'		#1sand	
Grout	3.5	90'		Neat Cement / Bentonite	lbs / 295 lbs

RECORD OF TEST

Test Date 1 / 5 / 00
Static Water Level ft. below land surface
Water Level Measured Using 45 M.SCOPE
Pumping Water Level ft. below land surface
Well Was Pumped Using 46 AIR LIFT
Well Yield 50 gpm
If Pump Tested: Discharge Rate 20 gpm
Duration of Test 1 hours

Grouting Method PRESSURE THRU TREMI
Drilling Method MUD ROTARY

PERMANENT PUMPING EQUIPMENT

Installed by L.PASCALE Reg. No. J1093
Pump Type SUBMERSIBLE
Depth of Pump below land surface 60' ft.
Capacity 10 gpm Horsepower 1.0

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company CLEARWATER WELL DRILLING
Well Driller (Print) LESLIE A. PASCALE
Driller's Signature
Registration No. J1093 Date 1 / 7 / 00

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0" 06' Medium Sand + Gravel
06' 12' medium sand
12' 23' silty sand yel clay
23' 30' white clay
30' 45' fine sand
45' 68' medium sand
68' 77' medium sand
77' 90' medium sand
90' 100' coarse sand

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COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 13748
Atlas Sheet Coordinates 32 : 35 794

OWNER IDENTIFICATION - Owner PFITZENMAYER, WILLIAM
Address 241 WEST 27 TH STREET
City SHIP BOTTOM State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County Municipality LITTLE EGG HARB Lot No. 19 Block No. 191

WELL USE WITHDRAWAL Status IN USE

WATER USE DOMESTIC Average 100 gals. daily Maximum 200 gals. daily

WELL CONSTRUCTION Date well completed 03 / 15 / 88
BOREHOLE DIMENSIONS Depths: Total 60' ft. Finished 60' ft.
Diameter: Top 8" in. Bottom 8" in.
Land Surface Elevation at well 10' ft. Elevation was determined using SITE PLAN
Casing Height (stick-up) above land surface 1.0' ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1			4"	P.V.C.
Casing 2				
Casing 3		10'	4"	P.V.C. .015
Screen 1				
Screen 2				
Tail Piece		10'	1/4"	STERILIZED GRITT
Gravel Pack				BENSEAL
Grout	TREME			
Grouting Method				

WELL FLOWS NATURALLY _____ gals. per min. at _____ ft. above the land surface.
Water rises to _____ ft. above the land surface.

RECORD OF TEST Test Date 03 / 15 / 88
Static water-level before pumping 18' ft. below land surface. Water level 19' ft. below land surface after 1 hrs. of pumping.
Water level was measured using TAPE Drawdown 1 ft.
Discharge rate measured using FLOWLATOR Discharge Rate 25 gals. per min.
Well was pumped using AIR Specific Capacity _____ gals. per min. per ft. of drawdown
Observed effects on nearby wells N O N E
Water Quality (taste, odor, color, etc.) G O O D

PERMANENT PUMPING EQUIPMENT Installed by Pascale L. Pump Type SUBMERSIBLE
Mfrs. Name GOULDS Model 20 30
CAPACITY: Pump delivers 34GPM at _____ PSI pressure.
POWER: 50 HP at _____ RPM Power Source ELECTRIC
DEPTHS: Pump _____ ft. Footpiece _____ ft. Airline _____ ft.
FLOW METER: Model _____ installed on _____ in. diameter pipe.

CONTRACTOR - BARNEGAT Contractor CLEARWATER WELL DRILLING
Address 515 ROUTE #9
City PASCALE State N.J. Zip Code 08005 1093
Name of Driller _____ License No. _____

Signature of Contractor _____ Date _____ / _____ / _____

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 022 3329

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 13748
32.35.794

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method Rotary

Type of Rig Cyclone

Aquifer/Geo. Fm. Cohansey

DEP USE ONLY

Storet Hydrogeo Code _____
USGS Hydrogeo Code _____
Depth to Bedrock _____ ft.
Bedrock Lith. Code _____
Bedrock Fm. Code _____

Completed by _____
Date ___ / ___ / ___

LOG		Thick.	Lith.	Fm.
0' to 10'	PEE Gravel, Stones			
10' to 15'	50/50 Clay + Sand Mix.			
15' to 40'	Coarse Sands			
40' to 50'	50/50 Clay + San mix.			
50' to 60'	Coarse Sands			
Water table 18'				

GWPI No. ___ - ___ NJPDES No. ___ - ___

Latitude ___ ° ___ ' ___ " Longitude ___ ° ___ ' ___ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____ County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____ Date ___ / ___ / ___

COPIES: *White - DEP* *Canary - Driller* *Pink - Owner* *Goldenrod - Health Dept.*

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 -17808
Atlas Sheet Coordinates 32 : 35 : 746

OWNER IDENTIFICATION - Owner ~~BERNHADT, VAL~~
Address ~~44 WHITE OAK LANE~~
City ~~LITTLE EGG HARBOR~~ State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County OCEAN Municipality ~~LITTLE EGG HARB~~ Lot No. 43 Block No. 264

WELL USE DOMESTIC Status IN USE

WATER USE SUPPLY Average 150 gals. daily Maximum 200 gals. daily

WELL CONSTRUCTION Date well completed 7/24/91
BOREHOLE DIMENSIONS Depths: Total 70 ft. Finished 70 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well 25 ft. Elevation was determined using ESTIMATE
Casing Height (stick-up) above land surface 1.5 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1		64	4	F 480 PVC
Casing 2				
Casing 3				
Screen 1	64	5	4	.012 PVC
Screen 2				
Tail Piece		1	4	
Gravel Pack	64	6	8	NATURAL
Grout	5	59		BENT
Grouting Method	PRESSURE W TREMIE			

WELL FLOWS NATURALLY — gals. per min. at — ft. above the land surface.
Water rises to — ft. above the land surface.

RECORD OF TEST Test Date 7/24/91
Static water-level before pumping 11 ft. below land surface. Water level 11 ft. below land surface after 2 hrs. of pumping.
Water level was measured using TAPE Drawdown — ft.
Discharge rate measured using WATER BUCKET Discharge Rate 70 gals. per min.
Well was pumped using AIRLIFT Specific Capacity — gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) VERY GOOD, NONE, CLEAR

PERMANENT PUMPING EQUIPMENT Installed by M. TURNER Pump Type SUB
Mfrs. Name MEYERS Model 5J
CAPACITY: Pump delivers 25 GPM at 50 PSI pressure.
POWER: 1 HP at 3450 RPM Power Source ELECTRIC
DEPTHS: Pump 40 ft. Footpiece — ft. Airline — ft.
FLOW METER: Model — installed on — in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor MICHAEL TURNER
Address 279 MAIN ST.
City ~~PORT REPUBLIC~~ State N.J. Zip Code 08241
Name of Driller M. TURNER License No. 1250

Signature of Contractor Michael Turner Date 7/26/91

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

///

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 17808
32 35 746

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method Rotary

Type of Rig TOPHEAD

Aquifer/Geo. Fm. SAND

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ___ / ___ / ___

LOG	Thick.	Lith.	Fm.
0-1 TOPSOIL			
1-10 YEL SAND W CLAY			
10-35 GREY, PINK BEIGE CLAY			
35-50 LIT GREY CLAY & F TAN SAND			
50-60 M & C TAN SAND			
60-70 CRSE LIT TAN SAND			

GWPI No. ___ - _____

NJPDES No. _____ - ___

Latitude ___ ° ___ ' ___ "

Longitude ___ ° ___ ' ___ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ___ / ___ / ___

112

Domestic Well James Miller Lot 17.02 Block 278

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 13754

32.34.997.

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method: Rotary

Type of Rig: Cyclone

Aquifer/Geo. Fm.: Cohansey

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ___ / ___ / ___

LOG

		Thick.	Lith.	Fm.
0-10	clay + sand mix			
10-35	sandy clay			
35-45	coarse sand			
45-80	clay + sand mix.			
80-105	coarse sand			

GWPI No. ___ - ___

NJPDES No. ___ - ___

Latitude ___ ° ___ ' ___ "

Longitude ___ ° ___ ' ___ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ___ / ___ / ___

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 022 3156

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 14904
Atlas Sheet Coordinates 32 : 45 : 111

OWNER IDENTIFICATION - Owner KURTZ, BLODWEN T.
Address 32 PIKES PEAK ROAD
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County Municipality LITTLE EGG HARB Lot No. 4 Block No. 287-8

WELL USE DOMESTIC Replacement Status

WATER USE DOMESTIC Average gals. daily Maximum gals. daily

WELL CONSTRUCTION Date well completed 7 / 8 / 88
BOREHOLE DIMENSIONS Depths: Total 80 ft. Finished 80 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well ft. Elevation was determined using
Casing Height (stick-up) above land surface ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1		70	4	PVC SCH. 40
Casing 2				
Casing 3				
Screen 1	70	10	4	PVC SCH. 40, 12 SLOT
Screen 2				
Tail Piece				
Gravel Pack	69	11		
Grout	4	65		PORTLAND
Grouting Method	HALIBURTON METHOD			

WELL FLOWS NATURALLY gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 7 / 8 / 88
Static water-level before pumping 13 ft. below land surface. Water level ft. below land surface after hrs. of pumping.
Water level was measured using TAPE MEASURE + WEIGHT Drawdown ft.
Discharge rate measured using 5 GAL BUCKET + WATCH Discharge Rate gals. per min.
Well was pumped using COMPRESSOR Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) GOOD

PERMANENT PUMPING EQUIPMENT Installed by ROBERT LLOYD Pump Type SUBMERSIBLE
Mfrs. Name GOULDS Model
CAPACITY: Pump delivers 10 GPM at 20 PSI pressure.
POWER: 1/2 HP at RPM Power Source 110
DEPTHS: Pump ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor GLENN'S PUMP & WELL / R. LLOYD
Address 205 FOURTH ST.
City BARNEGAT State NJ Zip Code 08005
Name of Driller ROBERT LLOYD License No. 1284

Signature of Contractor Robert Lloyd Date 8 / 3 / 88

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 022 4083

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 14904
32:45·111

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method ROTARY

Type of Rig FAILING 1250 MUD RIG

Aquifer/Geo. Fm. _____

DEP USE ONLY

Storet Hydrogeo Code _____
USGS Hydrogeo Code _____
Depth to Bedrock _____ ft.
Bedrock Lith. Code _____
Bedrock Fm. Code _____

Completed by _____
Date ____ / ____ / ____

LOG

0-24	FINE SAND
24-36	WHITE CLAY
36-80	MED. SAND

Thick.	Lith.	Fm.

GWPI No. ____ - _____

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

WELREC 022 4084

FORM 87

32-35-794 ☐

DEPARTMENT OF CONSERVATION
AND ECONOMIC DEVELOPMENT
DIVISION OF WATER POLICY & SUPPLY

Permit No. 32-408
Application No. _____
County _____

WELL RECORD

1. OWNER Wm MAUTE ADDRESS 440 Dela. Ave. RiverSide, NJ
   Owner's Well No. 1 SURFACE ELEVATION 50 Feet (Above mean sea level)
2. LOCATION TUCKERTON
3. DATE COMPLETED JULY 10-61 DRILLER CHARLES GAGER
4. DIAMETER: top 4 Inches Bottom _____ Inches TOTAL DEPTH 45 Feet
5. CASING: Type Black Steel Diameter 4 Inches Length 40 Feet
6. SCREEN: Type WW Size of Opening #0 Diameter 3½ Inches Length 5 Feet
   Range in Depth { Top _____ Feet, Bottom _____ Feet } Geologic Formation gravel & sand.
   Tail piece: Diameter _____ Inches Length _____ Feet
7. WELL FLOWS NATURALLY _____ Gallons per Minute at _____ Feet above surface
   Water rises to _____ Feet above surface
8. RECORD OF TEST: Date July 8-61 Yield 30 Gallons per minute
   Static water level before pumping 10 Feet below surface
   Pumping level 14 feet below surface after 4 hours pumping
   Drawdown 4 Feet Specific Capacity 2½ Gals. per min. per ft. of drawdown
   How Pumped Shallow well How measured Gate Pump & Barrel
   Observed effect on nearby wells none.
9. PERMANENT PUMPING EQUIPMENT:
   Type none. Mfrs. Name _____
   Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
   Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
   Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches
10. USED FOR dom. AMOUNT { Average _____ Gallons Daily, Maximum _____ Gallons Daily }
11. QUALITY OF WATER good Sample: Yes _____ No. _____
    Taste none Odor none Color clear Temp. 58 °F
12. LOG _____ Are samples available? _____
    (Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)
13. SOURCE OF DATA Charles Hager
14. DATA OBTAINED BY Self. Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

WELREC 022 3318

1 — 40 yellow clayey sand
40 - 45 yellow clear sharp sand.
AND gravel.

RECEIVED
SEP 26 1963
DEPT. OF CONSERVATION &
ECONOMIC DEVELOPMENT
GEOLOGIC & TOP. SURVEY

WELREC 022 3319

32-45-122

FORM 87

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Permit No. 32-2181
Application No. _____
County _____

WELL RECORD

1. OWNER David Kane ADDRESS 1st ave. Tuckerton, N.J.
Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Lot #2, Blk #10, Little Egg Harbor

3. DATE COMPLETED 7-26-76 DRILLER Walter Holm Well Drilling

4. DIAMETER: top 3 Inches Bottom 3 Inches TOTAL DEPTH _____ Feet

5. CASING: Type IRON A-120 Diameter 3 Inches Length 52 Feet

6. SCREEN: Type Johnson Screen cont. Slot Size of Opening .015" Diameter 2 Inches Length 3 Feet

Range in Depth { Top _____ Feet / Bottom _____ Feet } Geologic Formation Cohansey

Tail piece: Diameter 2 Inches Length 14020 Feet

7. WELL FLOWS NATURALLY NA Gallons per Minute at NA Feet above surface
Water rises to NA Feet above surface

8. RECORD OF TEST: Date 7-27-76 Yield 5 Gallons per minute
Static water level before pumping 28 Feet below surface
Pumping level 30' feet below surface after 1 hours pumping
Drawdown 2 Feet Specific Capacity 2.5 Gals. per min. per ft. of drawdown
How Pumped Jet Pump (Deep Well) How measured Level Indicator
Observed effect on nearby wells NA

9. PERMANENT PUMPING EQUIPMENT:
Type HJD5 Mfrs. Name Burks
Capacity 5 G.P.M. How Driven Motor H.P. 1/2 R.P.M. 3450
Depth of Pump in well NA Feet Depth of Footpiece in well 40 Feet
Depth of Air Line in well NA Feet Type of Meter on Pump NA Size NA Inches

10. USED FOR Domestic AMOUNT { Average 900 Gallons Daily / Maximum 3000 Gallons Daily }

11. QUALITY OF WATER Iron + Low Ph Sample: Yes X No. ____
Taste Good Odor -0- Color Clear Temp. 50 °F

12. LOG Gammalog (if requested) Are samples available? no
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)

13. SOURCE OF DATA WALTER HOLM, Jr.

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

118

WELREC 022 4138

32·45·126

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Permit No. 32-3130
Application No. _____
County _____

WELL RECORD

1. OWNER R. Guencel ADDRESS Lucketon N.J.
Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)
2. LOCATION 21 Hogan Ct. Lucketon N.J.
3. DATE COMPLETED 6/3/77 DRILLER Henry Rabkin
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 90 Feet
5. CASING: Type Steel Diameter 4 inches Length 80 Feet
6. SCREEN: Type Brass Size of Opening 20 Diameter 3½ inches Length 10 Feet
Range in Depth { Top _____ Feet / Bottom _____ Feet } Geologic Formation Cohansee
Tail piece: Diameter _____ inches Length _____ Feet
7. WELL FLOWS NATURALLY No Gallons per Minute at _____ Feet above surface
Water rises to _____ Feet above surface
8. RECORD OF TEST: Date 6/3/77 Yield 10 Gallons per minute
Static water level before pumping _____ Feet below surface
Pumping level _____ feet below surface after _____ hours pumping
Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How Pumped Air Compressor How measured Meter
Observed effect on nearby wells None
9. PERMANENT PUMPING EQUIPMENT:
Type Done By owner Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches
10. USED FOR ~~Good~~ Domestic AMOUNT { Average 450 Gallons Daily / Maximum _____ Gallons Daily }
11. QUALITY OF WATER Good Sample: Yes _____ No. _____
Taste None Odor None Color Clear Temp. 54 °F
12. LOG _____ Are samples available? No
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)
13. SOURCE OF DATA Henry Rabkin
14. DATA OBTAINED BY _____ Date 8/10/78

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

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WELREC 022 4142

32-35-796

8/29/78

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Permit No. 32-481B

Application No. _____

County _____

WELL RECORD

1. OWNER J. Brown ADDRESS RT #9

Owner's Well No. 4818 SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Tucker Town Locust St.

3. DATE COMPLETED 10-1-78 DRILLER LIC # 1093

4. DIAMETER: top 3 inches Bottom 3 inches TOTAL DEPTH 60 Feet

5. CASING: Type Steel Diameter 3 inches Length 10.5 Feet

6. SCREEN: Type Stainless Size of Opening .016 Diameter 3 inches Length 4 Feet

Range in Depth { Top 52 Feet, Bottom 56 Feet } Geologic Formation coarse sand

Tail piece: Diameter 3 inches Length 4 Feet

7. WELL FLOWS NATURALLY — Gallons per Minute at — Feet above surface

Water rises to — Feet above surface

8. RECORD OF TEST: Date 10-1-78 Yield 10 Gallons per minute

Static water level before pumping 5' Feet below surface

Pumping level 7' feet below surface after 2 hours pumping

Drawdown 2 Feet Specific Capacity 5 Gals. per min. per ft. of drawdown

How Pumped Elect How measured Bucket

Observed effect on nearby wells none

9. PERMANENT PUMPING EQUIPMENT:

Type Jet Elect Mfrs. Name F&W

Capacity 10 G.P.M. How Driven Elect H.P. 1/2 R.P.M. _____

Depth of Pump in well — Feet Depth of Footpiece in well 30' Feet

Depth of Air Line in well — Feet Type of Meter on Pump — Size _____ Inches

10. USED FOR Domestic AMOUNT { Average 50 Gallons Daily, Maximum 75 Gallons Daily }

11. QUALITY OF WATER Good Sample: Yes ✓ No. _____

Taste none Odor none Color none Temp. 58° °F

12. LOG _____ Are samples available? _____

(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

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WELREC 022 3343

32·45·121

Form 87

SEP 28 1978

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Permit No. 32-4950

Application No. _____

County _____

WELL RECORD

1. OWNER Pharo Builders ADDRESS 20 Daddy Tucker Dr. Tuckerton, N.J

Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Lot 12 Block 287-6 Little Egg Harbor Twsp. Ocean

3. DATE COMPLETED _____ DRILLER Holm Well Drilling Inc.

4. DIAMETER: top 4 inches Bottom 4 inches TOTAL DEPTH 57 Feet

5. CASING: Type Iron A 120 Diameter 4 inches Length 44 Feet

6. SCREEN: Type Johnson Screen Continuous Size of Opening .015 Diameter 3 inches Length 4 Feet

Range in Depth { Slot Top _____ Feet Bottom _____ Feet } Geologic Formation Cohansey

Tail piece: Diameter 3 inches Length 1' to 20' Feet

7. WELL FLOWS NATURALLY NA Gallons per Minute at NA Feet above surface

Water rises to NA Feet above surface

8. RECORD OF TEST: Date _____ Yield 12 Gallons per minute

Static water level before pumping 20 Feet below surface

Pumping level SWL + 3 feet below surface after 1 hours pumping

Drawdown 3 Feet Specific Capacity 10 Gals. per min. per ft. of drawdown

How Pumped Submersible pump test How measured Level Indicator

Observed effect on nearby wells NA

9. PERMANENT PUMPING EQUIPMENT:

Type SD 12 Mfrs. Name Aermotor

Capacity 14:80 G.P.M. How Driven Motor R.P. 1 R.P.M. 3450

Depth of Pump in well 44 Feet Depth of Footpiece in well 57 Feet

Depth of Air Line in well NA Feet Type of Meter on Pump NA Size NA Inches

10. USED FOR Domestic AMOUNT { Average 9000 Gallons Daily Maximum 9000 Gallons Daily }

11. QUALITY OF WATER Iron & PH Low Sample: Yes ___ No. X

Taste Good Odor -O- Color Clear Temp. 51 °F

12. LOG NA Are samples available? NO

(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)

13. SOURCE OF DATA Walter Holm

14. DATA OBTAINED BY Walter Holm Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

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WELREC 022 4135

32-45-119

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Permit No. 32-5065

Application No. 32-5065

County Ocean

WELL RECORD

1. OWNER M. O'Connor ADDRESS Tuckerton, N.J.

Owner's Well No. 32-5065 SURFACE ELEVATION 12 Feet (Above mean sea level)

2. LOCATION 100 ft. from Septic

3. DATE COMPLETED 1978 DRILLER Glenn Endreson

4. DIAMETER: Top 3 Inches Bottom 3 Inches TOTAL DEPTH 80 Feet

5. CASING: Type Black pipe Diameter 3 Inches Length 10 Feet

6. SCREEN: Type S.S. Size of Opening 16 Diameter 3 Inches Length 4 Feet

Range in Depth { Top 71 Feet / Bottom 75 Feet } Geologic Formation Cohansey

Tail Piece: Diameter 3 Inches Length 4 Feet

7. WELL FLOWS NATURALLY — Gallons per Minute at — Feet above surface

Water rises to — Feet above surface

8. RECORD OF TEST: Date 1978 Yield 10 Gallons per minute

Static water level before pumping 12 Feet below surface

Pumping level 22 Feet below surface after 4 hours pumping

Drawdown 10 Feet Specific Capacity 1 Gals. per min. per ft. of drawdown

Now Pumped Gas pump Now measured 5 gal bucket

Observed effect on nearby wells None

9. PERMANENT PUMPING EQUIPMENT:

Type Jet Mains Mfrs. Name Goulds

Capacity 10 G.P.M. Now Driven Electric H.P. 16 R.P.M. 3500

Depth of Pump in well — Feet Depth of Footpiece in well — Feet

Depth of Air Line in well — Feet Type of Meter on Pump — Size — Inches

10. USED FOR Domestic AMOUNT { Average 200 Gallons Daily / Maximum 200 Gallons Daily }

11. QUALITY OF WATER Good Sample Yes No. 1

Taste Good Color None Color Clear Temp. 55 °F

12. LOG [illegible] Are samples available? [illegible]

(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA Driller

14. DATA OBTAINED BY [illegible] Date 1978

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

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WELREC 022 4119

Let's protect our earth

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Geology & Topography
P.O. Box 1390
Trenton, NJ 08625

32-35-759

WATER WELL RECORD

Completed record must be returned 60 days after completion of well
(NJSA 58:4A—14 - 15)

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

COUNTY	TOWNSHIP, BOROUGH, CITY,	LOT	BLOCK	PERMIT NO.
OCEAN	LITTLE EGG HARBOR	14 N	258	32-5444

OWNER (LAST NAME FIRST)	ADDRESS	DATE COMPLETED
Victor Hatami	P. O. Box 333 Tuckerton, N.J.	DAY ___ MO. ___ YR. ___

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL COLOR	GENERAL DESCRIPTION	DEPTH - FEET FROM	TO
Sand	Clay		Fine	0	5
Sand	Stone and Clay		Medium	5	25
Sand			Fine	25	40
Sand	Clay		Fine	40	50
Sand			Coarse	50	55

LOG? YES ☒ NO ☐

TYPE(S) Drillers

DATE

PERFORMED BY

RG

CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	TO
4	☒ STEEL ☐ PLASTIC ☐ OTHER ☐ OPEN HOLE	.188	G1	41
2	☒ STEEL ☐ PLASTIC ☐ OTHER ☐ OPEN HOLE	.188	41	55
	☐ STEEL ☐ PLASTIC ☐ OTHER ☐ OPEN HOLE			
BOREHOLE RECORD				

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER	LENGTH
011	2 INCHES	4 FEET

MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN
Johnson Stainless Steel	FEET

SEIVE ANALYSIS YES ☐ NO ☒
GRAVEL PACK YES ☐ NO ☒ SIZE

PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

LOCATION OF WELL

DISTANCE OUT FROM BLDG. 20 FT.
OFFSET RIGHT ___ FT. LEFT 22 FT. FROM SIDES OF BLDG.

PUMP INSTALLER Holm Well Drilling, Inc.

PUMP INSTALLATION

DATE OF INSTALLATION

TYPE OF PUMPING EQUIPMENT: JET | SUB. | TURB. | CENT. | OTHER

CASING FINISH: WELL SEAL ☒ PITLESS DIRECT

DEPTH FROM F.G. 55

OTHER

PUMP INTAKE DEPTH 50 FT. DIRECT

DISTOR TUBE DEPTH ___ FT.

PUMP

MODEL SD 33

CAPACITY 8 GPH/GPM PRESS RANGE 40-60 PSI

TURBINE COL. LENGTH BOWL DIAM. RPM

POWER ELECTRIC H.P.G VOLTS 220 AMPS

SOURCE ENGINE CONT. H.P. 1 RPM 3450 TYPE

METER: TYPE SIZE

STORAGE - 3001 Cat Tank TANK TYPE

WATER TREATMENT -

To Be Determined

DRILLERS REMARKS:

PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
☐ AIRLIFT ☒ PUMP ☐ BAILER	8 G.P.M.	HOURS ___ 15 MINS.

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING ☐ PUMPING ☐ RECOVERY			
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
13 FEET	— FEET	— FEET	— FEET	— FEET	— FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
G.P.M.	41 FEET	☒ CLEAR ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☒ SHALLOW ☐ DEEP	50 FEET	8 G.P.M.

TRANSMISSIBILITY PLOT YES ☐ NO ☐

FINAL STATUS OF WELL

☒ WATER SUPPLY ☐ ABANDONED, INSUFFICIENT SUPPLY
☐ OBSERVATION WELL ☐ ABANDONED, POOR QUALITY
☐ TEST HOLE ☐ UNFINISHED
☐ RECHARGE WELL

WATER USE

☒ DOMESTIC ☐ COMMERCIAL
☐ STOCK ☐ MUNICIPAL
☐ IRRIGATION ☐ PUBLIC SUPPLY
☐ INDUSTRIAL ☐ COOLING OR AIR CONDITIONING
☐ OTHER ☐ NOT USED

METHOD OF DRILLING

☐ CABLE TOOL ☐ BORING
☒ ROTARY (CONVENTIONAL) ☐ DIAMOND
☐ ROTARY (REVERSE)
☐ ROTARY (AIR) ☐ DRIVING
☐ AIR PERCUSSION

CONTRACTOR

NAME OF WELL CONTRACTOR: Holm WEll Drilling, Inc. PHONE 609-693-2101

ADDRESS: P. O. Box 85 Lanoka Harbor, n.J.

NAME OF DRILLER: Holm Well Drilling, Inc. LICENSE NUMBER 1039

SIGNATURE OF CONTRACTOR: Walter Holm/Jrue SUBMISSION DATE DAY 15 MO. 6 YR. 79

WATER ANALYSIS (ppm)

ALK	NITRATE
IRON (Fe)	CHLORIDES
CO_2	SULFATE
HARDNESS	pH
MN	T.D.S.
ANIONIC (ABS & LAS)	OTHER:
COLLIFORM COUNT	
TEMPERATURE °F °C	

FORM 87, Rev. 12/78

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WELREC 022 3246

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NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Geology & Topography
P.O. Box 1390
Trenton, NJ 08625

32-35-783

WATER WELL RECORD

Completed record must be returned 60 days after completion of well
(NJSA 58:4A—14 - 15)

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

COUNTY	TOWNSHIP, BOROUGH, CITY.	LOT	BLOCK	PERMIT NO.
Ocean	Tuckerton	15-16-17-18 / 19-20	E	32-5601
OWNER (LAST NAME FIRST)	ADDRESS		DATE COMPLETED	
Jambro Jim	RT 9		DAY 6 MO. 6 YR. 79	

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL COLOR	GENERAL DESCRIPTION	DEPTH - FEET FROM	TO
Corse S		Yellow	Loose	0'	30'
Medium S		Orange	Loose	30'	40
Medium S.		Beige	Loose	40'	58'

LOG?
YES ☐ NO ☐
TYPE(S)
DATE
PERFORMED BY

CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	TO
3	☒ STEEL ☐ PLASTIC ☐ OTHER ☐ OPEN HOLE	1/4	0	58
	☐ STEEL ☐ PLASTIC ☐ OTHER ☐ OPEN HOLE			
	☐ STEEL ☐ PLASTIC ☐ OTHER ☐ OPEN HOLE			
BOREHOLE RECORD				

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER	LENGTH
1016	3 INCHES	4 FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN	
Coarse	51 FEET	

SEIVE ANALYSIS YES ☐ NO ☐
GRAVEL PACK YES ☒ NO ☐ SIZE

PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

LOCATION OF WELL

DISTANCE OUT FROM BLDG. 15 FT.
OFFSET RIGHT 13 FT. LEFT ____ FT. FROM SIDES OF BLDG.

PUMP INSTALLATION

PUMP INSTALLER 1093
DATE OF INSTALLATION
TYPE OF PUMPING EQUIPMENT: JET ☒ SUB. TURB. CENT. OTHER
CASING FINISH WELL SEAL ☒ FITLESS DIRECT
DEPTH FROM P.G.
OTHER
PUMP INTAKE DEPTH 40 FT. DIRECT
DECTOR TUBE DEPTH ____ FT.

PUMP
MFG. P&W MODEL CPJ
CAPACITY GPH/GPM PRESS RANGE PSI
TURBINE COL. LENGTH BOWL DIAM. RPM
POWER ELECTRIC ☒ H.P.G VOLTS 115 AMPS
SOURCE ENGINE CONT. H.P. RPM TYPE
METER: TYPE SIZE
STORAGE – GAL. OR TANK TYPE
WATER TREATMENT –

DRILLERS REMARKS:

PUMPING TEST

PUMPING TEST METHOD: ☐ AIRLIFT ☒ PUMP ☐ BAILER
PUMPING RATE 10 G.P.M.
DURATION OF PUMPING 2 HOURS 0 MINS.

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING ☐ PUMPING ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
7 FEET	8 FEET		FEET	FEET	FEET	FEET

IF FLOWING, GIVE RATE G.P.M.
PUMP INTAKE SET AT FEET
WATER AT END OF TEST ☒ CLEAR ☐ CLOUDY
RECOMMENDED PUMP TYPE ☒ SHALLOW ☐ DEEP
RECOMMENDED PUMP SETTING 40 FEET
RECOMMENDED PUMPING RATE 10 G.P.M.
TRANSMISSIBILITY PLOT YES ☐ NO ☐

FINAL STATUS OF WELL

☒ WATER SUPPLY ☐ ABANDONED, INSUFFICIENT SUPPLY
☐ OBSERVATION WELL ☐ ABANDONED, POOR QUALITY
☐ TEST HOLE ☐ UNFINISHED
☐ RECHARGE WELL

WATER USE

☒ DOMESTIC ☐ COMMERCIAL
☐ STOCK ☐ MUNICIPAL
☐ IRRIGATION ☒ PUBLIC SUPPLY
☐ INDUSTRIAL ☐ COOLING OR AIR CONDITIONING
☐ OTHER ☐ NOT USED

METHOD OF DRILLING

☒ CABLE TOOL ☐ BORING
☐ ROTARY (CONVENTIONAL) ☐ DIAMOND
☐ ROTARY (REVERSE)
☐ ROTARY (AIR) ☐ DRIVING
☐ AIR PERCUSSION

CONTRACTOR

NAME OF WELL CONTRACTOR: Clear Water Well PHONE 698-1001
ADDRESS: 230 Edison rd.
NAME OF DRILLER: L. Pascale LICENSE NUMBER 1093
SIGNATURE OF CONTRACTOR: L. Pascale SUBMISSION DATE DAY ____ MO. ____ YR. ____

WATER ANALYSIS (ppm)

ALK
IRON (Fe) 0.2
CO_2
HARDNESS
MN
ANIONIC (ABS & LAS)
COLLIFORM COUNT
TEMPERATURE °F °C

NITRATE
CHLORIDES
SULFATE
pH — 6.8
T.D.S.
OTHER:

FORM B7, Rev. 12/78

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NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Geology & Topography
P.O. Box 1390
Trenton, NJ 08625

WATER WELL RECORD

Completed record must be returned 60 days after completion of well
(NJSA 58:4A–14 - 15)

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

32-35-783

COUNTY	TOWNSHIP, BOROUGH, CITY	LOT	BLOCK	PERMIT NO.
OCEAN	LITTLE EGG HARBOR TWP	13&14	B	32-5670

OWNER (LAST NAME FIRST)	ADDRESS	DATE COMPLETED
CRAMER, E	365 WOOD ST. TUCKERTON	DAY 18 MO. 6 YR. 79

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL COLOR	GENERAL DESCRIPTION	DEPTH - FEET FROM	TO

LOG?
YES ☐ NO ☑
TYPE(S)
DATE
PERFORMED BY

CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	TO
2	☑ STEEL ☐ PLASTIC ☐ OTHER ☐ OPEN HOLE		21	
	☐ STEEL ☐ PLASTIC ☐ OTHER ☐ OPEN HOLE			
	☐ STEEL ☐ PLASTIC ☐ OTHER ☐ OPEN HOLE			
BOREHOLE RECORD				

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER	LENGTH
10	2 3/8 INCHES	3 FEET

MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN
STAINLESS STEEL	76 FEET

SEIVE ANALYSIS YES ☐ NO ☑
GRAVEL PACK YES ☐ NO ☑ SIZE

PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

LOCATION OF WELL

DISTANCE OUT FROM BLDG. ____ FT.
OFFSET RIGHT ____ FT. LEFT ____ FT. FROM SIDES OF BLDG.

PUMP INSTALLATION

PUMP INSTALLER
DATE OF INSTALLATION
TYPE OF PUMPING EQUIPMENT: JET | SUB. | TURB. | CENT. | OTHER
CASING FINISH: WELL SEAL | PITLESS | DIRECT
DEPTH FROM F.G.
OTHER
PUMP INTAKE DEPTH ____ FT. DIRECT
DECTOR TUBE DEPTH ____ FT.

PUMP
MFG. MODEL
CAPACITY GPH/GPM PRESS RANGE PSI
TURBINE COL. LENGTH BOWL DIAM. RPM
POWER ELECTRIC H.P.O VOLTS AMPS
SOURCE ENGINE CONT. H.P. RPM TYPE
METER: TYPE SIZE
STORAGE – GAL OR TANK TYPE
WATER TREATMENT –

DRILLERS REMARKS:

PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
☐ AIRLIFT ☑ PUMP ☐ BAILER	10 G.P.M.	4 HOURS ____ MINS.

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING ☐ PUMPING ☐ RECOVERY			
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
13 FEET	17 FEET	FEET	FEET	FEET	FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
G.P.M.	FEET	☑ CLEAR ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☑ SHALLOW ☐ DEEP	FEET	8 G.P.M.

TRANSMISSIBILITY PLOT YES ☐ NO ☐

FINAL STATUS OF WELL	☑ WATER SUPPLY ☐ OBSERVATION WELL ☐ TEST HOLE ☐ RECHARGE WELL ☐ ABANDONED, INSUFFICIENT SUPPLY ☐ ABANDONED, POOR QUALITY ☐ UNFINISHED
WATER USE	☑ DOMESTIC ☐ STOCK ☐ IRRIGATION ☐ INDUSTRIAL ☐ OTHER ☐ COMMERCIAL ☐ MUNICIPAL ☐ PUBLIC SUPPLY ☐ COOLING OR AIR CONDITIONING ☐ NOT USED
METHOD OF DRILLING	☐ CABLE TOOL ☐ ROTARY (CONVENTIONAL) ☐ ROTARY (REVERSE) ☐ ROTARY (AIR) ☐ AIR PERCUSSION ☑ BORING ☐ DIAMOND ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR	PHONE
E. McGINNIS & SONS	641-1949
ADDRESS: 502 NEW JERSEY AVE ABSECON	
NAME OF DRILLER: Will McGinnis	LICENSE NUMBER 239
SIGNATURE OF CONTRACTOR: Will McGinnis	SUBMISSION DATE DAY 22 MO. 11 YR. 79

WATER ANALYSIS (ppm)

ALK	NITRATE
IRON (Fe)	CHLORIDES
CO_2	SULFATE
HARDNESS	pH
MN	T.D.S.
ANIONIC (ABS & LAS)	OTHER:
COLLIFORM COUNT	
TEMPERATURE °F °C	

FORM 87, Rev. 12/78

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WELREC 022 3278

DWR-138A
1/88

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 32 - 5779
APPLICATION NO. _____
COUNTY _____
COORD. 32.45.116

WELL RECORD

1. OWNER R. Kisley ADDRESS 25 Nottingham Way
   Owner's Well No. 5779 SURFACE ELEVATION _____ Feet (Above mean sea level)
2. LOCATION 13 - 30 Little Egg - Tuckerton
3. DATE COMPLETED 9-18-79 DRILLER 1093
4. DIAMETER: Top 3 inches Bottom 3 inches TOTAL DEPTH 61 Feet
5. CASING: Type Steel Diameter 3 Inches Length 10.6 Feet
6. SCREEN: Type SS Size of Opening .015 Diameter 3 Inches Length 4 Feet
   Range in Depth { Top 53 Feet, Bottom 57 Feet } Geologic Formation Med. S
   Tail Piece: Diameter 3 Inches Length 4 Feet
7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface
   Water rises to _____ Feet above surface
8. RECORD OF TEST: Date 9-18-79 Yield 16 Gallons per minute
   Static water level before pumping 12 Feet below surface
   Pumping level 14 feet below surface after 2 hours pumping
   Drawdown 2 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
   How pumped elec pump How measured Bucket
   Observed effect on nearby wells none
9. PERMANENT PUMPING EQUIPMENT:
   Type Jet Mfrs. Name F & W
   Capacity 20 G.P.M. How Driven elec H.P. 1/2 R.P.M. 3500
   Depth of Pump in well _____ Feet Depth of Footpiece in well 37 Feet
   Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches
10. USED FOR Domestic AMOUNT { Average 75 Gallons Daily, Maximum 100 Gallons Daily }
11. QUALITY OF WATER Good Sample: Yes X No ____
    Taste no Odor no Color no Temp. 55 °F.
12. LOG _____ Are samples available? _____
    (Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

rec'd Oct 4, 1979

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WELREC 022 4107

Form 87

DEPARTMENT OF ENVIRONMENTAL PROTECTION

~~misplaced permit~~ 32-45-112

Permit No. ~~33-~~ 32-5798

Application No. _____

County Ocean

WELL RECORD

1. OWNER Mark Schumaker ADDRESS Leitz Blvd. Tuckerton, N.J.

Owner's Well No. _____ SURFACE ELEVATION 10 Feet (Above mean sea level)

2. LOCATION Lot 11 & 12, blk. 5, Little Egg Harbor Twp. Ocean Co.

3. DATE COMPLETED Jan. 31, 1980 DRILLER Claude Britton

4. DIAMETER: top 4 Inches Bottom 4 Inches TOTAL DEPTH 78 Feet

5. CASING: Type pvc Diameter 4 Inches Length 20 Feet

6. SCREEN: Type pvc Size of Opening .016 Diameter 4 Inches Length 10 Feet

Range in Depth { Top _____ Feet, Bottom _____ Feet } Geologic Formation sand

Tail piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per Minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date Jan. 31, 1980 Yield 35 Gallons per minute

Static water level before pumping 18 Feet below surface

Pumping level 22 feet below surface after 4 hours pumping

Drawdown 4 Feet Specific Capacity ¼ Gals. per min. per ft. of drawdown

How Pumped test pump How measured 5 gal

Observed effect on nearby wells none

9. PERMANENT PUMPING EQUIPMENT:

Type ½hp Mfrs. Name Goulds

Capacity 10 G.P.M. How Driven electric H.P. ½ R.P.M. 3450

Depth of Pump in well 70 Feet Depth of Footpiece in well 78 Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR domestic AMOUNT { Average 250 Gallons Daily, Maximum 275 Gallons Daily }

11. QUALITY OF WATER good Sample: Yes x No. _____

Taste none Odor none Color clear Temp. 51 °F

12. LOG _____ Are samples available? _____

(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)

13. SOURCE OF DATA Driller

14. DATA OBTAINED BY Claude Britton Date Jan. 31, 1980

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

WELREC 022 4086

Log:

0-8	Silt
8-11	Clay yellow
11-18	coarse sand
18-20	lime
20-38	clay yellow
38-45	med. sand
45-57	clay
57-	med. sand

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NOV 10 1980
N. STATE DEPT. OF ENVIRONMENTAL PROT.
DIVISION OF WATER RESOURCES
WATER ALLOCATION

WELREC 022 4087

DWR-138A
1/88

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 32-5852
APPLICATION NO. _____
COUNTY _____
COORD. 32.45.112

WELL RECORD

1. OWNER Sal Panzino ADDRESS 143 E. Main Street
   Owner's Well No. 5852 SURFACE ELEVATION _____ Feet (Above mean sea level)
2. LOCATION Pikes Peek Rd Tuckerton
3. DATE COMPLETED _____ DRILLER 1093
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 80 Feet
5. CASING: Type Steel Diameter 4 Inches Length _____ Feet
6. SCREEN: Type SS Size of Opening .014 Diameter 4 Inches Length 4 Feet
   Range in Depth { Top 72 Feet, Bottom 76 Feet } Geologic Formation _____
   Tail Piece: Diameter 4 Inches Length 4 Feet
7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface
   Water rises to _____ Feet above surface
8. RECORD OF TEST: Date _____ Yield 22 Gallons per minute
   Static water level before pumping 20 Feet below surface
   Pumping level 22 feet below surface after 2 hours pumping
   Drawdown 2 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
   How pumped Sub How measured Bucket
   Observed effect on nearby wells none
9. PERMANENT PUMPING EQUIPMENT:
   Type Sub Mfrs. Name Goulds
   Capacity 20 G.P.M. How Driven elec H.P. 1/3 R.P.M. 3400
   Depth of Pump in well 68 Feet Depth of Footpiece in well _____ Feet
   Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches
10. USED FOR Domestic AMOUNT { Average 75 Gallons Daily, Maximum 100 Gallons Daily }
11. QUALITY OF WATER Good Sample: Yes X No ____
    Taste None Odor none Color none Temp. 53 °F.
12. LOG _____ Are samples available? _____
    (Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

rec'd July 25, 1980

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WELREC 022 4088

FORM 87

32·45·117

32.45.117

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Permit No. 32-5878

Application No. _____

County Ocean

WELL RECORD

1. OWNER Edward Sheetz ADDRESS Center St, West Creek

Owner's Well No. _____ SURFACE ELEVATION 10 Feet (Above mean sea level)

2. LOCATION Lot 5A, Blk 286, Little Egg Harbor twp, Ocean Co.

3. DATE COMPLETED 10-14-80 DRILLER Claude Britton

4. DIAMETER: top 4 Inches Bottom 4 Inches TOTAL DEPTH 60 Feet

5. CASING: Type pvc Diameter 4 Inches Length 40 Feet

6. SCREEN: Type pvc Size of Opening .016 Diameter 4 Inches Length 10 Feet

Range in Depth { Top _____ Feet, Bottom _____ Feet } Geologic Formation sand

Tail piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per Minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 10-15-80 Yield 25 Gallons per minute

Static water level before pumping 16 Feet below surface

Pumping level 20 feet below surface after 4 hours pumping

Drawdown 4 Feet Specific Capacity ½ Gals. per min. per ft. of drawdown

How Pumped test pump How measured 5 gallon

Observed effect on nearby wells none

9. PERMANENT PUMPING EQUIPMENT:

Type ½hp Mfrs. Name F & W

Capacity 10 G.P.M. How Driven electric H.P. ½ R.P.M. 3450

Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR domestic AMOUNT { Average 250 Gallons Daily, Maximum 275 Gallons Daily }

11. QUALITY OF WATER good Sample: Yes x No. _____

Taste none Odor none Color clear Temp. 51 °F

12. LOG _____ Are samples available? _____

(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)

13. SOURCE OF DATA Driller

14. DATA OBTAINED BY Claude Britton Date 10-14-80

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

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WELREC 022 4116

DWR-138A
1-88

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 32-5898
APPLICATION NO. _____
COUNTY _____
COORD. 32 · 45.112

WELL RECORD

1. OWNER L. White ADDRESS Clay Road
   Owner's Well No. 5898 SURFACE ELEVATION _____ Feet (Above mean sea level)
2. LOCATION Tuckerton
3. DATE COMPLETED 12/30/79 DRILLER 1093
4. DIAMETER: Top 3 inches Bottom 3 inches TOTAL DEPTH 68 Feet
5. CASING: Type Steel Diameter 3 Inches Length 70'6" Feet
6. SCREEN: Type SS Size of Opening .016 Diameter 3 Inches Length 4 Feet
   Range in Depth { Top 58 Feet, Bottom 63 Feet } Geologic Formation Coarse S
   Tail Piece: Diameter 3 Inches Length 5 Feet
7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface
   Water rises to _____ Feet above surface
8. RECORD OF TEST: Date 12/30/79 Yield 15 Gallons per minute
   Static water level before pumping 12 Feet below surface
   Pumping level 14 feet below surface after 2 hours pumping
   Drawdown 2 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
   How pumped Jet Pump How measured Bucket
   Observed effect on nearby wells none
9. PERMANENT PUMPING EQUIPMENT:
   Type Jet Mfrs. Name F&W
   Capacity 10 G.P.M. How Driven elec H.P. 3/4 R.P.M. 3600
   Depth of Pump in well _____ Feet Depth of Footpiece in well 40 Feet
   Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches
10. USED FOR Domestic AMOUNT { Average 75 Gallons Daily, Maximum 100 Gallons Daily }
11. QUALITY OF WATER Good Sample: Yes X No ____
    Taste no Odor no Color no Temp. 58 °F.
12. LOG _____ Are samples available? _____
    (Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

rec'd July 25, 1980

131

WELREC 022 4089

Form 87

11/9/79

32-35-783

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Permit No. 32-5965

Application No. _____

County _____

WELL RECORD

1. OWNER R. Delnero. ADDRESS 105 Core ct

Owner's Well No. 32-5965 SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION 4TH Ave

3. DATE COMPLETED 10-8-80 DRILLER 1093

4. DIAMETER: top 3 inches Bottom 3 inches TOTAL DEPTH 60 Feet

5. CASING: Type P.V.C. Diameter 3 inches Length 20 Feet

6. SCREEN: Type P.V.C. Size of Opening .016 Diameter 3 inches Length 5 Feet

Range in Depth { Top 50 Feet, Bottom 55 Feet } Geologic Formation Coarse

Tail piece: Diameter 3 inches Length 5 Feet

7. WELL FLOWS NATURALLY _____ Gallons per Minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 10-8-80 Yield _____ Gallons per minute

Static water level before pumping 8 Feet below surface

Pumping level 12 feet below surface after 2 hours pumping

Drawdown 4 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How Pumped Gas How measured Bucket

Observed effect on nearby wells None

9. PERMANENT PUMPING EQUIPMENT:

Type Jet Mfrs. Name F + W

Capacity 20 G.P.M. How Driven Elec. H.P. 3/4 R.P.M. 3600

Depth of Pump in well _____ Feet Depth of Footpiece in well 40 Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches

10. USED FOR Domestic AMOUNT { Average 75 Gallons Daily, Maximum 100 Gallons Daily }

11. QUALITY OF WATER Good. Sample: Yes X No. _____

Taste No Odor No Color No Temp. 50 °F

12. LOG _____ Are samples available? _____

(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

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WELREC 022 3279

32.35 - 783

FORM 87

4/9/79

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Permit No. 32-5966

Application No. _____

County _____

WELL RECORD

1. OWNER R. Delnero. ADDRESS 4TH Ave

Owner's Well No. 32-5966 SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Little Egg.

3. DATE COMPLETED 6-22-80 DRILLER 1093

4. DIAMETER: top 4" inches Bottom 1¼ inches TOTAL DEPTH 62 Feet

5. CASING: Type P.V.C. Diameter 2 inches Length 30' Feet

6. SCREEN: Type P.V.C. Size of Opening .016 Diameter 1¼ inches Length 5 Feet

Range in Depth { Top 57 Feet, Bottom 62 Feet } Geologic Formation Coarse S

Tail piece: Diameter _____ inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per Minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 6-22-80 Yield 40 Gallons per minute

Static water level before pumping 6 Feet below surface

Pumping level 7 feet below surface after 2 hours pumping

Drawdown 1 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How Pumped Gas Elec How measured Bucket

Observed effect on nearby wells none

9. PERMANENT PUMPING EQUIPMENT:

Type Jet Mfrs. Name F+W

Capacity 30 G.P.M. How Driven Elec H.P. 1.0 R.P.M. 3600

Depth of Pump in well _____ Feet Depth of Footpiece in well 62 Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches

10. USED FOR Domestic. AMOUNT { Average 25 Gallons Daily, Maximum 100 Gallons Daily }

11. QUALITY OF WATER Good. Sample: Yes ✓ No. _____

Taste Nes Odor Nes Color Nes Temp. 56° °F

12. LOG _____ Are samples available? _____

(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

WELREC 022 3280

32·45·123

Form 87

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Permit No. 32-6089
Application No. _____
County _____

WELL RECORD

1. OWNER Tuckerton Assoc. ADDRESS 186 Ellon
Owner's Well No. 32-6089 SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION 15-290 Mayflower Dr.

3. DATE COMPLETED 10-20/80 DRILLER 1013

4. DIAMETER: top 3 Inches Bottom 3 Inches TOTAL DEPTH 72 Feet

5. CASING: Type Steel Diameter 3 Inches Length 10.5 Feet

6. SCREEN: Type Stainless Size of Opening .016 Diameter 3 Inches Length 5 Feet
Range in Depth { Top 62 Feet, Bottom 67 Feet } Geologic Formation Coarse Sand.
Tail piece: Diameter 3 Inches Length 5 Feet

7. WELL FLOWS NATURALLY _____ Gallons per Minute at _____ Feet above surface
Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 10-28-80 Yield 35 Gallons per minute
Static water level before pumping 1 Feet below surface
Pumping level 12 feet below surface after _____ hours pumping
Drawdown 1 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
How Pumped Gas Pump How measured Bucket
Observed effect on nearby wells None

9. PERMANENT PUMPING EQUIPMENT:
Type Jet. Mfrs. Name F+W
Capacity 35 G.P.M. How Driven Elec H.P. 3/4 ~~S.P.~~ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump 75 Size _____ Inches

10. USED FOR Domestic AMOUNT { Average 100 Gallons Daily, Maximum X Gallons Daily }

11. QUALITY OF WATER Good Sample: Yes _____ No. 54
Taste Neg Odor Neg Color Neg Temp. _____ °F

12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

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WELREC 022 4139

32.45.123

FORM 87

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Permit No. 32-6090
Application No. _____
County _____

WELL RECORD

1. OWNER Tuckerton Assoc. ADDRESS 186 Eileen La.
Owner's Well No. 32-6090 SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Mayflower La.

3. DATE COMPLETED 10-26-80 DRILLER 1093

4. DIAMETER: top 3 inches Bottom 3 inches TOTAL DEPTH 70 Feet

5. CASING: Type Steel Diameter 3 inches Length 10.5 Feet

6. SCREEN: Type Stainlas Size of Opening .016 Diameter 3 inches Length 5 Feet

Range in Depth { Top 60 Feet, Bottom 65 Feet } Geologic Formation Med. S.

Tail piece: Diameter 3 inches Length 5 Feet

7. WELL FLOWS NATURALLY _____ Gallons per Minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 10-26-80 Yield 35 Gallons per minute

Static water level before pumping 10 Feet below surface

Pumping level 12 feet below surface after 1 hours pumping

Drawdown 2 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How Pumped Gas Pump. How measured Bucket.

Observed effect on nearby wells none

9. PERMANENT PUMPING EQUIPMENT:

Type Jet Mfrs. Name F+W

Capacity 35 G.P.M. How Driven Elec H.P. 3/4 R.P.M. 3600

Depth of Pump in well _____ Feet Depth of Footpiece in well 50 Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ inches

10. USED FOR Domestic AMOUNT { Average 75 Gallons Daily, Maximum 100 Gallons Daily }

11. QUALITY OF WATER Good. Sample: Yes X No. _____

Taste no Odor no Color no Temp. 58° °F

12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

WELREC 022 4140

FORM 87

32.45.116

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Permit No. 32-6248

Application No. _____

County _____

WELL RECORD

1. OWNER Tucterton Assoc. ADDRESS 186 Ellen ave

Owner's Well No. 32-6248 SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION 17 - 290 Laurella

3. DATE COMPLETED 10-29-80 DRILLER 1093

4. DIAMETER: top 3 Inches Bottom 3 Inches TOTAL DEPTH 70 Feet

5. CASING: Type Steel Diameter 3 Inches Length 10.5 Feet

6. SCREEN: Type Stainless Size of Opening .018 Diameter 3 Inches Length 5 Feet

Range in Depth { Top 60 Feet, Bottom 65 Feet } Geologic Formation Coarse S

Tail piece: Diameter 3 Inches Length 5 Feet

7. WELL FLOWS NATURALLY _____ Gallons per Minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 10-29-80 Yield 28 Gallons per minute

Static water level before pumping 9 Feet below surface

Pumping level 13 feet below surface after 1 hours pumping

Drawdown 4 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How Pumped Gass Pump How measured Bucket

Observed effect on nearby wells none

9. PERMANENT PUMPING EQUIPMENT:

Type Jet Pump M.frs. Name Flint & Walling

Capacity 35 G.P.N. How Driven Elect. H.P. 3/4 R.P.N. 3600

Depth of Pump in well _____ Feet Depth of Footpiece in well 46 Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR Domestic AMOUNT { Average 100 Gallons Daily, Maximum 125 Gallons Daily }

11. QUALITY OF WATER Good. Sample: Yes X No. _____

Taste Neg Odor Neg Color Neg Temp. 54 °F

12. LOG _____ Are samples available? _____

(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated analysis of the water, sketch map, sketch of special casing arrangements etc.)

WELREC 022 4108

FORM 87

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Permit No. 32-6602
Application No. _____
County Ocean

WELL RECORD

32-35-788

1. OWNER Ocean County Dept of Parks ADDRESS 659 Ocean Ave, Lakewood
Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Tuckerton County Park

3. DATE COMPLETED 9/18/80 DRILLER Dennis B Davis

4. DIAMETER: top 4 Inches Bottom 4 Inches TOTAL DEPTH 90 Feet

5. CASING: Type PVC Diameter 4 Inches Length 80 Feet

6. SCREEN: Type PVC Size of Opening .016" Diameter 4 Inches Length 10 Feet
Range in Depth { Top 80 Feet, Bottom 90 Feet } Geologic Formation _____
Tail piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per Minute at _____ Feet above surface
Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 9/18/80 Yield 90 Gallons per minute
Static water level before pumping 7 Feet below surface
Pumping level 40 feet below surface after 1 hours pumping
Drawdown 33 Feet Specific Capacity 2.73 Gals. per min. per ft. of drawdown
How Pumped Air How measured Orifice
Observed effect on nearby wells None

9. PERMANENT PUMPING EQUIPMENT:
Type submersible Mfrs. Name Goulds
Capacity 50 G.P.M. How Driven Electric H.P. 3 R.P.M. 3450
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR Visitors Center (Domestic) AMOUNT { Average 2000 Gallons Daily, Maximum 4800 Gallons Daily }

11. QUALITY OF WATER Good Sample: Yes ✓ No. _____
Taste _____ Odor _____ Color _____ Temp. _____ °F

12. LOG on back Are samples available? No
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)

13. SOURCE OF DATA Driller

14. DATA OBTAINED BY Dennis B Davis Date 12/19/80

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

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WELREC 022 3294

0-16 sand & clay - brown

16-20 sand

20-30 coarse sand & silt

30-47 coarse sand mixed w/ some clay

47-50 dirty coarse sand

50-90 whitish brown clean sand

DEC 29 1980

WELREC 022 3295

Coord: 32 34 992

Form DWR-138
11/80

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 32-6633

APPLICATION NO. _____

COUNTY Ocean

WELL RECORD

1. OWNER Mr. Carlton Voss ADDRESS 2030 Hwy 37 E T.R.
   Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)
2. LOCATION Lot 20 E Block 264 Little Egg Harbor
3. DATE COMPLETED _____ DRILLER Tiger Construction Corp.
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 67 Feet
5. CASING: Type Steel Diameter 4 Inches Length 62 Feet
6. SCREEN: Type Steel Size of Opening .012" Diameter 4 Inches Length 5 Feet
   Range in Depth { Top 61 Feet, Bottom 67 Feet } Geologic Formation Cohansy
   Tail Piece: Diameter _____ Inches Length _____ Feet
7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface
   Water rises to _____ Feet above surface
8. RECORD OF TEST: Date _____ Yield 65 Gallons per minute
   Static water level before pumping 8 Feet below surface
   Pumping level 12 feet below surface after 1 hours pumping
   Drawdown 4 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
   How pumped Air How measured Orifice
   Observed effect on nearby wells none
9. PERMANENT PUMPING EQUIPMENT:
   Type Submersible Mfrs. Name Goulds
   Capacity 20 G.P.M. How Driven Electric H.P. 3/4 R.P.M. 3450
   Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
   Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches
10. USED FOR Domestic AMOUNT { Average 1000 Gallons Daily, Maximum 2000 Gallons Daily }
11. QUALITY OF WATER Good Sample: Yes ✓ No _____
    Taste _____ Odor _____ Color _____ Temp. _____ °F.
12. LOG On Back Are samples available? no
    (Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA Driller
14. DATA OBTAINED BY Dennis B. Davis Date 25 October 1985

N.J. Dept. of Environmental Protection
Division of Water Resources
Bureau of Water Allocation
RECEIVED OCT 28 1985

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

WELREC 022 3147

0-8 Clean Sand
8-19 Sand & Clay
19-30 Sand & Silt
30-52 Sand
52-58 Coarse Red Sand
58-68 Sand (white)
68-70 Sand & Clay

WELREC 022 3148

32·45·121

Form DWR-138
11/80

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 32-7878

APPLICATION NO. _____

COUNTY Ocean

WELL RECORD

1. OWNER Pavlick ADDRESS Holly Dr, Tuckerton, NJ
   Owner's Well No. _____ SURFACE ELEVATION 10 Feet (Above mean sea level)
2. LOCATION Lot 11, blk 289, Little Egg Twp, Ocean Co.
3. DATE COMPLETED 2-23-82 DRILLER Charles Brown
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 86 Feet
5. CASING: Type pvc Diameter 4 Inches Length 76 Feet
6. SCREEN: Type pvc Size of Opening .016 Diameter 4 Inches Length 10 Feet
   Range in Depth { Top _____ Feet / Bottom _____ Feet } Geologic Formation sand
   Tail Piece: Diameter _____ Inches Length _____ Feet
7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface
   Water rises to _____ Feet above surface
8. RECORD OF TEST: Date 2-23-82 Yield 20 Gallons per minute
   Static water level before pumping 17 Feet below surface
   Pumping level 21 feet below surface after 4 hours pumping
   Drawdown 4 Feet Specific Capacity ¾ Gals. per min. per ft. of drawdown
   How pumped test pump How measured 5 gallon
   Observed effect on nearby wells none
9. PERMANENT PUMPING EQUIPMENT:
   Type 230 Volt Mfrs. Name F&W
   Capacity 16 G.P.M. How Driven electric H.P. ½ R.P.M. 3450
   Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
   Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches
10. USED FOR domestic AMOUNT { Average 250 Gallons Daily / Maximum 275 Gallons Daily }
11. QUALITY OF WATER good Sample: Yes X No _____
    Taste none Odor none Color clear Temp. 51 °F.
12. LOG _____ Are samples available? _____
    (Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA Charles Brown, Aqua Well Drilling, Inc.
14. DATA OBTAINED BY Charles Brown, Aqua Well Drilling, Inc Date March 17, 1982

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

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WELREC 022 4136

Log:

0-15 fine sand
15-30 med sand
30-40 med sand
40-55 clay & sand
55-67 med sand
67-80 clay
80-90 sand

MAR 19 1992

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WELREC 022 4137

Form DWR-138
11/80

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Coord: 3235749

PERMIT NO. 3210737

APPLICATION NO. ✓

COUNTY Ocean

WELL RECORD

1. OWNER LANGFORD, ALAN ADDRESS W. INDIANA AVE.

Owner's Well No. _____ SURFACE ELEVATION 10 Feet (Above mean sea level)

2. LOCATION Lot: 14C Block: 258 Municipality: Little Egg Harbor

3. DATE COMPLETED October 15,1984 DRILLER Aqua Well Drilling

4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 80 Feet

5. CASING: Type pvc Diameter 4 Inches Length 70 Feet

6. SCREEN: Type pvc Size of Opening .016 Diameter 4 Inches Length 10 Feet

Range in Depth { Top _____ Feet / Bottom _____ Feet } Geologic Formation sand

Tail Piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date Oct 15, 1984 Yield 16 Gallons per minute

Static water level before pumping 15 Feet below surface

Pumping level 19 feet below surface after 4 hours pumping

Drawdown 4 Feet Specific Capacity 1/4 Gals. per min. per ft. of drawdown

How pumped test pumped How measured 5 gallon

Observed effect on nearby wells none

9. PERMANENT PUMPING EQUIPMENT:

Type submersible Mfrs. Name Standard

Capacity 16 G.P.M. How Driven electric H.P. 1 R.P.M. 3450

Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR domestic - new AMOUNT { Average 250 Gallons Daily / Maximum 275 Gallons Daily }

11. QUALITY OF WATER good Sample: Yes ____ No ____

Taste 0 Odor 0 Color clear Temp. 51 °F.

12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA Aqua Well Drilling

14. DATA OBTAINED BY Charles Brown Date Oct. 18, 1984

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

WELREC 022 3231

Log:

0 -20 coarse sand
20-40 white clay
40-70 fine sand
70-80 med. sand
80- fine sand

WELREC 022 3232

Form DWR- 138
11/80

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Coord: 3235784

PERMIT NO. 3210773

APPLICATION NO. _____

COUNTY Ocean

WELL RECORD

1. OWNER ULESIAS, JOE ADDRESS 21 WEST MULLICA RD.

Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Lot: 6-C Block: 262 Municipality: Eagleswood Twp.

3. DATE COMPLETED 11/14/84 DRILLER South Jersey Well Drilling

4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 75 Feet

5. CASING: Type PVC plastic Diameter 4 Inches Length 65 Feet

6. SCREEN: Type PVC Size of Opening .016 Diameter 4 Inches Length 10 Feet

Range in Depth { Top 65 Feet / Bottom 10 Feet } Geologic Formation Clay + Sand

Tail Piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 11/14/84 Yield 18 Gallons per minute

Static water level before pumping 5 Feet below surface

Pumping level 15 feet below surface after 4 hours pumping

Drawdown 10 Feet Specific Capacity 1.8 Gals. per min. per ft. of drawdown

How pumped submersible How measured flow-meter

Observed effect on nearby wells none

9. PERMANENT PUMPING EQUIPMENT:

Type submersible Mfrs. Name Myers

Capacity 18 G.P.M. How Driven electric H.P. 3/4 R.P.M. 3500

Depth of Pump in well 40 Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR Domestic AMOUNT { Average _____ Gallons Daily / Maximum _____ Gallons Daily }

11. QUALITY OF WATER Good Sample: Yes ____ No ____

Taste Good Odor Good Color Good Temp. ____ °F.

12. LOG _____ Are samples available? _____

(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA SOUTH JERSEY WELL DRILLING

14. DATA OBTAINED BY ROSS RESTUCCIO Date 11/19/84

1061 North First Road
Hammonton, N.J. 08037

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

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WELREC 022 3283

Handex

HANDEX CORP., 703 Ginesi Drive, Morganville, New Jersey 07751 (201) 536-8500 32, 31.779

BORING LOG

Coordin. No. ~~32.35.998~~

Well No. RW-1 Application No. _____ Permit No. 32-10875

Date Drilled 12-19-85 County Ocean Use recovery well

Location Cumberland Farm Store, Wisteria Lane, Little Egg Harbor Twp., NJ

Owner drilled for: Soils Engineering Address _____

Drilling Method bucket auger Sampling Method cuttings

Hole Diameter 24" Total Depth 47'

Casing:

Type PVC Schedule 40 Diameter 12" Length 12'

Screen:

Type PVC Schedule 40 Slot 50 Diameter 12" Length 35'

Gravel Pack Size #2 Casing Seal bentonite

Static Water Level 18.78' Geologic Formation _____

DEPTH BELOW SURFACE	SAMPLE NUMBER	BLOWS PER 6" ON SAMPLER	WELL DESIGN	IDENTIFICATION OF SOILS/REMARKS
			Casing	0'-9' Brown grey CLAY and SILT
			Well Screen	9'-22' Brown medium to fine SAND, trace silt
20'				22'-29' Red brown medium to fine SAND, trace silt
40'				29'-40' Grey medium to fine SAND
60'				40'-50' Grey brown medium to fine SAND with lenses of white silt NOTE: Set well at 47'

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WELREC 168 0987

Form DWR-138
11/80

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Coord: 3234967

PERMIT NO. 3210901

APPLICATION NO. _____

COUNTY Ocean

WELL RECORD

1. OWNER WALTERS, ED ADDRESS 20 H BAYBERRY AVE.

Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Lot: 20H Block: 264 Municipality: Little Egg Harbor

3. DATE COMPLETED 12/17/84 DRILLER South Jersey Well Drilling

4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 105 Feet

5. CASING: Type PVC PLASTIC Diameter 4 Inches Length 10 Feet

6. SCREEN: Type _____ Size of Opening 016 Diameter 4 Inches Length 95 Feet

Range in Depth { Top 95 Feet / Bottom 10 Feet } Geologic Formation SAND + CLAY

Tail Piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 12/17/84 Yield 20 Gallons per minute

Static water level before pumping 18' Feet below surface

Pumping level 28' feet below surface after 4 hours pumping

Drawdown 10 Feet Specific Capacity 2.0 Gals. per min. per ft. of drawdown

How pumped SUBMERSIBLE PUMP How measured flow-meter

Observed effect on nearby wells NONE

9. PERMANENT PUMPING EQUIPMENT:

Type SUBMERSIBLE Mfrs. Name MYERS

Capacity 20 G.P.M. How Driven electric H.P. 3/4 R.P.M. 3500

Depth of Pump in well 48 Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR DOMESTIC AMOUNT { Average _____ Gallons Daily / Maximum _____ Gallons Daily }

11. QUALITY OF WATER GOOD Sample: Yes ____ No ____

Taste GOOD Odor GOOD Color GOOD Temp. _____ °F.

12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA SOUTH JERSEY WELL DRILLING

14. DATA OBTAINED BY ROSS RESTUCCIO Date 1/21/85
1061 North First Road
Hammonton, N.J. 08037

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

WELREC 022 3106

Form DWR- 138
11/80

Coord: 3235787

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 3210973

APPLICATION NO.

COUNTY Ocean

WELL RECORD

1. OWNER CORS, WILLIAM ADDRESS 4 TIMBER DR., R.D. TWO

Owner's Well No. SURFACE ELEVATION Feet (Above mean sea level)

2. LOCATION Lot: 18J Block: 262 Municipality: Little Egg Harbor

3. DATE COMPLETED 7/23/85 DRILLER South Jersey Well Drilling

4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 102 Feet

5. CASING: Type PVC PLASTIC Diameter 4 Inches Length 92 Feet

6. SCREEN: Type PVC Size of Opening DW Diameter 4 Inches Length 10 Feet

Range in Depth { Top 92 Feet / Bottom 10 Feet } Geologic Formation SAND & GRAV

Tail Piece: Diameter Inches Length Feet

7. WELL FLOWS NATURALLY Gallons per minute at Feet above surface

Water rises to Feet above surface

8. RECORD OF TEST: Date 7/23/85 Yield 18 Gallons per minute

Static water level before pumping 13' Feet below surface

Pumping level 23 feet below surface after 4 hours pumping

Drawdown 10 Feet Specific Capacity 1.8 Gals. per min. per ft. of drawdown

How pumped submersible How measured flow-meter

Observed effect on nearby wells none

9. PERMANENT PUMPING EQUIPMENT:

Type SUBMERSIBLE Mfrs. Name MYERS

Capacity 18 G.P.M. How Driven electric H.P. 3/4 R.P.M. 3500

Depth of Pump in well 40 Feet Depth of Footpiece in well Feet

Depth of Air Line in well Feet Type of Meter on Pump Size Inches

10. USED FOR Domestic AMOUNT { Average Gallons Daily / Maximum Gallons Daily }

11. QUALITY OF WATER GOOD Sample: Yes No

Taste GOOD Odor GOOD Color GOOD Temp. °F.

12. LOG Are samples available?
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA SOUTH JERSEY WELL DRILLING

14. DATA OBTAINED BY ROSS RESTUCCIO 1061 North First Road Hammonton, N.J. 08037 Date 10/3/85

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

WELREC 022 3289

Form DWR- 138
11/80

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Coord: 3234983

PERMIT NO. 3210980

APPLICATION NO. _____

COUNTY Ocean

WELL RECORD

1. OWNER HOLLINGSWORTH ADDRESS 263813 NUGENTOWN ROAD

Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Lot: 8B Block: 262 Municipality: Little Egg Harbor

3. DATE COMPLETED 3-10-85 DRILLER Clearwater Well Drilling

4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 85' Feet

5. CASING: Type Steel Diameter 4 Inches Length 80 Feet

6. SCREEN: Type Stainless Size of Opening 10/2 Diameter 2 Inches Length 4 Feet

Range in Depth { Top 75 Feet / Bottom 85 Feet } Geologic Formation coarse sand

Tail Piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 3-10-85 Yield 25 Gallons per minute

Static water level before pumping 22 Feet below surface

Pumping level 24 feet below surface after 1 hours pumping

Drawdown 2 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How pumped SUB How measured calc

Observed effect on nearby wells none

9. PERMANENT PUMPING EQUIPMENT:

Type SUB Mfrs. Name Myers

Capacity 25 G.P.M. How Driven Elec H.P. 1/2 R.P.M. 3600

Depth of Pump in well 50' Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR Domestic AMOUNT { Average 100 Gallons Daily / Maximum 125 Gallons Daily }

11. QUALITY OF WATER Domestic Sample: Yes X No _____

Taste no Odor no Color no Temp 56° °F.

12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

WELREC 022 3130

Form DWR- 138
11/80

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Coord: 3235775

PERMIT NO. 3210997

APPLICATION NO. _____

COUNTY Ocean

WELL RECORD

1. OWNER BARBAROTTA, BEN ADDRESS 117 SECOND AVE.

Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Lot: 14 Block: 46 Municipality: Little Egg Harbor

3. DATE COMPLETED 4/22/85 DRILLER South Jersey Well Drilling

4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 60 Feet

5. CASING: Type PVC PLASTIC Diameter 4 Inches Length 50 Feet

6. SCREEN: Type PVC Size of Opening .016 Diameter 4 Inches Length 10 Feet

Range in Depth { Top 50 Feet / Bottom 10 Feet } Geologic Formation SAND & CLAY

Tail Piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 4/22/85 Yield 25 Gallons per minute

Static water level before pumping 11 Feet below surface

Pumping level 21 feet below surface after 4 hours pumping

Drawdown 10 Feet Specific Capacity 2.5 Gals. per min. per ft. of drawdown

How pumped submersible How measured flow-meter

Observed effect on nearby wells none

9. PERMANENT PUMPING EQUIPMENT:

Type submersible Mfrs. Name Myers

Capacity 25 G.P.M. How Driven electric H.P. 1 R.P.M. _____

Depth of Pump in well 40 Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR DOMESTIC AMOUNT { Average _____ Gallons Daily / Maximum _____ Gallons Daily }

11. QUALITY OF WATER GOOD Sample: Yes _____ No _____

Taste GOOD Odor GOOD Color GOOD Temp. _____ °F.

12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA SOUTH JERSEY WELL DRILLING

14. DATA OBTAINED BY ROSS RESTUCCIO Date 6/26/85
1061 North First Road
Hammonton, N.J. 08037

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

150

WELREC 022 3266

SOIL LOG

0-20' CLAY + WHITE SAND
20-40 SAND + CLAY MIXED
40-60' BR. MED COARSE SAND

RECEIVED
JUL 1 1985
N.J. STATE DEPT. OF ENVIRONMENTAL PROTECTION
WATER SUPPLY & WATERSHED MGT. ADM.

WELREC 022 3267

DWR-138
8/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

C

WELL RECORD

Well Permit No. 32 - 111 05
Atlas Sheet Coordinates 32 : 34 : 9 92

OWNER IDENTIFICATION - Owner OTTO MAREK
Address OTIS BOG ROAD
City TUCTERTON State N. J. Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address SAME AS ABOVE
County OCEAN Municipality LITTLE EGG HARBOR Lot No. 1A Block No. 264

WELL USE DOMESTIC HOUSEHOLD Status

WATER USE HOUSEHOLD Average gals. daily Maximum gals. daily

WELL CONSTRUCTION Date well completed 6 / 26 / 85
BOREHOLE DIMENSIONS Depths: Total 52 ft. Finished 52 ft.
Diameter: Top 4 in. Bottom 4 in.
Land Surface Elevation at well ft. Elevation was determined using
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1		48	4	BK Steel.
Casing 2				
Casing 3	48	4	3	STAINLESS Steel 15Slot
Screen 1				
Screen 2				
Tail Piece				
Gravel Pack				
Grout				
Grouting Method				

WELL FLOWS NATURALLY gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 6 / 26 / 85
Static water-level before pumping 8. ft. below land surface. Water level ft. below land surface after hrs. of pumping.
Water level was measured using TAPE. Drawdown ft.
Discharge rate measured using 5 GAL PAIL Discharge Rate 25 gals. per min.
Well was pumped using Sub MERSIBLE Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells UNKNOWN
Water Quality (taste, odor, color, etc.) Good CLEAR

PERMANENT PUMPING EQUIPMENT Installed by RELIABLE PUMP & WELL Pump Type Submersible.
Mfrs. Name GOULDS. Model 10E3.
CAPACITY: Pump delivers 10 GPM at 40 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source
DEPTHS: Pump 45 ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor RELIABLE PUMP & WELL
Address 248 SEAMAN AVE
City Beachwood State NJ Zip Code 08722
Name of Driller J. SCRIBELLITO License No. 975

Signature of Contractor J. Scribellito Date 6 / 30 / 85

COPIES: White - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 168 1434

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

WELL RECORD

Well Permit No. 32 - 11105

32.34.9.92

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☑ No

Drilling Method CABLE TOOL

Type of Rig I-W BE

Aquifer/Geo. Fm. COHENSEY

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ____ / ____ / ____

LOG

0-2 F/SA.
2-23 F/M SA.
23-31 CLAY
31-39 F/SA.
39-52 M/C SAND

Thick.	Lith.	Fm.

GWPI No. ____ - _____

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

Form DWR- 138
11/80

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Coord: 3235785

PERMIT NO. ~~3211320~~

APPLICATION NO. _____

COUNTY Ocean

WELL RECORD

1. OWNER CASTELLINI, ADELAIDE ADDRESS 4 TIMBER DR.

Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Lot: 2-J Block: 262 Municipality: Little Egg Harbor

3. DATE COMPLETED 2/20/86 DRILLER South Jersey Well Drilling

4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 70 Feet

5. CASING: Type PVC PLASTIC Diameter 4 Inches Length 60 Feet

6. SCREEN: Type PVC Size of Opening 016 Diameter 4 Inches Length 10 Feet

Range in Depth { Top 60 Feet / Bottom 10 Feet } Geologic Formation SAND & CLAY

Tail Piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

N.J. Dept. of Environmental Protection
Division of Water Resources
Bureau of Water Allocation
RECEIVED

8. RECORD OF TEST: Date 2/20/86 Yield 35 Gallons per minute

Static water level before pumping 15' Feet below surface

Pumping level 25 feet below surface after 4 hours pumping

Drawdown 10 Feet Specific Capacity 3.5 Gals. per min. per ft. of drawdown

How pumped submersible How measured flow-meter

Observed effect on nearby wells none

9. PERMANENT PUMPING EQUIPMENT:

Type submersible Mfrs. Name Gould's

Capacity 35 G.P.M. How Driven electric H.P. 1 1/2 R.P.M. 3500

Depth of Pump in well 45 Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR Domestic AMOUNT { Average _____ Gallons Daily / Maximum _____ Gallons Daily }

11. QUALITY OF WATER Good Sample: Yes ____ No ____

Taste Good Odor Good Color Good Temp. _____ °F.

12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA SOUTH JERSEY WELL DRILLING

14. DATA OBTAINED BY ROSS RESTUCCIA 1061 North First Road Hammonton, N.J. 08037 Date 2/28/86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

WELREC 022 3285

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Form DWR-138
11/80

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Coord: 3235742

PERMIT NO. 3211347

APPLICATION NO. _____

COUNTY Ocean

WELL RECORD

1. OWNER BURD, LARRY ADDRESS BOX 177

Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Lot: 9 Block: 258 Municipality: Little Egg Harbor

3. DATE COMPLETED 11-13-85 DRILLER Clearwater Well Drilling

4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 65' Feet

5. CASING: Type STEEL Diameter 4 Inches Length 60 Feet

6. SCREEN: Type STAINLESS Size of Opening .016 Diameter 2 Inches Length 3 Feet

Range in Depth { Top 59 Feet / Bottom 65 Feet } Geologic Formation Medium

Tail Piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 11-13-85 Yield 40 Gallons per minute

Static water level before pumping 12 Feet below surface

Pumping level 13 feet below surface after 1 hours pumping

Drawdown 1 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How pumped SUB How measured calc

Observed effect on nearby wells NONE

9. PERMANENT PUMPING EQUIPMENT:

Type SUB Mfrs. Name Red Jacket

Capacity 40 G.P.M. How Driven Elec H.P. 1.0 R.P.M. 3600

Depth of Pump in well 50' Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR Domestic AMOUNT { Average 200 Gallons Daily / Maximum 350 Gallons Daily }

11. QUALITY OF WATER Good Sample: Yes X No _____

Taste NO Odor NO Color NO Temp. _____ °F.

12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

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WELREC 022 3222

Form DWR- 138
11/80

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Coord: 3234993

PERMIT NO. 3211683

APPLICATION NO. _____

COUNTY Ocean

WELL RECORD

1. OWNER BUSH, TIMOTHY & ADRIANNE ADDRESS 343 GALE RD.

Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Lot: 20B Block: 264 Municipality: Little Egg Harbor

3. DATE COMPLETED 9-18-85 DRILLER South Jersey Well Drilling

4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 60 Feet

5. CASING: Type PVC Plastic Diameter 4 Inches Length 50 Feet

6. SCREEN: Type PVC Size of Opening .016 Diameter 4 Inches Length 10 Feet

Range in Depth { Top 50 Feet / Bottom 10 Feet } Geologic Formation Sand + Clay

Tail Piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 9-18-85 Yield 18 Gallons per minute

Static water level before pumping 22 Feet below surface

Pumping level 32 feet below surface after 4 hours pumping

Drawdown 10 Feet Specific Capacity 1.8 Gals. per min. per ft. of drawdown

How pumped Submersible How measured Flow-Meter

Observed effect on nearby wells None

9. PERMANENT PUMPING EQUIPMENT:

Type Submersible Mfrs. Name Myers

Capacity 18 G.P.M. How Driven Electric H.P. 1/2 R.P.M. 3500

Depth of Pump in well 52 Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR Domestic AMOUNT { Average _____ Gallons Daily / Maximum _____ Gallons Daily }

11. QUALITY OF WATER Good Sample: Yes _____ No _____

Taste Good Odor Good Color Good Temp. _____ °F.

12. LOG _____ Are samples available? _____

(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA SOUTH JERSEY WELL DRILLING

14. DATA OBTAINED BY ~~ROSS RESTUCCIO~~ ~~1061 North First Road~~ Hammonton, N.J. 08037 Date Dec. 11, 1985

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

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WELREC 022 3149

Form DWR- 138
11/80

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Coord: 3234967

PERMIT NO. 3211749

APPLICATION NO. _____

COUNTY Ocean

WELL RECORD

1. OWNER HAPPEL, FRANK & MONICA ADDRESS 14 REVOLUTION AVE.

Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Lot: 8T Block: 3408 Municipality: Little Egg Harbor

3. DATE COMPLETED 3/1/86 DRILLER Michael Turner

4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 75 Feet

5. CASING: Type PVC Diameter 4 Inches Length 65 Feet

6. SCREEN: Type PVC Size of Opening .015 Diameter 4 Inches Length 10 Feet

Range in Depth { Top 65 Feet / Bottom 75 Feet } Geologic Formation SAND

Tail Piece: Diameter — Inches Length — Feet

7. WELL FLOWS NATURALLY — Gallons per minute at — Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date March 1, 1986 Yield 25 Gallons per minute

Static water level before pumping 25 Feet below surface

Pumping level 35 feet below surface after 2 hours pumping

Drawdown 10 Feet Specific Capacity 2.5 Gals. per min. per ft. of drawdown

How pumped air How measured ohm

Observed effect on nearby wells none

9. PERMANENT PUMPING EQUIPMENT:

Type SUB Mfrs. Name MEYERS

Capacity 18 G.P.M. How Driven Elect H.P. 3/4 R.P.M. 3450

Depth of Pump in well 60 Feet Depth of Footpiece in well — Feet

Depth of Air Line in well — Feet Type of Meter on Pump — Size — Inches

10. USED FOR Domestic / Heat Pump AMOUNT { Average 400 Gallons Daily / Maximum 600 Gallons Daily }

11. QUALITY OF WATER good Sample: Yes ____ No ✓

Taste None Odor None Color None Temp. 55 °F.

12. LOG _____ Are samples available? NO
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA Driller

14. DATA OBTAINED BY Mike Turner Date 3/1/86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

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WELREC 022 3107

0 - 10 Gravel
10 - 15 - Clay
15-22 - Sandy clay
22 - 36 - Sand - Medium Tan
36 - 55 - Clayey Sand
55-60 Fine Tan Sand
60 - 75 - Med Tan Sand

N.J. Dept. of Environmental Protection
Division of Water Resources
Bureau of Water Allocation

RECEIVED APR 25 1900

WELREC 022 3108

Form DWR-133
11/80

Coord: 3235785

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 3211877

APPLICATION NO.

COUNTY Ocean

WELL RECORD

1. OWNER CARBONE, ROCKY & DEBBIE ADDRESS 32 JEFFERSON LANE

Owner's Well No. SURFACE ELEVATION (Above mean sea level) Feet

2. LOCATION Lot: 31 Block: 264 Municipality: Little Egg Harbor

3. DATE COMPLETED 2-5-87 DRILLER Clearwater Well Drilling

4. DIAMETER: Top 4 inches Bottom inches TOTAL DEPTH 65' Feet

5. CASING: Type P.V.C. Diameter 4 Inches Length 65' Feet

6. SCREEN: Type P.V.C. Size of Opening .015 Diameter 4 Inches Length 10 Feet

Range in Depth { Top 55 Feet, Bottom 65 Feet } Geologic Formation coarse.

Tail Piece: Diameter Inches Length Feet

7. WELL FLOWS NATURALLY Gallons per minute at Feet above surface

Water rises to Feet above surface

8. RECORD OF TEST: Date 2-5-87 Yield 30 Gallons per minute

Static water level before pumping 16 Feet below surface

Pumping level 17 feet below surface after 1/2 hours pumping

Drawdown 1 Feet Specific Capacity Gals. per min. per ft. of drawdown

How pumped AIR How measured Calc

Observed effect on nearby wells None

9. PERMANENT PUMPING EQUIPMENT:

Type Submersible Mfrs. Name Goulds

Capacity 20 G.P.M. How Driven ELEC. H.P. 1.0 R.P.M.

Depth of Pump in well Feet Depth of Footpiece in well Feet

Depth of Air Line in well Feet Type of Meter on Pump Size Inches

10. USED FOR Domestic AMOUNT { Average 100 Gallons Daily, Maximum 175 Gallons Daily }

11. QUALITY OF WATER Good Sample: Yes X No

Taste No Odor No Color No Temp. °F.

12. LOG Are samples available?
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA

14. DATA OBTAINED BY Date

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

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WELREC 022 3286

0" - 2' - Coarse sands
2' - 3' - Pee. grav. stones
3' - 12' - 50/50 clay sand mix
12' - 40' - medium sand
40' - 60' - medium sand.
60' - 66' - Coarse sands.

SEP 25 '87

SEP 11 '87

WELREC 022 3287

Coord: 3235784

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 3211878

APPLICATION NO.

COUNTY Ocean

WELL RECORD

1. OWNER MYSTIC SURVEYING CO. ADDRESS 24 PINETREE DR.

Owner's Well No. SURFACE ELEVATION (Above mean sea level) Feet

2. LOCATION Lot: 36 Block: 264 Municipality: Little Egg Harbor

3. DATE COMPLETED 8-6-86 DRILLER Clearwater Well Drilling

4. DIAMETER: Top 4 inches Bottom 2 inches TOTAL DEPTH 54 Feet

5. CASING: Type STEEL Diameter 4 Inches Length 50 Feet

6. SCREEN: Type STAINESS Size of Opening .012 Diameter 2 Inches Length 4 Feet

Range in Depth { Top 49 Feet, Bottom 54 Feet } Geologic Formation [illegible]

Tail Piece: Diameter Inches Length Feet

7. WELL FLOWS NATURALLY Gallons per minute at Feet above surface

Water rises to Feet above surface

8. RECORD OF TEST: Date 8-6-86 Yield 20 Gallons per minute

Static water level before pumping 20 Feet below surface

Pumping level 23 feet below surface after 1/2 hours pumping

Drawdown 3 Feet Specific Capacity Gals. per min. per ft. of drawdown

How pumped AIR How measured CALC

Observed effect on nearby wells NONE

9. PERMANENT PUMPING EQUIPMENT:

Type SUBMERSIBLE Mfrs. Name GOULDS

Capacity G.P.M. How Driven ELEC H.P. 1/2 R.P.M. 3600

Depth of Pump in well 40 Feet Depth of Footpiece in well Feet

Depth of Air Line in well Feet Type of Meter on Pump Size Inches

10. USED FOR DOMESTIC AMOUNT { Average 175 Gallons Daily, Maximum 200 Gallons Daily }

11. QUALITY OF WATER GOOD Sample: Yes No

Taste NO Odor NO Color NO Temp. °F.

12. LOG (Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.) Are samples available?

13. SOURCE OF DATA

14. DATA OBTAINED BY Date

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

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WELREC 022 3284

Coord: 3245112

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 3211934

APPLICATION NO.

COUNTY Ocean

WELL RECORD

1. OWNER SMITH, JOSEPH & JEANETTE ADDRESS 306 STATION DR.

Owner's Well No. SURFACE ELEVATION (Above mean sea level) Feet

2. LOCATION Lot: 5 Block: 287 Municipality: Little Egg Harbor

3. DATE COMPLETED 7-1-86 DRILLER Clearwater Well Drilling

4. DIAMETER: Top 4 inches Bottom 2 inches TOTAL DEPTH 58' Feet

5. CASING: Type Steel Diameter 4 Inches Length Feet

6. SCREEN: Type Stainless Size of Opening .012 Diameter 2 Inches Length 3 Feet

Range in Depth { Top 54 Feet, Bottom 58 Feet } Geologic Formation COARSE.

Tail Piece: Diameter Inches Length Feet

7. WELL FLOWS NATURALLY Gallons per minute at Feet above surface

Water rises to Feet above surface

8. RECORD OF TEST: Date 7-1-86 Yield 22 Gallons per minute

Static water level before pumping 27 Feet below surface

Pumping level 29 feet below surface after 1/2 hours pumping

Drawdown 2 Feet Specific Capacity Gals. per min. per ft. of drawdown

How pumped AIR How measured CALC

Observed effect on nearby wells NONE

9. PERMANENT PUMPING EQUIPMENT:

Type SUBMERSIBLE Mfrs. Name GOULDS

Capacity 20 G.P.M. How Driven ELEC. H.P. 1/2 R.P.M. 3600

Depth of Pump in well Feet Depth of Footpiece in well Feet

Depth of Air Line in well Feet Type of Meter on Pump Size Inches

10. USED FOR DOMESTIC AMOUNT { Average 175 Gallons Daily, Maximum 200 Gallons Daily }

11. QUALITY OF WATER GOOD Sample: Yes X No

Taste NO Odor NO Color NO Temp. 56 °F.

12. LOG Are samples available?
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA

14. DATA OBTAINED BY Date

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

WELREC 022 4090

Coord: 3245112

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 3211965

APPLICATION NO. Ocean

COUNTY

WELL RECORD

1. OWNER CHRISTIE, ALEXANDER & PATRICIA ADDRESS 4254 ORMOND STREET

   Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Lot: 6 Block: 287- Municipality: Little Egg Harbor

3. DATE COMPLETED 10-22-86 DRILLER Clearwater Well Drilling

4. DIAMETER: Top 4 Inches Bottom 2 inches TOTAL DEPTH 70 Feet

5. CASING: Type Steel Diameter 4 Inches Length 50 Feet

6. SCREEN: Type Stain Size of Opening 1016 Diameter 2 Inches Length 3 Feet

   Range in Depth { Top 60 Feet / Bottom 70 Feet } Geologic Formation Medium

   Tail Piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface

   Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 10-22-86 Yield 25 Gallons per minute

   Static water level before pumping 19 Feet below surface

   Pumping level 20 feet below surface after 1 hours pumping

   Drawdown 1 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

   How pumped AIR How measured CG/C

   Observed effect on nearby wells None

9. PERMANENT PUMPING EQUIPMENT:

   Type SUB Mfrs. Name Gould

   Capacity 20 G.P.M. How Driven Elec H.P. 1/2 R.P.M. 3600

   Depth of Pump in well 50 Feet Depth of Footpiece in well _____ Feet

   Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR Domestic AMOUNT { Average 100 Gallons Daily / Maximum 150 Gallons Daily }

11. QUALITY OF WATER Good Sample: Yes ✓ No _____

    Taste No Odor No Color No Temp. _____ °F.

12. LOG _____ Are samples available? _____
    (Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

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WELREC 022 4091

Coord: 3245112

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 3211970

APPLICATION NO. _____

COUNTY Ocean

WELL RECORD

1. OWNER SOLON, FRANCIS X. ADDRESS 184 WILLIAM COOK BLVD.

Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Lot: 17 Block: 287 Municipality: Little Egg Harbor

3. DATE COMPLETED 6-3-86 DRILLER Clearwater Well Drilling

4. DIAMETER: Top 4 inches Bottom 2 inches TOTAL DEPTH 63' Feet

5. CASING: Type Steel Diameter 4 Inches Length 60 Feet

6. SCREEN: Type Stainless Size of Opening .012 Diameter 2 Inches Length 3 Feet

Range in Depth { Top 58 Feet, Bottom 63 Feet } Geologic Formation Medium Sand

Tail Piece: Diameter — Inches Length — Feet

7. WELL FLOWS NATURALLY — Gallons per minute at — Feet above surface

Water rises to — Feet above surface

8. RECORD OF TEST: Date 6-3-86 Yield 25 Gallons per minute

Static water level before pumping 23 Feet below surface

Pumping level 24 feet below surface after 1/2 hours pumping

Drawdown 1 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How pumped AIR How measured CALC

Observed effect on nearby wells NONE

9. PERMANENT PUMPING EQUIPMENT:

Type SUBMERSIBLE Mfrs. Name GOULD'S

Capacity _____ G.P.M. How Driven ELEC H.P. 1/2 R.P.M. 3600

Depth of Pump in well 50 Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR DOMESTIC AMOUNT { Average 175 Gallons Daily, Maximum 200 Gallons Daily }

11. QUALITY OF WATER GOOD Sample: Yes X No _____

Taste NO Odor NO Color NO Temp. _____ °F.

12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

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WELREC 022 4092

Coord: 3245113

Form DWR-138
11/80

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 32-12009

APPLICATION NO. _____

COUNTY Ocean

WELL RECORD

1. OWNER Wood, David G. + Lori ADDRESS 21 Tall Timber Drive

Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Lot: 10 Block: 290 Municipality: Little Egg Harbor

3. DATE COMPLETED 1-12-87 DRILLER Clearwater Well Drilling

4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 70 Feet

5. CASING: Type P.V.C Diameter 4 Inches Length 70 Feet

6. SCREEN: Type P.V.C Size of Opening .015 Diameter 4 Inches Length 10 Feet

Range in Depth { Top 60 Feet / Bottom 70 Feet } Geologic Formation Coarse

Tail Piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY — Gallons per minute at — Feet above surface

Water rises to — Feet above surface

8. RECORD OF TEST: Date 1-12-87 Yield 25 Gallons per minute

Static water level before pumping 20 Feet below surface

Pumping level 22' feet below surface after 1 hours pumping

Drawdown 2' Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How pumped air How measured calc

Observed effect on nearby wells NONE

9. PERMANENT PUMPING EQUIPMENT:

Type Submersible Mfrs. Name Gouids

Capacity 20 G.P.M. How Driven ELEC H.P. 1/2 R.P.M. 3400

Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR Domestic AMOUNT { Average 100 Gallons Daily / Maximum 175 Gallons Daily }

11. QUALITY OF WATER Good Sample: Yes ____ No ____

Taste No Odor No Color No Temp. ____ °F.

12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

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WELREC 022 4097

Form DWR- 138
11/80

Coord: 3245115

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 3212269

APPLICATION NO.

COUNTY Ocean

WELL RECORD

1. OWNER ZULIAN, DAVID ADDRESS 306 ROUTE 206

Owner's Well No. SURFACE ELEVATION Feet (Above mean sea level)

2. LOCATION Lot: 9 Block: 2877 Municipality: Little Egg Harbor

3. DATE COMPLETED 3-30-87 DRILLER Clearwater Well Drilling

4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 70 Feet

5. CASING: Type PVC Diameter 4 Inches Length 70 Feet

6. SCREEN: Type PVC Size of Opening: .015 Diameter 4 Inches Length 10 Feet

Range in Depth { Top 60 Feet, Bottom 70 Feet } Geologic Formation Medium

Tail Piece: Diameter Inches Length Feet

7. WELL FLOWS NATURALLY Gallons per minute at Feet above surface

Water rises to Feet above surface

8. RECORD OF TEST: Date Yield 20 Gallons per minute

Static water level before pumping 16 Feet below surface

Pumping level 17 feet below surface after 1 hours pumping

Drawdown 1 Feet Specific Capacity Gals. per min. per ft. of drawdown

How pumped AIR How measured Calc.

Observed effect on nearby wells NONE

9. PERMANENT PUMPING EQUIPMENT:

Type Submersible Mfrs. Name Goulds

Capacity G.P.M. How Driven ELEC H.P. 1/2 R.P.M. 3400

Depth of Pump in well Feet Depth of Footpiece in well Feet

Depth of Air Line in well Feet Type of Meter on Pump Size Inches

10. USED FOR Domestic AMOUNT { Average 75 Gallons Daily, Maximum 100 Gallons Daily }

11. QUALITY OF WATER Good Sample: Yes No

Taste NO Odor NO Color NO Temp. °F.

12. LOG Are samples available?
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA

14. DATA OBTAINED BY Date

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

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WELREC 022 4105

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 12271

32,45:/15

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method Rotary

Type of Rig Cyclone

Aquifer/Geo. Fm. Cohancey

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ____ / ____ / ____

LOG

0-25' Pea grav. stones
25'-35' 50/50 clay + sand mix (iron box)
35'-45' 50/50 clay + sand mix
45'-50' medium to coarse sand

Thick.	Lith.	Fm.

GWPI No. ____ - ____

NJPDES No. ____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 022 4106

Coord: 3245116

3212270

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. _____

APPLICATION NO. Ocean

COUNTY _____

WELL RECORD

1. OWNER ZULIAN, DAVID ADDRESS 306 ROUTE 206

Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Lot: 10 Block: 2877 Municipality: Little Egg Harbor

3. DATE COMPLETED 10-28-86 DRILLER Clearwater Well Drilling

4. DIAMETER: Top 4 inches Bottom 2 inches TOTAL DEPTH 591 Feet

5. CASING: Type Steel Diameter 4 Inches Length 50 Feet

6. SCREEN: Type Stainless Size of Opening .016 Diameter 2 Inches Length 3 Feet

Range in Depth { Top 50 Feet, Bottom 60 Feet } Geologic Formation Coare

Tail Piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 10-28-86 Yield 20 Gallons per minute

Static water level before pumping 12 1/2 Feet below surface

Pumping level 14 feet below surface after 1 hours pumping

Drawdown 1 1/2 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How pumped air How measured calc.

Observed effect on nearby wells none

9. PERMANENT PUMPING EQUIPMENT:

Type submersible Mfrs. Name Goulds

Capacity _____ G.P.M. How Driven elec. H.P. 1/2 R.P.M. 3600

Depth of Pump in well 28' Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR Domestic AMOUNT { Average 175 Gallons Daily, Maximum 200 Gallons Daily }

11. QUALITY OF WATER Good Sample: Yes X No _____

Taste no Odor no Color no Temp. _____ °F.

12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

WELREC 022 4113

Form DWR-138
11/80

Coord: 3245115

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 3212271

APPLICATION NO. _____

COUNTY Ocean

WELL RECORD

1. OWNER ZULIAN, DAVID ADDRESS 306 ROUTE 206

Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Lot: 11 Block: 2877 Municipality: Little Egg Harbor

3. DATE COMPLETED 3-20-87 DRILLER Clearwater Well Drilling

4. DIAMETER: Top 4 Inches Bottom 4 Inches TOTAL DEPTH 60 Feet

5. CASING: Type P.V.C Diameter 4 Inches Length _____ Feet

6. SCREEN: Type P.V.C. Size of Opening _____ Diameter 4 Inches Length 10 Feet

Range in Depth { Top 50 Feet, Bottom 60 Feet } Geologic Formation Medium S.

Tail Piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 3-20-87 Yield 20 Gallons per minute

Static water level before pumping 16 Feet below surface

Pumping level 17 feet below surface after 1/2 hours pumping

Drawdown 1 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How pumped Air How measured Calc

Observed effect on nearby wells NONE

9. PERMANENT PUMPING EQUIPMENT:

Type ~~Jet~~, Sub Mfrs. Name Goulds

Capacity 20 G.P.M. How Driven ELEC. H.P. 1/2 R.P.M. 3400

Depth of Pump in well 45 Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR Domestic AMOUNT { Average 75 Gallons Daily, Maximum 100 Gallons Daily }

11. QUALITY OF WATER Good Sample: Yes X No _____

Taste NO Odor NO Color NO Temp. _____ °F.

12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

WELREC 168 2871

Form DWR-138
11/80

Coord: 3245114

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 3212309

APPLICATION NO.

COUNTY Ocean

WELL RECORD

1. OWNER HORNEFF, DON ADDRESS P.O. BOX 524

Owner's Well No. SURFACE ELEVATION 12' (Above mean sea level) Feet

2. LOCATION Lot: 1 Block: 2876 Municipality: Little Egg Harbor

3. DATE COMPLETED 5/27/86 DRILLER Robert Azurak

4. DIAMETER: Top 4" inches Bottom 4" inches TOTAL DEPTH 65' Feet

5. CASING: Type PVC Diameter 4" Inches Length 61' Feet

6. SCREEN: Type PVC Size of Opening .012 Diameter 4" Inches Length 5' Feet

Range in Depth { Top Feet / Bottom Feet } Geologic Formation Cohanzy

Tail Piece: Diameter Inches Length Feet

7. WELL FLOWS NATURALLY 0 Gallons per minute at 0 Feet above surface

Water rises to 0 Feet above surface

8. RECORD OF TEST: Date 5/27/86 Yield 20 Gallons per minute

Static water level before pumping 12' Feet below surface

Pumping level 60' feet below surface after 30 mins hours pumping

Drawdown 43' Feet Specific Capacity 1 Gals. per min. per ft. of drawdown

How pumped Air Compressor How measured 55 gal Drum

Observed effect on nearby wells

9. PERMANENT PUMPING EQUIPMENT:

Type Submersible Mfrs. Name Redjacket

Capacity 10 G.P.M. How Driven 220 H.P. 1/2 R.P.M. 3450

Depth of Pump in well 60' Feet Depth of Footpiece in well N/A Feet

Depth of Air Line in well N/A Feet Type of Meter on Pump Size Inches

10. USED FOR Domestic AMOUNT { Average Gallons Daily / Maximum Gallons Daily }

11. QUALITY OF WATER Sample: Yes No

Taste Odor Color Temp. °F.

12. LOG Are samples available?
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA Driller

14. DATA OBTAINED BY Robert Azurak Date 5/27/86

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

WELREC 022 4102

0 - 30' SILTS & SAND
30' 34 SAND & CLAY
34' 46 SILTS & SAND
46' - 68' SAND

WELREC 022 4103

Form DWR- 138
11/80

Coord: 3235781

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 3212325

APPLICATION NO. _____

COUNTY Ocean

WELL RECORD

1. OWNER ROMEO, STEVE ADDRESS 30 POMONA DRIVE

Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Lot: 2M Block: 262 Municipality: Little Egg Harbor

3. DATE COMPLETED 10-6-86 DRILLER Clearwater Well Drilling

4. DIAMETER: Top 4 inches Bottom 2 inches TOTAL DEPTH 67' Feet

5. CASING: Type STEEL Diameter 4" Inches Length _____ Feet

6. SCREEN: Type STAINLESS Size of Opening .016 Diameter 2" Inches Length _____ Feet

Range in Depth { Top 60 Feet / Bottom 67 Feet } Geologic Formation Medium sand

Tail Piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 10-6-86 Yield 25 Gallons per minute

Static water level before pumping 18 Feet below surface

Pumping level 20 feet below surface after 1 hours pumping

Drawdown 2 Feet. Specific Capacity _____ Gals. per min. per ft. of drawdown

How pumped AIR How measured CALC

Observed effect on nearby wells NONE

9. PERMANENT PUMPING EQUIPMENT:

Type SUBMERSIBLE Mfrs. Name GOULDS

Capacity _____ G.P.M. How Driven ELEC. H.P. 1/2 R.P.M. 3600

Depth of Pump in well 26' Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well — Feet Type of Meter on Pump — Size — Inches

10. USED FOR DOMESTIC AMOUNT { Average 175 Gallons Daily / Maximum 200 Gallons Daily }

11. QUALITY OF WATER GOOD Sample: Yes X No _____

Taste NO Odor NO Color NO Temp. _____ °F.

12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

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WELREC 022 3276

Form DWR-198
11/80

Coord: 3235783

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 3212327

APPLICATION NO. _____

COUNTY Ocean

WELL RECORD

1. OWNER POMPONIO, JOSEPH AND ANN ADDRESS 20 FAZIO COURT

Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Lot: 1 Block: 263 Municipality: Little Egg Harbor

3. DATE COMPLETED 10-21-86 DRILLER Clearwater Well Drilling

4. DIAMETER: Top 4 inches Bottom 2 inches TOTAL DEPTH 55 Feet

5. CASING: Type Steel Diameter 4 Inches Length 50 Feet

6. SCREEN: Type Stainless Size of Opening ____ Diameter 2 Inches Length 3 Feet

Range in Depth { Top 48 Feet / Bottom 55 Feet } Geologic Formation Medium

Tail Piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 10-21-86 Yield 35 Gallons per minute

Static water level before pumping 15 Feet below surface

Pumping level 17 feet below surface after 1/2 hours pumping

Drawdown 2 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How pumped AIR How measured CALC

Observed effect on nearby wells None

9. PERMANENT PUMPING EQUIPMENT:

Type SUB Mfrs. Name Goulds

Capacity 25 G.P.M. How Driven Elec H.P. 3/4 R.P.M. 3450

Depth of Pump in well 45 Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR DOMESTIC AMOUNT { Average 125 Gallons Daily / Maximum 125 Gallons Daily }

11. QUALITY OF WATER Good Sample: Yes ✓ No ____

Taste NO Odor NO Color NO Temp. _____ °F.

12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

WELREC 022 3282

Coord: 3245114

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

PERMIT NO. 3212388

APPLICATION NO. _____

COUNTY Ocean

WELL RECORD

1. OWNER HINSPETER, DONALD & ANTOINETTE ADDRESS 35 EUCLID AVENUE

Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Lot: 5 Block: 2876 Municipality: Little Egg Harbor

3. DATE COMPLETED 1-21-87 DRILLER Clearwater Well Drilling

4. DIAMETER: Top 4 inches Bottom 2 inches TOTAL DEPTH 50 Feet

5. CASING: Type Steel Diameter 4 Inches Length 50 Feet

6. SCREEN: Type Stainless Size of Opening ____ Diameter 2 Inches Length 3 Feet

Range in Depth { Top 40 Feet / Bottom 50 Feet } Geologic Formation medium

Tail Piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY — Gallons per minute at — Feet above surface

Water rises to — Feet above surface

8. RECORD OF TEST: Date 1-21-87 Yield 20 Gallons per minute

Static water level before pumping 16 Feet below surface

Pumping level 17 feet below surface after 1 hours pumping

Drawdown 1 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How pumped air How measured calc

Observed effect on nearby wells none

9. PERMANENT PUMPING EQUIPMENT:

Type Submersible Mfrs. Name Goulds

Capacity 20 G.P.M. How Driven elec. H.P. 1/2 R.P.M. 3400

Depth of Pump in well 40 Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR Domestic AMOUNT { Average 100 Gallons Daily / Maximum 175 Gallons Daily }

11. QUALITY OF WATER Good Sample: Yes ✓ No ____

Taste no Odor no Color no Temp. ____ °F.

12. LOG _____ Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

WELREC 022 4104

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 12606
Atlas Sheet Coordinates 32 : 34 : 986

OWNER IDENTIFICATION - Owner AVIVA ENGINEERING ASSOC.
Address 24 PINETREE DRIVE
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County Municipality LITTLE EGG HARB Lot No. 18C2 Block No. 262

WELL USE Withdrawl Status IN USE

WATER USE domestic Average 100 gals. daily Maximum 150 gals. daily

WELL CONSTRUCTION Date well completed 6 / 1 / 87
BOREHOLE DIMENSIONS Depths: Total 70 ft. Finished 70 ft.
Diameter: Top 4 in. Bottom 4 in.
Land Surface Elevation at well ft. Elevation was determined using SITE PLAN
Casing Height (stick-up) above land surface ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1			4"	P.V.C
Casing 2				
Casing 3				
Screen 1		10'	4"	P.V.C. .015
Screen 2				
Tail Piece				
Gravel Pack				Bensoal
Grout				
Grouting Method	PRES. Pump			

WELL FLOWS NATURALLY gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 6 / 1 / 87
Static water-level before pumping 15 ft. below land surface. Water level 16 ft. below land surface after 1 hrs. of pumping.
Water level was measured using TAPE Drawdown 1 ft.
Discharge rate measured using Flowulator Discharge Rate 45 gals. per min.
Well was pumped using AIR Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) Good

PERMANENT PUMPING EQUIPMENT Installed by PASCALE Pump Type Submersible
Mfrs. Name Goulds Model
CAPACITY: Pump delivers 45 GPM at 30 PSI pressure.
POWER: 1 HP at 3450 RPM Power Source electric
DEPTHS: Pump ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor CLEARWATER WELL DRILLING
Address 515 Rt. #9
City BORDENTOWN State N.J. Zip Code 08005
Name of Driller Leslie PASCALE License No. 1093

Signature of Contractor Date / /

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 022 3137

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 12606
32-34.986

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☑ No

Drilling Method ROTARY

Type of Rig Cyclone

Aquifer/Geo. Fm Cohansey

LOG

0" — 15' / Pea. GRAV. STONES
15' - 30' / COARSE Sands
30' - 60' / 50/50 Clay + Sand MIX
60' - 70' / MEDIUM SAND

DEP USE ONLY

Storet Hydrogeo Code _____
USGS Hydrogeo Code _____
Depth to Bedrock _____ ft.
Bedrock Lith. Code _____
Bedrock Fm. Code _____

Completed by _____
Date ___ / ___ / ___

Thick.	Lith.	Fm.

GWPI No. ___ - _____

NJPDES No. _____ - ___

Latitude ___ ° ___ ' ___ "

Longitude ___ ° ___ ' ___ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ___ / ___ / ___

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 022 3138

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 12648
Atlas Sheet Coordinates 32 : 45 : 112

OWNER IDENTIFICATION - Owner SOLON, FRANK
Address 18 WILLIAM COOK BLVD.
City MANAHAWKIN State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address Pikes Park & Mayflower dr.
County OCEAN Municipality LITTLE EGG HARB Lot No. 13 Block No. 287-10

WELL USE Withdrawl Status In Use

WATER USE Domestic Average 200 gals. daily Maximum 400 gals. daily

WELL CONSTRUCTION Date well completed 8 / 14 / 86
BOREHOLE DIMENSIONS Depths: Total 75 ft. Finished 75 ft.
Diameter: Top 4 in. Bottom 4 in.
Land Surface Elevation at well ft. Elevation was determined using
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1	+1	67	4	Steel
Casing 2				
Casing 3				
Screen 1	65	10	3	Telescope .015 Slot
Screen 2				
Tail Piece				
Gravel Pack		Natural		
Grout				
Grouting Method		None		

WELL FLOWS NATURALLY gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 8 / 14 / 86
Static water-level before pumping 15 ft. below land surface. Water level 16 ft. below land surface after 1 hrs. of pumping.
Water level was measured using M Scope Drawdown 1 ft.
Discharge rate measured using Bucket Discharge Rate 25 gals. per min.
Well was pumped using Submersible Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells
Water Quality (taste, odor, color, etc.) No taste No odor clear

PERMANENT PUMPING EQUIPMENT Installed by Glenn Robbins Pump Type Submersible
Mfrs. Name Myers Model 5J 511
CAPACITY: Pump delivers 16.4 GPM at 40 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source Electric
DEPTHS: Pump 50 ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on 1 in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor GLENN ROBBINS
Address 155 Atsion Rd
City Indian Mills State NJ Zip Code 08088
Name of Driller [redacted] Mike Walker License No. 1120

Signature of Contractor [signature] Date 10 / 3 / 86

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 022 4093

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 12648
32. 45. 112.

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method CABLE TOOL

Type of Rig BUCYRUS ERIE 20-W

Aquifer/Geo. Fm. COHANSEY

DEP USE ONLY

Storet Hydrogeo Code _____
USGS Hydrogeo Code _____
Depth to Bedrock _____ ft.
Bedrock Lith. Code _____
Bedrock Fm. Code _____

Completed by _____
Date ___ / ___ / ___

LOG

		Thick.	Lith.	Fm.
0-8	Top Soil			
8-38	Coarse Yellow Sand			
38-48	Brown Clay			
48-60	Yellow - Brown Clay			
60-64	Yellow Sand & Clay Mixed			
64-75	Coarse Yellow Sand w/ Traces Pig Iron			
75' -	Pig Iron Sand Stone			

GWPI No. ___ - _____

NJPDES No. _____ - ___

Latitude ___ ° ___ ' ___ "

Longitude ___ ° ___ ' ___ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ___ / ___ / ___

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 022 4094

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. ~~32~~ - ~~13080~~
Atlas Sheet Coordinates ~~32~~ : ~~35~~ : ~~758~~

OWNER IDENTIFICATION - Owner ~~BRETAL~~
Address TTP SEAMAN DR.
City TUCKERTON State ~~NJ~~ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County Ocean Municipality ~~LACEY TWP~~ Tuckerton Boro Lot No. ~~9.02~~ Block No. ~~65~~

WELL USE withdraw Status In use

WATER USE domestic new Average 250 gals. daily Maximum 275 gals. daily

WELL CONSTRUCTION Date well completed 1 / 7 / 87
BOREHOLE DIMENSIONS Depths: Total 70 ft. Finished 55 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well 10 ft. Elevation was determined using top map
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1		20	4	PVC sch. 40
Casing 2				
Casing 3				
Screen 1		10	4	PVC sch 40 16 slot
Screen 2				
Tail Piece				
Gravel Pack				
Grout				Bent Seal
Grouting Method				Pressure pump

WELL FLOWS NATURALLY _____ gals. per min. at _____ ft. above the land surface.
Water rises to _____ ft. above the land surface.

RECORD OF TEST Test Date 1 / 7 / 87
Static water-level before pumping 3½ ft. below land surface. Water level 7½ ft. below land surface after 4 hrs. of pumping.
Water level was measured using rod Drawdown 4 ft.
Discharge rate measured using bucket Discharge Rate 16 gals. per min.
Well was pumped using test pump Specific Capacity 4 gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) clear

PERMANENT PUMPING EQUIPMENT Installed by Ray Power Pump Type Submersible
Mfrs. Name Red Jacket Model 50 CNWI
CAPACITY: Pump delivers 16 GPM at 25 PSI pressure.
POWER: ½ HP at 3450 RPM Power Source electric
DEPTHS: Pump _____ ft. Footpiece _____ ft. Airline _____ ft.
FLOW METER: Model _____ installed on _____ in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor AQUA WELL DRILLING
Address 206 Main St.
City Forked River State NJ Zip Code 08731
Name of Driller Leon Mathis License No. 1098

Signature of Contractor Charles Butler Sec'y Date 1 / 12 / 87

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 022 3244

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 13080
32,35 758

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☐ No

Drilling Method rotary

Type of Rig GMC

Aquifer/Geo. Fm. Sand

DEP USE ONLY

Storet Hydrogeo Code _____
USGS Hydrogeo Code _____
Depth to Bedrock _____ ft.
Bedrock Lith. Code _____
Bedrock Fm. Code _____

Completed by _____
Date ___ / ___ / ___

LOG

0- 13 fine sand + clay
13- 25 med coarse sand
25- 31 coarse sand + sand stone
31- 62 coarse sand
62- 70 coarse sand + clay

Thick.	Lith.	Fm.

GWPI No. ___ - ___

NJPDES No. ___ - ___

Latitude ___ ° ___ ' ___ "

Longitude ___ ° ___ ' ___ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data
☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ___ / ___ / ___

COPIES: *White - DEP* *Canary - Driller* *Pink - Owner* *Goldenrod - Health Dept.*

WELREC 022 3245

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Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 13096
Atlas Sheet Coordinates 32 34 983

OWNER IDENTIFICATION - Owner AVIVA ENGINEERING ASSOC.
Address 24 PINETREE DR.
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County Municipality LITTLE EGG HARB Lot No. 1506 Block No. 258

WELL USE WITHDRAWAL Status IN USE

WATER USE DOMESTIC Average 100 gals. daily Maximum 200 gals. daily

WELL CONSTRUCTION Date well completed 11 / 20 / 87
BOREHOLE DIMENSIONS Depths: Total 75' ft. Finished 75' ft.
Diameter: Top 8 ~~8~~" in. Bottom 8 ~~8~~" in.
Land Surface Elevation at well 10' ft. Elevation was determined using SITE PLAN
Casing Height (stick-up) above land surface 1.0 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1			4"	P.V.C.
Casing 2				
Casing 3				
Screen 1		10'	4"	P.V.C. .015"
Screen 2				
Tail Piece				
Gravel Pack				
Grout				benseal
Grouting Method	pump			

WELL FLOWS NATURALLY – gals. per min. at – ft. above the land surface.
Water rises to – ft. above the land surface.

RECORD OF TEST Test Date 11 / 20 / 87
Static water-level before pumping 20' ft. below land surface. Water level 21' ft. below land surface after hrs. of pumping.
Water level was measured using TAPE Drawdown 1 ft.
Discharge rate measured using FLOWULATER Discharge Rate 15 gals. per min.
Well was pumped using AIR Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) GOOD

PERMANENT PUMPING EQUIPMENT Installed by PASCALE L. Pump Type SUBMERSIBLE
Mfrs. Name GOULDS Model
CAPACITY: Pump delivers 20 GPM at 30 PSI pressure.
POWER: 1.0 HP at 3450 RPM Power Source ELECTRIC
DEPTHS: Pump ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor CLEARWATER WELL DRILLING
Address 515 ROUTE 9
City BARNEGAT State N.J. Zip Code 08005
Name of Driller PASCALE License No. 1093

Signature of Contractor [signature] Date 11 / 30 / 87

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 022 3131

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32-13096
32.34.983

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method ROTARY

Type of Rig CYCLONE

Aquifer/Geo. Fm. COHANSEY

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ____ / ____ / ____

LOG

		Thick.	Lith.	Fm.
IMPERVIOUS CLAY	0'-20'			
COARSE SANDS	20'-30'			
50/50 CLAY & SAND MIX	30'-35'			
COARSE SANDS	35'-55'			
PEAT or ORGANIC VEG. SOD	55'-65'			
MEDIUM SAND	65'-75'			

GWPI No. ____ - _____

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data
☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

COPIES: *White - DEP* *Canary - Driller* *Pink - Owner* *Goldenrod - Health Dept.*

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WELREC 022 3132

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 13124
Atlas Sheet Coordinates 32 : 35 : 742

OWNER IDENTIFICATION - Owner ~~BOG ASSOCIATES, INC.~~ Louis Monaco
Address ~~[illegible]~~ 9 Placid Court
City Manahawkin State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address My Way Avenue
County Ocean Municipality LITTLE EGG HARB Lot No. 6A Block No. 262

WELL USE withdrawl Status in use

WATER USE domestic Average X gals. daily Maximum X gals. daily

WELL CONSTRUCTION Date well completed 4 / 20 / 87
BOREHOLE DIMENSIONS Depths: Total 100 ft. Finished 100 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well X ft. Elevation was determined using X
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1		90	4	PVC Plastic
Casing 2				
Casing 3				
Screen 1	90	10	4	PVC .016
Screen 2				
Tail Piece				
Gravel Pack	90	10		1/4" grit
Grout	10			cement
Grouting Method	gravity			

WELL FLOWS NATURALLY X gals. per min. at X ft. above the land surface.
Water rises to X ft. above the land surface.

RECORD OF TEST Test Date 4 / 20 / 87
Static water-level before pumping 10 ft. below land surface. Water level 20 ft. below land surface after 4 hrs. of pumping.
Water level was measured using chalk line Drawdown 10 ft.
Discharge rate measured using flow meter Discharge Rate 25 gals. per min.
Well was pumped using pump Specific Capacity 2.5 gals. per min. per ft. of drawdown
Observed effects on nearby wells none
Water Quality (taste, odor, color, etc.) good

PERMANENT PUMPING EQUIPMENT Installed by S. Jersey Well Pump Type submersible
Mfrs. Name Gould Model submersible
CAPACITY: Pump delivers 25 GPM at 60 PSI pressure.
POWER: 1 HP at 3500 RPM Power Source Electric
DEPTHS: Pump 40 ft. Footpiece X ft. Airline X ft.
FLOW METER: Model pressure gage installed on X in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor SOUTH JERSEY WELL DRILLING
Address 235 N. White Horse Pike
City Hammonton State NJ Zip Code 08037
Name of Driller S. Jersey Well Drilling License No. 1181

Signature of Contractor Date 5 / 20 / 87

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 022 3223

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 13124
32 · 35 · 742

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method: Rotary

Type of Rig: Mud

Aquifer/Geo. Fm.: Cohansey

DEP USE ONLY

Storet Hydrogeo Code _____
USGS Hydrogeo Code _____
Depth to Bedrock _____ ft.
Bedrock Lith. Code _____
Bedrock Fm. Code _____

Completed by _____
Date ___ / ___ / ___

LOG

0-50' grey clay some grey sand.
50-70' brown sand yellow clay.
70-100' med. to coarse light brown sand.

Thick.	Lith.	Fm.

GWPI No. ___ - ___

NJPDES No. ___ - ___

Latitude ___ ° ___ ' ___ "

Longitude ___ ° ___ ' ___ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ___ / ___ / ___

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 022 3224

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 13139
Atlas Sheet Coordinates 32 : 35 : 754

OWNER IDENTIFICATION - Owner AVIVA ENGINEERING ASSOC.
Address 24 PINETREE DRIVE
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County Municipality EAGLESWOOD TWP. Lot No. 1A&1 Block No. 42

WELL USE WITHDRAWAL Status IN USE

WATER USE DOMESTIC Average 100 gals. daily Maximum 200 gals. daily

WELL CONSTRUCTION Date well completed 02 / 03 / 88
BOREHOLE DIMENSIONS Depths: Total 60 ft. Finished 60 ft.
Diameter: Top 8 ~~0~~" in. Bottom 8 ~~0~~" in.
Land Surface Elevation at well 10' ft. Elevation was determined using SITE PLAN
Casing Height (stick-up) above land surface 1.0 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1			4"	P.V.C.
Casing 2				
Casing 3				
Screen 1		10'	4"	P.V.C. .015"
Screen 2				
Tail Piece				
Gravel Pack				
Grout				benseal
Grouting Method	pump			

WELL FLOWS NATURALLY — gals. per min. at — ft. above the land surface.
Water rises to — ft. above the land surface.

RECORD OF TEST Test Date 02 / 03 / 88
Static water-level before pumping 10 ft. below land surface. Water level 11 ft. below land surface after 1 hrs. of pumping.
Water level was measured using TAPE Drawdown 1 ft.
Discharge rate measured using FLOWULATER Discharge Rate 15 gals. per min.
Well was pumped using AIR Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) GOOD

PERMANENT PUMPING EQUIPMENT Installed by PASCALE L. Pump Type SUBMERSIBLE
Mfrs. Name GOULDS Model
CAPACITY: Pump delivers 20 GPM at 30 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source ELECTRIC
DEPTHS: Pump ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor CLEARWATER WELL DRILLING
Address 515 ROUTE 9
City BARNEGAT State N.J. Zip Code 08005
Name of Driller PASCALE License No. 1093

Signature of Contractor LES PASCALE Date 2 / 15 / 88
Owner
LIC. #1093

COPIES: White - DEPT. Library - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 022 3242

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 13139
~~32~~ 35754

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method Rotary

Type of Rig Cyclone

Aquifer/Geo. Fm. Cohansey

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ____ / ____ / ____

LOG

		Thick.	Lith.	Fm.
PEE grav. stones	0'-10'			
Coarse Sands	10'-25'			
50/50 clay + sand Mix	25'-45'			
Coarse Sands	45'-60'			

GWPI No. ____ - ____

NJPDES No. ____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 022 3243

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 _ 13265
Atlas Sheet Coordinates 32 : 35 : 744

OWNER IDENTIFICATION - Owner SUTTON, EARL & ELIZABETH
Address TUCKERTON
City _____ State NJ Zip Code _____

WELL LOCATION - If not the same owner please give address. Owner's Well No. _____
Address _____
County _____ Municipality LITTLE EGG HARB Lot No. 5 Block No. 258

WELL USE Withdrawl Status In use

WATER USE Domestic Average 100 gals. daily Maximum 175 gals. daily

WELL CONSTRUCTION Date well completed 7 / 16 / 87
BOREHOLE DIMENSIONS Depths: Total 60 ft. Finished 60 ft.
Diameter: Top 4 in. Bottom 4 in.
Land Surface Elevation at well 10 ft. Elevation was determined using Site plan
Casing Height (stick-up) above land surface 1.0 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1			4"	P.VC
Casing 2				
Casing 3				
Screen 1		10'	4"	PVC .015
Screen 2				
Tail Piece				
Gravel Pack				Benseal
Grout				
Grouting Method	P Pump.			

WELL FLOWS NATURALLY _____ gals. per min. at _____ ft. above the land surface.
Water rises to _____ ft. above the land surface.

RECORD OF TEST Test Date 7 / 16 / 87
Static water-level before pumping 20 ft. below land surface. Water level 21 ft. below land surface after 1 hrs. of pumping.
Water level was measured using TAPE Drawdown 1 ft.
Discharge rate measured using Flowvlater Discharge Rate 45 gals. per min.
Well was pumped using Air Specific Capacity _____ gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) Good

PERMANENT PUMPING EQUIPMENT Installed by Pascale Pump Type submersible
Mfrs. Name Gould Model _____
CAPACITY: Pump delivers _____ GPM at 30 PSI pressure.
POWER: 1.0 HP at 3400 RPM Power Source electric
DEPTHS: Pump _____ ft. Footpiece _____ ft. Airline _____ ft.
FLOW METER: Model _____ installed on _____ in. diameter pipe.

CLEARWATER WELL DRILLING

CONTRACTOR - Name of Drilling Contractor
Address 515 RT. #9
City Barnegat State NJ Zip Code 08005
Name of Driller LESLIE PASCALE License No. 1693

Signature of Contractor _____ Date ___ / ___ / ___

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 022 3227

Form DWR 138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32-13265
32:35:744

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☑ No

Drilling Method Rotary

Type of Rig Cyclone

Aquifer/Geo. Fm. Cohansey

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ____ / ____ / ____

LOG

0'-10' - 50/50 Clay sand mix
10'-30' - Coarse sand
30'-45' - fine to medium sand
45'-60' - Medium to Coarse sand

Thick.	Lith.	Fm.

GWPI No. ____ - ____

NJPDES No. ____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 022 3228

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 13279
Atlas Sheet Coordinates 32 : 35 : 787

OWNER IDENTIFICATION - Owner SOLON, FRA
Address
City 184 WILLIAM COOK BLVD. MANAHAWKIN State NJ Zip Code 08050

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address MATHIS DRIVE TUCKERTON
County OCEAN Municipality LITTLE EGG HARB Lot No. 13 Block No. 273

WELL USE Withdrawal Status IN USE

WATER USE DOMESTIC Average 400 gals. daily Maximum 800 gals. daily

WELL CONSTRUCTION Date well completed 03 / 12 / 87
BOREHOLE DIMENSIONS Depths: Total 80 ft. Finished 80 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well ft. Elevation was determined using
Casing Height (stick-up) above land surface +1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1	+1	71'	4"	Sch #4 PVC
Casing 2				
Casing 3				
Screen 1	70'	10'	4"	.015 Bedrock PVC
Screen 2				
Tail Piece				
Gravel Pack	68'	12'		#2 Jessie Morie Gravel
Grout				Holeplug

Grouting Method Cuttings above Holeplug - 10' FROM SURFACE CEMENT TO TOP.

WELL FLOWS NATURALLY gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 03 / 12 / 87
Static water-level before pumping 20' ft. below land surface. Water level ft. below land surface after hrs. of pumping.
Water level was measured using H-SCOPE Drawdown ft.
Discharge rate measured using WATCH + BARREL Discharge Rate 100' gals. per min.
Well was pumped using AIR LIFT Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells
Water Quality (taste, odor, color, etc.) OK - NONE - CLEAR

PERMANENT PUMPING EQUIPMENT Installed by Glenn Robbins Pump Type Submersible
Mfrs. Name Myers Model SJ511
CAPACITY: Pump delivers 14 GPM at 40 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source ELECTRIC
DEPTHS: Pump 60 ft. Footpiece ft. Airline ft.
FLOW METER: Model Installed on 1" in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor ~~GLENN ROBBINS~~
Address 155 ATSION ROAD
City INDIAN MILLS State NJ Zip Code 08088
Name of Driller Glenn ROBBINS License No. 1183

Signature of Contractor Glenn Robbins Date 12 / 6 / 87

COPIES White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 022 3290

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 13279

32.35.782

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method ROTARY

Type of Rig MUD- GD-1400

Aquifer/Geo. Fm. COHANSEY

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ____ / ____ / ____

LOG

0'-1' TOP SOIL
1'-15' GRAVEL CLAY
15'-70' MED COARSE SAND
70'-80' VERY COARSE SAND

Thick.	Lith.	Fm.

GWPI No. ____ - ____

NJPDES No. ____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 022 3291

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 13280
Atlas Sheet Coordinates 32 : 35 : 787

OWNER IDENTIFICATION - Owner PAULIK, WILLIAM
Address 77 VULCAN WAY
City TUCKERTON State NJ Zip Code 08087

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address Mathis Drive Tuckerton
County Ocean Municipality LITTLE EGG HARB Lot No. 12 Block No. 273

WELL USE Withdrawl Status In Use

WATER USE Domestic Average 100 gals. daily Maximum 400 gals. daily

WELL CONSTRUCTION Date well completed 9 / 24 / 87
BOREHOLE DIMENSIONS Depths: Total 80 ft. Finished 80 ft.
Diameter: Top 8 3/4 in. Bottom 8 3/4 in.
Land Surface Elevation at well — ft. Elevation was determined using
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1	+1	71	4	Sch. 40 PVC
Casing 2				
Casing 3				
Screen 1	70	10	4	PVC Sch #40 .020 Slotted Bedrock
Screen 2				
Tail Piece		—	—	
Gravel Pack	65	15		#2 Jersie Morrie
Grout	62	3		Hole Plug
Grouting Method	Cuttings To 10' From Pitless, Cement To Pitless			

WELL FLOWS NATURALLY — gals. per min. at — ft. above the land surface.
Water rises to — ft. above the land surface.

RECORD OF TEST Test Date 9 / 25 / 87
Static water-level before pumping 11 ft. below land surface. Water level ft. below land surface after hrs. of pumping.
Water level was measured using M-SCOPE Drawdown ft.
Discharge rate measured using PRE-MEASURED CONTAINER Discharge Rate 100 gals. per min.
Well was pumped using AIR-LIFT Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells —
Water Quality (taste, odor, color, etc.) OK - NO ODOR - CLEAR

PERMANENT PUMPING EQUIPMENT Installed by Glenn Robbins Pump Type SUBMERSIBLE
Mfrs. Name MYERS Model J511
CAPACITY: Pump delivers 11 GPM at 40 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source ELECTRIC
DEPTHS: Pump 50 ft. Footpiece — ft. Airline — ft.
FLOW METER: Model — installed on — in. diameter pipe.

CONTRACTOR Name of Drilling Contractor GLENN ROBBINS Water Well Service, Inc.
Address 155 Albion Road
City Indian Mills State NJ Zip Code 08088
Name of Driller GLENN ROBBINS License No. 1183

Signature of Contractor Gl Robb Date 8 / 15 / 88

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 022 3292

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 13280

32.35.787

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method ROTARY

Type of Rig GD-1400 Mud.

Aquifer/Geo. Fm. COHANSEY

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ___/___/___

LOG

0-8' YELLOW MED SAND
8'-25' YELLOW-WHITE CLAY & TRACE OF SAND
25'-50' YELLOW FINE SAND-TRACES WHITE CLAY
50'-80' COARSE YELLOW SAND

Thick.	Lith.	Fm.

GWPI No. ___-___

NJPDES No. ___-___

Latitude ___° ___' ___"

Longitude ___° ___' ___"

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ___/___/___

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 022 3293

Form DWR-138
11/88

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 13747
Atlas Sheet Coordinates 32 : 34 : 968

OWNER IDENTIFICATION - Owner SOLON, FRANCIS X.
Address 184 WILLIAM COOK BLVD.
City MANAHAWKIN State NJ Zip Code 08050

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address Nugentown Road
County Ocean Municipality LITTLE EGG HARB Lot No. 8.03 Block No. 262

WELL USE Withdrawl Status In Use

WATER USE Domestic Average 400 gals. daily Maximum 800 gals. daily

WELL CONSTRUCTION Date well completed 7 / 15 / 87
BOREHOLE DIMENSIONS Depths: Total 80 ft. Finished 80 ft.
Diameter: Top 8 3/4 in. Bottom 8 3/4 in.
Land Surface Elevation at well — ft. Elevation was determined using —
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1	+1	71	4	PVC Sch #40
Casing 2				
Casing 3				
Screen 1	70	10	4	PVC Slotted .012 Bedrock
Screen 2				
Tail Piece				
Gravel Pack	68'	12'		#2 Jessie Morrie
Grout	4'	10'		Cement
Grouting Method	Hole plug 2' Above gravel Cuttings to Cement			

WELL FLOWS NATURALLY — gals. per min. at — ft. above the land surface.
Water rises to — ft. above the land surface.

RECORD OF TEST Test Date 7 / 23 / 87
Static water-level before pumping 15' ft. below land surface. Water level ____ ft. below land surface after ____ hrs. of pumping.
Water level was measured using M-SCOPE Drawdown ____ ft.
Discharge rate measured using PRE-MEASURED CONTAINER Discharge Rate 75' gals. per min.
Well was pumped using AIR LIFT Specific Capacity ____ gals. per min. per ft. of drawdown
Observed effects on nearby wells —
Water Quality (taste, odor, color, etc.) OK - NO ODOR - CLEAR

PERMANENT PUMPING EQUIPMENT Installed by Glenn Robbins Pump Type SUBMERSIBLE
Mfrs. Name MYERS Model J511
CAPACITY: Pump delivers 11 GPM at 40 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source ELECTRIC
DEPTHS: Pump 40' ft. Footpiece — ft. Airline — ft.
FLOW METER: Model — installed on — in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor GLENN ROBBINS Water Well Service, Inc.
Address 155 Atsion Road
City Indian Mills State N.J. Zip Code 08088
Name of Driller Glenn Robbins License No. 1183

Signature of Contractor gl Rill Date 8 / 15 / 88

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 022 3113

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 13747

32.34.968

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method ROTARY MUD

Type of Rig GD-1400

Aquifer/Geo. Fm. COHANSEY

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ____ / ____ / ____

LOG

0-1' TOP SOIL
1'-15' YELLOW SAND - MED & COARSE
15'-18' BROWN CLAY - TRACES OF COARSE GRAVEL
18'-24' YELLOW MED SAND
24'-35' WHITE & YELLOW CLAY TRACES OF GRAVEL
35'-39' SOLID WHITE & YELLOW CLAY
39'-55' CLAY & FINE SAND MIXED (YELLOW)
55'-58' RED MED & COARSE SAND
58'-60' YELLOW CLAY
60'-80' YELLOW FINE SAND

Thick.	Lith.	Fm.

GWPI No. ____ - _____

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 022 3114

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 13748
Atlas Sheet Coordinates 32 : 35 794

OWNER IDENTIFICATION - Owner FRIZENMAYER, WILLIAM
Address 241 WEST 27 TH STREET
City SHIP BOTTOM State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County Municipality LITTLE EGG HARB Lot No. 19 Block No. 191

WELL USE WITHDRAWAL Status IN USE

WATER USE DOMESTIC Average 100 gals. daily Maximum 200 gals. daily

WELL CONSTRUCTION Date well completed 03 / 15 / 88
BOREHOLE DIMENSIONS Depths: Total 60' ft. Finished 60' ft.
Diameter: Top 8" in. Bottom 8" in.
Land Surface Elevation at well 10' ft. Elevation was determined using SITE PLAN
Casing Height (stick-up) above land surface 1.0' ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1			4"	P.V.C.
Casing 2				
Casing 3		10'	4"	P.V.C. .015
Screen 1				
Screen 2				
Tail Piece		10'	1/4"	STERILIZED GRITT
Gravel Pack				BENSEAL
Grout	TREME			
Grouting Method				

WELL FLOWS NATURALLY _____ gals. per min. at _____ ft. above the land surface.
Water rises to _____ ft. above the land surface.

RECORD OF TEST Test Date 03 / 15 / 88
Static water-level before pumping 18' TAPE ft. below land surface. Water level 19' 1 ft. below land surface after 1 hrs. of pumping.
Water level was measured using FLOWLILATOR Drawdown 25 ft.
Discharge rate measured using AIR Discharge Rate _____ gals. per min.
Well was pumped using NONE Specific Capacity _____ gals. per min. per ft. of drawdown
Observed effects on nearby wells GOOD
Water Quality (taste, odor, color, etc.) _____

PERMANENT PUMPING EQUIPMENT Installed by Pascale L. Pump Type SUBMERSIBLE
Mfrs. Name GOULDS Model 20 30
CAPACITY: Pump delivers 34GPM at _____ PSI pressure.
POWER: 50 HP at _____ RPM Power Source ELECTRIC
DEPTHS: Pump _____ ft. Footpiece _____ ft. Airline _____ ft.
FLOW METER: Model _____ installed on _____ in. diameter pipe.

CONTRACTOR - Drilling Contractor CLEARWATER WELL DRILLING
Address 515 ROUTE #9
City PASCALE State N.J. Zip Code 08005
Name of Driller _____ License No. 1093

Signature of Contractor _____ Date _____ / _____ / _____

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 022 3329

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 13767
Atlas Sheet Coordinates 32 45 113

OWNER IDENTIFICATION - Owner FRANK SOLON & STANLEY LER
Address 184 WILLIAM COOK BLVD.
City MANAHAWKIN State NJ Zip Code 08050

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address Mayflower Drive Tuckerton, N.J.
County Ocean Municipality LITTLE EGG HARB Lot No. 9 Block No. 290

WELL USE Withdrawal Status In Use

WATER USE Domestic Average 400 gals. daily Maximum 800 gals. daily

WELL CONSTRUCTION Date well completed 8 / 10 / 87
BOREHOLE DIMENSIONS Depths: Total 80 ft. Finished 78 ft.
Diameter: Top 8 3/4 in. Bottom 8 3/4 in.

Land Surface Elevation at well — ft. Elevation was determined using —
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1	+1	69	4	PVC Sch #40
Casing 2				
Casing 3				
Screen 1	68	10	4	PVC Sch #40 .020 Slotted Bedrock
Screen 2				
Tail Piece				
Gravel Pack	65	13		#2 Jessie Morrie
Grout	62	3		Hole plug

Grouting Method Cuttings to 10' from Pitless, Cement to pitless

WELL FLOWS NATURALLY — gals. per min. at — ft. above the land surface.
Water rises to — ft. above the land surface.

RECORD OF TEST Test Date 8 / 14 / 87
Static water-level before pumping 14 ft. below land surface. Water level ____ ft. below land surface after ____ hrs. of pumping.
Water level was measured using M-SCOPE Drawdown ____ ft.
Discharge rate measured using PRE-MEASURE CONTAINER Discharge Rate 100 gals. per min.
Well was pumped using AIR-LIFT Specific Capacity ____ gals. per min. per ft. of drawdown
Observed effects on nearby wells
Water Quality (taste, odor, color, etc.) OK - NO ODOR - CLEAR

PERMANENT PUMPING EQUIPMENT Installed by Glenn Robbins Pump Type Submersible
Mfrs. Name MYERS Model J511
CAPACITY: Pump delivers 11 GPM at 40 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source ELECTRIC
DEPTHS: Pump 50 ft. Footpiece — ft. Airline — ft.
FLOW METER: Model — installed on — in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor GLENN ROBBINS Water Well Service, Inc.
Address 155 Atsion Rd.
City Indian Mills State N.J. Zip Code 08088
Name of Driller Glenn Robbins License No. 1183

Signature of Contractor Glenn Robbins Date 8 / 15 / 88

COPIES White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 022 4098

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 137167

32.45.113

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method Mud Rotary

Type of Rig G-D 1400

Aquifer/Geo. Fm. CoHansey

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ____ / ____ / ____

LOG

		Thick.	Lith.	Fm.
0-3	Top Soil			
3-30	Yellow-White SAND			
30-38	Orange Clay & Sand Mixed			
38-55	Orange Sand & Clay Mixed			
55-80	Orange-Yellow Sand			

GWPI No. ____ - _____

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

COPIES: *White - DEP* *Canary - Driller* *Pink - Owner* *Goldenrod - Health Dept.*

WELREC 022 4099

Form DWR-136
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 – 13580
Atlas Sheet Coordinates 32 : 35 : 772

OWNER IDENTIFICATION - Owner SC ENTERPRISES
Address 265 RIVERVIEW RD.
City WARREN GROVE State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County Ocean Municipality LITTLE EGG HARB Lot No. 20.02 Block No. 278

WELL USE withdraw Status In use

WATER USE domestic Average 250 gals. daily Maximum 275 gals. daily

WELL CONSTRUCTION Date well completed 9 / 25 / 87
BOREHOLE DIMENSIONS Depths: Total 90 ft. Finished 88 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well 10 ft. Elevation was determined using top map
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1		20	4	Sch 40 PVC
Casing 2				
Casing 3				
Screen 1		10	4	Sch 40 PVC 15 slot
Screen 2				
Tail Piece				
Gravel Pack				
Grout				Ben Seal
Grouting Method				pressure pump

WELL FLOWS NATURALLY gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 9 / 25 / 87
Static water-level before pumping 27 ft. below land surface. Water level 31 ft. below land surface after 4 hrs. of pumping.
Water level was measured using rod Drawdown 4 ft.
Discharge rate measured using bucket Discharge Rate 16 gals. per min.
Well was pumped using test pump Specific Capacity 1/4 gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) clear

PERMANENT PUMPING EQUIPMENT Installed by Claude Britton Pump Type submersible
Mfrs. Name Red Jacket Model 50 CNW1
CAPACITY: Pump delivers 25 GPM at 31 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source electric
DEPTHS: Pump ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor AQUA WELL DRILLING
Address 206 Main St
City Forked River State NJ Zip Code 08731
Name of Driller Claude Britton License No. 1098

Signature of Contractor Claude Britton Date 9 / 25 / 87

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 022 3264

Form DWR-136
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 13950
32.35.772

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☐ No

Drilling Method rotary

Type of Rig GMC

Aquifer/Geo. Fm. Sand

LOG

0-30 med sand
30-40 Sand + clay
40-48 clay
48-60 med sand
60-70 med + coarse
70-90 coarse sand

DEP USE ONLY

Storet Hydrogeo Code
USGS Hydrogeo Code
Depth to Bedrock ft.
Bedrock Lith. Code
Bedrock Fm. Code

Completed by
Date / /

Thick.	Lith.	Fm.

GWPI No. -
NJPDES No. -

Latitude ° ' "
Longitude ° ' "
Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"
USGS Quadrangle
Drainage Basin Code
County/Municipality Code
OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by
Date / /

WELREC 022 3265

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 – 14049
Atlas Sheet Coordinates 32 : 45 : 118

OWNER IDENTIFICATION - Owner STEVENS, FRG
Address MAY FLOWER DRIVE
City LITTLE EGG HARBOR State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County Ocean Municipality ~~LITTLE EGG HARB~~ Lot No. 10 Block No. 287-10

WELL USE Supply Status IN USE

WATER USE Domestic Average 300 gals. daily Maximum 500 gals. daily

WELL CONSTRUCTION Date well completed 10 / 5 / 1987
BOREHOLE DIMENSIONS Depths: Total 80 ft. Finished 76 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well 35 ft. Elevation was determined using Est.
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1		60	4"	PVC SCH. 40
Casing 2				
Casing 3				
Screen 1	60	10	4"	PVC .012 IN.
Screen 2				
Tail Piece		6'	4"	
Gravel Pack				
Grout	4'	10		GRAVITY CLAY
Grouting Method				

WELL FLOWS NATURALLY / gals. per min. at / ft. above the land surface.
Water rises to / ft. above the land surface.

RECORD OF TEST Test Date 10 / 5 / 1987
Static water-level before pumping 22 ft. below land surface. Water level 22 ft. below land surface after 3 hrs. of pumping.
Water level was measured using TAPE Drawdown / ft.
Discharge rate measured using Bucket and Watch Discharge Rate 75 gals. per min.
Well was pumped using AIR LIFT Specific Capacity / gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) NONE, NONE, CLEAR

PERMANENT PUMPING EQUIPMENT Installed by MICHAEL TURNER Pump Type SUBMER.
Mfrs. Name MEYERS Model 33
CAPACITY: Pump delivers 11 GPM at 50 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source ELECTRIC
DEPTHS: Pump 50' ft. Footpiece \ ft. Airline \ ft.
FLOW METER: Model \ installed on 1" in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor MICHAEL TURNER
Address 279 MAIN ST.
City Port REPUBLIC State NJ Zip Code 08421
Name of Driller MIKE TURNER License No. 1250

Signature of Contractor Mike Turner Date 10 / 7 / 87

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 022 4117

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 14049
32.45.118

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method Rotary

Type of Rig Top Head

Aquifer/Geo. Fm. Sand

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ___/___/___

LOG

		Thick.	Lith.	Fm.
0 - 3'	Sandy Top Soil			
3-9'	SANDY CLAY WITH STONES			
10'-20'	COARSE BROWN SAND WITH STONES			
20'-30'	COARSE BROWN SAND WITH STONES			
30'-40'	COARSE BROWN SAND WITH STONES, CLAY			
40'-50'	MED. TAN SAND W/ BROWN & GRAY CLAY			
50-60	MED TAN SAND TRACE OF CLAY			
60-70	COARSE TAN SAND			

GWPI No. ____ - _____

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10' ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ___/___/___

WELREC 022 4118

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 – 14071
Atlas Sheet Coordinates 32 : 45 : 112

OWNER IDENTIFICATION - Owner WARK, DAVID & KIMBERLY
Address PO BOX 574
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address Holly Drive, Tuckerton
County OCEAN Municipality ~~LITTLE EGG HARB~~ Lot No. 4 Block No. ~~287-10~~

WELL USE Withdrawl Status in use

WATER USE Domestic Average 100 gals. daily Maximum 200 gals. daily

WELL CONSTRUCTION Date well completed 3 / 18 / 88
BOREHOLE DIMENSIONS Depths: Total 85 ft. Finished 85 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well 10' ft. Elevation was determined using Site Plan
Casing Height (stick-up) above land surface ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1			4"	PVC.
Casing 2				
Casing 3				
Screen 1		10'	4"	PVC. .015
Screen 2				
Tail Piece				
Gravel Pack				
Grout				
Grouting Method	PRES. Pump.			

WELL FLOWS NATURALLY gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 3 / 18 / 88
Static water-level before pumping 15' ft. below land surface. Water level 16' ft. below land surface after ½ hrs. of pumping.
Water level was measured using Tape Drawdown ft.
Discharge rate measured using Flowulator Discharge Rate 25 gals. per min.
Well was pumped using AIR Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells none
Water Quality (taste, odor, color, etc.) Good

PERMANENT PUMPING EQUIPMENT Installed by Leslie Pascale Pump Type Submersible
Mfrs. Name Goulds Model
CAPACITY: Pump delivers 20 GPM at 30 PSI pressure.
POWER: ½ HP at RPM Power Source Electric
DEPTHS: Pump 60" ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor CLEARWATER WELL DRILLING
Address 515 Route 9
City Barnegat State NJ. Zip Code 08005
Name of Driller Leslie Pascale. License No. 1093

Signature of Contractor Date 3 / 28 / 88

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 022 4095

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 14071
32: 45: 112

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method Rotary

Type of Rig Cyclone

Aquifer/Geo. Fm. Cohansey

LOG

0'-10'	Pea. Gravel Stones
10'-30'	Medium Sands
30'-60'	50/50 Clay & Sand mix
60'-70'	Fine To Medium Sand
70'-85'	Med. to Coarse Sand.

DEP USE ONLY

Storet Hydrogeo Code _____
USGS Hydrogeo Code _____
Depth to Bedrock _____ ft.
Bedrock Lith. Code _____
Bedrock Fm. Code _____

Completed by _____
Date ____ / ____ / ____

Thick.	Lith.	Fm.

GWPI No. ____ - _____

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Geophysical Logs ☐ Samples Available ☐ Water Chemistry ☐ Aquifer Test ☐ Pollution Case ☐ Water Level Data

Checked by _____

Date ____ / ____ / ____

WELREC 022 4096

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 _ 14294
Atlas Sheet Coordinates 32 : 35 : 749

OWNER IDENTIFICATION - Owner HOWEY, JEAN ALLEN
Address 125 NUGENTOWN ROAD
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No. 1
Address
County Municipality LITTLE EGG HARB Lot No. 30 Block No. 78

WELL USE Withdrawal Status IN USE

WATER USE Domestic Average 300 gals. daily Maximum 600 gals. daily

WELL CONSTRUCTION Date well completed 1 / 9 / 88
BOREHOLE DIMENSIONS Depths: Total 56 ft. Finished 56 ft.
Diameter: Top 4 in. Bottom 4 in.
Land Surface Elevation at well 44 ft. Elevation was determined using TOPO MAP
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1		53	4	Black STEEL
Casing 2				
Casing 3				
Screen 1	53	3	4"	Johnson STAINLESS STEEL
Screen 2				#16 SLOT
Tail Piece				
Gravel Pack				
Grout				
Grouting Method				

WELL FLOWS NATURALLY _____ gals. per min. at _____ ft. above the land surface.
Water rises to _____ ft. above the land surface.

RECORD OF TEST Test Date 1 / 9 / 88
Static water-level before pumping 15 ft. below land surface. Water level 20 ft. below land surface after 4 hrs. of pumping.
Water level was measured using TAPE Drawdown 5 ft.
Discharge rate measured using 5 gal. pail Discharge Rate 20 gals. per min.
Well was pumped using SUB Specific Capacity 5 gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) GOOD

PERMANENT PUMPING EQUIPMENT Installed by G. Enderson Pump Type Sub.
Mfrs. Name F&W Model
CAPACITY: Pump delivers 10 GPM at 50 PSI pressure.
POWER: 5 HP at 3400 RPM Power Source Electric
DEPTHS: Pump 45 ft. Footpiece _____ ft. Airline _____ ft.
FLOW METER: Model _____ Installed on _____ in. diameter pipe.

GLENN ENDERSON

CONTRACTOR - Name of Drilling Contractor
Address 201 WELLS MILLS ROAD
City WARETOWN State N.J. Zip Code 08758
Name of Driller G. Enderson License No. 955

Signature of Contractor [signature] Date 1 / 10 / 87

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 022 3234

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32- 14294
32. 35. 7.49

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method CABLE-TOOL - Auger

Type of Rig B-47 MoBile Drill

Aquifer/Geo. Fm. Cohansey

LOG

0- 15' - FINE SAND
15'-35' CLAY
35'-45' FINE SAND & SILTS
45'-56' - COARSE SAND.

DEP USE ONLY

Storet Hydrogeo Code _____
USGS Hydrogeo Code _____
Depth to Bedrock _____ ft.
Bedrock Lith. Code _____
Bedrock Fm. Code _____

Completed by _____
Date ____ / ____ / ____

Thick.	Lith.	Fm.

GWPI No. ____ - _____

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 14334
Atlas Sheet Coordinates 32 : 35 : 775

OWNER IDENTIFICATION - Owner SOLON, FRANCIS
Address 184 WILLIAM COOK BLVD
City MANAHAWKIN State NJ Zip Code 08050

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address Madeline Lane (off Stage Rd.)
County Ocean Municipality LITTLE EGG HARB Lot No. 14.04 Block No. 264

WELL USE Withdrawal Status In Use

WATER USE New Domestic Average 400 gals. daily Maximum 800 gals. daily

WELL CONSTRUCTION Date well completed 10 / 5 / 88
BOREHOLE DIMENSIONS Depths: Total 70 ft. Finished 70 ft.
Diameter: Top 8 3/4 in. Bottom 8 3/4 in.
Land Surface Elevation at well N/A ft. Elevation was determined using N/A
Casing Height (stick-up) above land surface ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1	-3	62	4	PVC Sch 40
Casing 2				
Casing 3				
Screen 1	65	5	4	PVC-OKS Johnson Wrapped
Screen 2				
Tail Piece				
Gravel Pack	63	7		#2 Jessie Morrie
Grout	61	2		Hole Plug
Grouting Method	CUTTINGS TO 10' FROM WELL SEAL, CEMENT TO WELL SEAL			

WELL FLOWS NATURALLY N/A gals. per min. at N/A ft. above the land surface.
Water rises to N/A ft. above the land surface.

RECORD OF TEST Test Date 10 / 5 / 88
Static water-level before pumping 14 ft. below land surface. Water level 20 ft. below land surface after 1 hrs. of pumping.
Water level was measured using M-Scope Drawdown 6 ft.
Discharge rate measured using Pre-Measured Container Discharge Rate 50 gals. per min.
Well was pumped using Centrifugal Specific Capacity 8.3 gals. per min. per ft. of drawdown
Observed effects on nearby wells N/A
Water Quality (taste, odor, color, etc.) OK None Clear

PERMANENT PUMPING EQUIPMENT Installed by Glenn Robbins Pump Type Jet
Mfrs. Name Burks Model 5HNAS
CAPACITY: Pump delivers 10 GPM at 40 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source 110V
DEPTHS: Pump N/A ft. Footpiece 32 ft. Airline N/A ft.
FLOW METER: Model N/A installed on N/A in. diameter pipe.

GLENN ROBBINS

CONTRACTOR - Name of Drilling Contractor Water Well Service, Inc.
Address 155 Atsion Rd.
City Indian Mills State N.J. Zip Code 08088
Name of Driller Glenn Robbins License No. 1183

Signature of Contractor Glenn Robbins Date 8 / 23 / 89

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 14334

32-35-775

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method ROTARY

Type of Rig MUD

Aquifer/Geo. Fm. COHANSEY

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ___ / ___ / ___

LOG

	Thick.	Lith.	Fm.
0-1 TOP SOIL			
1-7 YELLOW CLAY TRACES FINE SAND			
7-9 " MED SAND			
9-16 YELLOW CLAY			
16-23 " MED-FINE SAND			
23-25 " CLAY			
25-48 " FINE SAND .012			
48-70 MED BROWN SAND .015			

GWPI No. ___ - _____

NJPDES No. _____ - ___

Latitude ___ ° ___ ' ___ "

Longitude ___ ° ___ ' ___ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ___ / ___ / ___

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 _ 14335
Atlas Sheet Coordinates 32 : 34 : 996

OWNER IDENTIFICATION - Owner SOLON, FRANCIS
Address 184 WILLIAM COOK BLVD
City MANAHAWKIN State NJ Zip Code 08050

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address Stage Road
County Ocean Municipality LITTLE EGG HARB Lot No. 24 Block No. 264

WELL USE Withdrawl Status In Use

WATER USE New Domestic Average 400 gals. daily Maximum 800 gals. daily

WELL CONSTRUCTION Date well completed 4 / 26 / 88
BOREHOLE DIMENSIONS Depths: Total 78 ft. Finished 78 ft.
Diameter: Top 8.75 in. Bottom 8.75 in.
Land Surface Elevation at well N/A ft. Elevation was determined using N/A
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1	+1	69	4	PVC Sch 40
Casing 2				
Casing 3				
Screen 1	68	10	4	.015 Bedrock PVC Slotted
Screen 2				
Tail Piece		0		
Gravel Pack	60	18		# 2 Jessie Morris
Grout	3	10		Cement
Grouting Method	Hole plug 58-60 Cuttings To Cement			

WELL FLOWS NATURALLY N/A gals. per min. at N/A ft. above the land surface.
Water rises to N/A ft. above the land surface.

RECORD OF TEST Test Date 4 / 26 / 88
Static water-level before pumping 6 ft. below land surface. Water level N/A ft. below land surface after N/A hrs. of pumping.
Water level was measured using M-Scope Drawdown N/A ft.
Discharge rate measured using Pre-measured Container Discharge Rate 100 gals. per min.
Well was pumped using Air Lift Specific Capacity N/A gals. per min. per ft. of drawdown
Observed effects on nearby wells N/A
Water Quality (taste, odor, color, etc.) OK None Clear

PERMANENT PUMPING EQUIPMENT Installed by Glenn Robbins Pump Type Submersible
Mfrs. Name Myers Model SJ511
CAPACITY: Pump delivers 14 GPM at 40 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source 230V
DEPTHS: Pump 40 ft. Footpiece N/A ft. Airline N/A ft.
FLOW METER: Model N/A installed on N/A in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor GLENN ROBBINS Water Well Service, Inc.
Address 155 Atsion Rd.
City Indian Mills State N.J. Zip Code 08088
Name of Driller Glenn Robbins License No. 1183

Signature of Contractor [signature] Date 8 / 9 / 90

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 168 1447

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 14335
32-34-996

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method: ROTARY

Type of Rig: MUD

Aquifer/Geo. Fm.: COHANSEY

LOG

0-2 TOP SOIL
2-8 Yellow clay & Fine Sand Moist
8-18 Yellow CLAY
18-25 " Med SAND
25-48 " FINE SAND .012
48-78 Med Brown SAND .015

DEP USE ONLY

Storet Hydrogeo Code
USGS Hydrogeo Code
Depth to Bedrock ft.
Bedrock Lith. Code
Bedrock Fm. Code

Completed by
Date / /

Thick.	Lith.	Fm.

GWPI No. -
NJPDES No. -
Latitude ° ' "
Longitude ° ' "
Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"
USGS Quadrangle
Drainage Basin Code
County/Municipality Code
OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by
Date / /

JUN 14 '90

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 _ 14361
Atlas Sheet Coordinates 32 : 35 : 788

OWNER IDENTIFICATION - Owner MATHIS, DOROTHY
Address 270 W. MAIN ST.
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County Ocean Municipality LITTLE EGG HARB Lot No. 16.01 Block No. 278

WELL USE withdraw Status in use

WATER USE domestic Average 250 gals. daily Maximum 275 gals. daily

WELL CONSTRUCTION
BOREHOLE DIMENSIONS
Date well completed 7 / 26 / 88
Depths: Total 120 ft. Finished 119 ft.
Diameter: Top 8 in. Bottom 8 in.

Land Surface Elevation at well 10 ft. Elevation was determined using top map
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1		20	4	sch 40 pvc
Casing 2		20	4	
Casing 3		20	4	
Screen 1		10	4	sch 40 pvc 15 slot
Screen 2				
Tail Piece				
Gravel Pack				
Grout				Ben Seal
Grouting Method				pressure pump

WELL FLOWS NATURALLY gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 7 / 26 / 88
Static water-level before pumping 22 ft. below land surface. Water level 26 ft. below land surface after 4 hrs. of pumping.
Water level was measured using rod Drawdown 4 ft.
Discharge rate measured using bucket Discharge Rate 16 gals. per min.
Well was pumped using test pump Specific Capacity 1/4 gals. per min. per ft. of drawdown
Observed effects on nearby wells none
Water Quality (taste, odor, color, etc.) clear

PERMANENT PUMPING EQUIPMENT Installed by Claude Britton Pump Type submersible
Mfrs. Name Red Jacket Model 50 CNW1
CAPACITY: Pump delivers 16 GPM at 25 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source electric
DEPTHS: Pump ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor AQUA WELL DRILLING
Address 206 MAIN ST State NJ Zip Code 08731
City FORKED RIVER License No. 1098
Name of Driller Claude Britton

Signature of Contractor Claude Britton Date 7 / 27 / 88

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 022 3296

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 14361
32-35-288

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☐ No

Drilling Method rotary

Type of Rig GMC

Aquifer/Geo. Fm. Sand

LOG

0-40 coarse sand
40-55 clay + silt
55-70 coarse sand
70-83 med sand
83-93 clay
93-120 med + coarse sand

DEP USE ONLY

Storet Hydrogeo Code _____
USGS Hydrogeo Code _____
Depth to Bedrock _____ ft.
Bedrock Lith. Code _____
Bedrock Fm. Code _____

Completed by _____
Date ____ / ____ / ____

Thick.	Lith.	Fm.

GWPI No. ____ - _____ ,

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 022 3297

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 – 14491
Atlas Sheet Coordinates 32 : 34 : 996

OWNER IDENTIFICATION - Owner SCHMITT, PAUL & TERRI
Address 225 FIRST AVE
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County OCEAN Municipality LITTLE EGG HARB Lot No. 25 Block No. 278

WELL USE DOMESTIC Status IN USE

WATER USE Domestic Supply Average 200 gals. daily Maximum 400 gals. daily

WELL CONSTRUCTION Date well completed 3 / 24 / 88
BOREHOLE DIMENSIONS Depths: Total 80 ft. Finished 78 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well 25 ft. Elevation was determined using EST
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1		68	4	PVC Sch 40
Casing 2				
Casing 3				
Screen 1	68	10	4	PVC Sch 40 .012"
Screen 2				
Tail Piece				
Gravel Pack				
Grout	4	10		CLAY
Grouting Method	GRAVITY			

WELL FLOWS NATURALLY — gals. per min. at — ft. above the land surface.
Water rises to — ft. above the land surface.

RECORD OF TEST Test Date 3 / 24 / 88
Static water-level before pumping 25' ft. below land surface. Water level 25 ft. below land surface after 2 hrs. of pumping.
Water level was measured using TAPE Drawdown — ft.
Discharge rate measured using BUCKET & WATCH Discharge Rate 50 gals. per min.
Well was pumped using AIR LIFT Specific Capacity — gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) GOOD

PERMANENT PUMPING EQUIPMENT Installed by MIKE TURNER Pump Type SUB
Mfrs. Name MYERS Model SJ
CAPACITY: Pump delivers 11 GPM at 50 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source ELECT
DEPTHS: Pump 50 ft. Footpiece — ft. Airline — ft.
FLOW METER: Model installed on 1 in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor MICHAEL TURNER
Address 279 Main Street
City Port Republic N.J. State Zip Code 08241
Name of Driller Mike Turner License No. 1250

Signature of Contractor Mike Turner Date 4 / 18 / 88

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 022 3154

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 14481
32-34-996

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☑ No

Drilling Method ROTARY

Type of Rig TOP HEAD

Aquifer/Geo. Fm. SAND

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ____ / ____ / ____

LOG

FEET		Thick.	Lith.	Fm.
0-3	SANDY LOAMY TOP SOIL			
3-10	BROWN SAND			
10-30	COARSE BROWN SAND & CLAY			
30-50	BROWN CLAY, WHITE CLAY & SAND			
50-55	WHITE CLAY & SAND			
55-60	TAN SAND & CLAY			
60-70	COARSE TAN SAND			
70-80	COARSE TAN & RED SAND			

GWPI No. ____ - _____

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 _ 14644
Atlas Sheet Coordinates 32 : 35 : 788

OWNER IDENTIFICATION - Owner BELLA BARTLETT MOTT C/O M
Address 1800 BLACK HORSE PIKE
City PLEASANTVILLE State NJ Zip Code 08232

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address West Main Street
County Ocean Municipality TUCKERTON BORO Lot No. 8 Block No. 15

WELL USE Withdrawl Status In Use

WATER USE Domestic(NEW) Average 400 gals. daily Maximum 800 gals. daily

WELL CONSTRUCTION Date well completed 5 / 16 / 88
BOREHOLE DIMENSIONS Depths: Total 60 ft. Finished 58 ft.
Diameter: Top 8 3/4 in. Bottom 8 3/4 in.
Land Surface Elevation at well ft. Elevation was determined using
Casing Height (stick-up) above land surface +1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1	+1	54	4	PVC Sch # 40
Casing 2				
Casing 3				
Screen 1	53	5	4	.015 Johnson Wrapped PVC
Screen 2				
Tail Piece		—		
Gravel Pack	50	8		#2 Jessie Morrie
Grout	47	3		Hole plug
Grouting Method	Cuttings to 10' from pitless, Cement to pitless			

WELL FLOWS NATURALLY gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 5 / 16 / 88
Static water-level before pumping 21 ft. below land surface. Water level ft. below land surface after hrs. of pumping.
Water level was measured using M-Scope Drawdown ft.
Discharge rate measured using Premeasured Container Discharge Rate 70 gals. per min.
Well was pumped using Air Lift Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells
Water Quality (taste, odor, color, etc.) OK, None, Clear

PERMANENT PUMPING EQUIPMENT Installed by Glenn Robbins Pump Type Submersible
Mfrs. Name Myers Model J511
CAPACITY: Pump delivers 14 GPM at 40 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source Electric 230v
DEPTHS: Pump 50 ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

GLENN ROBBINS

CONTRACTOR - Name of Drilling Contractor Water Well Service, Inc
Address 155 Atsion Rd.
City Indian Mills State N.J. Zip Code 08088
Name of Driller Glenn Robbins License No. 1183

Signature of Contractor Date 1 / 6 / 89

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 022 3298

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32-14644
32-35-788

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method ROTARY

Type of Rig Mud

Aquifer/Geo. Fm. Co HANSEY

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ____ / ____ / ____

LOG

		Thick.	Lith.	Fm.
0-28	ORANGE Med SAND			
28-47	" COARSE SAND			
47-60	TAN Med SAND			

GWPI No. ____ - ____

NJPDES No. ____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

WELREC 022 3299

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 15041
Atlas Sheet Coordinates 32 35 776

OWNER IDENTIFICATION - Owner ~~SOLON, FRANCIS~~
Address ~~104 WILLIAM COOK BLVD.~~
City ~~HAMMONTON~~ State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address MADELINE LANE
County OCEAN Municipality ~~LITTLE EGG HARB~~ Lot No. ~~14.03~~ Block No. ~~284~~

WELL USE WITHDRAWL Status IN USE

WATER USE DOMESTIC Average 400 gals. daily Maximum 800 gals. daily

WELL CONSTRUCTION Date well completed 6 / 12 / 89
BOREHOLE DIMENSIONS Depths: Total 63 ft. Finished 62 ft.
Diameter: Top 8-75 in. Bottom 8-75 in.
Land Surface Elevation at well N/A ft. Elevation was determined using N/A
Casing Height (stick-up) above land surface 0 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1	-3	54	4	PVC Sch 40
Casing 2				
Casing 3				
Screen 1	57	5	4	.015 Johnson PVC Wrapped
Screen 2				
Tail Piece		0		
Gravel Pack	55	7		#2 Jessie Morris
Grout	3	52		Bentonite
Grouting Method	Tremmie Piped			

WELL FLOWS NATURALLY N/A gals. per min. at N/A ft. above the land surface.
Water rises to N/A ft. above the land surface.

RECORD OF TEST Test Date 6 / 12 / 89
Static water-level before pumping 7 ft. below land surface. Water level NA ft. below land surface after NA hrs. of pumping.
Water level was measured using M-SCOPE Drawdown NA ft.
Discharge rate measured using PRE-MEASURED CONTAINER Discharge Rate 75 gals. per min.
Well was pumped using AIR-LIFT Specific Capacity N/A gals. per min. per ft. of drawdown
Observed effects on nearby wells NA
Water Quality (taste, odor, color, etc.) O.K. NONE, CLEAR

PERMANENT PUMPING EQUIPMENT Installed by Glenn Robbins Pump Type JET
Mfrs. Name BURKS Model 5HNAS
CAPACITY: Pump delivers 10 GPM at 40 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source electric 115V
DEPTHS: Pump N/A ft. Footpiece [redacted] ft. Airline NA ft.
FLOW METER: Model NA installed on NA in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor GLENN ROBBINS WATER WELL SERVICE, INC.
Address 314 WHITE HORSE PIKE P.O. BOX 937
City WATERFORD WORKS State N.J. Zip Code 08089-0937
Name of Driller GLENN ROBBINS License No. 1183

Signature of Contractor [signature] Date 8 / 7 / 90

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 168 1549

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 15041

32:35.776

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method: ROTARY

Type of Rig: MUD

Aquifer/Geo. Fm.: COHANSEY

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ____ / ____ / ____

LOG

		Thick.	Lith.	Fm.
0-1	TOP SOIL			
1-7	ORANGE YELLOW CLAY & SAND			
7-16	" " CLAY NO SAND			
16-22	TAN SAND & CLAY MIXED			
22-25	YELLOW MED SAND			
25-26	TAN CLAY			
26-27	" SAND MED COARSE			
27-30	TAN CLAY			
30-53	BROWN-TAN SAND .015			
53-63	WHITE SAND .015			

GWPI No. ____ - _____

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 15059
Atlas Sheet Coordinates 32 : 45 : 131

OWNER IDENTIFICATION - Owner CASEY, TOM
Address 226 ALLEN ST.
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address Colonial Drive
County Ocean Municipality TUCKERTON BORO Lot No. 10 Block No. 330-11

WELL USE withdrawl Status In use

WATER USE Domestic-Renewal Average 150 gals. daily Maximum 150 gals. daily

WELL CONSTRUCTION Date well completed 9 / 2 / 88
BOREHOLE DIMENSIONS Depths: Total 60 ft. Finished 60 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well ft. Elevation was determined using
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1		50	4	pvc plastic
Casing 2				
Casing 3				
Screen 1	50	10	4	.015
Screen 2				
Tail Piece				
Gravel Pack	50	10	4	1/4 grit
Grout	10	10		cement
Grouting Method	gravity			

WELL FLOWS NATURALLY gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 9 / 2 / 88
Static water-level before pumping 4 ft. below land surface. Water level 14 ft. below land surface after 4 hrs. of pumping.
Water level was measured using chalkline Drawdown 10 ft.
Discharge rate measured using flowmeter Discharge Rate 11 gals. per min.
Well was pumped using pump Specific Capacity 1.0 gals. per min. per ft. of drawdown
Observed effects on nearby wells none
Water Quality (taste, odor, color, etc.) good

PERMANENT PUMPING EQUIPMENT Installed by SJ Well Drilling Co. Pump Type submersible
Mfrs. Name Myers Model
CAPACITY: Pump delivers 11 GPM at 60 PSI pressure.
POWER: 1/2 HP at 3500 RPM Power Source electric
DEPTHS: Pump 34 ft. Footpiece ft. Airline ft.
FLOW METER: Model Pressure gauge installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor SOUTH JERSEY WELL DRILLING
Address 235 N White Horse Pike
City Hammonton State NJ Zip Code 08037
Name of Driller Domenick Restuccio License No. 1233

Signature of Contractor Date / /

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 022 4148

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 – 15268
Atlas Sheet Coordinates 32 : 45 : 116

OWNER IDENTIFICATION - Owner KOBYLARZ, JOHN R.
Address 69 MOUNT CEDAR AVENUE
City WALLINGTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County PIKES PEAK OCEAN Municipality LITTLE EGG HARB Lot No. 12 Block No. 287-8

WELL USE WITHDRAWAL Status IN USE

WATER USE DOMESTIC Average 100 gals. daily Maximum 200 gals. daily

WELL CONSTRUCTION Date well completed 11 / 1 / 88
BOREHOLE DIMENSIONS Depths: Total 75' ft. Finished 75 ft.
Diameter: Top 8" in. Bottom 8" in.
Land Surface Elevation at well 10' ft. Elevation was determined using SITE PLAN
Casing Height (stick-up) above land surface 1.0' ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1			4"	P.V.C.
Casing 2				
Casing 3				
Screen 1		10'	4"	P.V.C. .015
Screen 2				
Tail Piece				
Gravel Pack		10'	1/4"	STERILIZED GRITT
Grout				BENSEAL
Grouting Method	TREME			

WELL FLOWS NATURALLY – gals. per min. at – ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 11 / 9 / 88
Static water-level before pumping 15' ft. below land surface. Water level 16' ft. below land surface after 1 hrs. of pumping.
Water level was measured using TAPE Drawdown 1 ft.
Discharge rate measured using FLOWLATOR Discharge Rate 25 gals. per min.
Well was pumped using AIR Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) GOOD

PERMANENT PUMPING EQUIPMENT Installed by Pascale L. Pump Type SUBMERSIBLE
Mfrs. Name GOULDS Model
CAPACITY: Pump delivers 20 GPM at 30 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source ELECTRIC
DEPTHS: Pump 50 ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR Name of Drilling Contractor CLEARWATER WELL DRILLING
Address 515 ROUTE 37
City BARNEGAT State N.J. Zip Code 08005
Name of Driller PASCALE License No. 1093

Signature of Contractor [signature] Date 11 / 2 / 88

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 022 4114

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 15268
32.45.116

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method: Rotary

Type of Rig: Cyclone

Aquifer/Geo. Fm.: Cohansey

DEP USE ONLY

Storet Hydrogeo Code _____
USGS Hydrogeo Code _____
Depth to Bedrock _____ ft.
Bedrock Lith. Code _____
Bedrock Fm. Code _____

Completed by _____
Date ___ / ___ / ___

LOG

0-10 - Clay Sand mix.
10'-15' - Medium Sand
15-30 - Coarse
30-45 - SOFT Clay
45'-65' - Fine Sand,
65'-75' - Coarse

Thick.	Lith.	Fm.

GWPI No. ___ - _____

NJPDES No. _____ - ___

Latitude ___ ° ___ ' ___ "

Longitude ___ ° ___ ' ___ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ___ / ___ / ___

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 15270
Atlas Sheet Coordinates 32 : 45 : 113

OWNER IDENTIFICATION - Owner MATARAZZO, GAETANO
Address 4 LEITZ BLVD.
City LITTLE EGG HARBOR TOWNSHIP State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address 4 Leitz Boulvdard
County Ocean Municipality LITTLE EGG HARB Lot No. 2 Block No. 287-8

WELL USE Withdrawl Status In use

WATER USE Domestic-Replacemen Average 150 gals. daily Maximum 150 gals. daily

WELL CONSTRUCTION Date well completed 10 / 6 / 88
BOREHOLE DIMENSIONS Depths: Total 60 ft. Finished 60 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well ft. Elevation was determined using
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1		50	4	pvc plastic
Casing 2				
Casing 3				
Screen 1	50	10	4	.015
Screen 2				
Tail Piece				
Gravel Pack	50	10	4	1/4 grit
Grout	10	10		cement
Grouting Method	gravity			

WELL FLOWS NATURALLY gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 10 / 6 / 88
Static water-level before pumping 21 ft. below land surface. Water level 31 ft. below land surface after 4 hrs. of pumping.
Water level was measured using chalkline Drawdown 10 ft.
Discharge rate measured using flowmeter Discharge Rate 11 gals. per min.
Well was pumped using pump Specific Capacity 1.1 gals. per min. per ft. of drawdown
Observed effects on nearby wells none
Water Quality (taste, odor, color, etc.) good

PERMANENT PUMPING EQUIPMENT Installed by SJ Well DrillingCo. Pump Type submersible
Mfrs. Name Gould Model
CAPACITY: Pump delivers 11 GPM at 60 PSI pressure.
POWER: 1/2 HP at 3500 RPM Power Source electric
DEPTHS: Pump 51 ft. Footpiece ft. Airline ft.
FLOW METER: Model pressure gauge installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor SOUTH JERSEY WELL DRILLING
Address 235 N White Horse Pike
City Hammonton State NJ Zip Code 08037
Name of Driller Domenick Restuccio License No. 1233

Signature of Contractor Date / /

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 022 4100

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 15270
32.45.113

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method Rotary

Type of Rig Mud

Aquifer/Geo. Fm. Cohansey

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ____ / ____ / ____

LOG

	Thick.	Lith.	Fm.
0-40 Orange clay and sand			
40-60 Coarse brown sand			

GWPI No. ____ - _____

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data
☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____ Date ____ / ____ / ____

WELREC 022 4101

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 15280
Atlas Sheet Coordinates 32 : 34 : 997

OWNER IDENTIFICATION - Owner MC CARTHY, JIM
Address 1314 SOUTHWEST AVENUE
City BEACH HAVEN State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address CAROLYN DR
County OCEAN Municipality LITTLE EGG HARB Lot No. 1.13 Block No. 280

WELL USE WITHDRAWAL Status IN USE

WATER USE DOMESTIC Average 100 gals. daily Maximum 200 gals. daily

WELL CONSTRUCTION Date well completed 7 / 20 / 89
BOREHOLE DIMENSIONS Depths: Total 85' ft. Finished 85' ft.
Diameter: Top 8" in. Bottom 8" in.
Land Surface Elevation at well 10' ft. Elevation was determined using SITE PLAN
Casing Height (stick-up) above land surface 1.0' ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1		75'	4"	P.V.C.
Casing 2				
Casing 3				
Screen 1		10'	4"	P.V.C. .015
Screen 2				
Tail Pipe				
Gravel Pack	76'	10'	1/4"	STERILIZED GRITT
Grout	~~[illegible]~~	70'		BENSEAL
Grouting Method	TREMIE	pressure		

WELL FLOWS NATURALLY _____ gals. per min. at _____ ft. above the land surface.
Water rises to _____ ft. above the land surface.

RECORD OF TEST Test Date 7 / 22 / 89
Static water-level before pumping 34 ft. below land surface. Water level 35 ft. below land surface after 1 hrs. of pumping.
Water level was measured using TAPE Drawdown 1 ft.
Discharge rate measured using FLOWLATOR Discharge Rate 25 gals. per min.
Well was pumped using AIR Specific Capacity _____ gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) GOOD

PERMANENT PUMPING EQUIPMENT Installed by Pascale L. Pump Type SUBMERSIBLE
Mfrs. Name red jacket Model
CAPACITY: Pump delivers 20 GPM at 30 PSI pressure.
POWER: 1.0 HP at 3450 RPM Power Source ELECTRIC
DEPTHS: Pump 50 ft. Footpiece _____ ft. Airline _____ ft.
FLOW METER: Model _____ installed on _____ in. diameter pipe.

CONTRACTOR Name of Drilling Contractor CLEARWATER WELL DRILLING
Address 515 ROUTE 9
City BARNEGAT State N.J. Zip Code 08005
Name of Driller PASCALE License No. 1093

Signature of Contractor [signature] Date 8 / 2 / 89

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 168 1449

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 15280

32.34.997

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method: Rotary

Type of Rig: Cyclone

Aquifer/Geo. Fm.: Cohansey

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ___ / ___ / ___

LOG

0'-5' Coarse Sand

5'-6' IRON ORE

6'-50' Medium Sand

50'-60' Clay

60'-85' Coarse Sand

Thick.	Lith.	Fm.

GWPI No. ___ - ___

NJPDES No. ___ - ___

Latitude ___ ° ___ ' ___ "

Longitude ___ ° ___ ' ___ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemis[illegible] ☐ Pollution Case

Checked by _____

Date ___ / ___ / ___

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 15305
Atlas Sheet Coordinates 32 : 35 : 776

OWNER IDENTIFICATION - Owner SUTTON, EARL
Address 201 THIRD STREET
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address BRIGE RD.
County OCEAN Municipality LITTLE EGG HARB Lot No. 23 Block No. 258
WELL USE WITHDRAWAL Status IN USE

WATER USE DOMESTIC Average 100 gals. daily Maximum 200 gals. daily

WELL CONSTRUCTION Date well completed 11 / 23 88
BOREHOLE DIMENSIONS Depths: Total 75' ft. Finished 75' ft.
Diameter: Top 8" in. Bottom 8" in.
Land Surface Elevation at well 10' ft. Elevation was determined using SITE PLAN
Casing Height (stick-up) above land surface 1.0' ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1			4"	P.V.C.
Casing 2				
Casing 3				
Screen 1				
Screen 2		10'	4"	P.V.C. .015
Tail Piece				
Gravel Pack				
Grout		10'	1/4"	STERILIZED GRITT
Grouting Method	TREMIE			BENSEAL

WELL FLOWS NATURALLY — gals. per min. at — ft. above the land surface.
Water rises to — ft. above the land surface.

RECORD OF TEST Test Date 11 / 29 / 88
Static water-level before pumping 22 ft. below land surface. Water level 23 ft. below land surface after 1 hrs. of pumping.
Water level was measured using TAPE Drawdown 1 ft.
Discharge rate measured using FLOWLATOR Discharge Rate 25 gals. per min.
Well was pumped using AIR Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) GOOD

PERMANENT PUMPING EQUIPMENT Installed by Pascale L. Pump Type SUBMERSIBLE
Mfrs. Name Red Jacket Model
CAPACITY: Pump delivers 20 GPM at 30 PSI pressure.
POWER: 1.0 HP at 3450 RPM Power Source ELECTRIC
DEPTHS: Pump 50 ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR Name of Drilling Contractor CLEARWATER WELL DRILLING
Address 515 ROUTE 9
City BARNEGAT State N.J. Zip Code 08005
Name of Driller PASCALE License No. 1093

Signature of Contractor [signature] Date 11/29/88

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 022 3268

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 15305
32.35.776

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method Rotary

Type of Rig Cyclone

Aquifer/Geo. Fm. Cohansey

DEP USE ONLY

Storet Hydrogeo Code
USGS Hydrogeo Code
Depth to Bedrock ft.
Bedrock Lith. Code
Bedrock Fm. Code

Completed by
Date / /

LOG

0-10' Clay-sand mix
10'-20' SOFT clay
20'-25' Clay
25'-50' Fine sand
50'-60' Medium sand
60'-75' Coarse sand

Thick.	Lith.	Fm.

GWPI No. -
NJPDES No. -
Latitude ° ' "
Longitude ° ' "
Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"
USGS Quadrangle
Drainage Basin Code
County/Municipality Code
OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by
Date / /

WELREC 022 3269

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 15827
Atlas Sheet Coordinates 32 : 35 : 755

OWNER IDENTIFICATION - Owner ~~DIFRANCIA, BART~~
Address ~~34 JEFFERSON LANE~~
City ~~TUCKERTON~~ State ~~NJ~~ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address 34 Jefferson Lane
County Ocean Municipality ~~LITTLE EGG HARB~~ Lot No. ~~14L~~ Block No. ~~258~~

WELL USE withdrawal Status in use

WATER USE domestic Average 375 gals. daily Maximum 500 gals. daily

WELL CONSTRUCTION Date well completed 1 / 8 / 90
BOREHOLE DIMENSIONS Depths: Total 82 ft. Finished 82 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well ft. Elevation was determined using
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1	72	72	4	pvc
Casing 2				
Casing 3				
Screen 1	72	10	4	sch 40 pvc slot 15
Screen 2				
Tail Piece	no			
Gravel Pack	72	10		
Grout	3	69		bentonite
Grouting Method	pressure			

WELL FLOWS NATURALLY no gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 2 / 19 / 90
Static water-level before pumping 22 ft. below land surface. Water level 26 ft. below land surface after 1 hrs. of pumping.
Water level was measured using tape Drawdown 4 ft.
Discharge rate measured using Discharge Rate 10 gals. per min.
Well was pumped using airlift Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells none
Water Quality (taste, odor, color, etc.) good-none-clear

PERMANENT PUMPING EQUIPMENT Installed by Tom Callahan Pump Type submersible
Mfrs. Name Myers Model 1/2 hp
CAPACITY: Pump delivers 10 GPM at 50 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source electric
DEPTHS: Pump 50 ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor THOMAS CALLAHAN WELL
Address 177A North Ave
City West Berlin State NJ Zip Code 08091
Name of Driller Tom Callahan License No. J-1106

Signature of Contractor Thomas Callahan Date 8 / 3 / 90

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32-15827
32,35,755

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method rotary

Type of Rig mud rotary

Aquifer/Geo. Fm.

DEP USE ONLY

Storet Hydrogeo Code
USGS Hydrogeo Code
Depth to Bedrock ft.
Bedrock Lith. Code
Bedrock Fm. Code

Completed by
Date / /

LOG	Thick.	Lith.	Fm.
0-2 top soil			
2-20 sand			
20-35 sand and clay			
35-70 fine sand			
70-80 coarse sand and water			

GWPI No. -

NJPDES No. -

Latitude ° ' "

Longitude ° ' "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle

Drainage Basin Code

County/Municipality Code

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by

Date / /

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11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 – 15901
Atlas Sheet Coordinates 32 : 45 : 115

OWNER IDENTIFICATION - Owner RIVAS, ANDY
Address 94 DOLLMORE AVENUE
City WAREETOWN State NJ Zip Code 08758

WELL LOCATION - If not the same owner please give address. Owner's Well No. 32-15901
Address Center Street, Little Egg Harbor, N.J.
County Ocean Municipality ~~LITTLE EGG HARB~~ Lot No. ~~50~~ Block No. ~~288~~

WELL USE domestic Status

WATER USE domestic Average 200 gals. daily Maximum 300 gals. daily

WELL CONSTRUCTION Date well completed 6 / 14 / 89
BOREHOLE DIMENSIONS Depths: Total 80 ft. Finished 80 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well 14 ft. Elevation was determined using state atlas map 32
Casing Height (stick-up) above land surface ____ ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1		70	4	PVC
Casing 2				
Casing 3				
Screen 1		10	4	PVC .015
Screen 2				
Tail Piece				
Gravel Pack	13			
Grout	67			
Grouting Method	Portland cement/grout pump			

WELL FLOWS NATURALLY ____ gals. per min. at ____ ft. above the land surface.
Water rises to ____ ft. above the land surface.

RECORD OF TEST Test Date 6 / 14 / 89
Static water-level before pumping 14 ft. below land surface. Water level 16 ft. below land surface after 2 hrs. of pumping.
Water level was measured using Drawdown 2 ft.
Discharge rate measured using 5 gal. meas. s.watch Discharge Rate 25 gals. per min.
Well was pumped using sub Specific Capacity ____ gals. per min. per ft. of drawdown
Observed effects on nearby wells none
Water Quality (taste, odor, color, etc.) none

PERMANENT PUMPING EQUIPMENT Installed by Wm. Haddon Pump Type sub
Mfrs. Name Goulds Model
CAPACITY: Pump delivers 25 GPM at 40 PSI pressure.
POWER: 1 HP at 3450 RPM Power Source electric
DEPTHS: Pump 60 ft. Footpiece ____ ft. Airline ____ ft.
FLOW METER: Model 2" gauge installed on ____ in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor WILLIAM HADDON
Address 111 Millcreek Road
City Bayville State N.J. Zip Code 08721
Name of Driller Wm. Haddon License No. 1017

Signature of Contractor [signature] Date 6 / 14 / 89

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 168 2872

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 15901
32.45.115

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method Rotary

Type of Rig 10R Ingrasol Rand

Aquifer/Geo. Fm. Cohancey

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ____ / ____ / ____

LOG

	Thick.	Lith.	Fm.
0 - 3	PT		
3 - 15	SW		
15 - 35	SP		
35 - 45	CL		
45 - 60	SP		
60 - 80	SW		

GWPI No. ____ - _____

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

WELREC 168 2873

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION E
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. ~~32~~ - ~~17037~~
Atlas Sheet Coordinates ~~32~~ : ~~34~~ : ~~992~~

OWNER IDENTIFICATION - Owner FOLEY, DANIEL P.
Address 24 FREDERICK DRIVE
City BAYVILLE State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County OCEAN Municipality LITTLE EGG HARB Lot No. 36 Block No. 262

WELL USE Withdraw Status In Use

WATER USE domestic Average 250 gals. daily Maximum 275 gals. daily

WELL CONSTRUCTION Date well completed 7 / 10 / 80
BOREHOLE DIMENSIONS Depths: Total 80 ft. Finished 80 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well 15 ft. Elevation was determined using Plot Plan
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1		70	4"	Sch 40 PVC
Casing 2				
Casing 3				
Screen 1	70'	10'	4"	PVC .015
Screen 2				
Tail Piece				
Gravel Pack	68'	12'	8"	#2 sand
Grout	4'	68'		Bensal
Grouting Method				Pressure pump

WELL FLOWS NATURALLY _____ gals. per min. at _____ ft. above the land surface.
Water rises to _____ ft. above the land surface.

RECORD OF TEST Test Date 7 / 10 / 80
Static water-level before pumping 27 ft. below land surface. Water level 31 ft. below land surface after 4 hrs. of pumping.
Water level was measured using ~~Probe~~ Pod Drawdown 4 ft.
Discharge rate measured using Bucket Discharge Rate 16 gals. per min.
Well was pumped using PST Pump Specific Capacity 4 gals. per min. per ft. of drawdown
Observed effects on nearby wells None
Water Quality (taste, odor, color, etc.) Clear

PERMANENT PUMPING EQUIPMENT Installed by Claude Benson Pump Type Submersible
Mfrs. Name Goulds Model 1½ hp Sub.
CAPACITY: Pump delivers 25 GPM at 31 PSI pressure.
POWER: 1½ HP at 3450 RPM Power Source Electric 220V
DEPTHS: Pump 7 ft. Footpiece _____ ft. Airline _____ ft.
FLOW METER: Model _____ installed on _____ in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor
Address AQUA WELL DRILLING
City 216 Main St. State NJ Zip Code
Name of Driller Claude Benson Forked River License No. 1078

Signature of Contractor C. Benson Date 9 / 11 / 90

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 17039

32:34:992

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☐ No

Drilling Method Rotary

Type of Rig Bld

Aquifer/Geo. Fm. SAND

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ____ / ____ / ____

LOG

0' - 20' SM
20' - 40 CL
40' - 43 - SM, SW
43 - 80' SW

Thick.	Lith.	Fm.

GWPI No. ____ - _____

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 – 17059
Atlas Sheet Coordinates 32 : 35 : 755

OWNER IDENTIFICATION - Owner DIFRANCI, VINCE
Address 240 STAGE ROAD
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address SAB
County Ocean Municipality LITTLE EGG HARB Lot No. 25 Block No. 264

WELL USE withdrawal Status in use

WATER USE domestic Average 375 gals. daily Maximum 500 gals. daily

WELL CONSTRUCTION Date well completed 7 / 2 / 90
BOREHOLE DIMENSIONS Depths: Total 80 ft. Finished 80 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well ft. Elevation was determined using
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1	70	70	4	pvc
Casing 2				
Casing 3				
Screen 1	70	10	4	sch 40 pvc slot 15
Screen 2				
Tail Piece	no			
Gravel Pack	70	10		
Grout	3	67		bentonite
Grouting Method	bentonite			

WELL FLOWS NATURALLY no gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 7 / 3 / 90
Static water-level before pumping 18 ft. below land surface. Water level 22 ft. below land surface after 1 hrs. of pumping.
Water level was measured using tape Drawdown 4 ft.
Discharge rate measured using Discharge Rate 8 gals. per min.
Well was pumped using airlift Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells none
Water Quality (taste, odor, color, etc.) good-none-clear
WELL ONLY

PERMANENT PUMPING EQUIPMENT Installed by Pump Type Jet
Mfrs. Name Model 1/2
CAPACITY: Pump delivers 8 GPM at 50 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source
DEPTHS: Pump 18 ft. Footpiece ft. Airline ft.
FLOW METER: Model Installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor THOMAS CALLAHAN WELL
Address 177A North Avenue
City West Berlin State NJ Zip Code 08091
Name of Driller Thomas Callahan License No. J-1106

Signature of Contractor Thomas Callahan Date 8 / 3 / 90

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 168 1513

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 17059

32:39:755

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method Rotary

Type of Rig Mud Rotary

Aquifer/Geo. Fm. _____

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ____ / ____ / ____

LOG	Thick.	Lith.	Fm.
0-2 top soil			
2-20 sand			
20-35 sand and clay			
35-70 fine sand			
70-80 coarse sand and water			

GWPI No. ____ - _____

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

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Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 — 17348
Atlas Sheet Coordinates 32 34 997

OWNER IDENTIFICATION - Owner SALWAY, JOSEPHINE
Address SEA AIRE APTS. R16
City SOMERS POINT State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address carolyne dr.
County OCEAN Municipality LITTLE EGG HARB Lot No. 1.11 Block No. 280

WELL USE WITHDRAWAL Status IN USE

WATER USE DOMESTIC Average 100 gals. daily Maximum 200 gals. daily

WELL CONSTRUCTION Date well completed 8 / 20 / 91
BOREHOLE DIMENSIONS Depths: Total 95" ft. Finished 95" ft.
Diameter: Top 8" in. Bottom 8" in.
Land Surface Elevation at well 10" ft. Elevation was determined using SITE PLAN
Casing Height (stick-up) above land surface 1.0" ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1		90	4"	P.V.C.
Casing 2				
Casing 3				
Screen 1	90"	5"	4"	P.V.C. .015
Screen 2				
Tail Piece				
Gravel Pack	90"	5"	1/4"	STERILIZED GRITT
Grout	5"	85		PURE SODIUM BENTONITE

Grouting Method NJAC 7:10-12:20 B 1

WELL FLOWS NATURALLY gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 8 / 20 / 91
Static water-level before pumping 44 ft. below land surface. Water level 45 ft. below land surface after 1 hrs. of pumping.
Water level was measured using TAPE Drawdown 1 ft.
Discharge rate measured using FLOWLATOR Discharge Rate 25 gals. per min.
Well was pumped using AIR Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) GOOD

PERMANENT PUMPING EQUIPMENT Installed by Pascale L. Pump Type SUBMERSIBLE
Mfrs. Name red jacket Model
CAPACITY: Pump delivers 20 GPM at 30 PSI pressure.
POWER: 1.0 HP at 3450 RPM Power Source ELECTRIC
DEPTHS: Pump 50 ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on 1" in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor CLEARWATER WELL DRILLING
Address 515 ROUTE #9
City BARNEGAT State N.J. Zip Code 08005
Name of Driller PASCALE License No. 1093

Signature of Contractor [signature] Date 8/26/91

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 168 1451

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 17348

32.34.997

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method: Rotary

Type of Rig: Mud Rotary

Aquifer/Geo. Fm.: Cohansey

DEP USE ONLY

Storet Hydrogeo Code ____

USGS Hydrogeo Code ____

Depth to Bedrock ____ ft.

Bedrock Lith. Code ____

Bedrock Fm. Code ____

Completed by ____

Date ____ / ____ / ____

LOG

		Thick.	Lith.	Fm.
0"-3'	Fine Sand			
3'-15'	Clay			
15'-27'	Medium Sand			
27'-28'	Clay			
28'-70'	Fine Sand			
70'-80	Medium Sand			
80'-90'-	Coarse Sand			

GWPI No. ____ - ____

NJPDES No. ____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle ____

Drainage Basin Code ____

County/Municipality Code ____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by ____

Date ____ / ____ / ____

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 – 17543
Atlas Sheet Coordinates 32 : 35 : 778

OWNER IDENTIFICATION - Owner MATHIS PORTER, SUSAN
Address RD 1 / BOX 271A, ROUTE 9
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County Municipality LITTLE EGG HARB Lot No. 1 Block No. 325

WELL USE Domestic Status

WATER USE Domestic Average 100 gals. daily Maximum 150 gals. daily

WELL CONSTRUCTION Date well completed 2 / 12 / 91
BOREHOLE DIMENSIONS Depths: Total 90 ft. Finished 85 ft.
Diameter: Top 8 1/2 in. Bottom 8 1/2 in.
Land Surface Elevation at well ft. Elevation was determined using
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1		75	4	PVC Sch. 40
Casing 2				
Casing 3				
Screen 1	75	10	4	PVC Sch 40, 12 slot
Screen 2				
Tail Piece				
Gravel Pack	74	11		
Grout	4	70		Portland
Grouting Method	Haliburton			

WELL FLOWS NATURALLY gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 2 / 12 / 91
Static water-level before pumping 26 ft. below land surface. Water level N/A ft. below land surface after hrs. of pumping.
Water level was measured using water level indicator Drawdown 5 ft.
Discharge rate measured using 5 gallon bucket + watch Discharge Rate 25 gals. per min.
Well was pumped using compressor Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells none
Water Quality (taste, odor, color, etc.) good

PERMANENT PUMPING EQUIPMENT Installed by Robert Lloyd Pump Type submersible
Mfrs. Name Goulds Model 25EL10422
CAPACITY: Pump delivers 25 GPM at 60 PSI pressure.
POWER: 1 HP at RPM Power Source 230
DEPTHS: Pump ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor GREEN'S PUMP & WELL / R. LLOYD
Address 4166 Route 9
City Waretown State NJ Zip Code 08758
Name of Driller Robert Lloyd License No. 1284

Signature of Contractor Robert Lloyd Date 2 / 27 / 91

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 168 1551

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 17543
32 35 778

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method Rotary

Type of Rig Failing 1250 Mud Rig

Aquifer/Geo. Fm.

DEP USE ONLY

Storet Hydrogeo Code
USGS Hydrogeo Code
Depth to Bedrock ft.
Bedrock Lith. Code
Bedrock Fm. Code

Completed by
Date / /

LOG

	Thick.	Lith.	Fm.
0 - 6 medium sand			
6-46 white clay			
46-58 medium sand			
58-63 orange clay			
63-90 medium sand.			

GWPI No. -

NJPDES No. -

Latitude ° ' "

Longitude ° ' "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle

Drainage Basin Code

County/Municipality Code

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data
☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by

Date / /

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 – 17572
Atlas Sheet Coordinates 32 45 : 111

OWNER IDENTIFICATION - Owner BOBE, RANDOLPH T.
Address 15 PIKES PEAK ROAD
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County Municipality ~~LITTLE EGG HARB~~ Lot No. ~~2~~ Block No. ~~10~~

WELL USE Domestic Status

WATER USE Domestic Average 100 gals. daily Maximum 150 gals. daily

WELL CONSTRUCTION Date well completed 3 / 16 / 91
BOREHOLE DIMENSIONS Depths: Total 110 ft. Finished 108 ft.
Diameter: Top 8 1/2 in. Bottom 8 1/2 in.
Land Surface Elevation at well ft. Elevation was determined using
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1		98	4	PVC Sch. 40
Casing 2				
Casing 3				
Screen 1	98	10	4	PVC Sch. 40, 12 slot
Screen 2				
Tail Piece				
Gravel Pack	97	11		
Grout	4	93		Portland
Grouting Method	Haliburton			

WELL FLOWS NATURALLY gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 3 / 16 / 91
Static water-level before pumping 24 ft. below land surface. Water level N/A ft. below land surface after hrs. of pumping.
Water level was measured using Water level indicator Drawdown 4 1/2 ft.
Discharge rate measured using 5 gallon bucket + watch Discharge Rate 25 gals. per min.
Well was pumped using compressor Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells none
Water Quality (taste, odor, color, etc.) good

PERMANENT PUMPING EQUIPMENT Installed by Robert Lloyd Pump Type submersible
Mfrs. Name Goulds Model
CAPACITY: Pump delivers 25 GPM at 50 PSI pressure.
POWER: 1 HP at RPM Power Source 230
DEPTHS: Pump ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor ~~GLENN'S PUMP & WELL / R. LLOYD~~
Address 466 Route 9
City Waretown State NJ Zip Code 08758
Name of Driller Robert Lloyd License No. 1284

Signature of Contractor Robert Lloyd Date 5 / 1 / 91

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 168 2866

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 17572
32 45 111

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method Rotary

Type of Rig Failing 1250 Mud Rig

Aquifer/Geo. Fm.

DEP USE ONLY

Storet Hydrogeo Code
USGS Hydrogeo Code
Depth to Bedrock ft.
Bedrock Lith. Code
Bedrock Fm. Code

Completed by
Date / /

LOG

	Thick.	Lith.	Fm.
0-14 coarse sand			
14-26 white clay			
26-30 medium sand			
30-63 white clay			
63-82 fine sand			
82-93 orange clay			
93-110 medium coarse sand.			

GWPI No. -

NJPDES No. -

Latitude ° ' "

Longitude ° ' "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle

Drainage Basin Code

County/Municipality Code

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by

Date / /

WELREC 168 2867

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 18034
Atlas Sheet Coordinates 32 : 34 : 998

OWNER IDENTIFICATION - Owner FREEMAN, JACK & EMILY
Address 330 ASH ROAD
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County Municipality BASS RIVER TWP Lot No. 5 Block No. 31-C

WELL USE Domestic Status

WATER USE Domestic Average 100 gals. daily Maximum 150 gals. daily

WELL CONSTRUCTION Date well completed 10 / 14 / 91
BOREHOLE DIMENSIONS Depths: Total 90 ft. Finished 85 ft.
Diameter: Top 8 1/2 in. Bottom 8 1/2 in.
Land Surface Elevation at well ft. Elevation was determined using
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1		75	4	PVC Sch 40
Casing 2				
Casing 3				
Screen 1	75	10	4	PVC Sch 40, 12 slot
Screen 2				
Tail Piece				
Gravel Pack	74	11		
Grout	4	70		Portland
Grouting Method	Haliburton			

WELL FLOWS NATURALLY gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 10 / 14 / 91
Static water-level before pumping 10 ft. below land surface. Water level N/A ft. below land surface after hrs. of pumping.
Water level was measured using water level indicator Drawdown 2 ft.
Discharge rate measured using 5 gallon bucket + watch Discharge Rate 10 gals. per min.
Well was pumped using compressor Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells none
Water Quality (taste, odor, color, etc.) good

PERMANENT PUMPING EQUIPMENT Installed by Robert Lloyd Pump Type submersible
Mfrs. Name Goulds Model
CAPACITY: Pump delivers 10 GPM at 60 PSI pressure.
POWER: 1/2 HP at RPM Power Source 115
DEPTHS: Pump ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor GLENN'S PUMP & WELL / R. LLOYD
Address 466 Rt 9
City Waretown State NJ Zip Code 08758
Name of Driller Robert Lloyd License No. 1284

Signature of Contractor Robert Lloyd Date 10 / 30 / 91

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 18084

32.34.998

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☑ No

Drilling Method Rotary

Type of Rig Failing 1250 Mud Rig

Aquifer/Geo. Fm.

DEP USE ONLY

Storet Hydrogeo Code

USGS Hydrogeo Code

Depth to Bedrock ft.

Bedrock Lith. Code

Bedrock Fm. Code

Completed by

Date / /

LOG

	Thick.	Lith.	Fm.
0-4 medium sand			
4-13 white clay			
13-24 medium coarse sand			
24-38 white clay			
38-62 medium sand			
62-65 orange clay			
65-90 medium coarse sand			

GWPI No. -

NJPDES No. -

Latitude ° ' "

Longitude ° ' "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle

Drainage Basin Code

County/Municipality Code

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by

Date / /

DWR-138
8/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

WELL RECORD

Well Permit No. 32 – 18325
Atlas Sheet Coordinates 32 : 45 : 124

OWNER IDENTIFICATION - Owner GARTLIN, MR.
Address 46 LEITZ BLVD
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County OCEAN Municipality LITTLE EGG HARB Lot No. 7 Block No. 289

WELL USE DOMESTIC REPLACEMENT Status

WATER USE SUPPLY Average 200 gals. daily Maximum 400 gals. daily

WELL CONSTRUCTION Date well completed 3 / 23 / 92
BOREHOLE DIMENSIONS Depths: Total 140 ft. Finished 110 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well 60 ft. Elevation was determined using ESTIMATE
Casing Height (stick-up) above land surface — ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1		100	2	F 180 PVC
Casing 2				
Casing 3				
Screen 1	100	10	2	.014 PVC
Screen 2				
Tail Piece				
Gravel Pack	100	10	8	NATURAL
Grout	5	95		BENT
Grouting Method	PRESSURE W TREMIE			

WELL FLOWS NATURALLY — gals. per min. at — ft. above the land surface.
Water rises to — ft. above the land surface.

RECORD OF TEST Test Date 3 / 23 / 92
Static water-level before pumping 18 ft. below land surface. Water level 18 ft. below land surface after 2 hrs. of pumping.
Water level was measured using TAPE Drawdown — ft.
Discharge rate measured using WATER BUCKET Discharge Rate 45 gals. per min.
Well was pumped using AIRLIFT Specific Capacity — gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) GOOD, CLEAR, NO ODOR

PERMANENT PUMPING EQUIPMENT Installed by OTHERS Pump Type
Mfrs. Name Model
CAPACITY: Pump delivers GPM at PSI pressure.
POWER: HP at RPM Power Source
DEPTHS: Pump ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor MICHAEL TURNER
Address 279 MAIN ST
City PORT REPUBLIC State NJ. Zip Code 08241
Name of Driller M. TURNER License No. 1255

Signature of Contractor [signature] Date 4 / 2 / 92

COPIES: White - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 168 2892

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

WELL RECORD

Well Permit No. 32 - 18325
32 45 124

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method ROTARY

Type of Rig TOPHEAD

Aquifer/Geo. Fm. SAND

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ___ / ___ / ___

LOG

	Thick.	Lith.	Fm.
0-1 TOPSOIL			
1-5 ORG SAND/GRAVEL/STONES			
5-10 COBBLES			
10-30 ORG SAND & CLAY			
30-40 LHT GREY CLAY			
40-50 " " " " & WH CLAY			
50-60 WH CLAY			
60-70 F/M TAN SAND & CLAY			
70-75 M TAN SAND			
75-80 M ORG SAND & CLAY			
80-90 MSC ORG TAN			
90-110 CSC TAN SAND			
110-120 " " W CLAY			
120-140 " " " " "			

GWPI No. ___ - _____

NJPDES No. _____ - ___

Latitude ___ ° ___ ' ___ "

Longitude ___ ° ___ ' ___ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ___ / ___ / ___

DWR-138
8/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

WELL RECORD

Well Permit No. 32 - 18935
Atlas Sheet Coordinates 32 : 35 : 745

OWNER IDENTIFICATION - Owner LAPKLUSA, SALVATORR
Address 200 NUGENTOWN RD
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County Ocean Municipality LITTLE EGG HARB Lot No. 35-38 Block No. 255

WELL USE withdrawal Status in use

WATER USE domestic Average 125 gals. daily Maximum 500 gals. daily

WELL CONSTRUCTION Date well completed 11 / 24 / 92
BOREHOLE DIMENSIONS Depths: Total 80 ft. Finished 80 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well ft. Elevation was determined using
Casing Height (stick-up) above land surface ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1	70	70	4	pvc
Casing 2				
Casing 3				
Screen 1	70	10	4	15 slot sch 40 pvc
Screen 2				
Tail Piece	no			
Gravel Pack	70	10		
Grout	3	~~26~~ 67		bentonite
Grouting Method	pressure			

WELL FLOWS NATURALLY no gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

WELL ONLY!!!
RECORD OF TEST Test Date 11 / 24 / 92
Static water-level before pumping 15 ft. below land surface. Water level 20 ft. below land surface after 1 hrs. of pumping.
Water level was measured using tape Drawdown ft.
Discharge rate measured using Discharge Rate 8 gals. per min.
Well was pumped using AIRLIFT Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) GOOD NONE CLEAR

Well only!!!!
PERMANENT PUMPING EQUIPMENT Installed by unknown Pump Type jet
Mfrs. Name Model
CAPACITY: Pump delivers GPM at PSI pressure.
POWER: HP at RPM Power Source
DEPTHS: Pump ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor THOMAS CALLAHAN WELL
Address 177a north Ave
City West Berlin State NJ Zip Code 08091
Name of Driller Thomas Callahan License No. J-1106

Signature of Contractor Thomas Callahan Date 12 / 8 / 92

COPIES: White - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

245

WELREC 168 1493

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

WELL RECORD

Well Permit No. 32 - 18935
32 35 745

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method rotary

Type of Rig mud rotary

Aquifer/Geo. Fm. sand

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ____ / ____ / ____

LOG

	Thick.	Lith.	Fm.
0-2 top soil			
2-10 sand			
10-25 clay			
25-60 sand and clay mixed			
60-80 coarse sand stones water			

GWPI No. ____ - _____

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data
☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

WELL RECORD

Well Permit No. 32 - 18957
Atlas Sheet Coordinates 32 : 45 : 124

OWNER IDENTIFICATION - Owner HASLOP, J.
Address 343 CENTER ST.
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County Municipality LITTLE EGG HARB Lot No. 3 Block No. 287.07

WELL USE SUPPLY Status IN USE

WATER USE DOMESTIC Average 100 gals. daily Maximum 200 gals. daily

WELL CONSTRUCTION Date well completed 12 / 09 / 92
BOREHOLE DIMENSIONS Depths: Total 100 ft. Finished 100 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well 30 ft. Elevation was determined using SHEET 32
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1		90	4	P.V.C.
Casing 2				
Casing 3				
Screen 1		10	4	P.V.C. .016
Screen 2				
Tail Piece				
Gravel Pack	10 FT.			STERILIZED GRIT
Grout	4	90		SODIUM BENTONIT
Grouting Method	PRESSURE			

WELL FLOWS NATURALLY gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 12 / 08 / 92
Static water-level before pumping 20 ft. below land surface. Water level 26 ft. below land surface after 2 hrs. of pumping.
Water level was measured using TAPE Drawdown 6 ft.
Discharge rate measured using TIME Discharge Rate 10 gals. per min.
Well was pumped using SUB. Specific Capacity 1.5 gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) GOOD

PERMANENT PUMPING EQUIPMENT Installed by ABELL DRILLING Pump Type SUBMERSIBLE
Mfrs. Name F&W Model
CAPACITY: Pump delivers 10 GPM at 20 PSI pressure.
POWER: 1/2 HP at RPM Power Source ELC.
DEPTHS: Pump BOTTOM ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor ABELL DRILLING CO.
Address 118 FLIPPER AVE.
City MANAHAWKIN State N.J. Zip Code 08050
Name of Driller JOE ABELL License No. 1067

Signature of Contractor Joe Abell Date 12 / 20 / 92

COPIES: White - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 168 2894

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

WELL RECORD

Well Permit No. 32-18957
3245 124

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☐ No

Drilling Method ROTARY

Type of Rig COMBINATION

Aquifer/Geo. Fm. COHANCY

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ____ / ____ / ____

LOG

	Thick.	Lith.	Fm.
0 TO 10 FT. MEDIUM SAND			
10 TO 30 FT. COARSE SAND			
30 TO 38 FT. CLAY			
38 TO 48 FT. COARSE SANE			
48 TO 60 FT. FINE SAND			
60 TO 75 FT. CLAY			
75 TO 80 FT. FINE SAND			
80 TO 85 FT. MEDIUM SAND			
85 TO 100 FT. COARSE SAND			

GWPI No. ____ - _____

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data
☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

WELL RECORD

Well Permit No. 32 - 19433
Atlas Sheet Coordinates ~~32~~ : ~~45~~ : 121

OWNER IDENTIFICATION - Owner CATALAND, DICK
Address 18 LAITZ BLVD
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address 18 Laitz Blvd
County OCEAN Municipality LITTLE EGG HARB Lot No. 14 Block No. 9

WELL USE Withdrawal Status In use

WATER USE Domestic Replacement Average 150 gals. daily Maximum 150 gals. daily

WELL CONSTRUCTION Date well completed 9 / 2 / 93
BOREHOLE DIMENSIONS Depths: Total 70 ft. Finished 70 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well ft. Elevation was determined using
Casing Height (stick-up) above land surface ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1		60	4	PVC Plastic
Casing 2				
Casing 3				
Screen 1	60	10	4	PVC .012 slot
Screen 2				
Tail Piece				
Gravel Pack	60	10	4	½ grit
Grout	0	60		Bentonite
Grouting Method	Tremie pipe pressure			

WELL FLOWS NATURALLY gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 9 / 2 / 93
Static water-level before pumping 15 ft. below land surface. Water level 25 ft. below land surface after 4 hrs. of pumping.
Water level was measured using Chalkl ine Drawdown 10 ft.
Discharge rate measured using flow meter Discharge Rate 11 gals. per min.
Well was pumped using pump Specific Capacity 1.1 gals. per min. per ft. of drawdown
Observed effects on nearby wells none
Water Quality (taste, odor, color, etc.) good

PERMANENT PUMPING EQUIPMENT Installed by So. Jersey Well Pump Type Submersible
Mfrs. Name Myers Model
CAPACITY: Pump delivers 11 GPM at 50 PSI pressure.
POWER: ½ HP at 3500 RPM Power Source el.
DEPTHS: Pump ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor SOUTH JERSEY WELL DRILLING
Address 253 E. N. White Horse Pike
City Hammonton State NJ Zip Code 08037
Name of Driller Domenick Ferruccio License No. 1233

Signature of Contractor Date 9 / 16 / 93

COPIES: White - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 168 2883

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

WELL RECORD

Well Permit No. 32 - 19433
32 45 121

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method Rotary

Type of Rig Mud rig

Aquifer/Geo. Fm. Cohansey

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ____ / ____ / ____

LOG	Thick.	Lith.	Fm.
0-20 Gravel and fine brown sand			
20-40 Solid brown clay			
40-55 Brown clay and med brown sand			
55-70 Coarse brown sand			

GWPI No. ____ - _____

NJPDES No. _____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

DWR-138
8/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

WELL RECORD

Well Permit No. ~~32~~ - ~~19680~~
Atlas Sheet Coordinates ~~32~~ : ~~45~~ : ~~123~~

OWNER IDENTIFICATION - Owner ~~CERRUBIA, JULIUS J~~
Address ~~1301 OCEAN AVENUE~~
City ~~BELMAR~~ State ~~NJ~~ Zip Code 07719

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address 1 Great Bay Blvd
County Ocean ~~OCEAN~~ Municipality ~~TUCKERTON BORO~~ Lot No. ~~11~~ Block No. ~~26~~

WELL USE withdrawal Status in use

WATER USE domestic Average 100 gals. daily Maximum 200 gals. daily

WELL CONSTRUCTION Date well completed 1 / 27 / 94
BOREHOLE DIMENSIONS Depths: Total 80 ft. Finished 80 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well ft. Elevation was determined using
Casing Height (stick-up) above land surface — ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1	~~80~~ 70	70	4	pvc
Casing 2				
Casing 3				
Screen 1	70	10	4	15 slot sch 40 pvc
Screen 2				
Tail Piece	no			
Gravel Pack	70	10		moie sand #2
Grout	4 ~~28~~	~~68~~x~~28~~ 66		bentonite

Grouting Method pressure

WELL FLOWS NATURALLY NO gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 1 / 28 / 94
Static water-level before pumping 20 ft. below land surface. Water level 22 ft. below land surface after 1 hrs. of pumping.
Water level was measured using tape Drawdown 2 ft.
Discharge rate measured using Discharge Rate 8 gals. per min.
Well was pumped using airlift Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells none
Water Quality (taste, odor, color, etc.) good-none-clear
WELL ONLY!!

PERMANENT PUMPING EQUIPMENT Installed by EXISTING Pump Type JET
Mfrs. Name Model
CAPACITY: Pump delivers 8 GPM at 50 PSI pressure.
POWER: ½ HP at 3450 RPM Power Source electric
DEPTHS: Pump ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor THOMAS CALLAHAN WELL
Address ~~XXX~~ 177a North Ave
City West Berlin, State NJ Zip Code 08091
Name of Driller Thomas Callahan License No. J-1106

Signature of Contractor Thomas Callahan Date 2 / 10 / 94

COPIES: White - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 168 2728

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

WELL RECORD

Well Permit No. 32 - 19680
3245 123

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☑ No

Drilling Method Rotary

Type of Rig mud rotary

Aquifer/Geo. Fm. sand

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ___ / ___ / ___

LOG

	Thick.	Lith.	Fm.
0-3 asphalt			
3-20 coarse yellow gravel			
20-40 clay and yellow sand			
40-55 fine yellow sand			
55-80 coarse yellow sand water			

GWPI No. ___ - _____

NJPDES No. _____ - ___

Latitude ___ ° ___ ' ___ "

Longitude ___ ° ___ ' ___ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ___ / ___ / ___

DWR-138
8/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

WELL RECORD

Well Permit No. 32 - 19836
Atlas Sheet Coordinates 32 : 34 : 994

OWNER IDENTIFICATION - Owner MCLEAN, DIANE
Address 306 ASH RD
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address Stage Road Little Egg Harbor Twp., N.J.
County OCEAN Municipality LITTLE EGG HARB Lot No. 7 Block No. 263

WELL USE withdrawal Status in use

WATER USE Domestic New Average 150 gals. daily Maximum 150 gals. daily

WELL CONSTRUCTION Date well completed 6 / 21 / 94
BOREHOLE DIMENSIONS Depths: Total 60 ft. Finished 60 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well ft. Elevation was determined using
Casing Height (stick-up) above land surface ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1		50	4	PVC Plastic
Casing 2				
Casing 3				
Screen 1	50	10	4	.012 slot PVC
Screen 2				
Tail Piece				
Gravel Pack	50	10	4	¼ grit
Grout	0	50		Bentonite
Grouting Method	Tremie pipe pressure			

WELL FLOWS NATURALLY gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 6 / 21 / 94
Static water-level before pumping 18 ft. below land surface. Water level 28 ft. below land surface after 4 hrs. of pumping.
Water level was measured using chalk line Drawdown 10 ft.
Discharge rate measured using flow meter Discharge Rate 18 gals. per min.
Well was pumped using pump Specific Capacity 1.8 gals. per min. per ft. of drawdown
Observed effects on nearby wells none
Water Quality (taste, odor, color, etc.) good

PERMANENT PUMPING EQUIPMENT Installed by So. Jersey Well Pump Type submersible
Mfrs. Name Myers Model
CAPACITY: Pump delivers 18 GPM at 50 PSI pressure.
POWER: HP at RPM Power Source Electric
DEPTHS: Pump 48 ft. Footpiece ft. Airline ft.
FLOW METER: Model Pressure gauge installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor SOUTH JERSEY WELL DRILLING
Address 253E N. White Horse Pike
City Hammonton, State N.J.s Zip Code 08037
Name of Driller Domenic Restuccio License No. 1233

Signature of Contractor Date 7 / 7 / 94

COPIES: White - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 168 1440

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

WELL RECORD

Well Permit No. 32 - 19836
32 34994

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method: Mud Rotary

Type of Rig: mud rig

Aquifer/Geo. Fm.: Cohansey

DEP USE ONLY

Storet Hydrogeo Code _____
USGS Hydrogeo Code _____
Depth to Bedrock _____ ft.
Bedrock Lith. Code _____
Bedrock Fm. Code _____

Completed by _____
Date ___ / ___ / ___

LOG

	Thick.	Lith.	Fm.
0-20 Brown sand and gravel with stones			
20-40 Solid brown clay			
40-60 Coarse brown sand			

GWPI No. ___ - _____

NJPDES No. _____ - ___

Latitude ___ ° ___ ' ___ "

Longitude ___ ° ___ ' ___ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ___ / ___ / ___

DWR-138
8/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

WELL RECORD

Well Permit No. 32 – 200015
Atlas Sheet Coordinates 32 45 127

OWNER IDENTIFICATION - Owner LEITZ, RICHARD C. SR.
Address 95 LEITZ BLVD.
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address same
County OCEAN Municipality LITTLE EGG HARB Lot No. 6 Block No. 287.05

WELL USE withdrawal Status in use

WATER USE Domestic Average 125 gals. daily Maximum 500 gals. daily

WELL CONSTRUCTION Date well completed 7/27/94
BOREHOLE DIMENSIONS Depths: Total 88 Finished 85 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well ft. Elevation was determined using
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1	75	75	4	pvc
Casing 2				
Casing 3				
Screen 1	75	10	4	sch 40 pvc 15 slot
Screen 2				
Tail Piece	no			
Gravel Pack	75	10		morie sand #2
Grout	3	72		bentonite
Grouting Method	pressure			

WELL FLOWS NATURALLY no gals. per min. at ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 7/27/94
Static water-level before pumping 18 ft. below land surface. Water level 25 ft. below land surface after hrs. of pumping.
Water level was measured using tape Drawdown 7 ft.
Discharge rate measured using Discharge Rate 12 gals. per min.
Well was pumped using airlift Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells none
Water Quality (taste, odor, color, etc.) good-none-clear

PERMANENT PUMPING EQUIPMENT Installed by Callahan Well Pump Type sub
Mfrs. Name Myers Model ½hp
CAPACITY: Pump delivers 12 GPM at 50 PSI pressure.
POWER: ½ HP at 3450 RPM Power Source electric
DEPTHS: Pump 45 ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor THOMAS CALLAHAN WELL
Address 177a North Ave
City West Berlin State NJ Zip Code 08091
Name of Driller Thomas Callahan License No. J-1106

Signature of Contractor Thomas Callahan Date 8/10/94

COPIES: White - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 168 2905

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

WELL RECORD

Well Permit No. 32 - 20015
32 45 127

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method rotary

Type of Rig mud rotary

Aquifer/Geo. Fm. sand

DEP USE ONLY

Storet Hydrogeo Code _____
USGS Hydrogeo Code _____
Depth to Bedrock _____ ft.
Bedrock Lith. Code _____
Bedrock Fm. Code _____

Completed by _____
Date ____ / ____ / ____

LOG

	Thick.	Lith.	Fm.
0-2 top soil			
2-20 fine brown sand			
20-45 sand mixed with clay			
45-65 fine brown sand			
65-85 coarse sand stones water			

GWPI No. ____ - ____

NJPDES No. ____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data
☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ____ / ____ / ____

DWR-138
11/94

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NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER ALLOCATION

WELL RECORD

Well Permit No. 32 – 20100
Atlas Sheet Coordinates 32 : 45 : 131

OWNER IDENTIFICATION - Owner ~~BARNEGAT BAY DECOY & BAYM~~
Address ~~P.O. BOX 54~~
City ~~TUCKERTON~~ State ~~NJ~~ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address RT9
County ~~OCEAN~~ Municipality ~~TUCKERTON BORO~~ Lot No. 15 Block No. 26

WELL USE WITHDRAWAL Status IN USE

WATER USE DOMESTIC Average 100 gals. daily Maximum 200 gals. daily

WELL CONSTRUCTIONS Date well completed 6 / 21 95
BOREHOLE DIMENSIONS Depths: Total 80' ft. Finished 80' ft.
Diameter: Top 8" in. Bottom 8" in.
Land Surface Elevation at well 10' ft. Elevation was determined using SITE PLAN
Casing Height (stick-up) above land surface 1.0' ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1		70'	4"	P.V.C.
Casing 2				
Casing 3				
Screen 1	70'	10'	4"	P.V.C. .015
Screen 2				
Tail Piece				
Gravel Pack	70'	10'	1/4"	STERILIZED GRITT
Grout	5'	65'		PURE SODIUM BENTONITE

Grouting Method PRESSURE PUMP/TREMI PIPE-NJAC 7:10-12:20 B 1

WELL FLOWS NATURALLY – gals. per min. at – ft. above the land surface.
Water rises to – ft. above the land surface.

RECORD OF TEST Test Date 6 / 21 / 95
Static water-level before pumping 10' ft. below land surface. Water level 11 ft. below land surface after 1 hrs. of pumping
Water level was measured using TAPE Drawdown 1 ft.
Discharge rate measured using FLOWULATOR Discharge Rate 25 gals. per min.
Well was pumped using AIR Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells N O N E
Water Quality (taste, odor, color, etc.) G O O D

PERMANENT PUMPING EQUIPMENT Installed by Pascale L. Pump Type SUBMERSIBLE
Mfrs. Name Red jacket Model
CAPACITY: Pump delivers 20 GPM at 30 PSI pressure
POWER: 1/2 HP at 3450 RPM Power Source ELECTRIC
DEPTHS: Pump 25' ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on 1" in. diameter pipe

CONTRACTOR - Name of Drilling Contractor ~~CLEARWATER WELL DRILLING~~
Address 515 ROUTE #9
City BARNEGAT State N.J. Zip Code 08005
Name of Driller PASCALE License No. J1093

Signature of Contractor Date 6 23 95

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 168 2914

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER ALLOCATION

WELL RECORD

Well Permit No. 32 - 20700
32.45.131

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☐ No

Drilling Method ROTARY

Type of Rig MUD ROTARY ~~COHANSEY~~

Aquifer/ Geo. Fam.

DEP USE ONLY

Storet Hydrogeo Code
USGS Hydrogeo Code
Depth to Bedrock ft.
Bedrock Lith. Code
Bedrock Fm. Code

Completed by
Date / /

LOG	Thick.	Lith.	Fm.
0"- 11' COARSE SAND			
11'-20' FINE TO MEDIUM SAND			
20'-25' SILTY SAND AND CLAY			
25'-32' CLAY			
32'-55' CLAY AND SAND MIXED			
55'-70' MEDIUM SAND			
70'-80' MEDIUM SAND AND GRAVEL			

GWPI No. -

NJPDES No. -

Latitude ° ' "

Longitude ° ' "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle

Drainage Basin Code

County/Municipality Code

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by

Date / /

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

DMR

Well Permit Number
32 - 20862

Atlas Sheet Coordinates
32 : 45 : 115

OWNER CLIFFORD, SUSAN
Address 346 HERITAGE WAY
City TUCKERTON State NJ Zip Code

WELL LOCATION ADDRESS LEITZ BOULEVARD Owner's Well No.
County OCEAN Municipality LITTLE EGG HARB Lot No. 4 Block No. 287.9

WELL USE DOMESTIC

DATE WELL STARTED 9/25/96
DATE WELL COMPLETED 9/25/96

WELL CONSTRUCTION

Total Depth Drilled 90 ft.

Finished Well Depth 90 ft.

Borehole Diameter:
Top 8½ in.
Bottom 8½ in.

Well Casing Begins:
2 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	80	4	PVC	sch40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 15 Slot)	80	90	4	PVC	sch40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	78	90	8½	#1 SAND	600 LBS
Grout	4	78	8½	Neat Cement / Bentonite	lbs / 400 lbs

RECORD OF TEST

Test Date 9/25/96
Static Water Level 23 ft. below land surface
Water Level Measured Using Level Ind
Pumping Water Level 27 ft. below land surface
Well Was Pumped Using Air compressor
Well Yield 150 gpm
If Pump Tested: Discharge Rate gpm
Duration of Test hours

Grouting Method Pressure Grout
Drilling Method Rotary

PERMANENT PUMPING EQUIPMENT

Installed by John Robertson Reg. No. 13841
Pump Type Submersible
Depth of Pump below land surface 40 ft.
Capacity 10 gpm Horsepower ½

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company PURE PRESSURE WATER SYSTEMS
Well Driller (Print) John Robertson
Driller's Signature
Registration No. 13841 Date 10/15/96

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-26 med sand
26-38 clay
38-51 med sand
51-67 clay
67-90 med sand

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 168 2874

DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 — 20911

Atlas Sheet Coordinates 32 : 45 : 116

OWNER SCHLICK, DAVID

Address 17 GARDEN TERRACE

City TUCKERTON State NJ Zip Code 08087

WELL LOCATION ADDRESS 17 GARDEN TERRACE Owner's Well No. 1

County OCEAN Municipality LITTLE EGG HARB Lot No. 23 Block No. 289

WELL USE DOMESTIC REPLACEMENT

DATE WELL STARTED 10 / 6 / 95

DATE WELL COMPLETED 10/ 6 / 95

WELL CONSTRUCTION

Total Depth Drilled 80 ft.

Finished Well Depth 80 ft.

Borehole Diameter:
Top 8 in.
Bottom 8 in.

Well Casing Begins:
1 ft. above grade or
_____ ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	80	4	pvc	sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	70	80	4	pvc	sch 40
Blank Casings (No. Used)					
Tail Piece	no				
Gravel Pack	70	10		more sand	#2
Grout	~~65~~ 4	70		Neat Cement	____ lbs
				Bentonite	600 lbs

RECORD OF TEST

Test Date 10 / 12 95

Static Water Level 2 ft. below land surface

Water Level Measured Using tape

Pumping Water Level 7 ft. below land surface

Well Was Pumped Using airlift

Well Yield ~~90~~ 30 gpm

If Pump Tested: Discharge Rate _____ gpm
Duration of Test _____ hours

Grouting Method pressure thru tremie

Drilling Method rotary

PERMANENT PUMPING EQUIPMENT

Installed by Mark Callahan Reg. No. 0882

Pump Type submersible

Depth of Pump below land surface 40 ft.

Capacity 25 gpm Horsepower 1

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company THOMAS CALLAHAN WELL

Well Driller (Print) Thomas Callahan

Driller's Signature Thomas Callahan

Registration No. J-1106 Date 10 / 27 /95

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-5 top soil
5-40 clay
40-65 yellow sand with gravel
65-80 coarse sand with water

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 168 2878

DWR-138
6/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 — 21077

Atlas Sheet Coordinates 32 : 45 : 112

OWNER HEDGEPETH, JOHN
Address 116 SPINNACER AVE.
City MANAHAWKIN State NJ Zip Code

WELL LOCATION ADDRESS 33 HOLLY DR. Owner's Well No.
County OCEAN Municipality LITTLE EGG HARB Lot No. 19 Block No. 287.09

WELL USE DOMESTIC REPLACEMENT

DATE WELL STARTED 10/20/95
DATE WELL COMPLETED 10/20/95

WELL CONSTRUCTION

Total Depth Drilled 72 ft.
Finished Well Depth 65 ft.
Borehole Diameter: Top 6 1/2 in. Bottom 6 1/2 in.
Well Casing Begins: 3 ft. above grade or 3 ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	3	60	2	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 1)	60	65	2	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	59	65		#1 sand	300
Grout	4	59		Neat Cement / Bentonite	564 lbs / lbs

RECORD OF TEST

Test Date 10/20/95
Static Water Level 8 ft. below land surface
Water Level Measured Using water level indicator
Pumping Water Level 18 ft. below land surface
Well Was Pumped Using air compressor
Well Yield 25 gpm
If Pump Tested: Discharge Rate gpm
Duration of Test 2 hours

Grouting Method Pressure thru tremmie pipe
Drilling Method Rotary

PERMANENT PUMPING EQUIPMENT

Installed by Robert Lloyd Reg. No. 1284
Pump Type jet pump
Depth of Pump below land surface N/A ft.
Capacity 10 gpm Horsepower 1/2

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company GLENN'S PUMP & WELL / R. LLOYD
Well Driller (Print) Robert Lloyd
Driller's Signature Robert Lloyd
Registration No. 1284 Date 11/2/95

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-2' orange clay
2-18' fine orange sand
18-24' coarse sand
24-29' orange clay
29-34' fine sand
34-38' medium orange sand
38-52' orange and white clay
52-55' red sand
55-72' white sand

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 168 2868

DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 — 21120

Atlas Sheet Coordinates 32 : 34 : 994

OWNER HIGH RIDGE BUILDERS
Address P.O. BOX 460
City MANAHAWKIN State NJ Zip Code

WELL LOCATION ADDRESS 224 PINEOAK DR. Owner's Well No.
County OCEAN Municipality LITTLE EGG HARB Lot No. 41 Block No. 264

WELL USE DOMESTIC
DATE WELL STARTED 12 / 22 / 95
DATE WELL COMPLETED 12 / 22 / 95

WELL CONSTRUCTION

Total Depth Drilled 80 ft.
Finished Well Depth 79 ft.
Borehole Diameter:
Top 8½ in.
Bottom 8½ in.
Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	69	4	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 1)	69	79	4	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	67	79	8½	#2 SAND	600 lbs
Grout	4	67	8½	Neat Cement / Bentonite	lbs / 350 lbs

RECORD OF TEST

Test Date 12 / 22 / 95
Static Water Level 25 ft. below land surface
Water Level Measured Using LEVEL IND
Pumping Water Level 31 ft. below land surface
Well Was Pumped Using Air Compressor
Well Yield 20 gpm
If Pump Tested: Discharge Rate gpm
Duration of Test hours

Grouting Method Pressure Grout
Drilling Method Rotary

PERMANENT PUMPING EQUIPMENT

Installed by John Robertson Reg. No. 1384
Pump Type Submersible
Depth of Pump below land surface 50 ft.
Capacity 20 gpm Horsepower 1

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company PURE PRESSURE WATER SYSTEMS
Well Driller (Print) John Robertson
Driller's Signature John Robertson
Registration No. 1384 Date 1 / 2 / 96

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0 - 2 FINE SAND
2 - 17 CLAY
17 - 38 COARSE SAND
38 - 45 CLAY
45 - 80 MED SAND

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 168 1442

DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

E
DMR

Well Permit Number
32 — 22368

Atlas Sheet Coordinates
32 : 34 : 968

OWNER MAXWELL, KEN
Address 160 MATHISTOWN ROAD
City TUCKERTON State NJ Zip Code

WELL LOCATION ADDRESS HAY ROAD Owner's Well No.
County OCEAN Municipality LITTLE EGG HARB Lot No. 12.07 Block No. 262

WELL USE DOMESTIC

DATE WELL STARTED 10/10/97
DATE WELL COMPLETED 10/13/97

WELL CONSTRUCTION

Total Depth Drilled 100 ft.

Finished Well Depth 100 ft.

Borehole Diameter:
Top _____ in.
Bottom 8 in.

Well Casing Begins:
+1.5 ft. above grade or
_____ ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.5	90	4	PVC S-40	S-40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 1)	95	100	4	PVC S-40	S-40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	90	100		Gravel	#1
Grout	5	90		Neat Cement / Bentonite	____ lbs / 400 lbs

RECORD OF TEST

Test Date 10/10/97
Static Water Level 11 ft. below land surface
Water Level Measured Using TAPE
Pumping Water Level 16 ft. below land surface
Well Was Pumped Using MELIPT
Well Yield 55 gpm
If Pump Tested: Discharge Rate N/A gpm
Duration of Test N/A hours

Grouting Method Pressure
Drilling Method MUD ROTARY

PERMANENT PUMPING EQUIPMENT

Installed by M TURNER Reg. No. J1250
Pump Type SUB
Depth of Pump below land surface 45 ft.
Capacity 20 gpm Horsepower 3/4

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company MICHAEL TURNER
Well Driller (Print) Michael Turner
Driller's Signature Michael Turner
Registration No. J1250 Date 10/20/97

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-30 ORG GRAVEL SAND
30-50 M TAN SAND W LAT GREY CLAY LAYERS
50-60 GREY CLAYS T SAND
60-70 M TAN SANDS
70-75 PINK TAN/SAND
75-85 M/C TAN SAND
85-100 GLUE TAN SANDS

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 168 1401

DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 — 22379

Atlas Sheet Coordinates 32 : 45 : 115

OWNER WILLISCROFT, HERBERT & KA
Address 75 LEITZ BLVD
City TUCKERTON State NJ Zip Code

WELL LOCATION ADDRESS 75 LEITZ BLVD Owner's Well No. 287.05
County OCEAN Municipality LITTLE EGG HARB Lot No. 11 Block No.

WELL USE DOMESTIC REPLACEMENT

DATE WELL STARTED 9 / 1 / 97
DATE WELL COMPLETED 9 / 1 / 97

WELL CONSTRUCTION

Total Depth Drilled 90 ft.

Finished Well Depth 90 ft.

Borehole Diameter:
Top 8½ in.
Bottom 8½ in.

Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	80	4	PVC	Sch40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 12 SLOT	80	90	4	PVC	sch40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	77	90	8½	#1 SAND	700 lbs
Grout	4	77	8½	Neat Cement / Bentonite	lbs / 350 lbs

RECORD OF TEST

Test Date 9 / 1 / 97
Static Water Level 26 ft. below land surface
Water Level Measured Using Level Ind
Pumping Water Level 30 ft. below land surface
Well Was Pumped Using Air compressor
Well Yield 150 gpm
If Pump Tested: Discharge Rate gpm
Duration of Test hours

Grouting Method Pressure Grout
Drilling Method Rotary

PERMANENT PUMPING EQUIPMENT

Installed by John Robertson Reg. No. 1384
Pump Type Submersible
Depth of Pump below land surface 50 ft.
Capacity 10 gpm Horsepower ½

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable rules and regulations.

Drilling Company PURE PRESSURE WATER SYSTEMS
Well Driller (Print) John Robertson
Driller's Signature [signature]
Registration No. 1384 Date 10 / 27 / 97

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0 – 21 coarse sand
21 – 43 clay
43 – 50 med sand
50 – 60 clay
60 – 90 coarse sand

WATER ALLOCATION
BUREAU OF
31 OCT 97 PM 5:32
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COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 168 2877

264

DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

E
DMQ

Well Permit Number 32 — 22398

Atlas Sheet Coordinates 32 : 35 : 784

OWNER LESCURE, S.
Address 14 WEST DELAWARE DR.
City LITTLE EGG HARBOR State NJ Zip Code

WELL LOCATION ADDRESS NUGENTOWN ROAD Owner's Well No. # 258
County OCEAN Municipality LITTLE EGG HARB Lot No. 9.05 Block No.

WELL USE DOMESTIC

DATE WELL STARTED 4 / 16 / 98
DATE WELL COMPLETED 4 / 16 / 98

WELL CONSTRUCTION

Total Depth Drilled 80' ft.

Finished Well Depth 80' ft.

Borehole Diameter:
Top 8" in.
Bottom 8" in.

Well Casing Begins:
+1.0 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.0'	70'	4"PVC	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .015)	70'	80'	4"PVC	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	70'	80'		#1sand	
Grout				Neat Cement	lbs
	3.5	70'		Bentonite	235 lbs

RECORD OF TEST

Test Date 4 / 16 / 98
Static Water Level 18 ft. below land surface
Water Level Measured Using M.SCOPE
Pumping Water Level 19 ft. below land surface
Well Was Pumped Using AIR LIFT
Well Yield 50 gpm
If Pump Tested: Discharge Rate 20 gpm
Duration of Test 1 hours

Grouting Method PRESSURE THRU TREMI
Drilling Method MUD ROTARY

PERMANENT PUMPING EQUIPMENT

Installed by L.PASCALE Reg. No. J1093
Pump Type SUBMERSIBLE
Depth of Pump below land surface 50' ft.
Capacity 10 gpm Horsepower 1.0

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company CLEARWATER WELL DRILLING
Well Driller (Print) LESLIE A. PASCALE
Driller's Signature
Registration No. J1093 Date 4/17/98

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0"--11'-Medium Sand + Gravel
11'-27'-medium sand
27'-28'-silty sand/Yellow clay
28'-33'-grey clay
33'-42'-fine sand/yellow clay
42'-54'-medium sand
54'-80'-coarse sand

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 168 1556

DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number
~~32 - 22464~~

Atlas Sheet Coordinates
~~32 45 : 113~~

OWNER ~~SMYTH, JAMES~~
Address 37 LAUREL LA.
City TUCKERTON State NJ Zip Code

WELL LOCATION ADDRESS 37 LAUREL LA. Owner's Well No.
County OCEAN Municipality LITTLE EGG HARB Lot No. 7 Block No. 287.08

WELL USE DOMESTIC REPLACEMENT
DATE WELL STARTED 10/3/97
DATE WELL COMPLETED 10/3/97

WELL CONSTRUCTION

Total Depth Drilled 80 ft.
Finished Well Depth 75 ft.
Borehole Diameter
Top 8 1/2 in.
Bottom 8 1/2 in.
Well Casing Begins:
1.5 ft. above grade or
_____ ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.5	65	4	P.V.C.	Sch.40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 1)	65	75	4	P.V.C.	Sch.40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	64	75		#1 Sand	600 lbs
Grout	4	64		Neat Cement / Bentonite	752 lbs / ____ lbs

RECORD OF TEST
Test Date 10/3/97
Static Water Level 8 ft. below land surface
Water Level Measured Using M-Scope
Pumping Water Level 15 ft. below land surface
Well Was Pumped Using Submersible
Well Yield 10 gpm
If Pump Tested: Discharge Rate 10 gpm
Duration of Test 2 hours

Grouting Method Pressure thru tremmie pipe
Drilling Method Mud Rotary

PERMANENT PUMPING EQUIPMENT
Installed by Robert Lloyd Reg. No. JD 1284
Pump Type Submersible
Depth of Pump below land surface 35 ft.
Capacity 10 gpm Horsepower 1/2

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company GLENN'S PUMP & WELL / R. LLOYD
Well Driller (Print) Robert Lloyd
Driller's Signature Robert Lloyd
Registration No. JD 1284 Date 10/24/97

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-10' Orange Sand
10'-13' Yellow Clay
13'-27' Coarse Orange Sand
27'-33' Tan Sand
33'-40' White Sand
40'-46' Orange Clay
46'-54' Orange Sand
54'-56' Orange Clay
56'-77' Coarse White Sand
77'-80 Orange Clay

RECEIVED
OCT 29 1997
BY S.P.

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 168 2870

DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number
32 — 22561

Atlas Sheet Coordinates
32 : 35 : 782

OWNER THEURET, DEAN R.
Address 110 4TH AVENUE
City TUCKERTON State NJ Zip Code

WELL LOCATION ADDRESS 8 CAROLYN DRIVE Owner's Well No.
County OCEAN Municipality LITTLE EGG HARB Lot No. 1.14 Block No. 280

WELL USE DOMESTIC

DATE WELL STARTED 4/6/98
DATE WELL COMPLETED 4/7/98

WELL CONSTRUCTION

Total Depth Drilled 90 ft.

Finished Well Depth 90 ft.

Borehole Diameter
Top 8½ in.
Bottom 8½ in.

Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	80	4	PVC	sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 25 Slot)	80	90	4	PVC	sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	77	90	8½	#1 SAND	700 lbs
Grout	4	77	8½	Neat Cement / Bentonite	lbs / 350 lbs

RECORD OF TEST

Test Date 4/7/98
Static Water Level 36 ft. below land surface
Water Level Measured Using Level Ind
Pumping Water Level 46 ft. below land surface
Well Was Pumped Using Air compressor
Well Yield 100 gpm
If Pump Tested: Discharge Rate gpm
Duration of Test hours

Grouting Method Pressure Grout
Drilling Method Rotary

PERMANENT PUMPING EQUIPMENT

Installed by John Robertson Reg. No. 1384
Pump Type Submersible
Depth of Pump below land surface 60 ft.
Capacity 20 gpm Horsepower 1

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company PURE PRESSURE WATER SYSTEMS
Well Driller (Print) John Robertson
Driller's Signature [signature]
Registration No. 1384 Date 4/28/98

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-21 med sand
21-40 clay
40-51 coarse sand
51-60 clay
60-90 med sand

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 188 0520

DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 – 22922

Atlas Sheet Coordinates 32 34 : 991

OWNER JILLSON, DAVID
Address 11 CAROLYN DR.
City TUCKERTON State NJ Zip Code

WELL LOCATION ADDRESS 11 CAROLYN DR. Owner's Well No. #
County OCEAN Municipality LITTLE EGG HARB Lot No. 14.04 Block No. 262

WELL USE DOMESTIC DATE WELL STARTED 1 / 12 / 99
DATE WELL COMPLETED 1 / 12 / 99

WELL CONSTRUCTION

Total Depth Drilled 80' ft.
Finished Well Depth 80' ft.
Borehole Diameter:
Top 8" in.
Bottom 8" in.
Well Casing Begins:
1.0' ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.0'	70'	4"PVC	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .015)	70'	80'	4"PVC	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	70'	80'		#1SAND	
Grout	3.5	70'		Neat Cement / Bentonite	lbs / 235 lbs

RECORD OF TEST

Test Date 1 / 12 / 99
Static Water Level 22 ft. below land surface
Water Level Measured Using M.SCOPE
Pumping Water Level 23 ft. below land surface
Well Was Pumped Using AIR LIFT
Well Yield 50 gpm
If Pump Tested: Discharge Rate 20 gpm
Duration of Test 1 hours

Grouting Method PRESSURE THREW TREMI PIPE
Drilling Method MUD ROTARY

PERMANENT PUMPING EQUIPMENT

Installed by L.PASCALE Reg. No. J1093
Pump Type SUBMERSIBLE
Depth of Pump below land surface 50' ft.
Capacity 10 gpm Horsepower 1.0

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company CLEARWATER WELL DRILLING
Well Driller (Print) LESLIE A. PASCALE
Driller's Signature
Registration No. J1093 Date 1/26/99

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0"--05'-Medium Sand + Gravel
05'-10'-fine sand
10'-25'-sand/ clay
25'-35'-yellow clay
35'-45'-medium sand
45'-80'-medium sand

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 188 0515

DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 — 23281

Atlas Sheet Coordinates 32 : 35 : 787

OWNER TEMPLE, JANIS
Address 115 LAKESIDE DR
City TUCKERTON State NJ Zip Code 08087

WELL LOCATION ADDRESS 115 LAKESIDE DR Owner's Well No. 1
County OCEAN Municipality TUCKERTON BORO Lot No. 28.01 Block No. 13

WELL USE DOMESTIC REPLACEMENT
DATE WELL STARTED 8/14/98
DATE WELL COMPLETED 8/14/98

WELL CONSTRUCTION

Total Depth Drilled 80 ft.
Finished Well Depth 80 ft.
Borehole Diameter:
Top 8 in.
Bottom 8 in.
Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	70	4	PVC	sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	70	80	4	PVC	sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	70	80		bar sand	
Grout	4	70		Neat Cement / Bentonite	lbs / 300 lbs

RECORD OF TEST

Test Date 8/17/98
Static Water Level 10 ft. below land surface
Water Level Measured Using tape
Pumping Water Level 12 ft. below land surface
Well Was Pumped Using airlift
Well Yield 50 gpm
If Pump Tested: Discharge Rate gpm
Duration of Test hours

Grouting Method pressure thru tremie
Drilling Method rotary

PERMANENT PUMPING EQUIPMENT

Installed by Callahan well Reg. No. J1106
Pump Type Submersible
Depth of Pump below land surface 50 ft.
Capacity 12 gpm Horsepower 1/2

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-1 Top soil
1-6 fine yellow sand/clay
6-15 yellow clay
15-26 yellow clay/coarse yellow sand
26-35 coarse yellow/clay/med stone
35-45 coarse yellow sand/muticolor stone
45-55 coarse yellow sand
55-80 coarse white sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company THOMAS CALLAHAN WELL
Well Driller (Print) Callahan well Drilling
Driller's Signature Thomas Callahan/CC
Registration No. J1106 Date 8/24/98

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 188 0521

DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 — 23456

Atlas Sheet Coordinates 32 45 : 115

OWNER WATCHER, HUGH
Address 12 PIKES PEAK RD
City TUCKERTON State NJ Zip Code

WELL LOCATION ADDRESS 12 PIKES PEAK RD Owner's Well No.
County OCEAN Municipality LITTLE EGG HARB Lot No. 14 Block No. 287.08

WELL USE DOMESTIC REPLACEMENT
DATE WELL STARTED 11/3/98
DATE WELL COMPLETED 11/3/98

WELL CONSTRUCTION

Total Depth Drilled 110 ft.
Finished Well Depth 102 ft.
Borehole Diameter: Top 8 1/2 in. Bottom 8 1/2 in.
Well Casing Begins: 1.5 ft. above grade or ____ ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1.5	92	4	P.V.C.	Sch.40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 1)	92	102	4	P.V.C.	Sch.40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	91	102		#1 Sand	600 lbs
Grout	4	91		Neat Cement / Bentonite	990 lbs / ____ lbs

RECORD OF TEST
Test Date 11/3/98
Static Water Level 7 ft. below land surface
Water Level Measured Using M-Scope
Pumping Water Level 15 ft. below land surface
Well Was Pumped Using Submersible
Well Yield 25 gpm
If Pump Tested: Discharge Rate 25 gpm
Duration of Test 2 hours

Grouting Method Pressure thru tremmie pipe
Drilling Method Mud Rotary

PERMANENT PUMPING EQUIPMENT
Installed by Robert Lloyd Reg. No. JD 5884
Pump Type Submersible
Depth of Pump below land surface 30 ft.
Capacity 25 gpm Horsepower 1

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0'-5' tan sand
5'-18' Orange & White Clay
18'-25' white sand
25'-43' orange sand
43'-52' red sand
52'-61 white clay
61-73 white sand
73'-80' white clay
80'-110 white sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company GLENN'S PUMP & WELL / R. LLOYD
Well Driller (Print) Robert Lloyd
Driller's Signature Robert Lloyd
Registration No. JD 5884 Date 11/13/98

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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WELREC 188 0634

BWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number
32 - 23623

Atlas Sheet Coordinates
32 : 35 : 779

OWNER EDWARDS, ROBERT
Address 13 GARDEN TERRACE
City TUCKERTON State NJ Zip Code

WELL LOCATION ADDRESS 13 GARDEN TERRACE Owner's Well No. 1
County OCEAN Municipality LITTLE EGG HARB Lot No. 14 Block No. 289

WELL USE DOMESTIC REPLACEMENT
DATE WELL STARTED 1/4/99
DATE WELL COMPLETED 1/4/99

WELL CONSTRUCTION

Total Depth Drilled 80 ft.
Finished Well Depth 80 ft.
Borehole Diameter:
Top 8 in.
Bottom 8 in.
Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	70	4	PVC	sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	70	80	4	PVC	sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	70	80		barsand	
Grout	4	70		Neat Cement / Bentonite	lbs / 300 lbs

RECORD OF TEST

Test Date 1/5/99
Static Water Level 12 ft. below land surface
Water Level Measured Using Tape
Pumping Water Level 20 ft. below land surface
Well Was Pumped Using airlift
Well Yield 50 gpm
If Pump Tested: Discharge Rate gpm
Duration of Test hours

Grouting Method pressure thru tremie
Drilling Method rotary

PERMANENT PUMPING EQUIPMENT

Installed by Callahan Well Reg. No. J1106
Pump Type submersible
Depth of Pump below land surface 40 ft.
Capacity 12 gpm Horsepower 1/2

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-2 top soil
2-10 med stone
10-22 Coarse yellow sand
22-45 yellow clay
45-55 fine yellow sand with clay
55-80 Coarse yellow sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company THOMAS CALLAHAN WELL
Well Driller (Print) Callahan Well Drilling
Driller's Signature Thomas Callahan Jr.
Registration No. J1106 Date 1/28/99

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-138
5/95

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 23607

Atlas Sheet Coordinates : 32 35: 779

OWNER VASS, LASZLO
Address 31 PIKES PEAK RD.
City LITTLE EGG HARBOR State NJ Zip Code 08087

WELL LOCATION ADDRESS 31 PIKES PEAK RD. Owner's Well No. 1
County OCEAN Municipality LITTLE EGG HARB Lot No. 26 Block No. 287.9

WELL USE DOMESTIC REPLACEMENT

DATE WELL STARTED 1/5/99
DATE WELL COMPLETED 1/5/99

WELL CONSTRUCTION

Total Depth Drilled 80 ft.

Finished Well Depth 80 ft.

Borehole Diameter:
Top 8 in.
Bottom 8 in.

Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	70	4	PVC	sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	70	80	4	PVC	sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	70	80		barsand	
Grout	4	70		Neat Cement / Bentonite	lbs / 300 lbs

RECORD OF TEST

Test Date 1/6/99
Static Water Level 12 ft. below land surface
Water Level Measured Using Tape
Pumping Water Level 20 ft. below land surface
Well Was Pumped Using airlift
Well Yield 50 gpm
If Pump Tested: Discharge Rate ____ gpm
Duration of Test ____ hours

Grouting Method pressure thru tremie
Drilling Method rotary

PERMANENT PUMPING EQUIPMENT

Installed by Callahan Well Reg. No. J1106
Pump Type submersible
Depth of Pump below land surface 40 ft.
Capacity 12 gpm Horsepower 1/2

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company THOMAS CALLAHAN WELL
Well Driller (Print) Callahan Well Drilling
Driller's Signature Thomas Callahan jr
Registration No. J1106 Date 1/25/99

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-2 top soil
2-15 fine sand
15-21 coarse tan sand
21-27 clay
27-40 coarse yellow sand
40-45 tan sand
45-65 white sand
65-80 tan & red sand/stones

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELREC 188 0519

32-45-112

FORM B7

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Permit No. 33-3232
Application No. _____
County _____

WELL RECORD

1. OWNER Edward Tressell ADDRESS 80-8th Ave, Passaic, N.J. 0705
Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)
2. LOCATION Lot 26, Blk. 287-9, Little Egg Harbor, Ocean County
3. DATE COMPLETED _____ DRILLER Walter Holm Well Drilling
4. DIAMETER: top 3 inches Bottom 3 inches TOTAL DEPTH 80 Feet
5. CASING: Type Iron A-120 Diameter 3 inches Length 50 Feet
6. SCREEN: Type Slot Size of Opening .015 Diameter 1 1/4 inches Length 3 Feet
Johnson Continuous
Range in Depth { Top _____ Feet, Bottom _____ Feet } Geologic Formation Cohansey
Tail piece: Diameter 1 1/4 inches Length 1-20 Feet
7. WELL FLOWS NATURALLY NA Gallons per Minute at NA Feet above surface
Water rises to NA Feet above surface
8. RECORD OF TEST: Date _____ Yield 6 Gallons per minute
Static water level before pumping 22 Feet below surface
Pumping level 23.5 feet below surface after 1 hours pumping
Drawdown 1.5 Feet Specific Capacity 4 Gals. per min. per ft. of drawdown
How Pumped Jet Pump How measured Level Indicator
Observed effect on nearby wells NA
9. PERMANENT PUMPING EQUIPMENT:
Type 5RM2 Mfrs. Name Jacuzzi Bros.
Capacity 6 G.P.M. How Driven Motor H.P. 1/2 R.P.M. 3450
Depth of Pump in well NA Feet Depth of Footpiece in well 55 Feet
Depth of Air Line in well NA Feet Type of Meter on Pump NA Size NA Inches
10. USED FOR Domestic AMOUNT { Average 1000 Gallons Daily, Maximum 3800 Gallons Daily }
11. QUALITY OF WATER Iron & Low PH Sample: Yes ____ No. ____
Taste Good Odor -0- Color Clear Temp. 52 °F
12. LOG Gamma Log (if requested) Are samples available? No
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)
13. SOURCE OF DATA Walter Holm, Jr.
14. DATA OBTAINED BY Walter Holm, Jr. Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

WELREC 022 4085

32-35-787

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Permit No. 335454
Application No. _____

WELL RECORD

OWNER Michael Neuroth ADDRESS 224 Stage Road, Tuckerton, NJ 08087

Owner's Well No. _____ SURFACE ELEVATION _____ Feet (above mean sea level)

LOCATION Lot 10, Block 270, Little Egg Harbor Township

DATE COMPLETED 6/20/78 DRILLER Holm Well Drilling, Inc.

DIAMETER: top 3 Inches Bottom 3 inches TOTAL DEPTH 50 Feet

CASING: Type Iron A-120 Diameter 3 inches Length 50 Feet

SCREEN: Type Johnson Screen Continuous Slot Size of Opening .015" Diameter 1 1/4 inches Length 3 Feet

Range in Depth Top _____ Feet Bottom _____ Feet Geologic Formation Cohansey

Tail piece: Diameter 1 1/4 inches Length 55 Feet

WELL FLOWS NATURALLY NA Gallons per Minute at NA Feet above surface

Water rises to NA Feet above surface

RECORD OF TEST: Date _____ Yield ~~15~~ 6 Gallons per minute

Static water level before pumping 15 Feet below surface

Pumping level 16/5 feet below surface after 1 hours pumping

Drawdown 1.5 Feet Specific Capacity 4 Gals. per min. per ft. of drawdown

How Pumped Jet Pump How measured Level Indicator

Observed effect on nearby wells NA

PERMANENT PUMPING EQUIPMENT:

Type 5SH Mfrs. Name Burks

Capacity 6 G.P.M. How Driven Motor H.P. 1/2 R.P.M. 3450

Depth of Pump in well NA Feet Depth of Footpiece in well 55 Feet

Depth of Air Line in well NA Feet Type of Meter on Pump NA Size NA inches

USED FOR Domestic AMOUNT Average 2000 Gallons Daily Maximum 9000 Gallons Daily

QUALITY OF WATER Iron & Low PH Sample: Yes X No. _____

Taste Good Odor -0- Color Clear Temp. 51 °F

LOG Gamma Log (must be requested) Are samples available? No

(Give details on back of sheet or separate sheet. If electric log as made, please furnish copy.)

SOURCE OF DATA Walter Holm, Jr.

DATA OBTAINED BY _____ Date 6/20/78

(Note: Use either side of this sheet for additions. Information such as log of materials penetrated analysis of the water, sketch map, sketch of specific casing arrangements, etc.)

WELREC 022 3288

32-35-794

FORM 07

NOV 28 1978

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Permit No. 33-6756
Application No. _____
County _____

WELL RECORD

1. OWNER J. Brewster ADDRESS Silo Rd.
   Owner's Well No. 6756 SURFACE ELEVATION _____ Feet (Above mean sea level)
2. LOCATION 3rd Ave Parkertown.
3. DATE COMPLETED 1-19-79 DRILLER 1093
4. DIAMETER: top 3 inches Bottom 3 inches TOTAL DEPTH 80' Feet
5. CASING: Type Steel Diameter 3 inches Length 106 Feet
6. SCREEN: Type Stainless Size of Opening .015 Diameter 3 inches Length 4' Feet
   Range in Depth { Top 72 Feet, Bottom 76 Feet } Geologic Formation Med. Sand.
   Tail piece: Diameter 3 inches Length 4 Feet
7. WELL FLOWS NATURALLY _____ Gallons per Minute at _____ Feet above surface
   Water rises to 42 Feet above surface
8. RECORD OF TEST: Date 1-19-79 Yield 8 Gallons per minute
   Static water level before pumping 42 Feet below surface
   Pumping level 45 feet below surface after 2 hours pumping
   Drawdown 3 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
   How Pumped Jet Pump How measured Bucket
   Observed effect on nearby wells none
9. PERMANENT PUMPING EQUIPMENT:
   Type Jet Pump Mfrs. Name F&W
   Capacity 10 G.P.M. How Driven Elect. H.P. 3/4 R.P.M. 3600
   Depth of Pump in well _____ Feet Depth of Footpiece in well 55' Feet
   Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches
10. USED FOR Domestic AMOUNT { Average 50 Gallons Daily, Maximum 75 Gallons Daily }
11. QUALITY OF WATER Good Sample: Yes ✓ No. _____
    Taste none Odor none Color none Temp. 56 °F
12. LOG _____ Are samples available? _____
    (Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

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WELREC 022 3320

Form 87

2/13/79

32-35-794

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Permit No. 32-6912

Application No. _____

County _____

WELL RECORD

1. OWNER J. Brewster. ADDRESS 1224 Ridge rd.

Owner's Well No. 6912 SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Lot 20 BLA 190 C.

3. DATE COMPLETED 6 DRILLER 1993

4. DIAMETER: top 3 Inches Bottom 3 Inches TOTAL DEPTH 69 Feet

5. CASING: Type Steel Diameter 3" Inches Length 10.5 Feet

6. SCREEN: Type Stainless Size of Opening .016 Diameter 3" Inches Length 4' Feet

Range in Depth { Top 61 Feet, Bottom 65 Feet } Geologic Formation Med To corse Sand

Tail piece: Diameter 3" Inches Length 4' Feet

7. WELL FLOWS NATURALLY _____ Gallons per Minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 3-16/79, Yield 8 Gallons per minute

Static water level before pumping 32' Feet below surface

Pumping level 38' feet below surface after 2 hours pumping

Drawdown 6 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How Pumped Jet Pump How measured Bucket

Observed effect on nearby wells None

9. PERMANENT PUMPING EQUIPMENT:

Type Jet Pump Mfrs. Name F & W

Capacity 10 G.P.M. How Driven Elect. H.P. 3/4 R.P.M. 3600

Depth of Pump in well _____ Feet Depth of Footpiece in well 42 Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR Domestic AMOUNT { Average 50 Gallons Daily, Maximum 75 Gallons Daily }

11. QUALITY OF WATER Good Sample: Yes X No. _____

Taste Neg Odor Neg Color Neg Temp. 57 °F

12. LOG _____ Are samples available? _____

(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

276

WELREC 022 3321

Form 67

319179

32-35-794

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Permit No. 33-7001

Application No. _____

County _____

WELL RECORD

1. OWNER J Brewster ADDRESS Mana Hawkin

Owner's Well No. 7001 SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION 1st ave Tuckerton.

3. DATE COMPLETED 2-16-79 DRILLER 1093

4. DIAMETER: top 3 inches Bottom 3 inches TOTAL DEPTH 55' Feet

5. CASING: Type Plastic ~~[illegible]~~ Diameter 3 inches Length 50' Feet

6. SCREEN: Type Stainless Size of Opening 016 Diameter 1¼ inches Length 4 Feet

Range in Depth { Top 51 Feet, Bottom 55 Feet } Geologic Formation Corse S.

Tail piece: Diameter _____ inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per Minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 2-16, Yield 15 Gallons per minute

Static water level before pumping 5' Feet below surface

Pumping level 6 feet below surface after 2 hours pumping

Drawdown 1 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How Pumped Elect Pump How measured Bucket

Observed effect on nearby wells none

9. PERMANENT PUMPING EQUIPMENT:

Type Jet Pump Mfrs. Name F & W

Capacity 20 G.P.M. How Driven Elect H.P. 1/2 R.P.M. 3500

Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR Domestic AMOUNT { Average 50 Gallons Daily, Maximum 75 Gallons Daily }

11. QUALITY OF WATER Good. Sample: Yes X No. _____

Taste neg Odor neg Color neg Temp. 58° °F

12. LOG _____ Are samples available? _____

(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

WELREC 022 3322

FORM 87

3/9/79

33-31-229 [illegible]

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Permit No. 33-7002

Application No. _____

County _____

WELL RECORD

1. OWNER J. Brewster. 7002 ADDRESS 1224 Ridge Rd

Owner's Well No. Molly Rd. SURFACE ELEVATION _____ Feet (above mean sea level) Cedar Run

2. LOCATION 4-2-79 1093

3. DATE COMPLETED 3 DRILLER 60

4. DIAMETER: top Steel Inches Bottom _____ Inches 3 TOTAL DEPTH 10.5 Feet

5. CASING: Type Stainless 016 Diameter 3 Inches Length 4 Feet

6. SCREEN: Type _____ Size of Opening _____ Diameter _____ Inches Length _____ Feet

Range in Depth { Top 56 Feet / Bottom 3 Feet } Geologic Formation Corse 4

Tail piece: Diameter _____ Inches Length _____ Feet

7. WELL FLOWS NATURALLY _____ Gallons per Minute at _____ Feet above surface

Water rises to 4-2-79 Feet above surface 12

8. RECORD OF TEST: Date 8 Yield _____ Gallons per minute

Static water level before pumping 2 Feet below surface

Pumping level 2 feet below surface after _____ hours pumping

Drawdown Jet Feet Specific Capacity _____ Gals. per min. per ft. of drawdown Bucket

How Pumped None How Measured _____

Observed effect on nearby wells _____

9. PERMANENT PUMPING EQUIPMENT: Jet FLW

Type _____ Mfrs. Name Elec. 1/2 3500

Capacity _____ G.P.M. How Driven _____ H.P. 35 R.P.M. _____

Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump 75 Size _____ Inches

10. USED FOR 12.0 Mestic Good. AMOUNT { Average 100 Gallons Daily / Maximum ✓ Gallons Daily }

11. QUALITY OF WATER No Sample: Yes _____ No 58

Taste _____ Odor _____ Color _____ Temp. _____ °F

12. LOG _____ Are samples available? _____

(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

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WELREC 019 1292

FORM-87

3/9/79

DEPARTMENT OF ENVIRONMENTAL PROTECTION

32-35-792

Permit No. 33-7003

Application No. _____

County _____

WELL RECORD

1. OWNER _____ ADDRESS 1224 Ridge rd.

Owner's Well No. 7003 SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Cable rd. 3rd Ave Tuckerton

3. DATE COMPLETED 3-29 DRILLER 1093

4. DIAMETER: top 3 inches Bottom 3 inches TOTAL DEPTH 68 Feet

5. CASING: Type Steel Diameter 3 inches Length 10.5 Feet

6. SCREEN: Type Stainless Size of Opening .016 Diameter 3 inches Length 4 Feet

Range in Depth { Top 60 Feet, Bottom 64 Feet } Geologic Formation Med To coarse S.

Tail piece: Diameter 3 inches Length 4 Feet

7. WELL FLOWS NATURALLY _____ Gallons per Minute at _____ Feet above surface

Water rises to _____ Feet above surface

8. RECORD OF TEST: Date 3-29-79 Yield 10 Gallons per minute

Static water level before pumping 32 Feet below surface

Pumping level 36 feet below surface after 2 hours pumping

Drawdown 4 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How Pumped Jet How measured Bucket

Observed effect on nearby wells NEG

9. PERMANENT PUMPING EQUIPMENT:

Type Jet Mfrs. Name F & W

Capacity 10 G.P.M. How Driven Elec. H.P. 3/4 R.P.M. 3600

Depth of Pump in well _____ Feet Depth of Footpiece in well 45' Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR Domestic AMOUNT { Average 75 Gallons Daily, Maximum 100 Gallons Daily }

11. QUALITY OF WATER Good Sample: Yes ✓ No. _____

Taste No Odor No Color No Temp. 54 °F

12. LOG _____ Are samples available? _____

(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)

13. SOURCE OF DATA _____

14. DATA OBTAINED BY _____ Date _____

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

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WELREC 022 3306

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Attachment F

U.S. Census Bureau

State and County QuickFacts

QuickFacts Main | FAQs | What's New

Ocean County, New Jersey

New Jersey counties - view map

Select a county Go

Locate a county by place name

Select a state
USA QuickFacts

Follow the i link for definition and source information.

Browse more data sets for Ocean County, New Jersey

People QuickFacts	Ocean County	New Jersey
Population, 2001 estimate	527,207	8,484,43
Population percent change, April 1, 2000-July 1, 2001	3.2%	0.8%
Population, 2000	510,916	8,414,35
Population, percent change, 1990 to 2000	17.9%	8.6%
Persons under 5 years old, percent, 2000	6.3%	6.7%
Persons under 18 years old, percent, 2000	23.3%	24.8%
Persons 65 years old and over, percent, 2000	22.2%	13.2%
Female persons, percent, 2000	52.5%	51.5%
White persons, percent, 2000 (a)	93.0%	72.6%
Black or African American persons, percent, 2000 (a)	3.0%	13.6%
American Indian and Alaska Native persons, percent, 2000 (a)	0.1%	0.2%
Asian persons, percent, 2000 (a)	1.3%	5.7%
Native Hawaiian and Other Pacific Islander, percent, 2000 (a)	Z	Z
Persons reporting some other race, percent, 2000 (a)	1.2%	5.4%
Persons reporting two or more races, percent, 2000	1.3%	2.5%
Persons of Hispanic or Latino origin, percent, 2000 (b)	5.0%	13.3%
White persons, not of Hispanic/Latino origin, percent, 2000	89.9%	66.0%
Living in same house in 1995 and 2000, pct age 5+, 2000	60.4%	59.8%
Foreign born persons, percent, 2000	6.5%	17.5%
Language other than English spoken at home, pct age 5+, 2000	10.9%	25.5%
High school graduates, percent of persons age 25+, 2000	83.0%	82.1%
Bachelor's degree or higher, pct of persons age 25+, 2000	19.5%	29.8%
Persons with a disability, age 5+, 2000	95,010	1,389,81
Mean travel time to work, workers age 16+ (minutes), 2000	32.4	30.
Housing units, 2000	248,711	3,310,27
Homeownership rate, 2000	83.2%	65.6%
Housing units in multi-unit structures, percent, 2000	13.5%	36.1%
Median value of owner-occupied housing units, 2000	$131,300	$170,80
Households, 2000	200,402	3,064,64
Persons per household, 2000	2.51	2.6
Median household money income, 1999	$46,443	$55,14

U.S. Census Bureau

State and County QuickFacts

ulation, 2001 estimate

New Jersey counties - view map

Select a county Go

Select a state
USA QuickFacts

Locate a county by place name

,431

Follow the link for definition and source information.

Browse more data sets for Ocean County, New Jerse

People QuickFacts	Ocean County	New Jersey
Population, 2001 estimate	527,207	8,484,43
Population percent change, April 1, 2000-July 1, 2001	3.2%	0.8%
Population, 2000	510,916	8,414,35
Population, percent change, 1990 to 2000	17.9%	8.6%
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Asian persons, percent, 2000 (a)	1.3%	5.7%
Native Hawaiian and Other Pacific Islander, percent, 2000 (a)	Z	Z
Persons reporting some other race, percent, 2000 (a)	1.2%	5.4%
Persons reporting two or more races, percent, 2000	1.3%	2.5%
Persons of Hispanic or Latino origin, percent, 2000 (b)	5.0%	13.3%
White persons, not of Hispanic/Latino origin, percent, 2000	89.9%	66.0%
Living in same house in 1995 and 2000, pct age 5+, 2000	60.4%	59.8%
Foreign born persons, percent, 2000	6.5%	17.5%
Language other than English spoken at home, pct age 5+, 2000	10.9%	25.5%
High school graduates, percent of persons age 25+, 2000	83.0%	82.1%
Bachelor's degree or higher, pct of persons age 25+, 2000	19.5%	29.8%
Persons with a disability, age 5+, 2000	95,010	1,389,81
Mean travel time to work, workers age 16+ (minutes), 2000	32.4	30.0
Housing units, 2000	248,711	3,310,275
Homeownership rate, 2000	83.2%	65.6%
Housing units in multi-unit structures, percent, 2000	13.5%	36.1%
Median value of owner-occupied housing units, 2000	$131,300	$170,80
Households, 2000	200,402	3,0 645
Persons per household, 2000	2.51	2.68
Median household money income, 1999	$46,443	$55,146

Per capita money income, 1999	$23,054	$27,006
Persons below poverty, percent, 1999	7.0%	8.5%

Business QuickFacts	Ocean County	New Jersey
Private nonfarm establishments, 1999	10,796	231,823
Private nonfarm employment, 1999	106,721	3,440,721
Private nonfarm employment, percent change 1990-1999	17.2%	6.8%
Nonemployer establishments, 1999	25,965	471,485
Manufacturers shipments, 1997 ($1000)	939,795	97,060,800
Retail sales, 1997 ($1000)	4,728,321	79,914,892
Retail sales per capita, 1997	$9,802	$9,922
Minority-owned firms, percent of total, 1997	6.4%	15.6%
Women-owned firms, percent of total, 1997	25.1%	23.7%
Housing units authorized by building permits, 2000	5,633	34,585
Federal funds and grants, 2001 ($1000)	2,852,325	46,239,529
Local government employment - full-time equivalent, 1997	15,459	298,363

Geography QuickFacts	Ocean County	New Jersey
Land area, 2000 (square miles)	636	7,417
Persons per square mile, 2000	803.0	1,134.4
Metropolitan Area	Monmouth-Ocean, NJ PMSA	

wnload delimited tables | Download Excel tables

(a) Includes persons reporting only one race.
(b) Hispanics may be of any race, so also are included in applicable race categories.

FN: Footnote on this item for this area in place of data
NA: Not available
D: Suppressed to avoid disclosure of confidential information
X: Not applicable
S: Suppressed; does not meet publication standards
Z: Value greater than zero but less than half unit of measure shown
F: Fewer than 100 firms

Data Quality Statement

What do you think of QuickFacts?

Source U.S. Census Bureau: State and County QuickFacts. Data derived from Population Estimates, 2000 Census of Population and Housing, 1990 Census of Population and Housing, Small Area Income and Poverty Estimates, County Business Patterns, 1997 Economic Census, Minority- and Women-Owned Business, Building Permits, Consolidated Federal Funds Report, 1997 Census of Governments

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Reference 6

PROJECT NOTE REGION II SITE ASSESSMENT TEAM

To: Stage Road Groundwater Plume File **Date:** 7 April 2004 **Page:** 1 of 1

From: Michele Capriglione, Region II SAT

Subject: Site Geology

REFERENCES

Attachment A - Hydrogeologic Framework of the New Jersey Coastal Plain Regional Aquifer System Analysis: Plate 2; Plate 23; and Plate 24

Based on the information obtained from the above reference, M. Capriglione determined the site specific geology:

Kirkwood-Cohansey Aquifer	>10 feet - 180 feet
Confining Bed	180 feet - 445 feet
Atlantic City 800-Foot Sands	445 feet - 560 feet

Signature Michele Capriglione

Michele Capriglione

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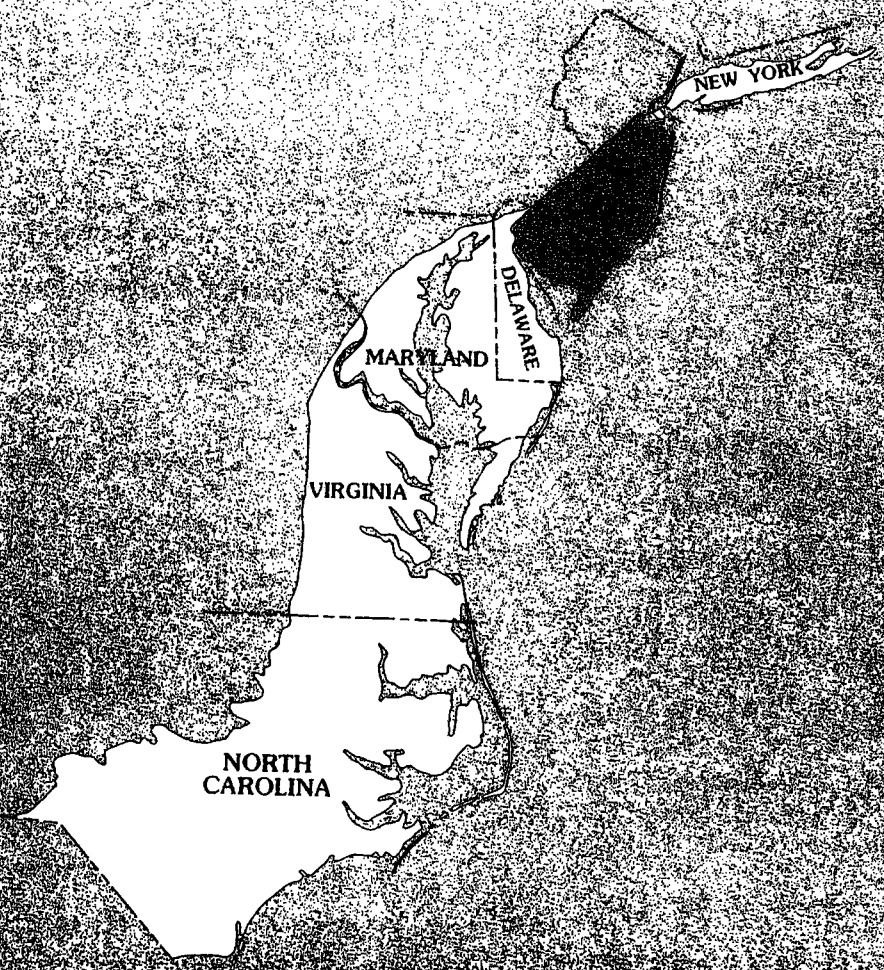
Attachment A

HYDROGEOLOGIC FRAMEWORK OF THE NEW JERSEY COASTAL PLAIN



U.S. GEOLOGICAL SURVEY PROFESSIONAL PAPER 1404-B

Hydrogeologic Framework of the New Jersey Coastal Plain

By OTTO S. ZAPECZA

REGIONAL AQUIFER-SYSTEM ANALYSIS—NORTHERN ATLANTIC COASTAL PLAIN

U. S. GEOLOGICAL SURVEY PROFESSIONAL PAPER 1404 – B

UNITED STATES GOVERNMENT PRINTING OFFICE, WASHINGTON : 1989

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REGIONAL AQUIFER-SYSTEM ANALYSIS

HYDROGEOLOGIC FRAMEWORK OF THE NEW JERSEY COASTAL PLAIN

By OTTO S. ZAPECZA

ABSTRACT

This report presents the results of a water-resources-oriented suburface mapping program within the Coastal Plain of New Jersey. The ccurrence and configuration of 15 regional hydrogeologic units have een defined, primarily on the basis of an interpretation of borehole eophysical data. The nine aquifers and six confining beds are comosed of unconsolidated clay, silt, sand, and gravel and range in age om Cretaceous to Quaternary.

Electric and gamma-ray logs from more than 1,000 Coastal Plain ere examined. Of these, interpretive data for 302 sites were on the basis of logged depth, quality of data, and data distribu- prepare structure contour and thickness maps for each aquifer d a thickness map for each confining bed. These maps, together with hydrogeologic sections, show the geometry, lateral extent, and vercal and horizontal relationships among the 15 hydrogeologic units. The hydrogeologic maps and sections show that distinct lower, mide, and upper aquifers are present within the Potomac–Raritan–agothy aquifer system near the Delaware River from Burlington ounty to Salem County. Although the lower aquifer is recognized ly in this area, the middle aquifer extends into the northeastern oastal Plain of New Jersey, where it is stratigraphically equivalent the Farrington aquifer. The upper aquifer extends throughout most the New Jersey Coastal Plain and is stratigraphically equivalent the Old Bridge aquifer in the northeastern Coastal Plain. The overlyg Merchantville–Woodbury confining bed is the most regionally exnsive confining bed within the New Jersey Coastal Plain. Its ickness ranges from less than 100 feet near the outcrop to more than 0 feet along the coast. The Englishtown aquifer system acts as a ngle aquifer throughout most of its subsurface extent, but it conins two water-bearing sands in parts of Monmouth and Ocean Couns. The overlying Marshalltown–Wenonah confining bed is a thin, aky unit ranging in thickness from approximately 20 to 80 feet. The enonah–Mount Laurel aquifer is identified in the subsurface roughout the New Jersey Coastal Plain southeast of its outcrop area. Sediments that overlie the Wenonah–Mount Laurel aquifer and that e subjacent to the major aquifers within the Kirkwood Formation d the Cohansey Sand are described hydrologically as a composite nfining bed. These include the Navesink Formation, Red Bank Sand, nton Sand, Hornerstown Sand, Vincentown Formation, Manasquan rmation, Shark River Formation, and Piney Point Formation and clay of the Kirkwood Formation. The Vincentown Formations as an aquifer within 3 to 10 miles downdip of its outp area. In areas farther downdip the Vincentown Formation functns as a confining bed. The Piney Point aquifer is laterally persistent from the southern New Jersey Coastal Plain northward into parts of Burlington and Ocean Counties. The Atlantic City 800-foot sand of the Kirkwood Formation can be recognized in the subsurface along coastal areas of Cape May, Atlantic, and southern Ocean Counties, but inland only as far west as the extent of the overlying confining bed. In areas west of the extent of the overlying confining bed, the Kirkwood Formation is in hydraulic connection with the overlying Cohansey Sand and younger surficial deposits and functions as an unconfined aquifer.

INTRODUCTION

PURPOSE AND SCOPE

This report is a product of an intensive study of New Jersey Coastal Plain borehole geophysical data made, in part, to develop a hydrogeologic framework for use in the U.S. Geological Survey's northern Atlantic Coastal Plain Regional Aquifer-System Analysis (RASA) project. A 10-layer ground-water flow model of the New Jersey Coastal Plain aquifer system was constructed on the basis of the information presented in this report. The same information forms part of the basis of the hydrogeologic framework for a 10-layer regional flow model of the northern Atlantic Coastal Plain from Long Island to North Carolina. Correlation of stratigraphic units in the various states of the northern Atlantic Coastal Plain is shown in table 1.

The purpose of this report is to define, on a regional basis, the subsurface occurrence and configuration of hydrogeologic units (aquifers and confining beds) in the New Jersey part of the Atlantic Coastal Plain. This multilayer system is shown in a series of structure contour maps, isopach maps, and hydrogeologic sections based primarily on interpretation of geophysical logs. Past efforts to understand the hydrology of the Coastal Plain's ground-water resources have been limited by the lack of a regional hydrogeologic framework. Documentation of the occurrence and geometry of the major

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TABLE 1.—*Generalized stratigraphic correlation chart of the northern Atlantic Coastal Plain*

ERA	SYSTEM	SERIES	NORTH CAROLINA	VIRGINIA	MARYLAND	DELAWARE	NEW JERSEY	NEW YORK
Cenozoic	Quaternary	Pleistocene	Unnamed	Undifferentiated deposits	Undifferentiated deposits	Undifferentiated deposits	Cape May Formation Undifferentiated deposits	Upper Pleistocene deposits Gardners Clay Jameco Gravel
	Tertiary	Pliocene	Chowan River Formation Yorktown Formation	Chesapeake Group: Chowan River Formation Yorktown Formation	Chesapeake Group: Yorktown Formation	Undifferentiated deposits		Manetto Gravel (Pliocene?)
		Miocene	Pungo River Formation Belgrade Formation	Chesapeake Group: Eastover Formation St. Marys Formation Choptank Formation Calvert Formation	Chesapeake Group: Eastover Formation; Brandywine Formation St. Marys Formation Choptank Formation Calvert Formation	Chesapeake Group undivided	Pensauken Formation Bridgeton Formation Cohansey Sand Kirkwood Formation	
		Oligocene	River Bend Formation	Unnamed				
		Eocene	Castle Hayne Formation	Chickahominy Formation Piney Point Formation Nanjemoy Formation Marlboro Clay	Piney Point Formation Nanjemoy Formation	Piney Point Formation Nanjemoy Formation	Piney Point Formation Shark River Formation Rancocas Group: Manasquan Formation	
		Paleocene	Beaufort Formation	Aquia Formation Brightseat Formation	Aquia Formation Brightseat Formation	Rancocas Group: Vincentown Formation Hornerstown Formation	Rancocas Group: Vincentown Formation Hornerstown Sand	
Mesozoic	Cretaceous	Upper Cretaceous	Peedee Formation Black Creek Formation Middendorf Formation Cape Fear Formation	Mattaponi Formation	Severn Formation Matawan Formation Magothy Formation	Severn Formation Mount Laurel Sand Marshalltown Formation Englishtown Formation Woodbury Clay Merchantville Formation Magothy Formation	Monmouth Group: Tinton Sand Red Bank Sand Navesink Formation Mount Laurel Sand Matawan Group: Wenonah Formation Marshalltown Formation Englishtown Formation Woodbury Clay Merchantville Formation Magothy Formation Raritan Formation	Monmouth Group Matawan Group Magothy Formation Raritan Formation: Clay member; Lloyd Sand member
		Lower Cretaceous	Unnamed	Potomac Group: Patapsco Formation Patuxent Formation	Potomac Group: Patapsco Formation Arundel Formation Patuxent Formation	Potomac Formation	Potomac Group	
	Jurassic (?)	Upper Jurassic (?)	Unnamed					

Modified from Meisler, 1980, fig. 4.

ers and confining beds provides a firmer basis for nore realistic water-management decisions.

LOCATION AND EXTENT

The New Jersey Coastal Plain extends from Delaware Bay in the southwest to Raritan Bay in the northeast, nd from the Fall Line in the west to the Atlantic Ocean n the east (fig. 1). It is approximately 4,200 mi² and is art of the larger Atlantic Coastal Plain that extends rom Florida to Newfoundland and eastward to the edge f the Continental Shelf. The area of study includes all f Monmouth, Burlington, Ocean, Camden, Gloucester, alem, Atlantic, Cumberland, and Cape May Counties nd parts of Middlesex and Mercer Counties.

PREVIOUS INVESTIGATIONS

Subsurface stratigraphic relationships within the New ersey Coastal Plain have been documented in a number f previous studies. Richards (1945) presented a series f geologic cross sections outlining the subsurface tratigraphy of the Atlantic Coastal Plain. Richards and thers (1962) produced generalized structure contour aps of geologic units of the New Jersey Coastal Plain. etailed Cretaceous subsurface stratigraphy has been ted by Perry and others (1975) and by Petters . Brown, Miller, and Swain (1972) presented structure contour maps, geohydrologic maps, and cross sections for 17 chronostratigraphic units in the Coastal lain from North Carolina to New York.

Numerous county ground-water reports contain subsurface information, including contour maps and cross ections for local hydrogeologic systems. These include eports for Monmouth County (Jablonski, 1968), Ocean ounty (Anderson and Appel, 1969), Burlington County ush, 1968), Camden County (Farlekas and others, 976), Gloucester County (Hardt and Hilton, 1969), alem County (Rosenau and others, 1969), and Cape ay County (Gill, 1962).

Structure contour maps for the pre-Cretaceous basement, the Potomac–Raritan–Magothy aquifer system, nd the Merchantville–Woodbury confining bed were resented by Gill and Farlekas (1976). Previously apped hydrogeologic units in the northern part of the lew Jersey Coastal Plain include the Farrington aquifer arlekas, 1979), the Englishtown aquifer (Nichols, 977b), and the Wenonah–Mount Laurel aquifer emickas, 1976). Nemickas and Carswell (1976) resented stratigraphic and hydrogeologic data for the iney Point aquifer in the southern Coastal Plain of ew Jersey.

WELL-NUMBERING SYSTEM

The well-numbering system on the index map, tables, nd hydrogeologic sections in this report is based on

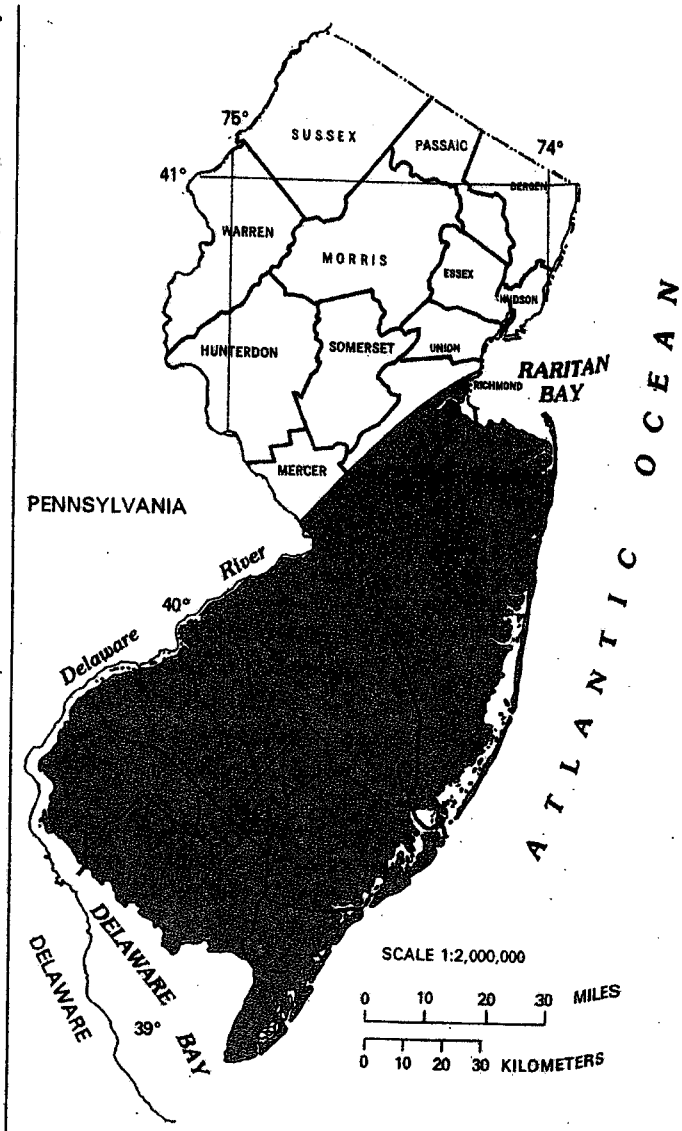

FIGURE 1.—Location of study area.

the numbering system used by the U.S. Geological Survey in New Jersey since 1978. The well number consists of a county code number and a sequence number assigned to the well within the county. Code numbers for the New Jersey Coastal Plain counties are:

1	Atlantic	21	Mercer
5	Burlington	23	Middlesex
7	Camden	25	Monmouth
9	Cape May	29	Ocean
11	Cumberland	33	Salem
15	Gloucester		

A representative well number is 15-137, designating the 137th well inventoried in Gloucester County.

ACKNOWLEDGMENTS

The author gratefully acknowledges the cooperation of Layne–New York, A.C. Schultes and Sons, and other

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TABLE 2.—*Geologic and hydrogeologic units in the New Jersey Coastal Plain*

SYSTEM	SERIES	GEOLOGIC UNIT	LITHOLOGY	HYDROGEOLOGIC UNIT	HYDROLOGIC CHARACTERISTICS
Quaternary	Holocene	Alluvial deposits	Sand, silt, and black mud	Undifferentiated	Surfical material, often hydraulically connected to underlying aquifers. Locally some units may act as confining beds. Thicker sands are capable of yielding large quantities of water
		Beach sand and gravel	Sand, quartz, light-colored, medium- to coarse-grained, pebbly		
	Pleistocene	Cape May Formation	Sand, quartz, light-colored, heterogeneous, clayey, pebbly		
Tertiary	Miocene	Pensauken Formation			
		Bridgeton Formation			
		Beacon Hill Gravel	Gravel, quartz, light-colored, sandy	Kirkwood-Cohansey aquifer system	A major aquifer system. Ground water occurs generally under water-table conditions. In Cape May County the Cohansey Sand is a confined aquifer
		Cohansey Sand	Sand, quartz, light-colored, medium- to coarse-grained, pebbly; local clay beds		
		Kirkwood Formation	Sand, quartz, gray and tan, very fine to medium-grained, micaceous, and dark-colored diatomaceous clay	Confining bed	Thick diatomaceous clay bed occurs along coast and for a short distance inland. A thin water-bearing sand occurs within the middle of this unit
				Rio Grande w-b[1,2]	
				Confining bed[2]	
				Atlantic City 800-foot sand	A major aquifer along the coast
				Composite confining bed	Alloway Clay Member or equivalent
	Eocene	Piney Point Formation	Sand, quartz and glauconite, fine- to coarse-grained	Piney Point aquifer	Yields moderate quantities of water locally
		Shark River Formation	Clay, silty and sandy, glauconitic, green, gray, and brown, fined-grained quartz sand		Poorly permeable sediments
		Manasquan Formation			
	Paleocene	Vincentown Formation	Sand, quartz, gray and green, fine- to coarse-grained, glauconitic, and brown, clayey, very fossiliferous, glauconite and quartz calcarenite	Vincentown aquifer	Yields small to moderate quantities of water in and near its outcrop area.
		Hornerstown Sand	Sand, clayey, glauconitic, dark green, fine- to coarse-grained		Poorly permeable sediments
Cretaceous	Upper Cretaceous	Tinton Sand	Sand, quartz, and glauconite, brown and gray, fine- to coarse-grained, clayey, micaceous		
		Red Bank Sand		Red Bank Sand[2]	Yields small quantities of water in and near its outcrop area
		Navesink Formation	Sand, clayey, silty, glauconitic, green and black, medium- to coarse-grained		Poorly permeable sediments
		Mount Laurel Sand	Sand, quartz, brown and gray, fine- to coarse-grained, slightly glauconitic	Wenonah-Mount Laurel aquifer	A major aquifer
		Wenonah Formation	Sand, very fine to fine-grained, gray and brown, silty, slightly glauconitic		
		Marshalltown Formation	Clay, silty, dark greenish-gray, glauconitic quartz sand	Marshalltown-Wenonah confining bed	A leaky confining bed
		Englishtown Formation	Sand, quartz, tan and gray, fine- to medium-grained; local clay beds	Englishtown aquifer system	A major aquifer. Two sand units in Monmouth and Ocean Counties
		Woodbury Clay	Clay, gray and black, micaceous silt	Merchantville-Woodbury confining bed	A major confining bed. Locally the Merchantville Fm. may contain a thin water-bearing sand
		Merchantville Formation	Clay, glauconitic, micaceous, gray and black; locally very fine grained quartz and glauconitic sand		
		Magothy Formation	Sand, quartz, light-gray, fine- to coarse-grained; local beds of dark-gray lignitic clay	Potomac-Raritan-Magothy aquifer: Upper aquifer	A major aquifer system. In the northern Coastal Plain, the upper aquifer is equivalent to the Old Bridge aquifer and the middle aquifer is the equivalent of the Farrington aquifer. In the Delaware River Valley, three aquifers are recognized. In the deeper subsurface, units below the upper aquifer are undifferentiated
		Raritan Formation	Sand, quartz, light-gray, fine- to coarse-grained, pebbly, arkosic, red, white, and variegated clay	Conf. bed; Middle aquifer	
	Lower Cretaceous	Potomac Group	Alternating clay, silt, sand, and gravel	Conf. bed; Lower aquifer	
Pre-Cretaceous		Bedrock	Precambrian and lower Paleozoic crystalline rocks, metamorphic schist and gneiss; locally Triassic basalt, sandstone, and shale and Jurassic diabase	Bedrock confining bed	No wells obtain water from these consolidated rocks, except along the Fall Line

[1] Rio Grande water-bearing zone
[2] Minor aquifer not mapped

Modified from Seaber, 1965, table 3

ell-drilling contractors for providing borehole informa-
ion, including geophysical logs, drillers logs, and well
ecords.

SUMMARY OF NEW JERSEY COASTAL PLAIN GEOLOGY

STRUCTURAL SETTING

The New Jersey Coastal Plain is a seaward-dipping
vedge of unconsolidated sediments that range in age
rom Cretaceous to Holocene (table 2). These sediments,
or the most part, are composed of clay, silt, sand, and
ravel and are classified as continental, coastal, or
aarine-type deposits. The Cretaceous and Tertiary
ediments generally strike northeast–southwest and dip
ently to the southeast 10 to 60 ft/mi. Overlying deposits
f Quaternary age, where present, are essentially flat-
ying. The Coastal Plain deposits thicken seaward from
. featheredge at the Fall Line to more than 6,500 ft at
he southern tip of Cape May County (Gill and Farlekas,
976).

The initial deposition of Coastal Plain sediments
egan during the Late Jurassic or Early Cretaceous after
ormation of the early Atlantic Ocean (Sheridan, 1974b,
). During the Mesozoic and Cenozoic Eras, block-
ing of the basement created highs and lows on the
asement surface along the Atlantic continental margin
Sheridan, 1974b, p. 401). These basement highs and
ows had a direct influence on sediment accumulation
nd dispersal patterns (Owens and Sohl, 1969, p. 237).
hree basement structural elements recognized in the
lew Jersey Coastal Plain are the Raritan embayment,
he South New Jersey uplift, and the Salisbury embay-
ent (pl. 1). Individual units generally are thicker in
e embayment areas, and depositional facies changes
re common between adjacent tectonic features (Olsson,
978, p. 941).

The pre-Cretaceous basement-bedrock complex that
es unconformably beneath the unconsolidated Coastal
lain deposits consists mainly of Precambrian and lower
aleozoic rocks. Locally, along the Fall Line (fig. 1) in
lercer and Middlesex Counties, Triassic and Jurassic
ocks underlie the unconsolidated sediments. The
ltitude of the top of the bedrock surface is shown on
late 1. Contours showing the basement surface in areas
here the depth to bedrock is 1,000 ft or less are based
rimarily on well and test hole data, whereas in downdip
reas the primary control is based on seismic data (Gill
nd Farlekas, 1976).

DEPOSITIONAL HISTORY

The oldest group of sediments deposited on the base-
ent surface within the New Jersey Coastal Plain consists of Cretaceous continental deposits of the Potomac Group (table 2). This unit consists of alternating clay, silt, sand, and gravel and is a major part of the thick sedimentary wedge in the Salisbury embayment area of extreme southern New Jersey. The overlying Raritan Formation consists of fluvial-continental deposits in outcrop and in the shallow subsurface that are lithologically similar to the Potomac Group sediments. However, in downdip areas near the coast, glauconite and shell beds indicate that the Raritan Formation is mostly marine (Richards, 1961, p. 1755; Petters, 1976, p. 92). The Magothy Formation unconformably overlies the Raritan Formation and is a sheetlike deposit composed primarily of coarse beach sand and other associated near-shore marine deposits (Perry and others, 1975, p. 1535).

Upper Cretaceous sediments and most Tertiary sediments overlying the Magothy Formation were deposited in various shelf and beach environments created by alternating transgressive and regressive seas. Glauconite is common in this part of the geologic section and is indicative of mid- to outer-shelf deposition (Owens and Sohl, 1969, p. 259). Silty and clayey glauconitic sands are generally considered to form in marine environments characterized by slow rates of clastic sedimentation (Owens and Sohl, 1973, p. 2833). According to Olsson (1975, p. 17), much of the glauconite originated from the fecal pellets of mud-burrowing organisms and formed in the mud substrates of these deeper offshore areas.

Heavy concentrations of glauconite in association with very fine grained sediments are recognized in the New Jersey Coastal Plain as transgressive deposits laid down during major incursions of the sea. Such units include the Merchantville, Marshalltown, and Navesink Formations, the Hornerstown Sand, and the Manasquan Formation. In contrast, coarsening-upward sequences that overlie the major glauconitic units are termed regressive beds. These beds were deposited in inner-shelf, near-shore, and beach areas during the slow retreat of the sea. Such units include the Englishtown Formation, Wenonah Formation, Mount Laurel Sand, Red Bank Sand, Vincentown Formation, Kirkwood Formation, and Cohansey Sand. Generally, transgressive deposits form confining beds within the Coastal Plain and regressive deposits form aquifers.

The long period of marine deposition in the study area ended after the deposition of the Miocene Cohansey Sand (Carter, 1978, p. 934). Continental deposition returned to the Coastal Plain during late Tertiary and Quaternary times. The Beacon Hill Gravel, and the Bridgeton, Pensauken, and Cape May Formations are primarily composed of fluvial sands and gravels (Owens and Minard, 1979, p. D1).

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n he Manasquan Formation is older, being early ce in age, according to a more recent study by right (1969, p. 17). The middle Eocene age given by rrick (1962) is consistent with the age of the Piney int Formation determined by Brown and others (1972, 49) at Piney Point, Md.

Nemickas and Carswell (1976, p. 4, fig. 5) have upted Herrick's interpretation by tracing the Piney int aquifer from Cumberland and Salem Counties rthward into the same unit within the New Brooklyn rk test well (7-476) described by Herrick (1962) as the nasquan Formation.

Hydrogeologic section *L–L'* (pl. 5) shows the continuan of the Piney Point aquifer from Atlantic City northrd into the central Coastal Plain of New Jersey. The it shown as the Piney Point aquifer in U.S. Geological rvey wells 29-425 (Webbs Mills), 5-676 (Coyle Airport), d 5-30 (Oswego Lake) has previously been reported the Manasquan Formation by Rush (1968, p. 54) and Anderson and Appel (1969, p. 43). Herrick (written nmun., 1962) analyzed the sediments in the three ological Survey wells listed above. He assigned a mid- Eocene (Claiborne) age and the name Manasquan rmation to the sediments within the unit shown as ney Point on section *L–L'* (pl. 5). This unit is directly ive with the unit described by Herrick (1962, 57) in the New Brooklyn Park well in Camden County it was later shown as the Piney Point aquifer by mickas and Carswell (1976, p. 4, fig. 5).

Hydrogeologic section *L'–A'* (pl. 5) shows the lateral sistence of the Piney Point aquifer along the coast m Atlantic City northward, including wells at rnegat Light and Seaside Park in Ocean County. Proction wells for local water supply tapping this zone Ocean County have been previously described as ping the Manasquan Formation (Anderson and pel, 1969, p. 44).

Nemickas and Carswell (1976, p. 1) defined the Piney int aquifer as "the upper sandy part of the Eocene liments that is laterally continuous with the Piney nt aquifer in Delaware." This report follows the same vention. Regardless of previous formation names or putes in time-stratigraphic correlations, moderately meable glauconitic sand and shell beds that lie below basal clay of the Kirkwood Formation, and that are erally continuous with the Piney Point aquifer of the laware and Maryland Coastal Plain, are herein cribed as the Piney Point aquifer.

The thickness of the Piney Point aquifer is shown on te 21. Downdip, two major areas of sand accumula- evident. In the southwestern Coastal Plain of w Jersey, aquifer thickness increases toward the th and downdip from the northwestern limit of the aquifer. Thicknesses of more than 200 ft occur in southwestern Cumberland County. The other area of thick sand accumulation lies within the east-central Coastal Plain in Burlington and Ocean Counties. Here, maximum thicknesses exceed 130 ft. The Piney Point aquifer thins updip (section *F–F'*, pl. 4) where it wedges out between sediments of the underlying Manasquan Formation and the overlying Kirkwood Formation.

The thickness of the confining-bed material underlying and overlying the Piney Point aquifer can be calculated from table 3, from the hydrogeologic sections, and from comparisons of the maps of the Piney Point aquifer with those of vertically adjacent aquifers.

ATLANTIC CITY 800-FOOT SAND

The Atlantic City 800-foot sand is a major water-bearing unit that lies within the lower part of the Kirkwood Formation of middle Miocene age. It is the principal confined aquifer supplying water along the barrier beaches from Stone Harbor in Cape May County to Harvey Cedars in Ocean County. The Atlantic City 800-foot sand is composed of gray, medium- to coarse-grained quartz sands and gravel with a considerable amount of interspersed fragmented shell material.

Structure contours of the top of the Atlantic City 800-foot sand, its thickness, and its approximate limits are shown on plate 22. The approximate updip limit of the 800-foot sand is based on the approximate updip limit of the overlying confining bed. The Atlantic City 800-foot sand is recognizable in the subsurface only where it is overlain by the thick massive clay bed southeast of the double-dashed line (pl. 22). This confining bed is described in detail in the following section. In areas northwest of the limit of the confining bed, the Kirkwood Formation is composed primarily of fine- to medium-grained sand that is hydraulically connected to the overlying Cohansey Sand and younger deposits, forming a relatively thick water-table aquifer.

It is not known whether the 800-foot sand continues beyond the western edge of the overlying confining bed and forms part of the larger water-table system to the west. This is significant because if a lateral connection exists, most of the recharge to the 800-foot sand would be from unconfined areas to the west. The presumed relationship of the Atlantic City 800-foot sand to the underlying and overlying confining beds and the unconfined Kirkwood–Cohansey aquifer system is illustrated in figure 5.

The Atlantic City 800-foot sand overlies a clay bed at the base of the Kirkwood Formation that is the uppermost unit of the composite confining bed described previously. This basal clay appears to be the equivalent

9

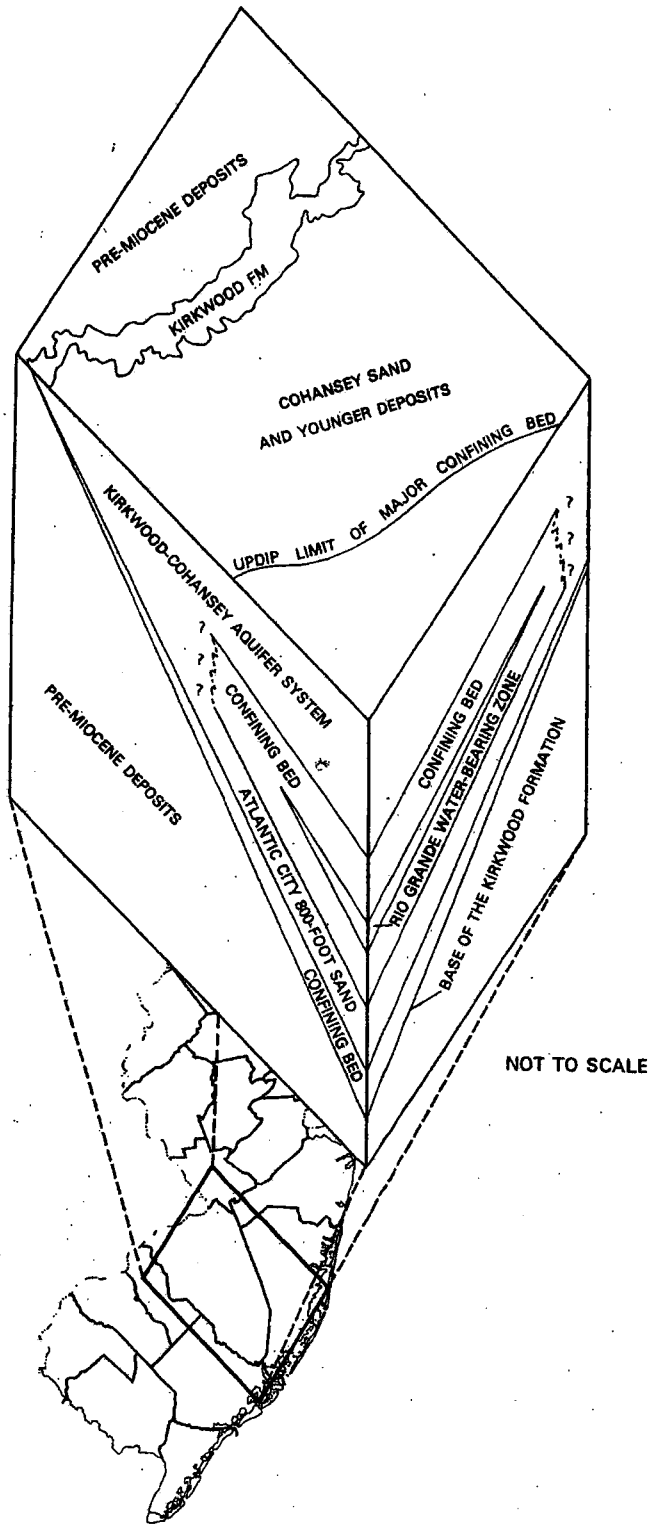

FIGURE 5.—Block diagram showing the presumed stratigraphic relationship between the Kirkwood–Cohansey aquifer system and the Atlantic City 800-foot sand.

of the Alloway Clay Member of the Kirkwood Formation described by Nemickas and Carswell (1976). This underlying clay bed can be traced laterally updip beyond the limit of the thick clay bed that overlies the Atlantic City 800-foot sand (section *F–F'*, pl. 4, and sections *L–L'* and *L'–A'*, pl. 5).

The Atlantic City 800-foot sand generally thickens downdip. The aquifer also thickens toward the south, from approximately 40 ft at Barnegat Light, Ocean County, to greater than 200 ft at Cape May City, Cape May County. The aquifer thickness at Atlantic City is more than 150 ft.

A relatively thin clay bed within the Atlantic City 800-foot sand, with thicknesses generally ranging from 10 to 30 ft, is recognized on geophysical logs from Ocean City, Cape May County, to Beach Haven, Ocean County (section *M–M'*, pl. 5). Most of the production wells along the coast are screened in the lower part of the double sand separated by this thin clay bed. According to unpublished results from an aquifer test in 1980 at Atlantic City, Atlantic County, significant leakage from the upper sandy zone of the aquifer can occur (Tilley and Straus, written commun., 1978).

CONFINING BED OVERLYING THE ATLANTIC CITY 800-FOOT SAND

The thickness and extent of the confining bed that overlies the Atlantic City 800-foot sand is shown on plate 22. This massive clay bed within the Kirkwood Formation is commonly described as being rich in diatoms. Woolman (1895) often referred to this unit as the "Great Diatom Bed."

The confining-bed thickness increases in the downdip direction from less than 100 ft in the vicinity of Mays Landing, Atlantic County, to more than 300 ft beneath the Atlantic City area. The confining bed is thickest along the barrier beaches of Cape May County, where thicknesses of 400 to 450 ft are common. However, sandy zones within the confining bed are common in the Cape May area. The confining bed thins toward the line approximating its westernmost limit in the subsurface. It cannot be identified in wells located less than 5 mi updip from the limit shown on the map (pl. 22). This indicates either that the clay bed is truncated or that an abrupt lithologic change from silt and clay to sand occurs over a relatively short distance. No evidence for a gradual pinchout of the unit has been observed.

The updip limit of this confining bed could only be approximated because of limited geophysical data. However, water-level data indicate that water-bearing sands of the Kirkwood Formation are largely unconfined west of the limit of the confining bed shown on plate 22 (Walker, 1983), supporting the given interpretation.

Rio Grande Water-Bearing Zone

Midway within the confining bed that overlies the Atlantic City 800-foot sand lies a relatively thin confined aquifer (sections *L–L'*, *L'–A*, and *M–M'*, pl. 5). Gill (1962) described this unit in Cape May County and referred to it as the Rio Grande water-bearing zone, after the town in Cape May County that uses it for public supply. The same unit was recognized as early as 1890 in the Atlantic City region and on the southern barrier beaches of Ocean County, where it was generally referred to as the 550-foot horizon (Woolman, 1891, p. 269; 1892, p. 224). The lateral persistence of the Rio Grande water-bearing zone from Cape May County to Ocean County is shown on section *M–M'* (pl. 5). Thickness and structure contour maps of this unit are not given in this report. Tops and thicknesses of the Rio Grande water-bearing zone can be calculated from the hydrogeologic sections.

The Rio Grande water-bearing zone is used mainly in southern Cape May County, where aquifer thicknesses can exceed 100 ft. It is generally less than 40 ft thick throughout much of the coastal area in southern Ocean and Atlantic Counties. The aquifer is seldom used outside of southern Cape May County and is of minor importance. Therefore, in this report, the Rio Grande water-bearing zone has been included as part of the confining bed overlying the 800-foot sand shown on plate 22.

KIRKWOOD–COHANSEY AQUIFER SYSTEM

The Kirkwood–Cohansey aquifer system is predominantly a water-table aquifer that underlies an area of approximately 3,000 mi² southeast of the updip limit of the outcrop of the Kirkwood Formation. This aquifer system is composed of the Kirkwood Formation and the Cohansey Sand and, depending on location, can include overlying deposits of the Beacon Hill Gravel, the Bridgeton Formation, and the Cape May Formation (Rhodehamel, 1973). The Kirkwood–Cohansey aquifer system is confined by overlying Pleistocene deposits on the peninsular part of Cape May County.

The lithology of the Kirkwood Formation, as indicated previously, is variable. Along coastal areas thick clay beds are dominant, with interbedded zones of sand and gravel. In the subsurface updip from the coast, fine to medium sand and silty sand are common, and regionally extensive clay beds occur only in the basal part of the formation.

The Cohansey Sand, also of Miocene age, is coarser grained than the underlying Kirkwood Formation. It is predominantly a light-colored quartz sand containing minor amounts of pebbly sand, fine- to coarse-grained sand, silty and clayey sand, and interbedded clay (Rhodehamel, 1973, p. 24). Some local clay beds within the Cohansey Sand are relatively thick. Locally, perched water tables and semiconfined conditions can exist in the Kirkwood–Cohansey aquifer system.

Overlying the Cohansey Sand are the Beacon Hill Gravel and the Bridgeton Formation, both considered Miocene fluvial deposits (Owens and Minard, 1979). The Beacon Hill Gravel overlies the Cohansey Sand only in remnant patches on the highest hills between Clarksburg, Monmouth County, and Warren Grove, Ocean County, where it can be as much as 40 ft thick (Owens and Minard, 1979, p. D6). The coarse-grained sand and gravel of the Bridgeton Formation are more widespread and can generally add 30 to 50 ft of thickness to the aquifer system in parts of Camden, Gloucester, Salem, Cumberland, Atlantic, and Cape May Counties (Owens and Minard, 1979, p. D14).

Throughout most of Cape May County, the Pleistocene Cape May Formation directly overlies the Cohansey Sand. Gill (1962, p. 21) divided the Cape May Formation into four distinct environmental facies. In order of deposition they are estuarine sand, estuarine clay, marine sand, and deltaic sand. Gill (1962, fig. 2) has shown that in the northern half of Cape May County and along the coast as far south as Stone Harbor, the Cohansey Sand is in hydraulic connection with the overlying marine and deltaic sand facies. The marine sand facies of the Cape May Formation adds as much as 100 ft to the thickness of the Kirkwood–Cohansey aquifer system in the northern half of Cape May County. On the peninsular part of Cape May County, the Cohansey Sand is generally in hydraulic connection with the estuarine sand facies but is confined by the overlying estuarine clay facies (Gill, 1962, fig. 2). The estuarine clay facies generally ranges from 25 to 125 ft in thickness (Gill, 1962, p. 27).

The base of the Kirkwood–Cohansey aquifer system is shown on plate 23. The map illustrates two major regional basal surfaces for the water-table aquifer. The two surfaces are differentiated by the double-dashed line representing the approximate westward limit of the major confining bed overlying the Atlantic City 800-foot sand. The basal surface for the Kirkwood–Cohansey aquifer system west of this line is the top of the clay bed lying within the lower part of the Kirkwood Formation. This clay bed, as shown on hydrogeologic sections *F–F'* (pl. 4) and *L–L'* (pl. 5), is the updip extension of the confining bed underlying the 800-foot sand and is probably the equivalent of the Alloway Clay Member of the Kirkwood Formation described by Nemickas and Carswell (1976).

The basal surface east of the double-dashed line is the top of the thick diatomaceous clay bed that overlies the Atlantic City 800-foot sand. The discontinuity in the

structure contours on the base of the unconfined system at the double-dashed line is caused by the presence of this clay bed. The base of the aquifer system directly updip from the northwestern limit of the confining bed generally lies more than 350 ft below sea level. At Egg Harbor City, Atlantic County, several miles downdip from the western limit of the confining bed, the base of the water-table aquifer is only 160 ft below sea level. The difference in altitudes of the two basal surfaces of the Kirkwood–Cohansey aquifer system is shown diagrammatically in figure 5.

The thickness of the confining bed underlying the Kirkwood–Cohansey aquifer system west of the double-dashed line is shown on plate 18 as the composite confining bed. If, in more detailed studies, the Vincentown and Piney Point aquifers are considered important, the thickness of the confining bed between the base of the unconfined aquifer and these minor aquifers can be calculated by comparing the maps of the tops of the Vincentown (pl. 19) and Piney Point (pl. 20) aquifers with the base of the Kirkwood–Cohansey aquifer system west of the double-dashed line (pl. 23).

It is important to note that the Cohansey Sand is a confined aquifer beneath the peninsular portion of Cape May County. However, on plate 23, structure contours have been extended throughout Cape May County to illustrate the base of the confined Cohansey Sand. Information regarding the water-table system in Cape May County can be found in Gill (1962).

The extent of the confining bed overlying the Atlantic City 800-foot sand partly determines the thickness of the Kirkwood–Cohansey aquifer system. An abrupt change in the thickness of the Kirkwood–Cohansey aquifer system at the double-dashed line is shown on plate 24. The water-table aquifer thickens downdip from less than 50 ft at the Kirkwood outcrop to more than 400 ft near the edge of the upper confining bed of the Atlantic City 800-foot sand. In areas where this clay bed occurs in the subsurface, the aquifer thickness ranges from about 140 ft along the northwestern extent of the clay bed to approximately 400 ft in the Atlantic City area.

The aquifer-thickness map for the Kirkwood–Cohansey aquifer system represents not only the saturated thickness of the water-table aquifer but also the unsaturated section. The thickness of the aquifer at each control point represents the total thickness of the unit calculated by subtracting the depth of the basal confining bed from the altitude of the land surface.

SUMMARY AND CONCLUSIONS

The New Jersey Coastal Plain is a seaward-dipping wedge of unconsolidated sediments that range in age from Cretaceous to Quaternary. These sediments are composed of clay, silt, sand, and gravel and include continental, coastal, and marine-type deposits.

Hydrogeologic units described in this report can differ from formal stratigraphic units because a geologic formation may contain more than one aquifer, a formation may function as an aquifer in one area and as a confining bed in another, or an aquifer or a confining bed may be composed of several geologic formations.

The occurrence and configuration of 15 regional hydrogeologic units within the New Jersey Coastal Plain have been defined on the basis of interpretation of borehole geophysics data. Structure contour maps and aquifer thickness maps are provided for nine aquifers. In ascending order they are

1. Lower aquifer of the Potomac–Raritan–Magothy aquifer system
2. Middle aquifer of the Potomac–Raritan–Magothy aquifer system
3. Upper aquifer of the Potomac–Raritan–Magothy aquifer system
4. Englishtown aquifer system
5. Wenonah–Mount Laurel aquifer
6. Vincentown aquifer
7. Piney Point aquifer
8. Atlantic City 800-foot sand
9. Kirkwood–Cohansey aquifer system

Thickness maps are provided for six confining beds. In ascending order they are

1. Confining bed between the lower and middle aquifers of the Potomac–Raritan–Magothy aquifer system
2. Confining bed between the middle and upper aquifers of the Potomac–Raritan–Magothy aquifer system
3. Merchantville–Woodbury confining bed
4. Marshalltown–Wenonah confining bed
5. Composite confining bed
6. Confining bed overlying the Atlantic City 800-foot sand

The structure contour and thickness maps are supplemented by 14 hydrogeologic sections that show vertical and horizontal relationships among the 15 hydrogeologic units.

The major points presented by this hydrogeologic framework are as follows:

1. The Potomac–Raritan–Magothy aquifer system is divided into five mappable units of varying extent. The five units include three aquifers, designated lower, middle, and upper, and two confining beds that lie interjacent to the aquifers.

2. The lower aquifer of the Potomac–Raritan–Magothy aquifer system is defined in the subsurface near the outcrop area between Burlington and Salem Counties.

TABLE 4.—*Altitudes of top and base*

[In feet above

U.S.G.S. number	Altitude of land surface	Kirkwood-Cohansey aquifer system	Atlantic City 800-foot sand		Piney Point aquifer		Vincentown aquifer	
		Base	Top	Base	Top	Base	Top	Base
29-488	170	-20	—	—	—	—	—	—
29-491	89	-50	—	—	—	—	—	—
29-492	97	-40	—	—	—	—	—	—
29-504	5	-180	—	—	—	—	—	—
29-514	44	-290	—	—	—	—	—	—
29-515	30	-196	—	—	—	—	—	—
29-534	18	—	—	—	—	—	—	—
29-542	12	-248	—	—	-428	—	—	—
29-547	7	-221	-453	-579	-675	-803	—	—
29-560	10	-200	-430	-536	—	—	—	—
29-561	10	-200	—	—	—	—	—	—
29-565	10	-180	-445	—	—	—	—	—
29-572	148	-299	—	—	—	—	—	—
29-573	156	-253	—	—	-394	-504	—	—
29-575	135	55	—	—	—	—	-99	-141
29-583	5	-157	-379	-419	-590	—	—	—
29-585	15	-267	—	—	-361	-433	—	—
29-598	5	-193	-405	—	—	—	—	—
29-601	95	-33	—	—	—	—	—	—
29-604	115	58	—	—	—	—	—	—
29-771	0	-258	-523	-599	-706	—	—	—
29-774	8	-202	-374	-481	—	—	—	—
29-809	8	-204	—	—	-314	—	—	—
33- 2	85	25	—	—	-85	-175	—	—
33- 9	77	—	—	—	—	—	-167	-206
33- 15	30	—	—	—	—	—	-52	—
33- 20	77	—	—	—	—	—	-107	-129
33- 22	105	—	—	—	—	—	—	—
33- 33	12	—	—	—	-79	-119	-208	-240
33- 64	20	—	—	—	—	—	—	—
33- 69	40	—	—	—	—	—	—	—
33-106	10	—	—	—	—	—	—	—
33-107	8	—	—	—	—	—	—	—
33-108	7	—	—	—	—	—	—	—
33-111	10	—	—	—	—	—	—	—
33-115	7	—	—	—	—	—	—	—
33-117	7	—	—	—	—	—	—	—
33-139	5	—	—	—	—	—	—	—
33-148	69	—	—	—	—	—	16	—
33-158	57	—	—	—	—	—	37	12
33-187	71	—	—	—	—	—	—	—
33-194	90	—	—	—	—	—	—	—
33-198	51	—	—	—	—	—	—	—
33-209	75	-79	—	—	—	—	—	—
33-236	60	—	—	—	-88	-165	—	—
33-241	10	—	—	—	—	—	-15	-94
33-251	6	—	—	—	—	—	—	—
33-280	133	87	—	—	—	—	-134	-150
33-302	30	—	—	—	—	—	—	—
33-346	12	—	—	—	—	—	—	—

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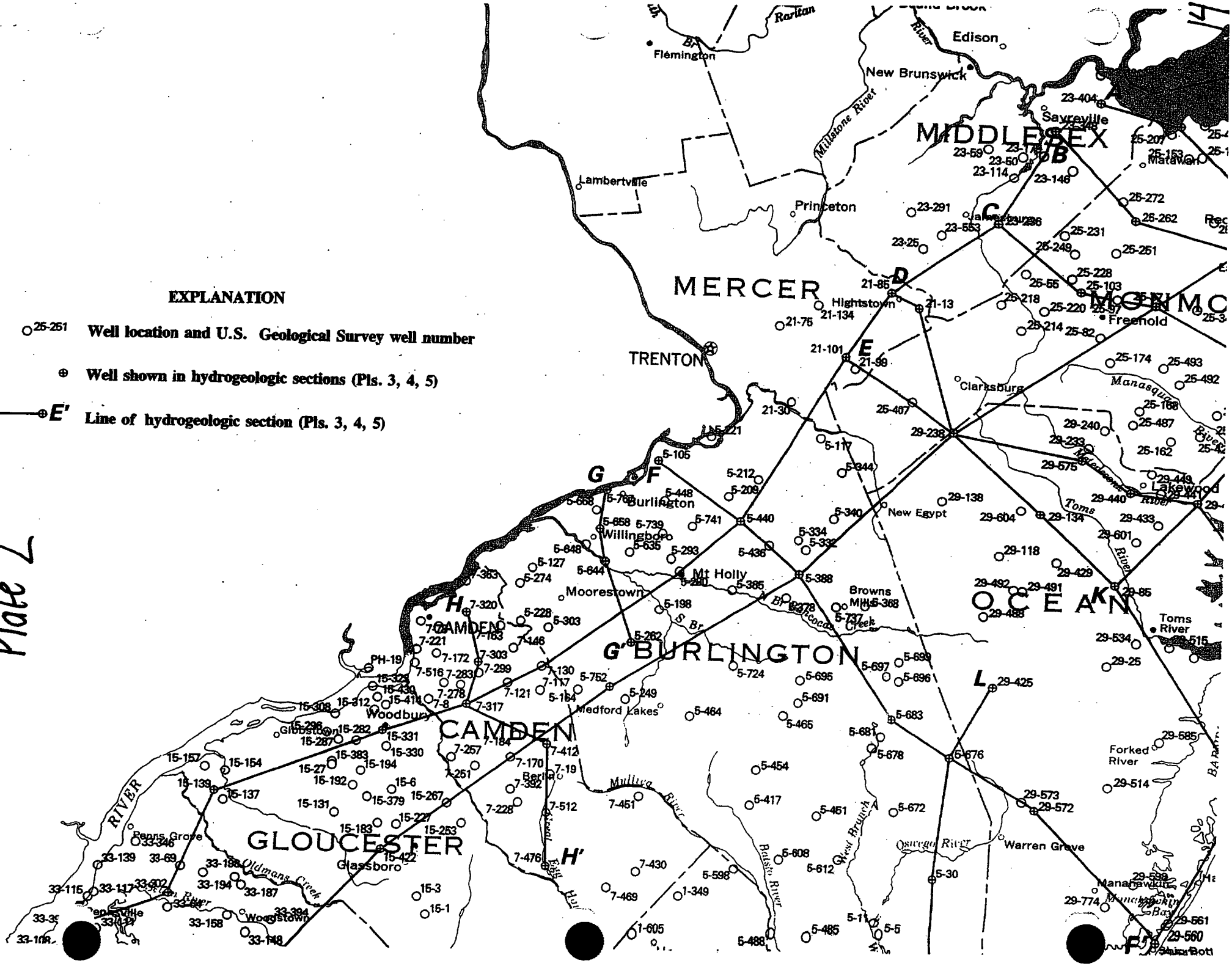
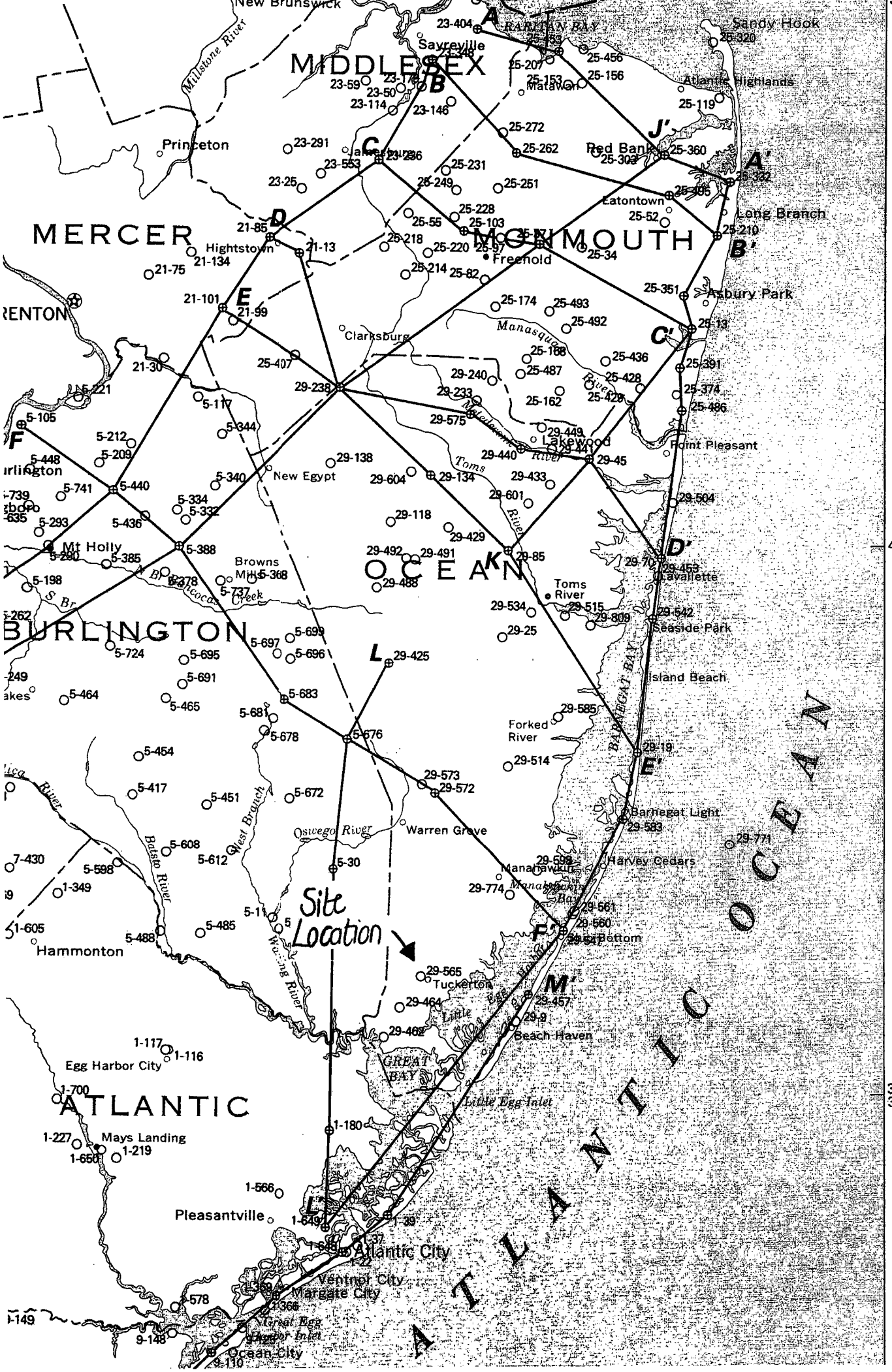
Plate 2


EXPLANATION
25-251 Well location and U.S. Geological Survey well number
Well shown in hydrogeologic sections (Pls. 3, 4, 5)
E E' Line of hydrogeologic section (Pls. 3, 4, 5)
MIDDLESEX
MERCER
MONMO
OCEAN
BURLINGTON
CAMDEN
GLOUCESTER
TRENTON
Edison
New Brunswick
Flemington
Lambertville
Princeton
Hightstown
Freehold
Clarksburg
Burlington
Willingboro
Mt Holly
Moorestown
Woodbury
Medford Lakes
Berlin
Glassboro
Penns Grove
Woodstown
New Egypt
Browns Mills
Lakewood
Toms River
Forked River
Warren Grove
Manahawkin
Sayreville
Matawan
Jamesburg
Millstone River
Raritan
Manasquan River
Toms River
Mullica River
Oldmans Creek
Oswego River
Batsto River
West Branch
Cocoa Creek
S Br
N Br
RIVER
A
B
C
D
E
F
G
G'
H
H'
K
L
F'



MIDDLESEX
MERCER
MONMOUTH
OCEAN
BURLINGTON
ATLANTIC
ATLANTIC OCEAN
RARITAN BAY
BARNEGAT BAY
GREAT BAY
Site Location
New Brunswick
Millstone River
Sayreville
Sandy Hook
Atlantic Highlands
Matawan
Princeton
Jamesburg
Red Bank
Eatontown
Long Branch
Hightstown
Freehold
Asbury Park
Clarksburg
Manasquan River
Lakewood
Point Pleasant
New Egypt
Toms River
Mt Holly
Browns Mills
Lavallette
Seaside Park
Island Beach
Forked River
Barnegat Light
Harvey Cedars
Manahawkin
Warren Grove
Oswego River
West Branch
Batsto River
Hammonton
Tuckerton
Beach Haven
Little Egg Inlet
Egg Harbor City
Mays Landing
Pleasantville
Atlantic City
Ventnor City
Margate City
Great Egg Harbor Inlet
Ocean City
40°
39° 30′

15

Plate 23

EXPLANATION

Approximate updip limit of the confining bed overlying the Atlantic City 800-foot sand

125 Line of equal thickness of the Atlantic City 800-foot sand Dashed where approximately located. Interval 25 feet

○ Well location

C. THICKNESS OF THE CONFINING BED OVERLYING THE SAND

EXPLANATION

Approximate updip limit of the confining bed overlying the Atlantic City 800-foot sand

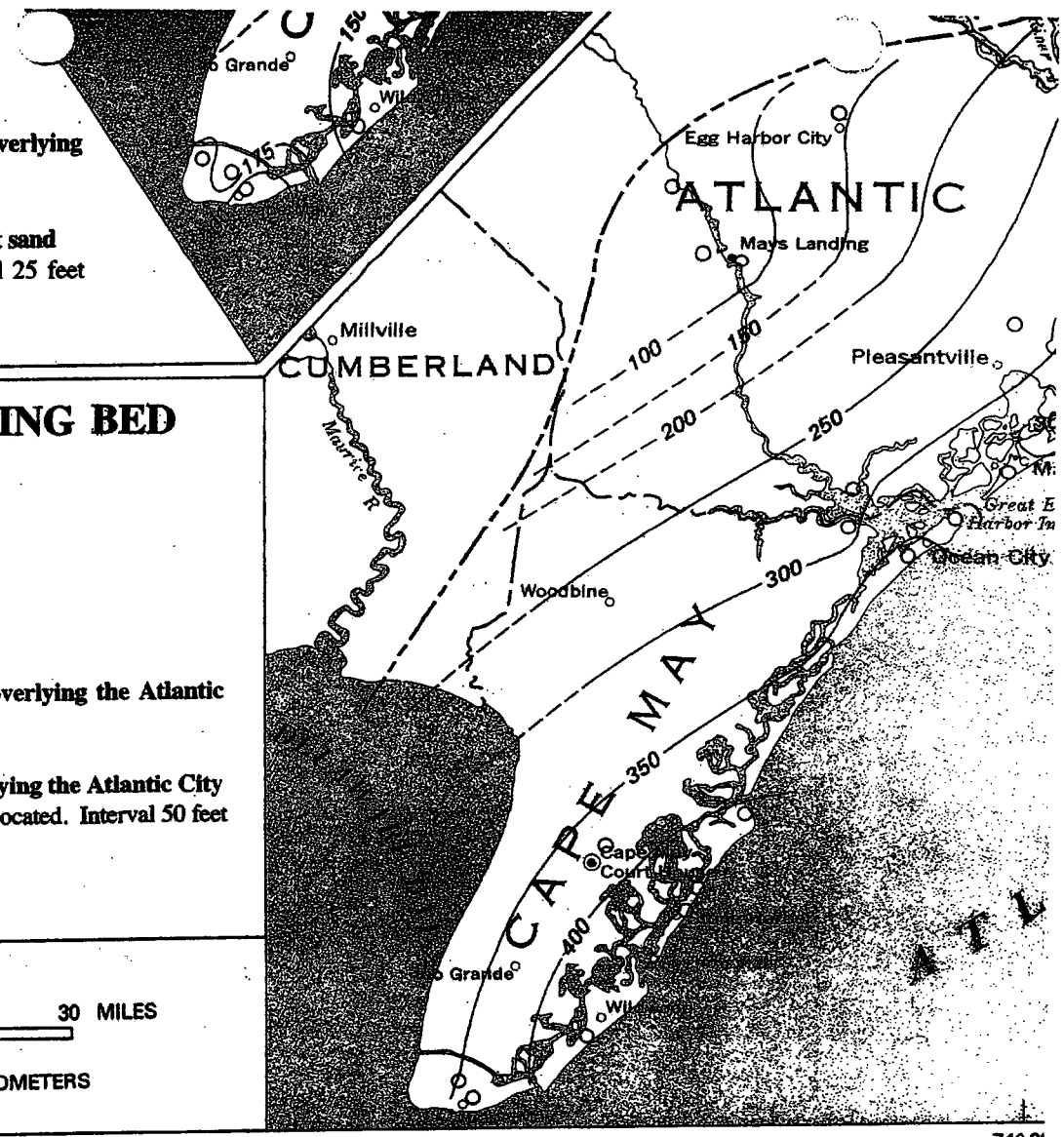
250 Line of equal thickness of the confining bed overlying the Atlantic City 800-foot sand Dashed where approximately located. Interval 50 feet

○ Well location

SCALE 1:500,000

0 10 20 30 MILES

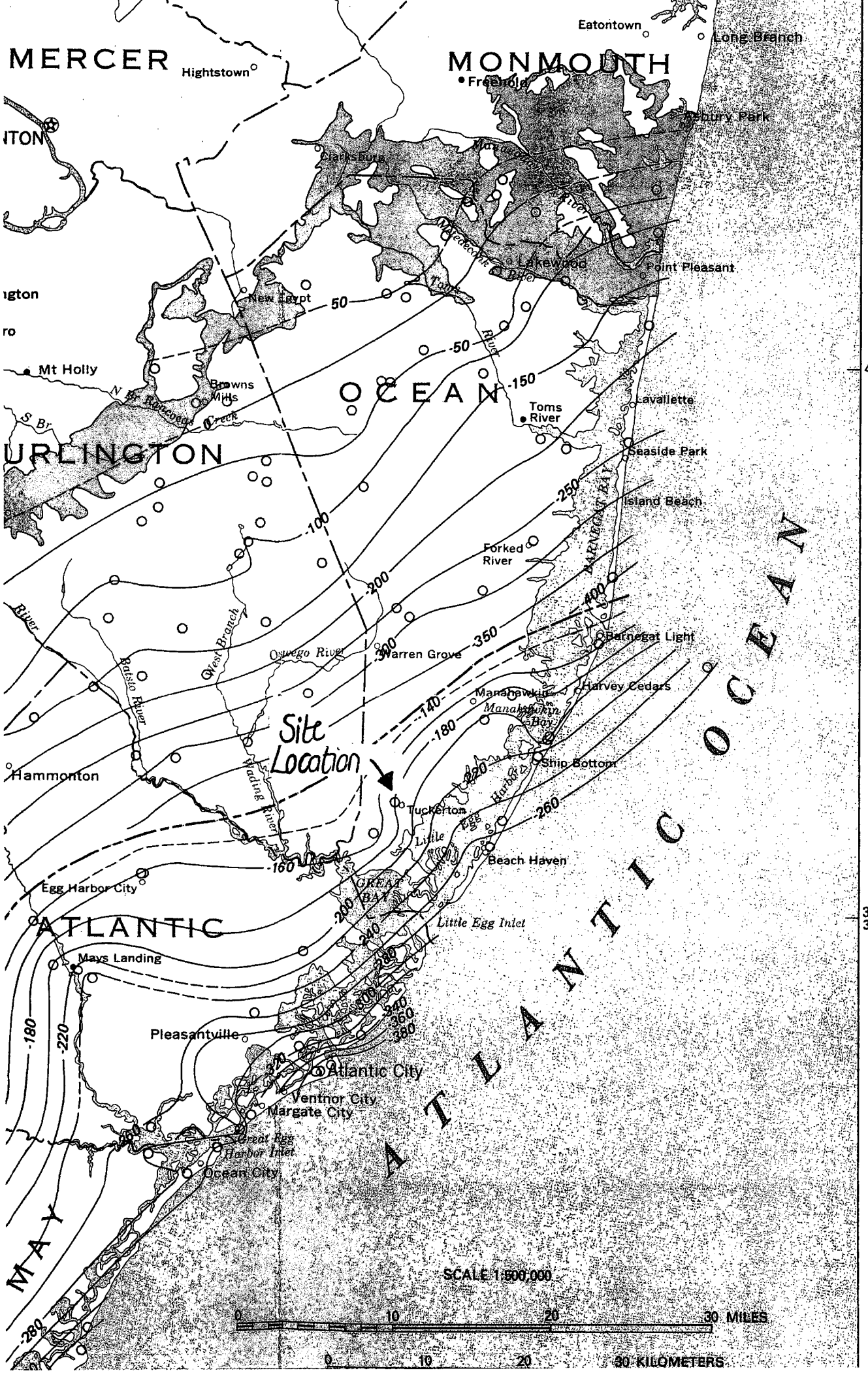
0 10 20 30 KILOMETERS



BASE FROM U.S. GEOLOGICAL SURVEY STATE BASE MAP
NEW JERSEY 1974, 1:500,000

ATLANTIC CITY 800-FOOT SAND AND OVERLYING CONFINING

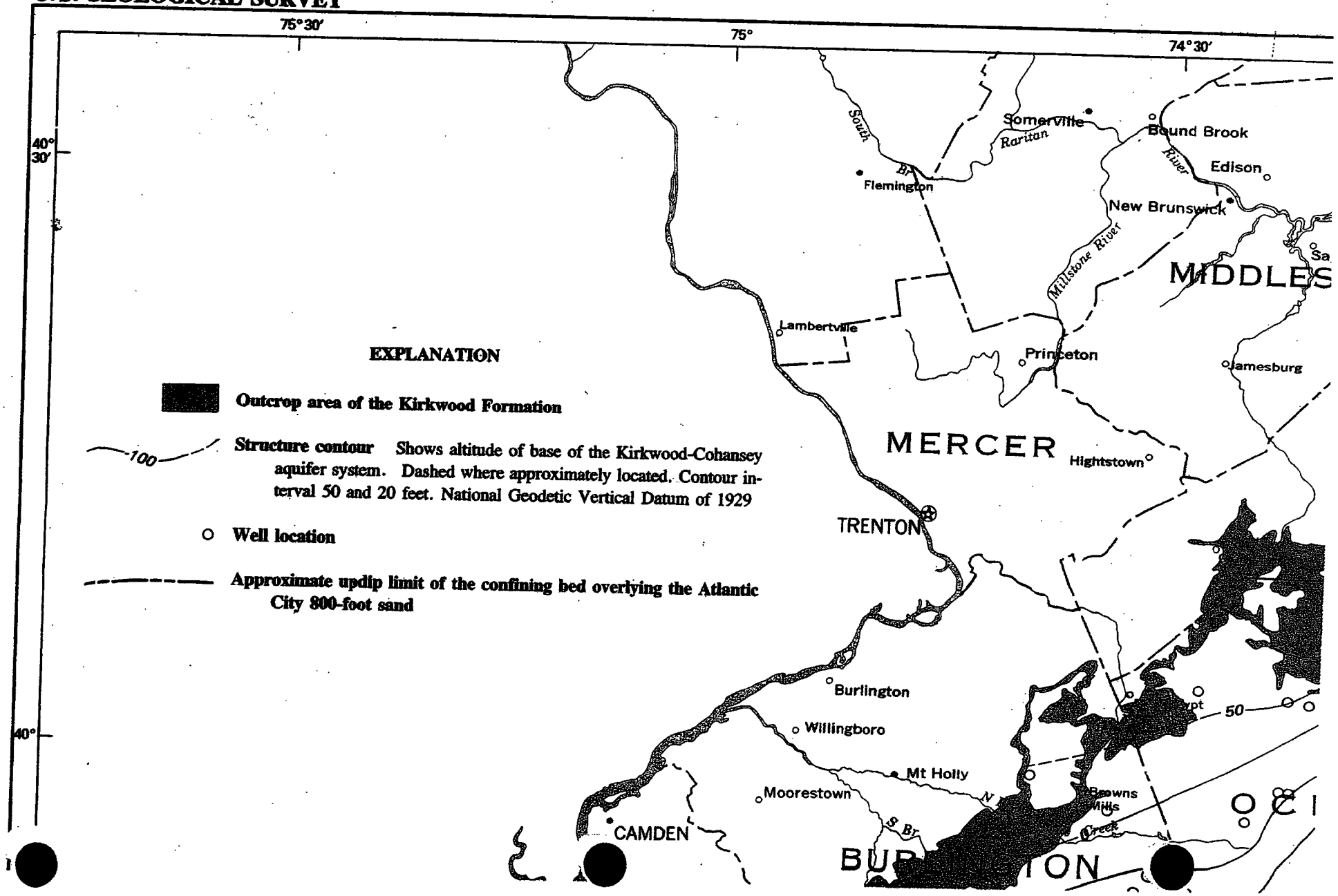
16

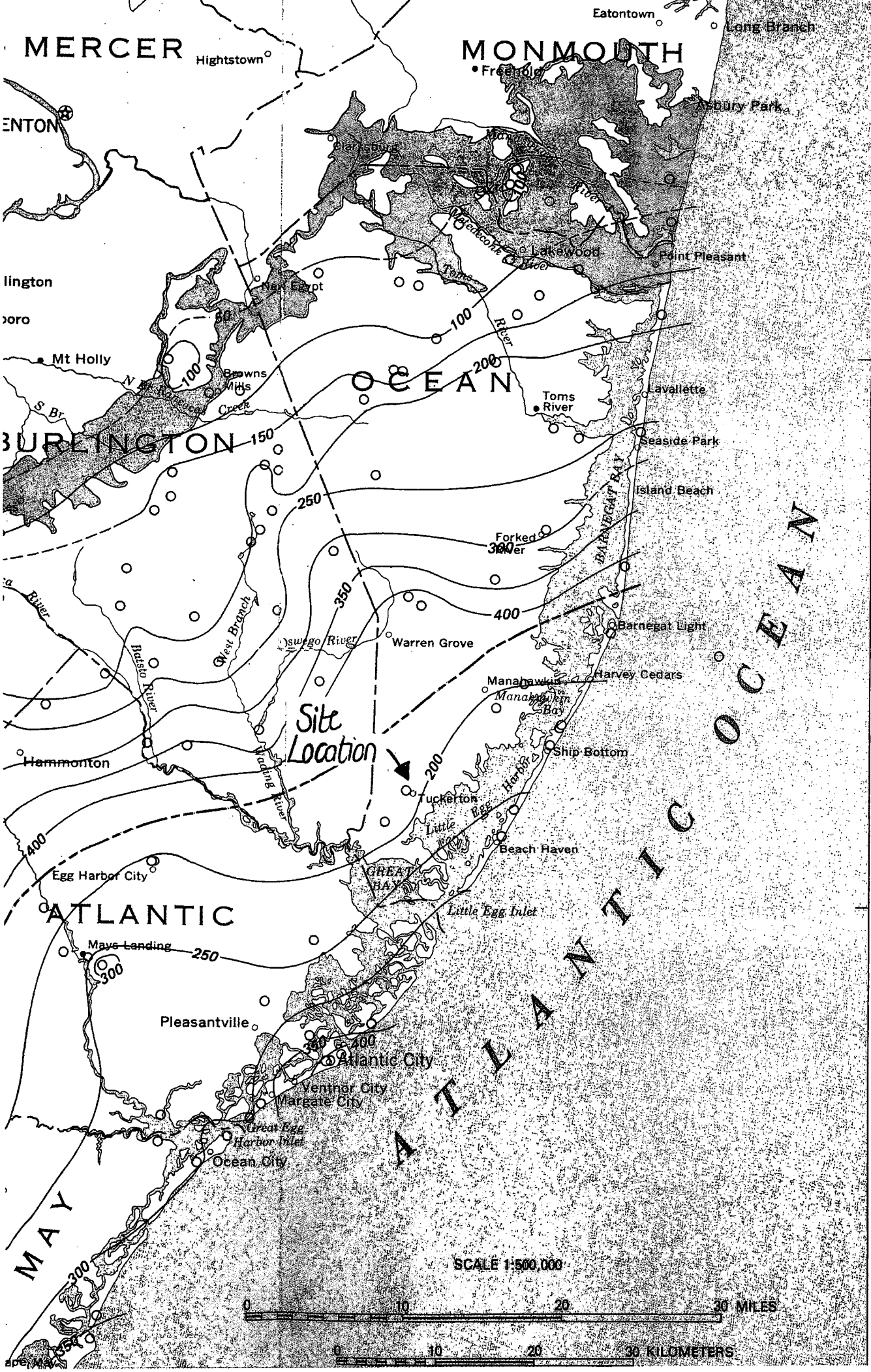

MERCER
MONMOUTH
Hightstown
Freehold
Eatontown
Long Branch
Asbury Park
Clarksburg
Lakewood
Point Pleasant
New Egypt
Mt Holly
Browns Mills
OCEAN
Toms River
Lavallette
Seaside Park
Island Beach
BARNEGAT BAY
Forked River
Barnegat Light
Harvey Cedars
Warren Grove
Oswego River
Manahawkin
Manahawkin Bay
Ship Bottom
Site Location
Tuckerton
Little Egg Harbor
Beach Haven
Little Egg Inlet
GREAT BAY
Egg Harbor City
Hammonton
Mays Landing
Pleasantville
Atlantic City
Ventnor City
Margate City
Great Egg Harbor Inlet
Ocean City
ATLANTIC OCEAN
MAY
40°
39° 30'
SCALE 1:500,000
0 10 20 30 MILES
0 10 20 30 KILOMETERS

17

Plate 24

DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY




MERCER
Hightstown
MONMOUTH
Freehold
Eatontown
Long Branch
Asbury Park
Clarksburg
Manasquan River
Metedeconk River
Lakewood
Point Pleasant
New Egypt
Toms River
Mt Holly
Browns Mills
N Br Rancocas Creek
S Br
BURLINGTON
OCEAN
Toms River
Lavallette
Seaside Park
Island Beach
BARNEGAT BAY
Forked River
Barnegat Light
Harvey Cedars
Manahawkin
Manahawkin Bay
Ship Bottom
Warren Grove
West Branch
Oswego River
Batsto River
Hammonton
Wading River
Site Location
Tuckerton
Little Egg Harbor
Beach Haven
GREAT BAY
Little Egg Inlet
Egg Harbor City
ATLANTIC
Mays Landing
Pleasantville
Atlantic City
Ventnor City
Margate City
Great Egg Harbor Inlet
Ocean City
MAY
ATLANTIC OCEAN
100
150
200
250
300
350
400
40°
39° 30′
SCALE 1:500,000
0 10 20 30 MILES
0 10 20 30 KILOMETERS

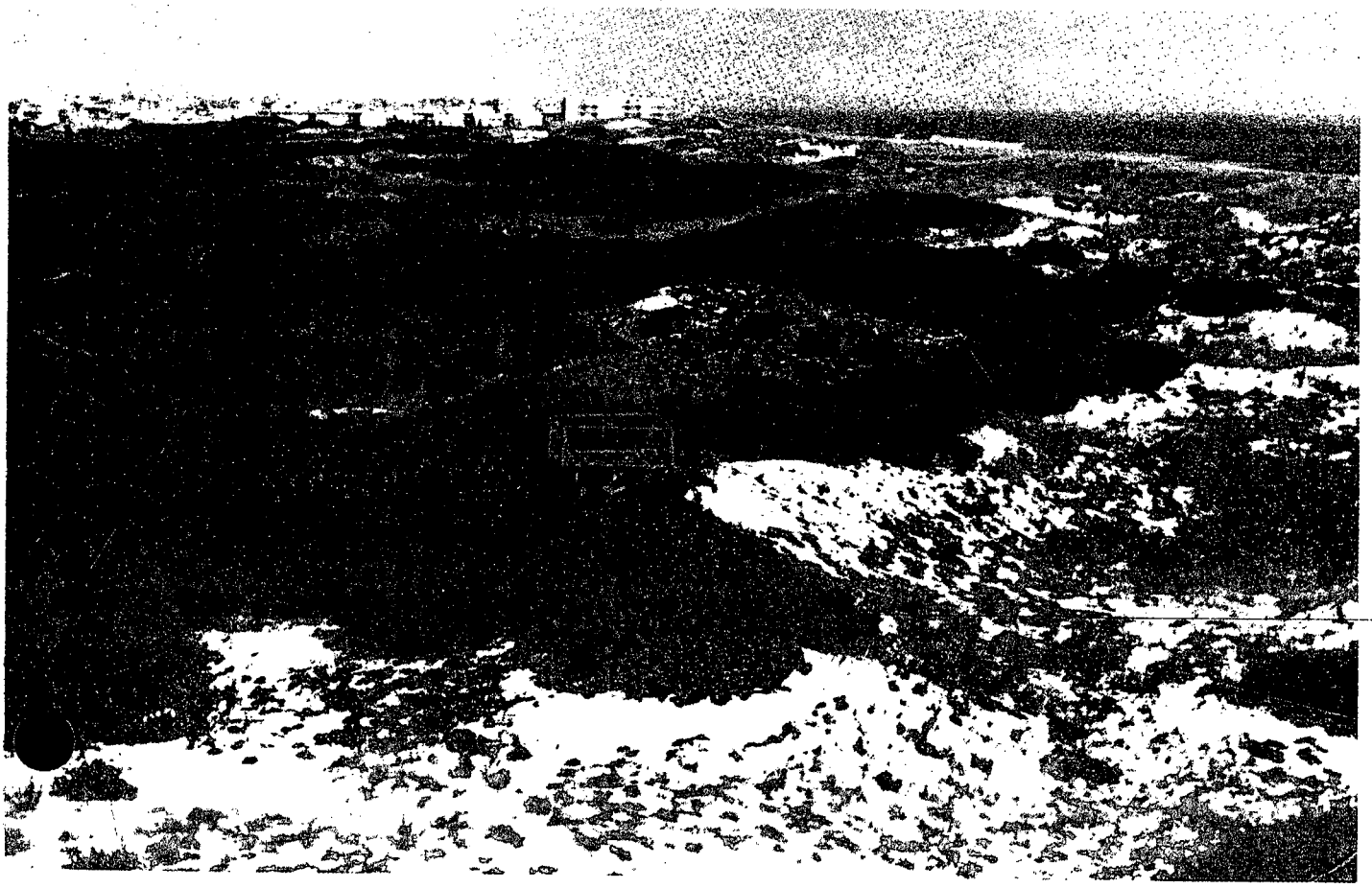
19

Reference 7

Soil Survey of

OCEAN COUNTY, NEW JERSEY

United States Department of Agriculture, Soil Conservation Service
in cooperation with
New Jersey Agricultural Experiment Station, Cook College, Rutgers, The State University
and the
New Jersey Department of Agriculture, State Soil Conservation Committee



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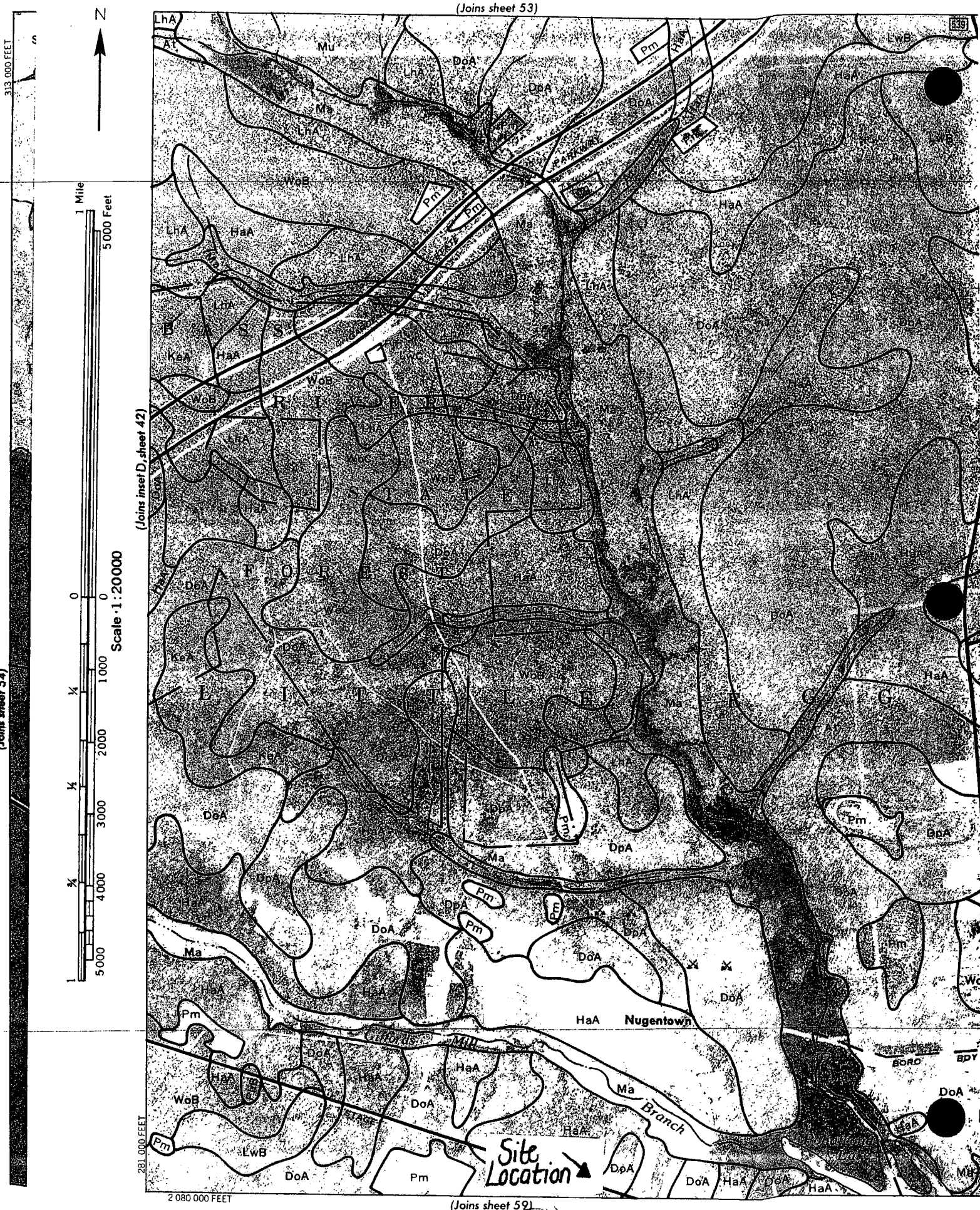

(Joins sheet 53)
(Joins inset D, sheet 42)
(Joins sheet 54)
(Joins sheet 59)
N
1 Mile
5000 Feet
Scale 1:20000
313 000 FEET
281 000 FEET
2 080 000 FEET
BASS RIVER STATE FOREST
LITTLE RIGG
Nugentown
Giffords Mill Branch
Site Location
PARKWAY
STAGE
BORO BDY
LhA
Mu
DoA
Ma
WoB
HaA
KeA
LwB
Pm
DpA
Wo

2

planting cover crops, farming on the contour, installing diversions where necessary, and using a crop rotation that includes grasses and legumes. Tilth and organic matter can be maintained by controlling erosion, planting cover crops, plowing under crop residue, and using a rotation containing sod.

The soil is well suited to pasture. Proper seeding, proper stocking rates, and rotation of pastures are the major practices used on this soil. If the pasture is overgrazed, runoff and erosion increase.

This soil is suited to trees. Red oak, white oak, black oak, yellow-poplar, hickories, ash, and beech are common species. Pines are common in abandoned fields.

The soil is generally suitable for most urban uses, but slope is a limitation for playgrounds.

This soil is in capability subclass IIIe.

DoA—Downer loamy sand, 0 to 5 percent slopes. This nearly level to gently sloping, well drained soil is on divides and side slopes. Slopes are convex and range from 100 to 400 feet in length. The areas are irregular in shape and range from about 50 to 400 acres.

Typically, in a wooded area the surface layer is grayish brown loamy sand about 2 inches thick. The subsurface layer is brown loamy sand 14 inches thick. The subsoil is yellowish brown sandy loam 15 inches thick. The substratum is brownish yellow sand to a depth of 60 inches or more.

Included with this soil in mapping are areas of Downer sandy loam and Downer gravelly sandy loam and Evesboro, Woodmansie, Hammonton, and Klej soils. The Hammonton and Klej soils are moderately well drained or somewhat poorly drained. The Evesboro soils are excessively drained. The Woodmansie soils have a gray subsurface layer. Included soils make up about 15 percent of this map unit.

The permeability of this soil is moderate or moderately rapid in the subsoil and moderately rapid in the substratum. Available water capacity is low to moderate. Organic matter content and natural fertility are low. Unless the soil has been limed, the surface layer is extremely acid and the subsoil and substratum are very strongly acid. Runoff is slow. Tilth is good, and the soil is easily worked.

Most of the acreage of this soil is used for woodland. A few acres are farmed, and a few are in pasture.

The soil is suited to vegetables and fruit. The soil has a slight water erosion hazard, which can be controlled by planting cover crops. The hazard of wind erosion is severe, and the soil needs windbreak hedges and cover crops. Tilth and organic matter content can be maintained by planting cover crops and plowing under crop residue. The included Hammonton and Klej soils generally need to be drained.

This soil is suited to trees (fig. 7). Pitch pine, black oak, white oak, scarlet oak, and chestnut oak are the common species. Pines are more common in abandoned fields. Prescribed burning is used to control wildfires.

This soil is generally suitable for most urban uses. The included Hammonton and Klej soils have a high water table that limits the unit as a site for houses with basements and for septic tank sewage disposal fields. The soil is limited for use as recreational areas by the loose, sandy surface.

This soil is in capability subclass IIs.

DpA—Downer sandy loam, 0 to 2 percent slopes. This nearly level, well drained soil is on divides. Slopes are convex and range from 100 to 400 feet in length. The areas are irregular in shape and range from about 30 to 150 acres.

Typically, the surface layer is grayish brown sandy loam about 6 inches thick. The subsurface layer is pale brown sandy loam 8 inches thick. The upper part of the subsoil is yellowish brown sandy loam 16 inches thick, and the lower part is yellowish brown loamy sand 7 inches thick. The substratum is brownish yellow sand to a depth of 60 inches or more.

Included with this soil in mapping are areas of gently sloping Downer sandy loam and Downer gravelly sandy loam and areas of Hammonton, Sassafras, and Woodmansie soils. Also included, in Jackson and Plumstead Townships, are soils that have a higher proportion of fine sand than this Downer soil. Included soils make up about 15 percent of this map unit.

The permeability of this soil is moderate in the subsoil and moderately rapid in the substratum. Available water capacity is moderate. Organic matter content is moderate, and natural fertility is medium. Unless the soil has been limed, the surface layer is extremely acid and the subsoil and substratum are very strongly acid. Runoff is slow. Tilth is good, and the soil is easily worked.

Most of the acreage of this soil is used for woodland. A small acreage is farmed and used for pasture.

This soil is suited to corn, soybeans, vegetables, small grains, commercial sod, and hay. Planting cover crops controls erosion. Tilth and organic matter content can be maintained by planting cover crops and plowing under crop residue. The included Hammonton soils generally need to be drained to prevent crop losses.

The soil is suited to pasture but is limited by the moderate available water capacity. Proper seeding, proper stocking, and rotation of pastures are the major management practices used on this soil.

This soil is suited to trees and has few limitations for most urban uses. Pitch pine, black oak, scarlet oak, and white oak are the common species. Pines are more common in abandoned fields. Prescribed burning is used to control wildfires.

This soil is in capability class I.

DpB—Downer sandy loam, 2 to 5 percent slopes. This gently sloping, well drained soil is on divides and

Flooding, low fertility, low available water capacity, erosion, and salt spray from the ocean make the soil unsuitable for most other uses. The wind erosion hazard is severe but can be controlled by maintaining the present plant cover and planting a cover such as American beachgrass on bare areas.

This soil is in capability subclass VIIs.

HaA—Hammonton loamy sand, 0 to 5 percent slopes. This nearly level to gently sloping, moderately well drained and somewhat poorly drained soil is in slightly depressed areas and on low divides. The areas are oval and range from about 10 to 300 acres.

Typically, the surface layer is dark grayish brown loamy sand about 14 inches thick. The upper part of the subsoil is 9 inches of yellowish brown sandy loam. The lower part is 6 inches of yellowish brown loamy sand with light brownish gray mottles. The substratum extends to a depth of 60 inches or more. To a depth of 33 inches it is brownish yellow sand with light gray mottles. At a depth of more than 33 inches it is light gray sand with brownish yellow mottles.

Included with this soil in mapping are areas of Downer, Hammonton, Klej, and Mullica soils. The Mullica soils are very poorly drained and generally are shown on the soil map by a wet-spot symbol. Also included, in Jackson and Plumstead Townships, are areas of soils with a surface layer of loamy fine sand, a subsoil of fine sandy loam, and a substratum of loamy fine sand and fine sand. Included soils make up about 15 percent of this map unit.

The permeability of this soil is moderate in the subsoil and moderately rapid in the substratum. If the soil is drained, available water capacity is moderate, but water is available to plants early in the season from the water table. The seasonal high water table is at a depth of 1-1/2 to 4 feet from December to May. During years with normal rainfall, the water table starts to rise in October and is nearest to the surface in January. It starts to drop in April and is at a depth of 5 feet or more by June. Organic matter content of the soil is low, and natural fertility is medium. Unless the soil has been limed, the surface layer is extremely acid and the subsoil and substratum are very strongly acid. Runoff is slow. Tilth is good, and the soil is easily worked.

Most of the acreage of this soil is used for woodland. A few acres are farmed, and a few are used for pasture.

This soil is suited to corn, soybeans, vegetables, small grain, and hay. It has a slight erosion hazard, which can be controlled by planting cover crops. Tilth and organic matter content can be maintained by planting cover crops and plowing under crop residue. Wetness is a limitation for some crops on this soil, and some areas need to be drained.

This soil is suited to pasture. Proper seeding, proper stocking, and rotation of pastures are the major pasture management practices used on the soil.

The soil is well suited to trees. Black oak, white oak, and pitch pine are the common species. Pines are more common in abandoned fields.

The high water table limits this soil for most urban uses, including sites for houses with basements, septic disposal fields, recreation areas, and sanitary landfills.

This soil is in capability subclass IIw.

HcA—Hammonton sandy loam, 0 to 3 percent slopes. This nearly level, moderately well drained or somewhat poorly drained soil is in depressed areas and on low divides. The areas are oval and range from about 10 to 150 acres.

Typically, the surface layer is dark grayish brown sandy loam about 10 inches thick. The upper part of the subsoil is 18 inches of yellowish brown sandy loam; the lower part is 7 inches of yellowish brown loamy sand with light brownish gray mottles. The substratum extends to a depth of 60 inches or more. It is brownish yellow and light gray sand with light gray and brownish yellow mottles.

Included with this soil in mapping are areas of Downer, Hammonton, Klej, and Mullica soils. The Mullica soils are very poorly drained and are generally shown on the soil maps by a wet-spot symbol. Also included, in Jackson and Plumstead Townships, are areas of soils with surface layer and subsoil of fine sandy loam and a substratum of loamy fine sand and fine sand. Included soils make up about 15 percent of this map unit.

The permeability of this soil is moderate in the subsoil and moderate to moderately rapid in the substratum. If the soil is drained, available water capacity is moderate, but water is available to plants early in the season from the water table. The seasonal high water table is at a depth of 1-1/2 to 4 feet from December to May. During years with normal rainfall, the water table starts to rise in October and is nearest to the surface in January. It starts to drop in April and is at a depth of 5 feet or more by June. Organic matter content of the soil is moderate, and natural fertility is medium. Unless the soil has been limed, the surface layer is extremely acid and the subsoil and substratum are very strongly acid. Runoff is slow. Tilth is good, and the soil is easily worked.

Most of the acreage of this soil is used for woodland. A few acres are farmed, and a few are used for pasture.

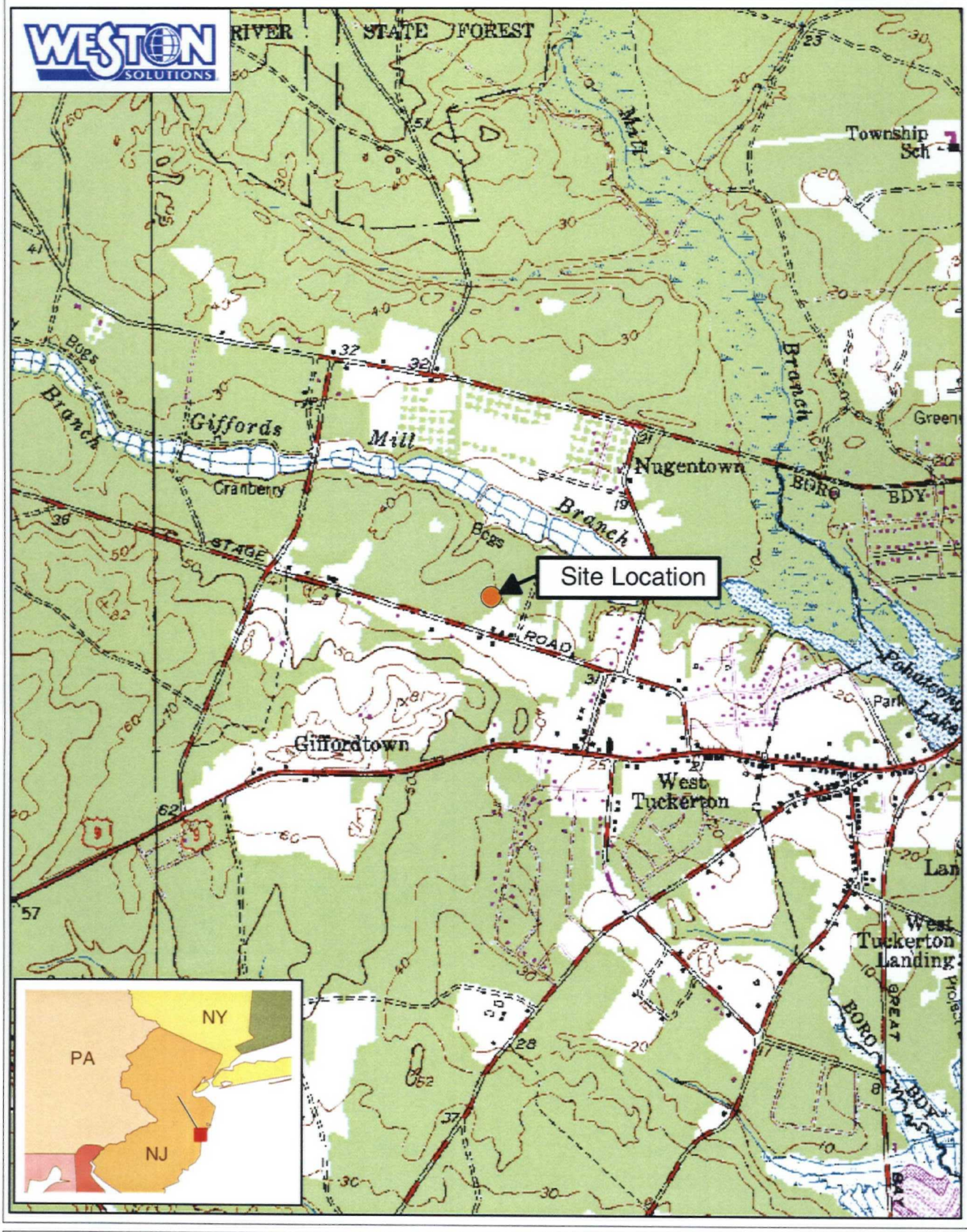
This soil is suited to corn, soybeans, vegetables, small grain, hay, and commercial sod. It has a slight erosion hazard, which can be controlled by planting cover crops. Tilth and organic matter content can be maintained by planting cover crops and plowing under crop residue. Wetness is a limitation for some crops on this soil.

The soil is suited to pasture. Proper seeding, proper stocking, and rotation of pastures are the major pasture management practices used on this soil.

This soil is well suited to trees. Black oak, white oak, and pitch pine are the common species. Pines are common in abandoned fields.

4

Reference 8



SOURCE: USGS 7.5 Minute Series (Topographic) Quadrangle: Tuckerton, NJ 1952, Photorevised 1972.

DATE: 01/03/04

N W E S

0 1,500 Feet

Figure 1
Site Location Map
Stage Road Groundwater Plume
Little Egg Harbor, Ocean County, New Jersey

t:/epa/region2/stage_road/mxd/stage_road_fig1.mxd

Reference 9

Reference 10

LATHAM J. HODGES, Secretary

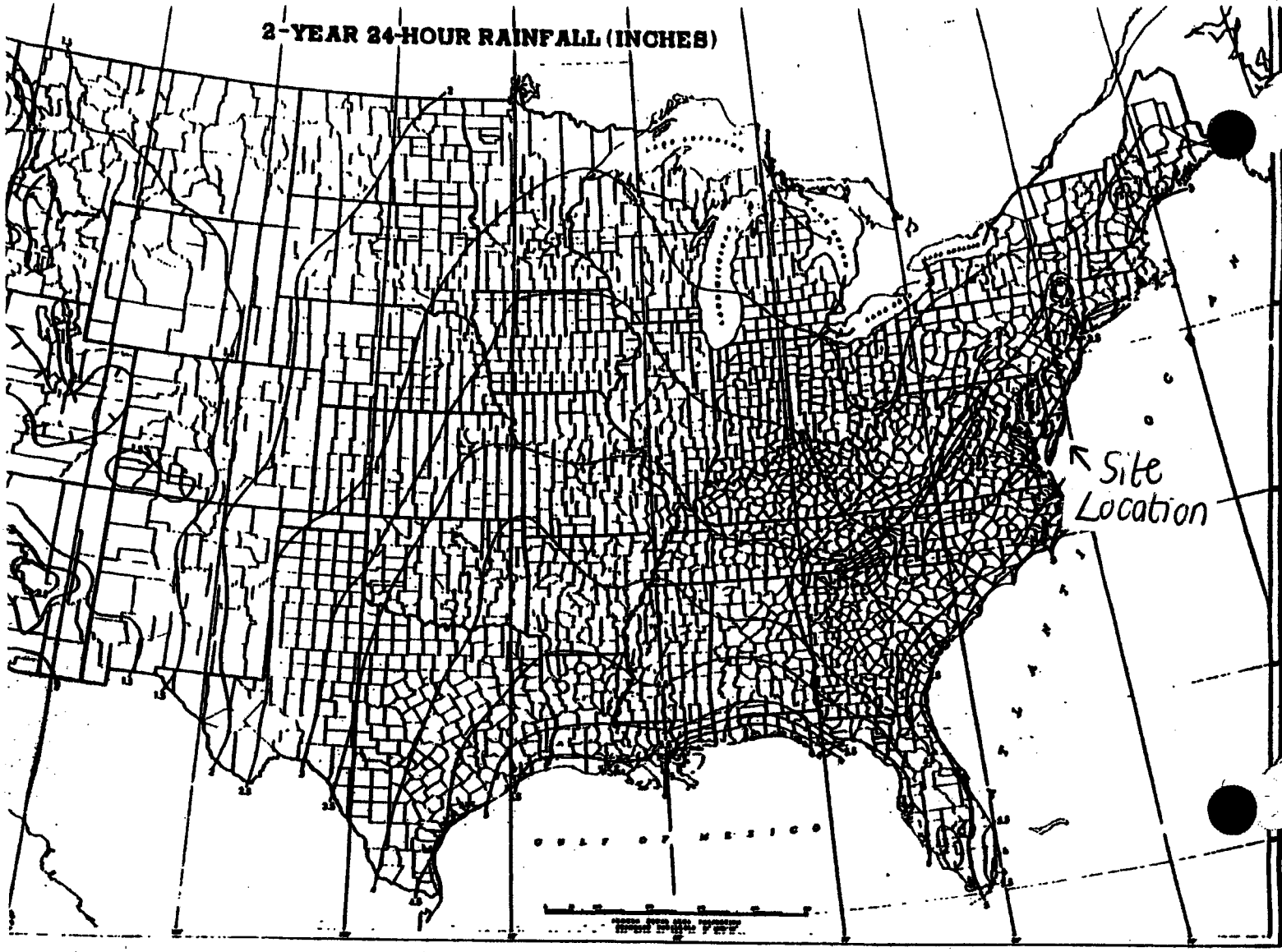
F. W. REICHELDERFER, Ch

TECHNICAL PAPER NO. 40

RAINFALL FREQUENCY ATLAS OF THE UNITED STATES

for Durations from 30 Minutes to 24 Hours and Return Periods from 1 to 100 Years

Prepared by
DAVID M. HERSHFIELD
Cooperative Studies Section, Hydrologic Services Division
for
Engineering Division, Soil Conservation Service
U.S. Department of Agriculture



[redacted]

Reference 11

NATIONAL FLOOD INSURANCE PROGRAM

FS

FIRM
FLOOD INSURANCE RATE MAP

TOWNSHIP OF
LITTLE EGG HARBOR, NEW JERSEY
OCEAN COUNTY

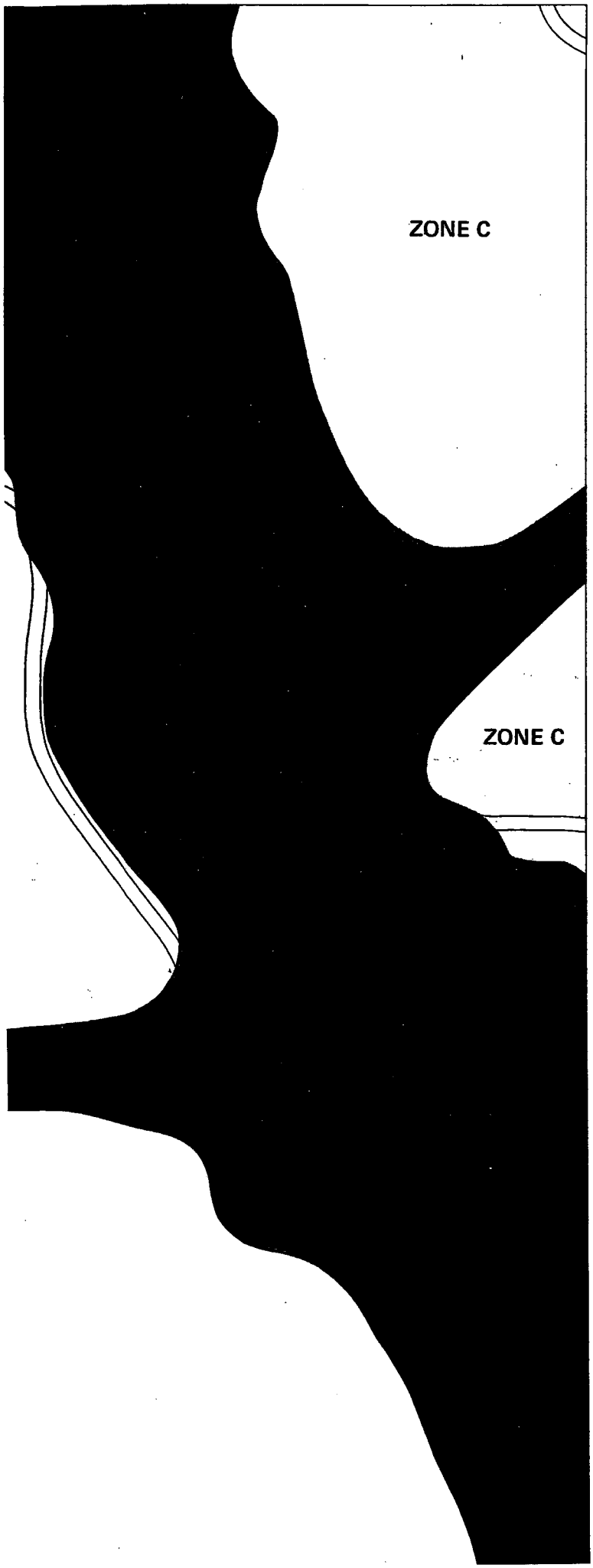
PANEL 18 OF 45
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
340380 0018 B

EFFECTIVE DATE:
SEPTEMBER 1, 1983

Federal Emergency Management Agency

1



KEY TO MAP

500-Year Flood Boundary	
100-Year Flood Boundary	
Zone Designations*	
100-Year Flood Boundary	
500-Year Flood Boundary	
Base Flood Elevation Line With Elevation In Feet**	513
Base Flood Elevation in Feet Where Uniform Within Zone**	(EL 987)
Elevation Reference Mark	RM7×
Zone D Boundary	
River Mile	•M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

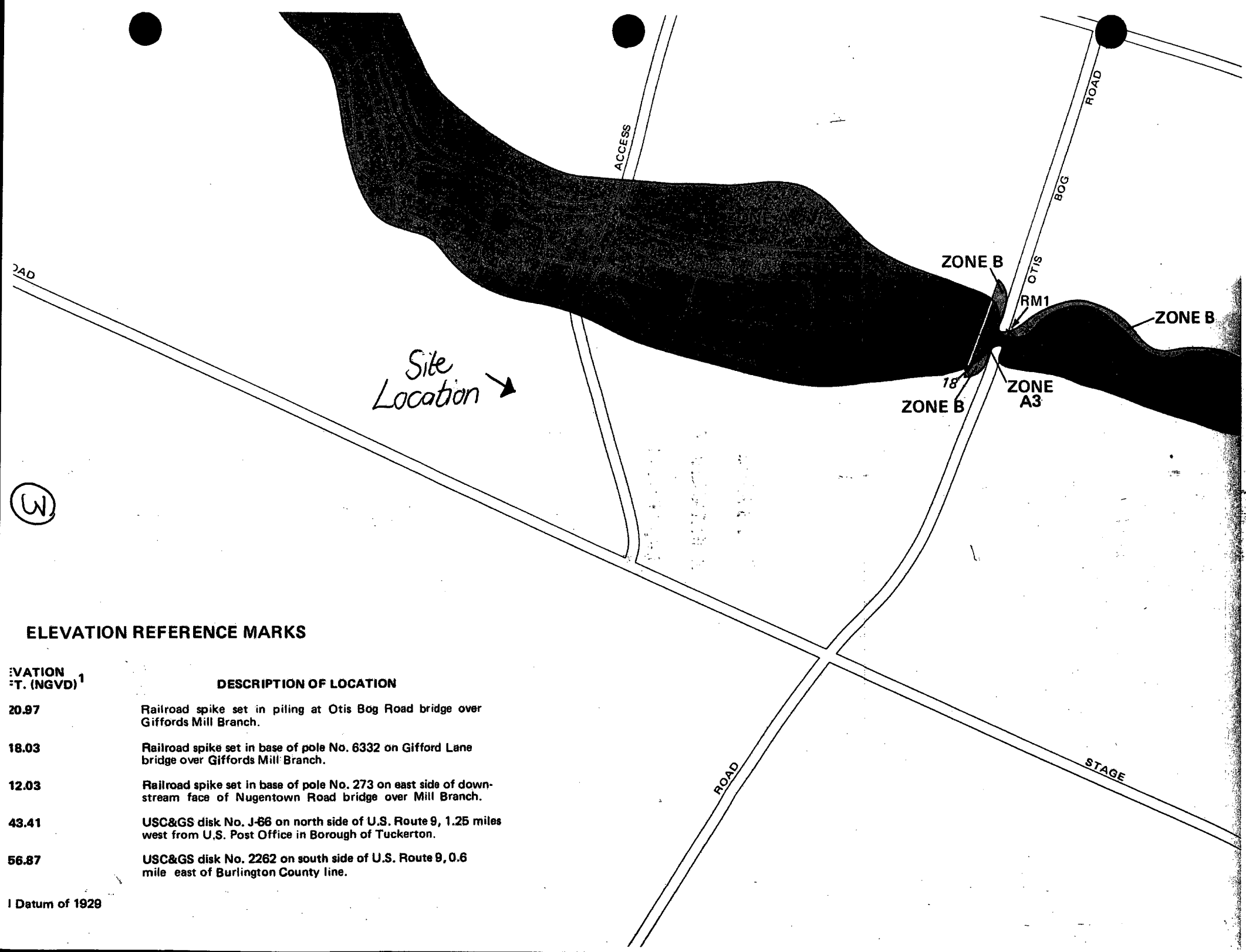
INITIAL IDENTIFICATION:

MAY 10, 1974

FLOOD HAZARD BOUNDARY MAP REVISIONS:

FEBRUARY 27, 1976

2



ELEVATION REFERENCE MARKS

ELEVATION FT. (NGVD)[1]	DESCRIPTION OF LOCATION
20.97	Railroad spike set in piling at Otis Bog Road bridge over Giffords Mill Branch.
18.03	Railroad spike set in base of pole No. 6332 on Gifford Lane bridge over Giffords Mill Branch.
12.03	Railroad spike set in base of pole No. 273 on east side of downstream face of Nugentown Road bridge over Mill Branch.
43.41	USC&GS disk No. J-66 on north side of U.S. Route 9, 1.25 miles west from U.S. Post Office in Borough of Tuckerton.
56.87	USC&GS disk No. 2262 on south side of U.S. Route 9, 0.6 mile east of Burlington County line.

1 Datum of 1929

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Reference 12

PROJECT NOTE REGION II SITE ASSESSMENT TEAM

To: Stage Road Groundwater Plume File **Date:** 7 April 2004 **Page:** 1 of 1

From: Michele Capriglione, Region II SAT

Subject: Wetlands Within Target Distance Limits

The information below documents the amount of HRS-eligible wetland acreage within a 4-mile radius of the Stage Road Groundwater Plume site and the HRS-eligible wetland frontage along the 15-Mile Surface Water Pathway. The wetland acreage calculations were prepared by Shannon DiGian, Geographic Information Systems Analyst, Weston Solutions, Inc., who used GIS programs to prepare the 4-Mile Radius Map and 15-Mile Surface Water Pathway Map (see Reference 9 and Reference 19 respectively). These maps indicate HRS-eligible wetlands within a targeted distance of the site.

Distance Ring (mile)	Wetland Acreage
On-Site	0.0
>0 - 1/4	0.2*
>1/4 - ½	2.1*
>½ - 1.0	17.1*
>1.0 - 2.0	71.9*
>2.0 - 3.0	309.0*
>3.0 - 4.0	462.8*

The information below documents the amount of HRS-eligible wetland frontage within 15 miles downstream along the 15-Mile Surface Water Pathway.

Surface Water Body	Wetland Frontage
Giffords Mill Branch	2,060 feet (0.39 mile)
Pohatcong Lake	5,480 feet (1.04 miles)
Tuckerton Creek	7,528 feet (1.43 miles)
Tuckerton Cove	3,409 feet (0.65 mile)
Little Egg Harbor	104,479 feet (19.79 miles)

* Rounded to the nearest tenth

Signature Michele Capriglione

Michele Capriglione

AREAS FOR HRS ELIGIBLE WETLANDS		
	AREA (ACRES)	**AREA (METERS^2)**
total area, ring 4 mile	462.78	1872795.70
total area, ring 3 mile	308.96	1250313.79
total area, ring 2 mile	71.88	290885.18
total area, ring 1 mile	17.08	69136.78
total area, ring 0.5 mile	2.07	8364.89
total area, ring 0.25 mile	0.18	736.53
	Feet (approximate)	
HRS Eligible Wetland Frontage Distance		
Giffords Mill Branch	2060	
Pohatcong Lake	5480	
Tuckerton Creek	7528	
Tuckerton Cove	3409	
Little Egg Harbor	104479	
Total	122956	

Reference 13

WESTON

M. Capriglione
Originator

PHONE CONVERSATION RECORD

Conversation with:
Name Tom Rider
Company Maintenance Assistant Supervisor of Pinelands Regional School Distric
Address
Phone (609) 296-3106 ext. 2238
Subject Wells

Date 5/12/03
Time 12:30 AM/PM
☑ Originator Placed Call
☐ Originator Received Call
W.O. No. 20103.001.001.1070.00

Notes:

There are 2 wells located on Pinelands Regional High School property and one well located on Pinelands Regional Middle School property. These wells are used for field maintenance; not for drinking water purposes. TR stated that the wells at the high school (2) are aprox. 55-60 ft.

☐ File
☐ Tickle File / /
☐ Follow-Up By:
☐ Copy/Route To:

Follow-Up-Action: NA

Originator's Initials MC

RFW 110-4-83

1423-1823 4/16/93

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Reference 14

(1)

Wednesday, Sept. 3, 2003

Denise Zeno of US EPA and Michele Capriglione of WESTON SAT are meeting at Tuckerton Bourough well # 3. A groundwater sample will be collected from well #3 in an attempt to confirm or negate the presence of 1,1-DCE or any other contaminant related to the breakdown progeny of PCE. (2)

0930 DZ & MC meet at Tuckerton Borough well #3. Our contact person states that he will call us when the #3 well will be ~~cleaned~~ mc turned on.

10 00 DZ and MC arrive at Great Bay Plaza

MCapriglione 9/3/03

(2)

where we observe the current dry cleaning operation. The operation was open. AOC A was observed although there was no area of stressed vegetation still visible as had been reported in the past. Note: In the past AOC A has been described as the area (soil) behind the dry cleaners, past the pavement.

11 05 DZ and MC visit area of domestic well contamination on Pineoak & Madeline Lane off of Stage Rd. This area is suspected to have received

V.M. Capriglione 9/3/03

contamination from Tuckerton Cleaners located aproximately 0.4 miles southwest of the homes on Pineoak & Madeline. On Pineoak Dr. a sign for "Builder/Construction (609) 296-7273" was observed. This area is not suspected to be contaminated by the PBP former dry cleaners.

(3)

DZ suggested we hold off on this investigation until she issues a new CERCLIS ID No. for it Tuckerton Dry Cleaners (609) 296-1114

12 10 MC arrive at well #3 to collect groundwater sample from closed

VM Capriglione 9/3/03

pswell # 3.
Currently well # 3 is closed due to the associated water treatment facility. The Borough of Tickerton is currently planning on fixing the mechanical problem and using the well.

12 30 TB-01 collected for QA/QC purposes.

1240 PSW-01 collected
Note: The well had run for 20 minutes
PSW-01 collected from low-flow spout attached to the well

1250 PSW-01A duplicate collected

1530 Samples delivered to Fed-Ex Airbill No.: 8412 1004 6515.

MM Capright 9/3/03

Insert: There we no residences, schools, or day care centers noted within 200 ft of GBP.
The GBP former dry cleaners is currently in operation as Sun Cleaners.
Storm sewers were noted on the north side of the rear access road of GBP. The sewers are located in between the back door of the dry cleaners and the AOCA (the wooded area behind the dry cleaners).

MM Capright

Reference 15

WESTON

Michele Capriglione
Originator

PHONE CONVERSATION RECORD

Conversation with:
Name Rich Gunoskey
Company NJ DEP Bureau of Drinking water
Address
Phone (609) 984-2499
Subject Wellhead Protection Area

Date 12, 8, 03
Time 11 AM/PM
☑ Originator Placed Call
☐ Originator Received Call
W.O. No. 2003.001.001.1070.00

Notes:

Rich Gunoskey confirmed that there is a 50-foot radius of a wellhead protection area around each well in a confined aquifer. He found this information in the New Jersey Geological Survey for Delineation of Wellhead Protection Areas in NJ.

A copy of this guidance is attached to this phone conversation record.

☐ File
☐ Tickle File / /
☐ Follow-Up By:
☐ Copy/Route To:

Follow-Up-Action: N/A

Originator's Initials VMC

(1)

RFW 110-4-83

1423-1823 4/16/93

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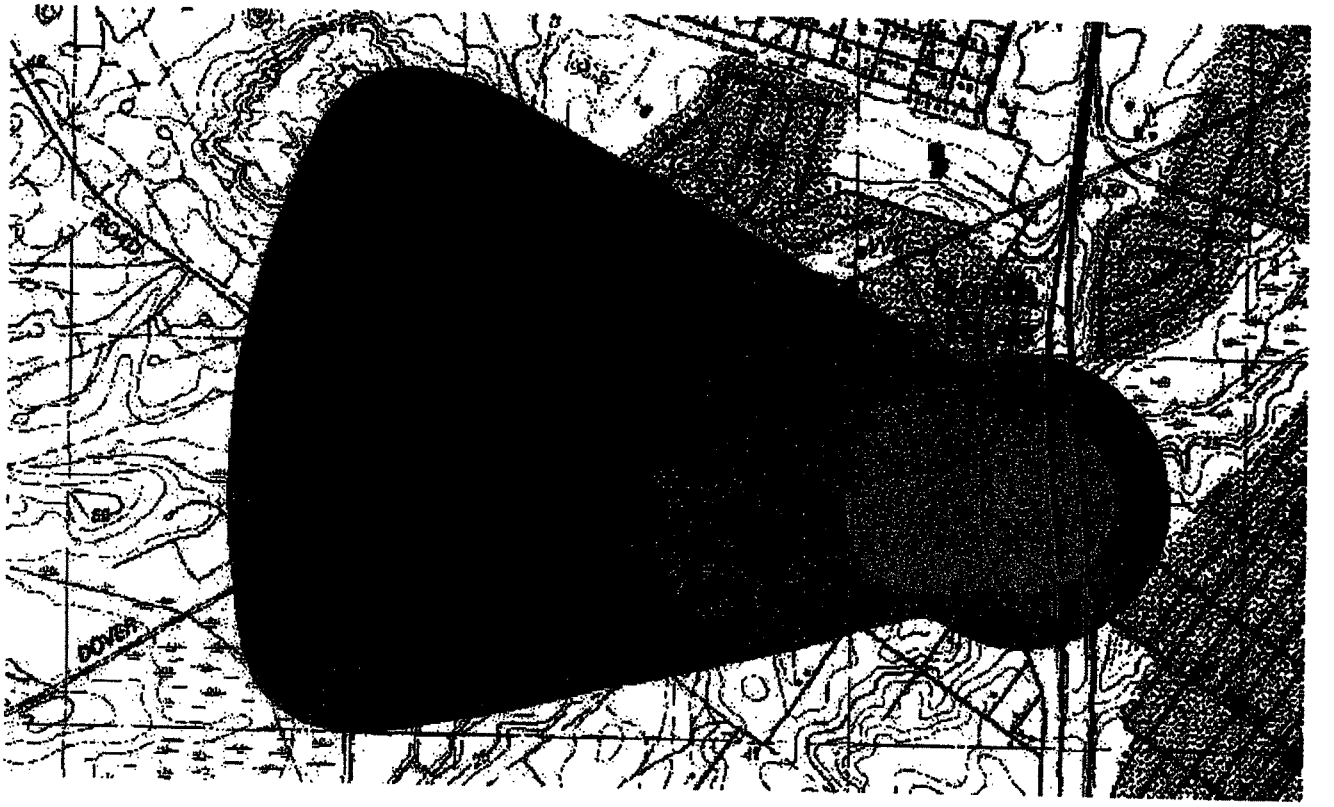
NEW JERSEY GEOLOGICAL SURVEY
OPEN-FILE REPORT OFR 03-1

GUIDELINES FOR DELINEATION OF WELL HEAD PROTECTION AREAS IN NEW JERSEY



New Jersey Department of Environmental Protection

2

STATE OF NEW JERSEY
James E. McGreevey, *Governor*

Department of Environmental Protection
Bradley M. Campbell, *Commissioner*

Land Use Management
Ernest P. Hahn, *Assistant Commissioner*

Geological Survey
Karl Muessig, *State Geologist*

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

The Department of Environmental Protection's mission is to assist the residents of New Jersey in preserving, sustaining, protecting and enhancing the environment to ensure the integration of high environmental quality, public health, and economic vitality.

NEW JERSEY GEOLOGICAL SURVEY

The mission of the New Jersey Geological Survey is to map, research, interpret and provide scientific information regarding the State's geology and ground-water resources. This information supports the regulatory and planning functions of the Department and other governmental agencies and provides the business community and public with the information necessary to address environmental concerns and make economic decisions.

For more information contact:

New Jersey Department of Environmental Protection

New Jersey Geological Survey
P.O. Box 427
Trenton, NJ 08625-0427
(609) 984-6587
http://www.state.nj.us/dep/njgs/

Water Supply Administration
Bureau of Safe Drinking Water
P.O. Box 426
Trenton, NJ 08625-0426
(609) 292-5550
http://www.state.nj.us/dep/watersupply

Cover illustration: An example of a WHPA is shown. The Well Head Protection Area is broken into three tiers; Tier 1, or the 2-year time of travel (TOT), is shown in light gray, Tier 2, or 5-year TOT, is shown in middle gray, and Tier 3, or the 12-year TOT, is shown in dark gray. Ground water movement is from left to right across the picture toward the pumping well near center of Tier 1.

New Jersey Geological Survey

Guidelines for Delineation of Well Head Protection Areas in New Jersey

Compiled by

Steven E. Spayd and Stephen W. Johnson

New Jersey Department of Environmental Protection
New Jersey Geological Survey
P.O. Box 427
Trenton, New Jersey 08625-0427
2003

Printed on recycled paper

4

CONVERSION FACTORS

multiply	by	to obtain
inch	25.4	millimeter
foot	0.3048	meter
mile	1.609	kilometer
gallons per minute	0.06308	liters per second
gallons per minute	192.5	cubic feet per day
gallons per day	0.000694	gallons per minute
foot per day	0.3048	meters per day

"The water that occurs below the surface of the land is invisible and relatively inaccessible and has consequently always possessed an aspect of mystery. What is the mode of its occurrence; what is its quantity; whither does it come; is it stationary or in motion? If in motion, what is its destination and its rate of movement, and what are the forces that propel it through the earth...? These are some of the questions that confront the hydrologists who endeavor to look below the surface. They are questions of almost infinite complexity, involving a great amount of physics and chemistry and almost the whole field of geology."

From Physics of the Earth-IX-Hydrology, page 385, Oscar E. Meinzer, U.S. Geological Survey, 1942.

Additional copies of this and other reports may be obtained from:
DEP Maps and Publications Sales Office
P.O. Box 438
Trenton, NJ 08625-0438
(609) 777-1038

A price list is available on request and on the Internet at http://www.state.nj.us/dep/njgs/.

Use of brand, commercial, or trade names is for identification purposes only and does not constitute endorsement by the New Jersey Geological Survey.

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GUIDELINES FOR DELINEATION OF WELL HEAD PROTECTION AREAS IN NEW JERSEY

Introduction

Background

The 1986 Federal Safe Drinking Water Act Amendments (Section 1428, P.L. 93-523, 42 USC 300 et. seq.) direct all States to develop a Well Head Protection Program (WHPP) Plan for both public community (CWS) and public non-community (NCWS) water-supply wells. New Jersey's WHPP Plan was approved by the U.S. Environmental Protection Agency (EPA) in December 1991. A goal of the WHPP Plan is to prevent contamination of ground-water resources, which provide drinking water to roughly forty-two percent of New Jersey's population. The delineation of Well Head Protection Areas (WHPA's) is one component of the WHPP. The WHPA is the area from which a well draws its water within a specified time frame. Once delineated, these areas become a priority for efforts to prevent and clean up ground-water contamination. Other components of the WHPP Plan include pollution-source inventories, development and implementation of best management practices to protect ground water, land-use planning, and education to promote public awareness of each person's role in protecting our ground-water resources.

The Safe Drinking Water Act Amendments of 1996 (P.L. 104-182) established the need for each State to have a Source Water Assessment Program (SWAP). In New Jersey, source-water assessment areas for all public supply wells will be established by NJDEP using these WHPA delineation methods.

Public supply wells draw water from underground water sources known as aquifers. Aquifers are geologic units that are porous and permeable enough to hold and allow water to flow through them in quantities sufficient to supply wells. The water contained in these aquifers is called ground water. Ground water moves from points of high pressure (often high elevation) to points of lower pressure such as streams, springs, and pumping wells. When a well is pumping, nearby ground water flows toward it. The longer the well pumps, the greater is the distance from which water will flow through the aquifer to the pumping well. For example, pumping a typical community supply well in New Jersey's coastal plain for two years may draw ground water from 1,500 feet away. If the well continues to pump for twelve years, ground water may be drawn from about a mile upgradient of the well. The time it takes a given particle of ground water to flow to a pumping well is known as the time of travel (TOT). The TOT is directly related to the distance the water has to travel to arrive at the well once it starts pumping. However, for any given TOT, the distance will vary from well to well depending on the rate of pumping and aquifer characteristics such as the transmissivity, porosity, hydraulic gradient, and aquifer thickness. Each WHPA is divided into three sequential tiers based on the TOT component. The tiers are used to assess the relative risk of contamination to the well by placing a higher priority on pollution sources, prevention and remedies in the tiers closest to the wells.

Aquifers are recharged with water from precipitation that percolates through pervious land surfaces and becomes part of the flow of ground water. It is within the WHPA that land uses which introduce pollutants, are most likely to contaminate drinking water sources. Historically, land uses and commercial and industrial facilities and activities have been identified as major sources of ground-water contamination in New Jersey (NJ Water Quality Inventory Report, 1992). These include, but are not limited to: underground storage tanks, septic systems, surface spills, unsecured landfills, leaking drums, above ground storage tanks, road salt piles, and lagoons/surface impoundments.

Once WHPA's are delineated, potential pollution sources may be managed in relation to their location within the WHPA. In addition, protective land uses, such as preserved open space, may be established. In instances where a public supply well has already been contaminated, the WHPA provides investigators with an area in which to search for potential pollution sources and responsible parties.

Under SWAP, the Department has delineated WHPA's for the approximately 2,425 community water supply wells (CWS wells), and will be establishing WHPA's for the roughly 5,000 non-community water water supply wells (NCWS wells) in the near future.

Purpose and Scope

It is the purpose of these guidelines to establish the approved methods for delineation and submission of WHPA's in New Jersey. In accordance with SWAP, the Department will delineate WHPA's for all existing and new CWS and NCWS wells. Based upon their own needs, concerns or requirements for both CWS and NCWS wells, interested parties may perform WHPA delineations at an advanced level as defined later in this guidance.

These guidelines will be used by the Department as well as by outside parties interested in performing delineations. A WHPA delineation may be required as the result of Department regulations, or through a Department-approved remedial investigation or remedial-action work plans. Until such time that regulatory standards for WHPA delineations are established, it is the Department's intent that all public entities require WHPA's to be delineated pursuant to these guidelines.

The focus of this report is to establish the Department's approved methods for conducting delineations, detailing the minimum data requirements, delineation method selection, preferred hydrogeologic parameter and model selection. Use of the prescribed methods will allow interested parties to submit a WHPA delineation for Department review and approval. The report contains requirements for outside parties interested in submitting WHPA delineations to the Department.

Copies of the New Jersey Well Head Protection Program Plan are available from the Division of Watershed Management, P.O. Box 418, Trenton, NJ 08625, or by calling (609) 777-1053, or on the internet at: www.state.nj.us/dep/watersupply/swap.htm.

Delineation Impacts

People in New Jersey who obtain water from public supply wells will benefit by WHPA delineations. The source of their water will ultimately be better protected and preserved through the implementation of the WHPP and the SWAP. The WHPA delineations help the Department achieve several of its strategic goals including clean and plentiful drinking water for all of New Jersey's residents and the resulting reduction in risk to human health that comes with safe drinking water.

Those owning or operating properties containing potential or existing pollutant sources within a designated WHPA will also be affected. The WHPA will provide a clear understanding and justification for the special need of pollutant source control. The source controls instituted in these areas will range from public education to appropriate regulation, depending on the nature of the potential pollutant source, the risk of discharge, and the proximity to the well.

It is hoped that the preventive and voluntary nature of the WHPP and SWAP will encourage cooperative efforts at the county and municipal government levels to protect an essential and shared public resource, the underground water supply. The delineation of WHPA's will help communities understand the nature of their ground-water resources and provide protection for their drinking water supply. Geographic targeting through WHPA delineations enables decision-makers to designate drinking water sources within WHPA's a priority for ground-water protection efforts.

Ground water is vulnerable to contamination and once polluted, it is difficult and costly to clean up. Contaminated ground-water supplies are often abandoned and replaced by more costly surface-water supplies. The value of good-quality ground water can best be understood by comparing its cost with that of treated ground water or an alternative surface-water supply. In many areas, ground water is relatively inexpensive when compared to surface water. The EPA estimated that, in 1991, it cost about one hundred dollars to obtain a million gallons of untreated ground water. In areas of New Jersey where ground-water supplies were replaced with surface water, the cost increased to a thousand dollars or more. The EPA estimated that a switch from untreated ground water to a surface water supply in 1991 would result in a $340 increase per household per year (USEPA, 1991, page 13.). Given New Jersey's reliance on ground water as an integral source of drinking water, the potential annual cost resulting from ground-water contamination is hundreds of millions of dollars.

The costs of remediation or of developing replacement water sources is burdensome and in some cases may be prohibitive for local governments or utilities. Preventing ground-water pollution is clearly the most cost-effective approach to maintaining

ground-water resources. The Department's Source Water Assessment Plan (SWAP) emphasizes prevention as the first line of defense to protect New Jersey's ground-water resources. Well head protection is a unique solution that promotes the enlightened self-interest of communities who depend on ground water for their drinking water. The intent is to reduce the potential for contamination by both public and private parties, thereby requiring less treatment and remediation costs.

Public Comment

An earlier draft of this report was published as "Draft Guidance for Well Head Protection Area Delineations in New Jersey" (Spayd, 1998). The draft technical guidance was distributed to interested parties and posted on the Department's SWAP web page. Public comments were solicited at that time and considered in the development of this report.

Acknowledgements

The New Jersey Geological Survey (NJGS) compiled these guidelines with the assistance of the WHP and SWAP Technical Advisory Committees. Special thanks are due to Tom McKee, Bob Kecskes, Terri Romagna and Kim Cenno of the Division of Watershed Management; Judy Louis of the Division of Science, Research and Technology; Barker Hamill, Sandy Krietzman, and Pat Bono of the Bureau of Safe Drinking Water; Robert Nicholson and Eric Vowinkel of the U.S. Geological Survey (USGS); and Karl Muessig, Bob Canace, Jeff Hoffman, Jim Boyle, Laura Nicholson, Bill Mennel, Eric Roman, Ted Pallis, Joe Rich, Walt Marzulli, and Doug Rivedal of NJGS. Former Department employees Dan Van Abs and Emery Coppola also provided significant contributions. Participants in the SWAP Technical Advisory Committee included staff from the Department, EPA, USGS, water purveyors, environmental and watershed associations, as well as local and county health and planning organizations. Participants in the WHP Technical Advisory Committee included staff from:

New Jersey Department of Environmental Protection
Office of Environmental Planning
New Jersey Geological Survey
Bureau of Water Allocation
Bureau of Safe Drinking Water
Division of Science, Research and Technology
Division of Solid Waste Management
Bureau of Operational Ground Water Discharge Permits
Bureau of Underground Storage Tanks
Bureau of Environmental Evaluation and Risk Assessment
New Jersey Department of Agriculture
New Jersey Department of Transportation
New Jersey Pinelands Commission
Delaware River Basin Commission
U.S. Environmental Protection Agency
U.S. Natural Resources Conservation Service
U.S. Geological Survey

General Delineation Requirements

Delineation Tiers

A WHPA will consist of three tiers, each based on a time of travel to the well. The outer boundaries of these tiers will have the following times of travel:

Tier 1 = two years (730 days).
Tier 2 = five years (1,826 days).
Tier 3 = twelve years (4,383 days).

The portion of the zone of contribution designated as the WHPA is based upon the TOT of the ground water to a pumping well. The TOT's are based on the need to assess the relative risk of contamination to the well, allowing priority to sources that pose an imminent threat.

The TOT for the outer boundary of Tier 1 is two years. This TOT is based on findings that bacteria have polluted wells as far as a 170 day TOT from wells, and that viruses have survived in ground water for up to 270 days (Canter, Knox, and Fairchild, 1987; USEPA, 1987). Generally, pollution does not move in a uniform front, so that a TOT represents an average. Significant pollution may reach a well before the average TOT. In addition, once a pollution plume gets too close to a water-supply well, plume containment usually is not feasible without an impact on the yield of the well. The two-year TOT provides a reasonable margin of safety beyond the 170 and 270-day figures.

The boundary for Tier 2 is five years. The Department is not reasonably certain that it can ensure

containment of pollution from a known discharge or restoration of the aquifer at TOT's ranging from two to five years. The Department has significantly revised its procedures for pollution case management so that enforcement or public funding of remedies is expedited for cases which threaten or pollute water-supply wells. However, even with implementation of these procedural changes in WHPA's, a lag time between case identification and the initiation of effective remedies still exists. Selection of the five-year TOT was based on the "smearing" effect observed in pollution plumes (caused by adsorption/desorption and the variable rate of pollutant travel through pores), the acceleration of ground water once it comes close to a pumping well, complexity of ground water pollution cases and lag-time estimates for remediation given that approximately 40 percent of all pollution cases must be managed by the Department due to the lack of a cooperating responsible party.

Beyond Tier 2, the Department is reasonably sure that a viable pollution mitigation response is possible for significant, known discharges of pollutants. The purpose of Tier 3, then, is to ensure sufficient monitoring of potential pollution sources so that responses may be made. Theoretically, Tier 3 could extend to the boundaries of the complete zone of contribution. However, the WHP Technical Advisory Committee determined that such an extensive area is not needed in New Jersey. Minor pollutant sources sufficiently distant from it may not pose a significant risk to the well, due to attenuation and dilution. A preliminary analysis of pollution cases in seven counties indicated that a TOT of 10 to 15 years encompasses the full length of most pollution plumes identified (almost all are less than one mile, but many exceed 2,000 feet) (NJDEPE, 1991, page 21.). In addition, a rough analysis of dilution ratios suggests that a 10 to 15 year TOT would provide sufficient dilution and attenuation to minimize the risk of well pollution. It is clear that most sources outside of a TOT of 15 years are either too minor to be of special concern or are major enough to ensure that current Department regulations will protect the water supply. Most significant sources of future discharges, within the zone of contribution but far from the well, will be sufficiently regulated by the Department for Tier 3 and outside of Tier 3. Therefore, a TOT of 12 years was deemed sufficient.

Delineation Methods

A method of WHPA delineation should be selected from and be in accordance with the methods defined in the Approved Delineation Methods section of this report.

WHPA delineation methods, with the exception of the two Calculated Fixed Radius (CFR) methods, should be performed by a qualified ground-water professional.

If a well pumps from more than one aquifer, the WHPA delineation method applicable to the uppermost aquifer will be used with the full pumping rate assigned to the uppermost aquifer.

If a well draws water from a confined aquifer, and the vertical time of travel for ground water moving from the surface downward through the confining unit at the well or for the horizontal time of travel from the edge of the confining unit to the well exceeds 12 years, as determined by the Department, then all three tiers of the WHPA will be established as the 50-foot, owner-controlled zone mandated by Public Water System Construction Regulations (N.J.A.C. 7:10-11.1). For these wells, the land-surface area, where discharges affecting ground water may occur, is beyond Tier 3. The USGS has conducted a study for the Department, which included development of a method to evaluate a well's sensitivity to contamination (Storck, 1997). USGS determined that all wells in glacial and bedrock aquifers in New Jersey should be considered to be drawing water from the land surface within twelve years, unless site-specific data prove otherwise. For wells drawing water from coastal-plain aquifers, USGS determined that the specific location of the well screen and its relation to overlying confining units must be evaluated to determine if water recharging the aquifer reaches the well within 12 years.

A pre-application conference is strongly recommended for all applicants interested in using an advanced delineation method that is not defined in these guidelines. Confirmation or denial of the use of an alternative delineation method will be given by the Department in writing.

Approved Delineation Methods

The selection of appropriate delineation methods involved balancing several factors, for example: WHPP goals, the diverse hydrogeology in the State and the availability of data. Through the work of the WHP Technical Advisory Committee (comprised of technical experts from state and federal government), methods were identified and assessed that would define the zone of contribution of the well. Following A-5015, approved by the Legislature in its 1991 session, the Department will delineate WHPA's for all CWS wells. The WHP Technical Advisory Committee recognized at the beginning of the delineation discussion that it would not be possible, due to cost and staff constraints, to collect site-specific well and aquifer parameter data for each of the approximately 2,425 CWS wells in the State. It was determined that existing data including regional attributes would be used for Department WHPA delineations. The Department will perform its delineations under SWAP/WHPP within the Safe Drinking Water Permitting Program using, at a minimum, the combined model/CFR method on all existing CWS wells and on all new CWS wells. Where adequate hydrogeologic studies and models exist, and Department resources allow, the Department may perform advanced delineation(s).

The delineation method used for a well is dependent on the type of well, hydrogeologic setting for that well, and the availability and reliability of data. The hydrogeologic situation depends on the geology of the aquifer, and the presence of well interference effects, hydrologic boundaries, aquifer heterogeneities, and aquifer anisotropy. This section of the report identifies the acceptable methods with a differentiation made between CWS and NCWS wells.

The Federal mandates for the WHPP and SWAP require that States include NCWS wells in their program plan. In general, fewer well and aquifer parameters are available for NCWS wells due to the nature of the population they serve and a historical lack of reporting requirements. For these reasons, and time, and economic constraints, the Department will delineate WHPA's for all NCWS wells using the CFR Calculation Method. In recognition of the need to minimize the pollution risk to these wells, while considering the limited hydrogeologic expertise that may be available to the well owners to perform their own WHPA delineations, a matrix was developed from which a generic CFR could be determined (Table 1). This matrix was developed using ranges of pumping rates and aquifer thickness as well as an estimated effective porosity. The values in the matrix represent standard values rounded to the nearest ten feet.

Delineation Method Selection

The CFR matrix method is an acceptable method only for NCWS wells whose pumping rate does not exceed 70 gallons per minute.

The CFR calculation method is an acceptable method for NCWS wells at this time. This method will also be used for the CFR portion of any WHPA using the combined model/CFR method. In the future as resources permit, NCWS wells pumping 70 GPM or greater may be delineated by combined model/CFR method.

The combined model/CFR method is an acceptable method for all public water-supply wells. This is the minimum acceptable method for public community water wells (CWS).

The non-CFR model method, the three-dimensional model method, and advanced delineation model are acceptable methods for all public water-supply wells located in areas that have a detailed local and regional water table mapping available, and sufficient accurate data on aquifer recharge, well interference, hydrologic boundaries, aquifer heterogeneities, and aquifer anisotropy.

CFR Matrix Method

The CFR matrix method uses predetermined values given in table 1. The procedure to delineate a WHPA using this method will be as follows:

1. Select table 1a or 1b depending on the type of aquifer from which the well pumps:

a. Table 1a will be used for unconsolidated glacial and coastal-plain aquifers consisting of sand and gravel.

b. Table 1b will be used for all bedrock aquifers including those consisting of sandstone, conglomerate, shale, limestone, dolomite, granite, gneiss, diabase, and other sedimentary, igneous or metamorphic rocks.

2. Find the Tier 1 portion of the selected table, and in the left column of the table find the row with the range that includes the well's pumping rate.

3. In the top row of the table, find the column with the range that includes the well's aquifer thickness.

4. Select the Tier 1 CFR from where the pumping rate row and aquifer thickness column intersects.

5. Repeat paragraphs 2 through 4 above, for Tier 2 and Tier 3.

6. The CFR value for each tier will be used to define the radius of a circle, which will be centered on the well to complete the WHPA delineation. A map of the WHPA delineation, including all three tiers, will be drawn according to the delineation mapping requirements section.

CFR Calculation Method

The CFR calculation method will be used to generate the CFR values by using the following formula:

$$CFR = \sqrt{\frac{61.3Qt}{n_e b}}$$

where:

CFR = Calculated fixed radius in feet
Q = Pumping rate in gallons per minute
t = Time of travel in days (that is, 730, 1,826, or 4,383 days)
61.3 = Conversion factor [(1440 min/day)/(7.48 gal/cu ft)]/3.14
n_e = Effective porosity
b = Aquifer thickness in feet

This method requires the pumping rate, time of travel, effective porosity, and aquifer thickness, which must be selected in accordance with the Data Selection and Parameter Estimation section of this report. The calculation will be made for the appropriate time of travel for each tier. The CFR value for each tier will be used to define the radius of a circle, which will be centered on the well to complete the WHPA delineation. This method is conservative because it does not include recharge in the calculation. However, this was determined to be appropriate as the larger size of the CFR offsets inaccuracies due to the lack of site-specific data and use of the lowest level of delineation. A map of the WHPA delineation, including all three tiers, will be drawn according to the delineation mapping requirements section.

Table 1a. Calculated fixed radius in feet. Unconsolidated Glacial and Coastal Plain aquifers consisting of sand and gravel; effective porosity = 25%.

Pumping Rate (gpm)	1-50	51-100	101-200	201-300	301-400	401-500
<1-10	190	110	80	60	50	40
11-20	330	190	130	100	90	80
21-30	420	240	170	130	110	100
31-40	500	290	200	160	130	120
41-50	570	330	230	180	150	130
51-60	630	360	260	200	170	150
61-70	680	390	280	220	180	160

Pumping Rate (gpm)	1-50	51-100	101-200	201-300	301-400	401-500
<1-10	300	170	120	90	80	70
11-20	520	300	210	160	140	120
21-30	670	390	270	210	180	160
31-40	790	460	320	250	210	190
41-50	900	520	370	280	240	210
51-60	990	570	410	310	270	230
61-70	1080	620	440	340	290	250

Pumping Rate (gpm)	1-50	51-100	101-200	201-300	301-400	401-500
<1-10	460	270	190	150	120	110
11-20	800	460	330	250	210	190
21-30	1040	600	420	330	280	240
31-40	1230	710	500	390	330	290
41-50	1390	800	570	440	370	330
51-60	1540	890	630	490	410	360
61-70	1670	960	680	530	450	390

Table 1b. Calculated fixed radius matrix in feet for bedrock aquifers consisting of sandstone, conglomerate, shale, limestone, dolomite, granite, gniess, diabase, and other sedimentary, igneous and metamorphic rocks; effective porosity = 2%.

Pumping Rate (gpm)	1-50	51-100	101-200	201-300	301-400	401-500
<1-10	670	390	270	210	180	160
11-20	1160	670	470	370	310	270
21-30	1500	860	610	470	400	350
31-40	1770	1020	720	560	470	420
41-50	2010	1160	820	630	540	470
51-60	2220	1280	910	700	590	520
61-70	2410	1390	980	760	640	570

Pumping Rate (gpm)	1-50	51-100	101-200	201-300	301-400	401-500
<1-10	1060	610	430	330	280	250
11-20	1830	1060	750	580	490	430
21-30	2370	1370	970	750	630	560
31-40	2800	1620	1140	890	750	660
41-50	3170	1830	1300	1000	850	750
51-60	3510	2030	1430	1110	940	830
61-70	3810	2200	1560	1210	1020	900

Pumping Rate (gpm)	1-50	51-100	101-200	201-300	301-400	401-500
<1-10	1640	950	670	520	440	390
11-20	2840	1640	1160	900	760	670
21-30	3670	2120	1500	1160	980	860
31-40	4340	2500	1770	1370	1160	1020
41-50	4920	2840	2010	1560	1310	1160
51-60	5440	3140	2220	1720	1450	1280
61-70	5910	3410	2410	1870	1580	1390

Combined Model/CFR Method

The combined model/CFR method was chosen as the minimum method for CWS wells, and will be used by the Department for WHPA delineations for CWS wells. This method was chosen based upon the Department's need to provide a low cost, relatively accurate estimate of the WHPA using available data on the characteristics of the well (pumping rate and depth) and the regional characteristics of the aquifer (hydraulic gradient direction and magnitude, transmissivity, anisotropy, effective porosity, thickness, and hydrologic boundaries) using the best available data.

The combined model/CFR method combines the CFR calculation method defined above with a two-dimensional ground-water flow model that properly accounts for hydraulic gradient, aquifer transmissivity, effective porosity, aquifer saturated thickness, aquifer anisotropy, pumping rate of the well, and time of travel.

The following steps will be taken:

1. The CFR for Tier 1 and Tier 2 will be calculated as described in the CFR calculation method. No CFR for Tier 3 is used in this method.

2. Determine the regional hydraulic gradient (see page 13).

   a. The hydraulic gradient magnitude and direction will be calculated from a regional water-table map, when available, over a distance from the well to one-mile upgradient of the well.

   b. When no satisfactory regional water table map is available, the hydraulic gradient magnitude may be estimated by multiplying the topographic gradient, calculated over a distance from the well to one-mile upgradient of the well, by 0.5. In some aquifers, especially bedrock aquifers, a reasonable estimate of the regional hydraulic gradient may not be possible. In these cases, the gradient may be set to zero.

3. Determine aquifer anisotropy. For some aquifers, a reasonable estimate of anisotropy may not be possible. In these cases the anisotropy ratio should be set to 1:1. (table 2.)

4. The ground-water flow model will be used to calculate the zone of contribution of the well for the times of travel established for Tier 1, Tier 2, and Tier 3.

5. The long axis of the calculated zone of contribution will be aligned with the regional ground-water flow direction as shown in figure 1.

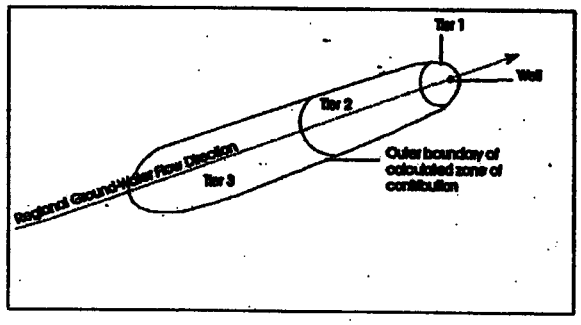

Figure 1 : Long axis of zone of contribution is aligned in the direction of the regional ground-water flow direction

6. A 20-degree angle of rotation, or an angle of rotation determined from site-specific data, will be applied to the model results. The results will be rotated, using the well as the pivot point, by the angle of rotation both clockwise and counter-clockwise, for each tier as shown in figure 2. For a discussion of "angle of rotation", see hydraulic gradient in the Data Selection and Parameter Estimation section of this report.

7. The CFR portion of the WHPA will be superimposed on the results of the ground-water model portion of the WHPA as shown in figure 3. The CFR component was added to account for potential inaccuracies in estimating well characteristics and properties of the aquifer, as well as to account for potential pumping interference effects which are common at public water systems in New Jersey.

8. The resulting outer boundary of the combined CFR and ground-water model portions will then be established for each tier as shown in figure 4.

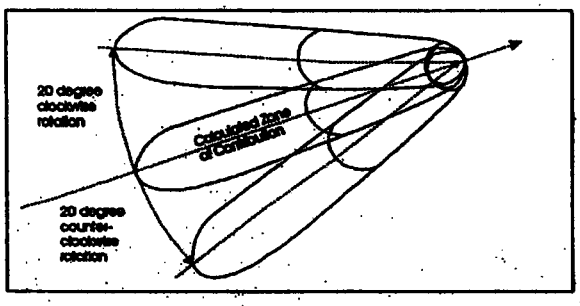

Figure 2. Clockwise and counter-clockwise 20-degree angle of rotation applied to calculated zone of contribution using the well as the pivot point.

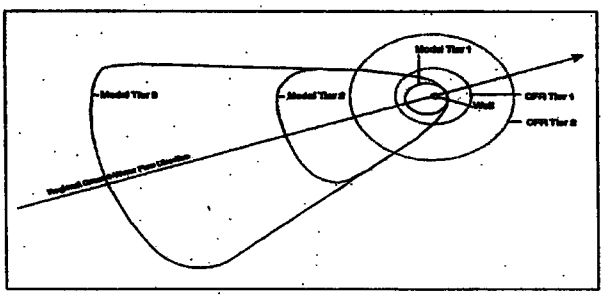

Figure 3. CFR portion of WHPA superimposed on the results of the ground-water model portion of the WHPA.

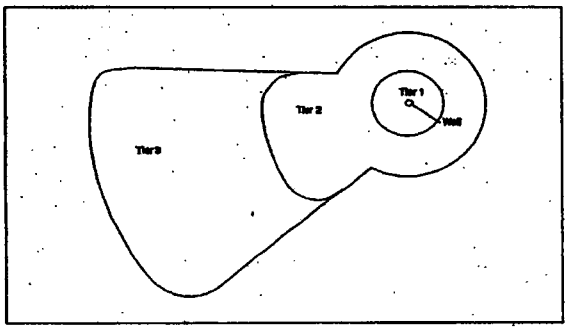

Figure 4. Resulting outer boundary of the combined CFR and model portions established for each tier of the WHPA delineation.

9. The outer boundary of the WHPA delineation may be truncated by appropriate hydrologic boundaries such as major rivers and aquifer boundaries. The resulting boundary will be the WHPA delineation for the well, which will be drawn according to the delineation mapping requirements section.

An example of the type of model the Department and others may use as part of this method is the RESSQC portion of the EPA WHPA Model, defined in the publication, "WHPA: A Modular Semi-Analytical Model for the Delineation of Well Head Protection Areas, March 1991." The model is available through the International Ground Water Modeling Center, Colorado School of Mines, Golden, Colorado, 80401-1887. The appropriate well pumping rate and aquifer values for saturated thickness, hydraulic conductivity, hydraulic gradient and magnitude, and effective porosity are critical to perform the model. Site-specific data, especially for hydraulic gradient, increase the level of model accuracy. Selection of these values is discussed in the Data Selection and Parameter Estimation section.

The NJGS has developed a computer program called "OUTPATH" that will apply the angle of rotation and aquifer anisotropy to outputs from the RESSQC version of the EPA WHPA model and create a file of the WHPA that can be incorporated into a geographic information system (GIS). It is available upon request from NJGS.

Non-CFR Model Method

When a regional water table map is available and aquifer recharge and well interference are accounted for in the model, no CFR is needed for the WHPA delineation. The non-CFR model method will use a two-dimensional ground-water flow model that properly accounts for hydraulic-head distribution, aquifer recharge, well interference, aquifer transmissivity, effective porosity, aquifer saturated thickness, pumping rate of the well, time of travel, aquifer anisotropy, hydrologic boundaries, and aquifer heterogeneities.

The following steps will be taken:

1. For advanced delineations requiring a model grid, the grid cells should be sized to allow accurate locations of pumping wells and the resulting ground-water flow paths. Grid cells containing pumping wells should be no greater than 100 feet in length or width. The maximum allowable length or width of a grid cell in any such model will be 500 feet. The maximum allowable thickness of any layer in the model will be 100 feet. The model should be subject to a sensitivity analysis, and be calibrated, in a manner acceptable to the Department, so that simulated results are acceptably close to field conditions.

2. The ground-water flow model will be used to calculate the zone of contribution of the well for the times of travel established for Tier 1, Tier 2, and Tier 3 as shown in figure 5.

3. A 20-degree angle of rotation, or an angle of rotation determined from site-specific data, will be applied to the model results. The results will be rotated, using the well as the pivot point, by the angle of ro-

tation of rotation both clockwise and counter-clockwise, for each tier as shown in figure 6.

4. The outer boundary of the WHPA delineation may be truncated by appropriate hydrologic boundaries if warranted. The resulting outer boundary of the rotated tiers will then be established as shown in figure 7. This will be the WHPA delineation for the well, which will be drawn according to the delineation mapping requirements section.

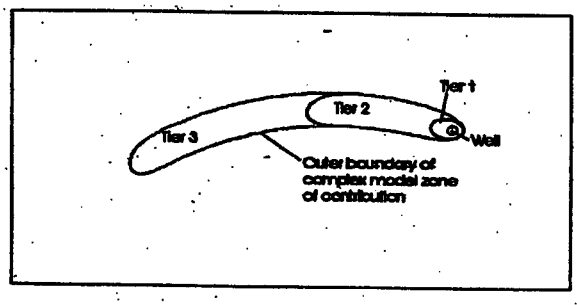

Figure 5. Non-CFR model method zone of contribution example.

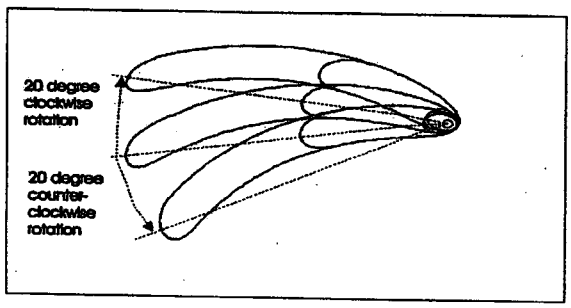

Figure 6. Clockwise and counter-clockwise 20-degree angle of rotation applied to non-CFR model method of contribution using the well as the pivot point.

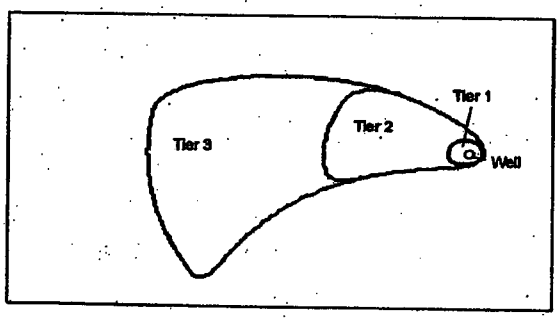

Figure 7. Outer boundaries of the rotated tiers are established as the WHPA delineation.

Three-Dimensional Model Method

The three-dimensional model method will use a three-dimensional, numerical ground-water flow model that properly accounts for hydraulic-head distribution, aquifer transmissivity, effective porosity, aquifer saturated thickness, pumping rate of the well, time of travel, partial penetration of the aquifer by the pumping well, well interference, hydrologic boundaries, aquifer recharge, aquifer heterogeneities, aquifer anisotropy, and any other relevant site-specific conditions, as appropriate for the area surrounding the well.

The following steps will be taken:

1. For advanced delineations requiring a model grid, the grid cells should be sized to allow accurate locations of pumping wells and the resulting ground-water flow paths. Grid cells containing pumping wells should be no greater than 100 feet in length or width. The maximum allowable length or width of a grid cell in any such model will be 500 feet. The maximum allowable thickness of any layer in the model will be 100 feet. A sensitivity analysis and calibration should be performed on the model, in a manner acceptable to the Department, so that simulated results are acceptably close to field conditions.

2. The ground-water flow model will be used to calculate the zone of contribution of the well for the times of travel established for Tier 1, Tier 2, and Tier 3 as shown in figure 5.

3. A 20-degree angle of rotation, or an angle of rotation determined from site-specific data, will be applied to the model results. The results will be rotated, using the well as the pivot point, by the angle of rotation both clockwise and counter-clockwise, for each tier as shown in figure 6. When using the three-dimensional model method, the rotated area should be truncated by appropriate hydrologic boundaries.

4. The resulting outer boundary of the rotated tiers will then be established as shown in figure 7. This will be the WHPA delineation for the well, which will be drawn according to the delineation mapping requirements section.

5. As an alternative to incorporating an angle of rotation when using the three-dimensional model method, a systematic evaluation of the model sensitivity to different combinations of model parameters, over appropriate ranges, may be conducted. This should include seasonal and spatial variation of appropriate model-input parameters. This will require delineating a WHPA for each acceptable combination. The outer limits of the resulting individual tier delineations will

constitute the WHPA, which will be drawn according to the Delineation Mapping Requirements section.

Advanced Delineations and WHPA Revisions

The delineation methods in this report reflect a hierarchy of increasing degree of modeling sophistication and increasing data requirements for the model used to delineate the WHPA. The principle behind this delineation hierarchy is to achieve an increasing degree of accuracy for the WHPA to the degree that methods and available data allow improved simulation of real hydrologic conditions.

The concept of performing advanced delineations is based on two principles. First, where data are available, an advanced delineation will likely provide a WHPA that is more accurate. Secondly, it is conceivable that an interested party, such as a water purveyor or a regulated potential or existing pollutant source, may wish to perform an advanced delineation to provide certainty regarding the application of a WHPA to a specific geographic location. Situations such as a well that receives a portion of its water from a nearby river that has good hydraulic connection to the aquifer, or a well field that is affected by well interference are also good candidates for an advanced delineation.

Because the Department will be performing WHPA delineations on all public water system wells, only delineations submitted by outside parties, which are completed at a level higher than that undertaken by the Department will be reviewed.

Interested parties who feel that a more advanced delineation for a NCWS well is required, and volunteer to perform a WHPA delineation, will use the same methods used for CWS well delineations.

The three-dimensional model method, which uses a numerical model, is the highest level of WHPA methods described in this report because it has the potential to incorporate and evaluate all components of the ground-water system around the pumping well. The Department does not necessarily consider numerical modeling superior to all other techniques for all applications. Numerical modeling is costly and data intensive. It may not automatically result in delineations that are measurably superior to less rigorous and less time-intensive analytical and semi-analytical methods, but, when done properly with good site-specific data, it may provide significant insights into the location of the WHPA.

For public water-supply wells with an existing WHPA delineation completed by the Department, the method selected for a revised delineation should meet the following requirements:

1. The method should be selected from the methods defined in this report and meet the selection requirements listed in the Delineation Method Selection section; and

2. The method should be a more advanced method than that used for the delineation of the existing WHPA, or must be an equivalent method used with more reliable site-specific data, as determined by the Department.

3. For advanced delineations requiring a model grid, the grid cells must be sized to allow accurate locations of pumping wells and the resulting ground-water flow paths. Grid cells containing pumping wells must be no greater than 100 feet in length or width. The maximum allowable length or width of a cell in any such model will be 500 feet. The maximum allowable thickness of any layer in the model will be 100 feet.

The Department intends to rely upon the American Society for Testing and Materials (ASTM) ground-water modeling standards listed in the resource section of this report. Ground-water professionals submitting WHPA's should follow these standards.

Data Selection and Parameter Estimation

The selection of values for hydraulic gradient, aquifer transmissivity, effective porosity, aquifer saturated thickness, pumping rate, well radius and anisotropy for all delineations must be in accordance with the order specified in table 2. For all WHPA methods, each variable listed in table 2 should be selected, when feasible, based on the first selection procedure given in table 2. If the data for the first selection are not available, the second selection should be used. If the data for the second selection are not available, the third selection should be used. Where values can not be determined from table 2 it may be obtained from the NJGS, from a published source, or other source acceptable to the Department.

Hydraulic Gradient

Hydraulic gradient has two components: magnitude and direction. The magnitude is measured as the slope of the water table, representing the change in elevation of the water table over a unit distance. The direction of the hydraulic gradient, often referred to as the "angle of ambient flow," is the azimuth of the maximum slope of the water table at a specific point.

The hydraulic gradient varies over space and time, and is affected by a variety of local and regional factors. For WHPA delineation purposes, the regional hydraulic gradient is the most useful.

For some delineation methods, the hydraulic gradient magnitude and direction will be calculated from a regional water-table map in the area upgradient of the well over a distance of one mile. The distance of one mile was selected as representative of a "regional" gradient, and is reasonable when compared to the calculated lengths of typical WHPA's representing hydrogeologic and operational conditions found in New Jersey.

In instances where it is difficult to calculate the hydraulic gradient within a one-mile span due to rapid changes in the water-table gradient or direction, or due to the location of hydrologic boundaries, the gradient magnitude and direction will be calculated over an appropriate distance of less than one mile.

In areas of the State where regional water-table maps do not exist, the magnitude and direction of the regional hydraulic gradient may be approximated based on topography, in the area upgradient of the well. This is determined by using the change in land surface elevation over a distance of one mile in the aquifer from which the well is pumping. This approach recognizes that the water table is usually a subdued replica of topography.

To quantify the relationship between topography and the water table, the NJGS observed topographic and hydraulic gradients in three drainage basins in the New Jersey Coastal Plain - the Great Egg Harbor, Mullica, and Toms River Basins.

Topographic and hydraulic gradients for selected intervals were compared for 128 line segments each approximately one mile in length.

A statistical analysis of these data suggested that a reasonable estimate of the hydraulic gradient in the Coastal Plain could be obtained by multiplying the topographic gradient by 0.5. Thus, a conversion factor of 0.5 will be used to convert a known topographic gradient, over a distance of one mile in the area upgradient of the well, to the hydraulic gradient magnitude, when lacking a regional water-table map. Research will continue to better define this relationship in other hydrogeologic regions of the State.

The hydraulic gradient direction or angle of ambient flow, is a very important parameter for a WHPA delineation. In certain hydrogeologic settings, especially those with a relatively steep hydraulic gradient, small errors in selection of the angle of ambient flow may cause the WHPA to be partially mislocated resulting in areas that are actually contributing water to the well to end up outside the WHPA. This would result in a misconception of the actual sources of water for a well.

Variability and uncertainty in the direction of ambient ground-water flow may arise from several factors, including:

- No regional water-table map is available and the angle of ambient flow is based on an estimation from the topography of the land surface.
- The regional water-table map used is based on a limited number of simultaneous water-level measurements or the observation points are separated by large distances.
- Subjectivity in interpreting field data to construct a water-table map results in non-unique water-level contours.
- Subjectivity in estimating direction of hydraulic gradient from water-table maps.
- Temporal variations in the angle of ambient flow exist as a result of spatial or seasonal differences.

Table 2. Selection of input values for WHPA delineation.

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	Calculated from regional water-table contour map in area up-gradient of the well, with gradient magnitude and direction calculated over distance of one mile[1]. Delineation to include angle of rotation calculated from site-specific data.	Calculated from regional water-table contour map in area up-gradient of the well, with gradient magnitude and direction calculated over distance of one mile[1]. Delineation to include +/-20 degree angle of rotation.	Gradient magnitude and direction based on topographic gradient and 0.5 conversion factor, in area up-gradient of the well[1]. Delineation to include +/-20 degree angle of rotation.
[illegible]	Adequate hydrologic tests from wells located within the modeled area[2].	Calculated as the product of hydraulic conductivity and aquifer thickness[3].	Estimated based on published values for comparable aquifers.
[illegible]	Adequate hydrologic tests from wells located within the modeled area[2].	Estimated based on total porosity and/or specific yield data from the aquifer.	Obtained from effective porosity values provided for selective aquifer types in table 1.
[illegible]	**For unconsolidated aquifers**, the vertical distance between the water table and the first significant confining layer underlying the aquifer in which the well is screened. **For bedrock aquifers**, the vertical distance between the water table and the bottom of the well, but no greater than 500 feet.	**For unconsolidated aquifers**, the vertical distance between the water table and the bottom of the well. **For bedrock aquifers**, the length of open borehole for the well, but not greater than 500 feet.	**For unconsolidated aquifers**, the average or median aquifer thickness for wells in this aquifer. **For bedrock aquifers**, the average or median aquifer thickness for wells in this aquifer.
[illegible]	For wells in production for at least two years, use the method below: Maximum average annual pumping rate during the period of operation, up to and including the previous 12 years, from actual pumping data, plus a 25% safety factor, but not more than the pump capacity and not less than 40% of pump capacity.	Estimated based on the method below yielding the lowest pumping rate: Installed pump capacity for the well. Water allocation for the individual well, if available. The planned maximum average annual pumping rate, over the next 12 years, if justified by the well owner to the satisfaction of the Department.	Estimated based on the number of connections serviced by the well, or the estimated population serviced by the well, with per-capita consumption at 100 gallons per day per capita, and occupancy based on census data for the specific municipality where the well is located. If the number of connections or the estimated population is not known, the average or median pumping rate for this type of well will be used.
[illegible]	One half the finished diameter of the well screen or open borehole listed on the well record.	One half the finished diameter of the well screen or open borehole listed on well construction diagram.	If unknown, use the radius corresponding to the well's pump capacity rate listed in Driscoll, 1986., Table 13.1, Ground Water and Wells, second edition.
[illegible]	Value based on adequate hydrogeologic tests and analyses of wells within modeled area.	Value based on published values for the aquifer.	1:1 for all aquifers except the following: Mesozoic sedimentary rocks 10:1; Paleozoic sedimentary rocks 3:1. Direction is bedding plane strike from a published geologic map.

For all WHP methods, the first selection must be used if the data are available; if not available, the second selection must be used; and so on.
When site-specific values can not be determined from table it may be requested from the New Jersey Geological Survey, P.O. Box 427, Trenton, NJ 08625, or obtained from a published source or other source acceptable to the Department.
[1] If it is difficult to calculate the hydraulic gradient over a distance of one mile, due to rapid changes in the water-table gradient or direction, or due to the location of hydrologic boundaries, then the hydraulic gradient magnitude and direction should be calculated over an appropriate distance less than one mile.
[2] Tests must be adequate to permit accurate definition of hydrologic characteristics of the aquifer to the satisfaction of the Department.
[3] When calculating transmissivity, the hydraulic conductivity should generally be the geometric mean value for the aquifer as shown in table 3.

in ground-water recharge or unidentified pumping nearby.

Temporal variations in the direction of ground-water flow can be quantified at locations with sufficient regional water-level monitoring data. Such changes have been documented in published reports and have been identified as a primary cause of transverse dispersion of contaminant plumes.

To quantify expected temporal variation in hydraulic gradient directions in New Jersey aquifers, the NJGS evaluated eight sites in New Jersey with sufficient water-level monitoring data. The selected sites covered a variety of New Jersey aquifers, including coastal plain, bedrock and glacial aquifers. Mean hydraulic gradient directions and seasonal variations from the mean were calculated for numerous sampling points. A statistical analysis of the data showed that the total variation in the azimuth of the flow direction was as much as 48 degrees (24 degrees on either side of the mean) over a two year period. Based on this analysis, a 16.4-degree range on either side of the mean hydraulic gradient direction would sufficiently account for the variability resulting from temporal variation in hydraulic gradient direction at 90% of the sites.

To account for the variability in the accuracy of the selected angle of ambient flow, arising from both temporal variation and the other potential uncertainties listed above, a range of 20 degrees on either side of the selected angle of ambient flow will be used in delineating WHPA's. The variability associated with the angle of ambient flow will be factored into the WHPA delineation process by rotating the delineated WHPA, with the well as the pivot point, 20 degrees in both a clockwise and counter-clockwise direction. The total rotation will be 40 degrees. The entire area encompassed by the rotation is included in the WHPA. However, the rotated area should be truncated by appropriate hydrologic boundaries when such data are available. This 20-degree "angle of rotation" will be used for all WHPA delineations unless sufficient site-specific data justify the use of a smaller or larger angle of rotation or if the three-dimensional model method is used with the alternative described in item 5 of the Three-Dimensional Model Method section (page 12). The angle can be changed if sufficient evidence, covering the seasonal fluctuation phenomena, is presented as part of the delineation.

Calculation of a site-specific angle of rotation requires a network of observation wells acceptable to the Department, with a minimum of one year of quarterly water-level data, water-table maps, and calculated hydraulic gradient directions. The calculated site-specific angle of rotation will be equal to the total variation in the azimuth of ground-water flow directions observed in the data.

The NJGS has developed a computer program called "OUTPATH" that will apply the angle of rotation to outputs from the RESSQC version of the EPA WHPA model and create a file of the WHPA that can be incorporated into a geographic information system (GIS). It is available upon request from NJGS.

Transmissivity

Transmissivity is a measure of the quantity of water that an aquifer can transmit over its saturated thickness per unit width (that is, one foot) and a hydraulic gradient of one. In mathematical terms, transmissivity is equal to the product of the thickness and hydraulic conductivity of the aquifer.

For WHPA calculation, the aquifer's transmissivity will be selected based on adequate hydrologic tests from wells located within the modeled area. In areas where transmissivity values are not readily available, transmissivity should generally be obtained by multiplying the aquifer thickness by the geometric mean of hydraulic conductivity values measured in the aquifer of interest. Currently available hydraulic conductivity and transmissivity values for New Jersey aquifers are listed in tables 3 and 4. Where no data for a given formation or aquifer are available in tables 3 and 4, published values for similar aquifers may be used.

Effective Porosity

Porosity is important in ground-water hydrology because it tells us the maximum amount of water that an aquifer can contain when it is saturated. Porosity is the ratio of the volume of void spaces (that is, pores, or the space not occupied by solid matter) to the total volume of an aquifer. Porosity is expressed as a decimal fraction or as a percentage, such as 0.25 or 25%. Porosity in unconsolidated sand and gravel aquifers is derived from the spaces between grains. Porosity in consolidated bedrock aquifers (limestone, marble, shale, sandstone, granite and gneiss for example) is largely derived from fractures such as joints, faults, and other tabular openings along bedding planes. Only a part of this water is available to supply a well. A portion of an aquifer's overall porosity will not release or transmit water, due to the water being held in some pores by capillary tension, or because of dead-end pore space which does not transmit water to a well. This portion or percentage of pore space is called specific retention, because water is retained there and not released. Some clays have high specific retention (up to 48%), while sand, gravel and consolidated rock have low specific reten-

tion (ranging from less than 1% in solid rock to 3% in sand) (Heath, 1983). The portion of porosity that drains or transmits water under influence of gravity or due to pumping a well is called effective porosity. This is the percentage of the aquifer's pore space or storage available to supply a pumping well. Effective porosity is largest for sand and gravel (around 25%) and usually lowest for clay, silt, and bedrock (around 2%).

Of all the parameters necessary for delineating WHPA's, porosity and effective porosity is the most difficult to measure and quantify. The preferred method for quantifying effective porosity requires hydrologic tests at the well site, including pumping tests, material analysis, and tracer testing. For example, the effective porosity may be calculated based on its relationship with hydraulic conductivity (K), hydraulic gradient (i), and ground water velocity (v), in accordance with Darcy's Law, such that:

$$(n_e) = [K * i] / v$$

At present, there are few published values of effective porosity for aquifers in New Jersey. Ongoing research being conducted by the USGS and the NJGS should begin to fill this data gap. When detailed site-specific data or detailed aquifer specific data of porosity are not available, an effective porosity value will be obtained from the values provided in table 1 of this report. The values in table 1 were determined based on review of worldwide values of effective porosity from published sources including groundwater tracer tests conducted in the field and laboratory tests of aquifer materials. Effective porosity values for unconsolidated aquifers such as glacial stratified drift, and coastal plain aquifers, have been estimated to be 25% (table 1a). Effective porosity values for the rock aquifers of New Jersey, such as those in shale, limestone, sandstone, gneiss and granite, have been estimated to be 2% (table 1b). Due to the current lack of site-specific data, in developing WHPA's for public supply wells, NJGS exclusively used the effective porosity values noted in table 1a and 1b.

Table 3. Summary of horizontal conductivity (k) values for geologic and hydrogeologic units in New Jersey as of January 2002.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Outwash deposits	1	177.00	177.00	177.00		
Deltaic sediment	1	59.00	59.00	59.00		
Fluvial over lacustrine sediment	1	110.00	110.00	110.00		
Till (Quaternary)	1	32.00	32.00	32.00		
Till (late Wisconsinan)	1	142.90	142.90	142.90		
Stratified drift	5	158.20	55.00	215.00	188.00	65.73
Glaciolacustrine sand and gravel	1	267.00	267.00	267.00		
Glaciolacustrine sand and gravel (late Wisconsinan)	1	285.00	285.00	285.00		
Glaciolacustrine sand and gravel (Illinoian)	1	28.00	28.00	28.00		
Cohansey Formation	11	125.25	52.00	216.00	116.70	55.73
Cohansey & Kirkwood Formations	5	152.20	98.00	200.00	160.00	48.07
Kirkwood Formation - lower member (sand facies)	5	110.60	22.00	334.00	57.00	126.86
Kirkwood Formation	4	179.00	80.00	365.00	135.50	127.63
Shark River Formation - Toms River member	1	32.00	32.00	32.00		
Mount Laurel Formation	1	41.00	41.00	41.00		
Mount Laurel and Wenonah Formations	3	12.17	7.00	20.50	9.00	7.29
Magothy, Raritan, and Potomac Formations	1	13.00	13.00	13.00		
Magothy Formation	6	119.85	19.00	314.00	66.90	116.73
Raritan Formation	2	72.90	71.60	74.20	72.90	1.84
Potomac Formation	1	49.00	49.00	49.00		
Potomac Formation, Unit 3 (upper subsurface)	1	153.00	153.00	153.00		
Brunswick Group (Passaic Formation through Boonton Formation)	1	0.54	0.54	0.54		
Towaco Formation	1	5.00	5.00	5.00		
Passaic Formation	1	2.51	2.51	2.51		
Leithsville Formation	1	21.00	21.00	21.00		
Leithsville Formation and Hardyston quartzite, undivided	1	13.50	13.50	13.50		
late Proterozoic rocks, undifferentiated	1	0.05	0.05	0.05		
Hornblende granite	1	0.51	0.51	0.51		
Pyroxene granite	1	0.58	0.58	0.58		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
continous or discontinous till	2	87.45	32.00	142.90	87.45	78.42
glacial sand and gravel	11	156.09	28.00	285.00	177.00	86.38
Cohansey aquifer	1	216.00	216.00	216.00		
Kirkwood-Cohansey water-table aquifer system	16	129.80	52.00	200.00	133.89	49.12
Rio Grande water-bearing zone	3	187.33	80.00	365.00	117.00	154.97
Atlantic City "800-foot" sand aquifer	5	110.60	22.00	334.00	57.00	126.86
Piney Point aquifer	1	32.00	32.00	32.00		
Mount Laurel-Wenonah aquifer	4	19.38	7.00	41.00	14.75	15.60
Potomac-Raritan-Magothy aquifer system	1	13.00	13.00	13.00		
upper Potomac-Raritan-Magothy aquifer	6	119.85	19.00	314.00	66.90	116.73
middle Potomac-Raritan-Magothy aquifer	2	72.90	71.60	74.20	72.90	1.84
lower Potomac-Raritan-Magothy aquifer	2	101.00	49.00	153.00	101.00	73.54
Brunswick aquifer	3	2.68	0.54	5.00	2.51	2.24
Jacksonburg limestone, Kittatinny Supergroup and Hardyston quartzite	2	17.25	13.50	21.00	17.25	5.30
igneous and metamorphic rocks	3	0.38	0.05	0.58	0.51	0.29

Not all aquifers in New Jersey are represented on table 3, because some have not been tested or analyzed.

Table 4. Summary of transmissivity values for geologic and hydrogeologic units in New Jersey as of January 2002.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Deltaic sediment	1	1070	1070	1070		
Fluvial over lacustrine sediment	1	7142	7142	7142		
Stratified drift	5	10528	6802	15444	10070	3133
Glaciolacustrine sand and gravel (late Wisconsinan)	1	17511	17511	17511		
Glaciolacustrine sand and gravel (Illinoian)	1	2642	2642	2642		
Cape May Formation	1	1312	1312	1312		
Cohansey Formation	11	8907	3102	18499	7794	4250
Cohansey & Kirkwood Formations	7	14264	6858	24902	11256	6999
Kirkwood Formation - lower member (sand facies)	6	7351	1792	16690	5847	5022
Kirkwood Formation	6	11630	2354	38475	7007	13560
Shark River Formation - Toms River member	2	1339	442	2235	1339	1268
Vincentown Formation	1	2286	2286	2286		
Mount Laurel Formation	1	2050	2050	2050		
Mount Laurel and Wenonah Formations	3	849	633	1232	683	332
Englishtown Formation	3	1122	426	1932	1008	759
Magothy, Raritan, and Potomac Formations	1	2593	2593	2593		
Magothy Formation	9	7302	1175	22956	3050	8492
Magothy Formation - Old Bridge Sand member	1	1710	1710	1710		
Raritan Formation	3	4621	2597	8307	2960	3197
Raritan Formation - Farrington Sand member	3	12103	2803	21599	11907	9400
Potomac Formation	1	1957	1957	1957		
Potomac Formation, Unit 3 (upper subsurface)	1	7969	7969	7969		
Brunswick Group (Passaic Formation through Boonton Formation)	1	136	136	136		
Towaco Formation	2	889	583	1195	889	433
Passaic Formation	8	573	45	1375	477	453
Rickenback dolomite	1	19254	19254	19254		
Rickenback dolomite - lower member	1	127	127	127		
Allentown dolomite	1	75	75	75		
Leithsville Formation	4	2993	1041	6498	2216	2425
Leithsville Formation - Walkill member	1	274	274	274		
Leithsville Formation and Hardyston quartzite, undivided	1	1184	1184	1184		
late Proterozoic rocks, unifferentiated	1	14	14	14		
Hornblende granite	1	100	100	100		
Pyroxene granite	2	110	36	183	110	104
Hypersthene-quartz-plagioclase gneiss	2	126	95	157	126	44
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
glacial sand and gravel	9	9001	1070	17511	5363	9560
Holly Beach water-bearing zone	1	1312	1312	1312		
Cohansey aquifer	1	12505	12505	12505		
Kirkwood-Cohansey water-table aquifer system	19	12023	3102	38475	8726	8796
Rio Grande water-bearing zone	3	8101	3994	10941	3643	9369
Atlantic City "800-foot" sand aquifer	7	6637	1792	16690	4958	5744
Piney Point aquifer	2	1339	442	2235	1268	1339
Vincentown aquifer	1	2286	2286	2286		
Mount Laurel-Wenonah aquifer	4	1150	633	2050	659	958
Englishtown aquifer system	3	1122	426	1932	759	1008
Potomac-Raritan-Magothy aquifer system	1	2593	2593	2593		

Table 4 (continued). Summary of transmissivity values for geologic and hydrogeologic units in New Jersey as of January 2002.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
upper Potomac-Raritan-Magothy aquifer	10	6743	1175	22956	8199	2655
middle Potomac-Raritan-Magothy aquifer	6	8362	2597	21599	7498	5634
lower Potomac-Raritan-Magothy aquifer	2	4963	1957	7969	4251	4963
Brunswick aquifer	11	591	45	1375	449	583
Jacksonburg limestone, Kittatinny Supergroup and Hardyston quartzite	9	3654	75	19254	6180	1184
Igneous and metamorphic rocks	6	98	14	183	66	98

Not all aquifers in New Jersey are represented on this table, because some have not been tested and analyzed.

Aquifer Thickness

The thickness of an aquifer is defined as the vertical distance between its upper and lower physical boundaries. Determining aquifer thickness for purposes of calculating a WHPA, then, requires determining the locations of the upper and lower boundaries of the aquifer.

Because well head protection is primarily concerned with travel times in water-table aquifers, the water table constitutes the upper boundary of the aquifer. Using well logs or other site-specific information, the lower boundary of a water-table aquifer is described by the first significant confining unit underlying the aquifer. The degree to which this lower boundary can be defined will differ for unconsolidated granular aquifers and bedrock aquifers. For unconsolidated aquifers, the first significant confining layer underlying the pumping well will usually consist of a significant stratigraphic layer consisting of silt and/or clay, or in the case of glacial valley-fill aquifers, relatively impervious bedrock underlying the aquifer. When site-specific data on the location of confining units are not available, the NJGS can be contacted for the best available data in the area, or published sources such as the "Hydrogeologic Framework of the New Jersey Coastal Plain" (Zapecza, 1989) may be used. Therefore, aquifer thickness in unconsolidated aquifers will be the calculated vertical distance between the water table and the first significant confining layer underlying the well.

In bedrock aquifers, the bottom of the aquifer is not so easily described. The lower boundary of a bedrock aquifer coincides with the depth at which water-bearing fractures cease to occur, or with an underlying impervious bedrock stratum. Since information on the depth to which fractures occur is not always readily available, for purposes of calculating WHPA's, the lower boundary of bedrock aquifers will be defined as the depth of the open well borehole. A limit of 500 feet will be applied in assigning the thickness of bedrock aquifers. This limitation is generally consistent with data on well depths and occurrence of water-bearing fractures of wells in New Jersey. In bedrock aquifers, aquifer thickness will be the measured vertical distance between the water table and the bottom of the open borehole, with total aquifer thickness not exceeding 500 feet.

Where insufficient geologic and/or hydrogeologic data exits, aquifer thickness will be estimated using the methods listed in table 2 of this report, which are described below. Preference is given to methods that come closest to approximating the true aquifer thickness. For example, in unconsolidated aquifers the second option for assigning aquifer thickness will be the measured or published vertical distance between the water table and the bottom of the well. For bedrock aquifers, the length of the open borehole may be used to define aquifer thickness. Where information on a well is scarce, aquifer thickness will be defined as the average or median aquifer thickness from wells with known aquifer thickness in the same aquifer. See table 5 for average well depth for selected aquifers in New Jersey.

Table 5. Average depth of unconfined, public-supply wells in selected aquifers.

[illegible]	[illegible]	[illegible]
Glacial Sand and gravel	252	100
Holly Beach water bearing zone	12	60
Kirkwood-Cohansey	433	120
Vincentown	8	130
Upper Potomac Raritan Magothy (PRM)	60	100
Middle PRM	54	230
Lower PRM	62	210
Brunswick	400	330
Basalt (Jurassic)	15	300
Stockton	33	340
Rocks of the Green Pond Mtn. Region, Kittatiny Mtn., and Minisink Valley	20	250
Martinsburg and Jutland Sequence	9	310
Jacksonburg Limestone, Kittatiny Supergroup and Hardyston Quartzite	72	280
Igneous and Metamorphic Rocks	212	310

Pumping Rate

The pumping rate is a measure of the quantity of water withdrawn, or expected to be withdrawn, from a well over a given time period. Pumping rate is usually expressed as gallons per minute, million gallons per day, or cubic feet per day.

The first step in selecting the pumping rates will be to determine if the well has been in production for at least two years, and if withdrawal data for the well are available in the Site Specific Water Use Data System maintained by the N. J. Geological Survey. If data are available, the pumping rate will be based on the preferred selection method which requires an evaluation of existing data for the well's period of operation, up to and including the previous 12 years. The 12-year time frame was selected based on the 12-year Time of Travel for Tier 3 and the availability of accurate historical pumping data. The following steps will be taken:

1) For each year of data, the total withdrawal will be determined;

2) An average annual pumping rate will be determined for each year's data by dividing the total withdrawal, in each year, by the number of minutes in a year (525,600).

3) The average annual pumping rate from the year with the highest average annual pumping rate will be selected as the maximum average annual pumping rate;

4) The maximum average annual pumping rate will be increased by a safety factor equal to 25% of the maximum average annual pumping rate;

5) If the maximum average annual pumping rate plus the safety factor results in a value that is greater than 40% of the well's pump capacity, then it will be used as the pumping rate in the delineation of the WHPA. If the maximum average annual pumping rate plus the safety factor results in a value that is less than 40% of the well's pump capacity, then 40% of pump capacity will be used as the value for pumping rate in the delineation of the WHPA.

6) If the maximum average annual pumping rate plus the safety factor results in a value that is greater than the well's pump capacity, then the pump capacity value or the maximum average annual pumping rate (without the safety factor), whichever is greater, will be used as the value for pumping rate in the delineation of the WHPA.

If the well is new, has not been in production for at least two years, or does not have actual withdrawal data available, the pumping rates will be selected from the following method yielding the lowest pumping rate:

1) Installed pump capacity for the well.

2) Permitted allocation of water for the individual well, if available.

3) The planned maximum average annual pumping rate, over the next 12 years, if justified by the well owner to the satisfaction of the Department.

If the data are insufficient to obtain pumping rates from the above described methods, the pumping rates will be estimated based on the number of connections or the estimated population serviced by the well, with per-capita consumption at 100 gallons per-capita per day and occupancy based on census data for the municipality in which the well is located.

If the number of connections or the estimated population is not known, an average or median pumping rate for this type of well will be used.

Well Radius

Some delineation methods require a value for well radius. Well radius is one half the finished diameter of the well screen or open borehole extending over the water producing interval of the well. The well record is the preferred source for obtaining this value. In instances where the well record does not exist, well radius will be obtained from the well construction diagram of the well. If neither of these two sources exist, well radius will be selected based on the well's pump capacity in accordance with Ground Water And Wells, table 13.1, "Recommended Well Diameters for Various Pumping Rates". If the pump capacity is not available either, then the pumping rate used in the delineation will be used to select the well radius using Ground Water and Wells, table 13.1 (Driscoll, 1986).

Anisotropy

Anisotropy refers to the directionally dependent movement of ground water in an aquifer. Anisotropy arises from the orientation and spatial distribution of conductive features such as fractures, solution openings, and primary porosity (intergranular) within the aquifer. In the case of New Jersey's bedrock aquifers, numerous aquifer tests and ground-water contaminant studies demonstrate anisotropic ground-water movement (Herpers and Barksdale, 1951, Nichols, 1968, Vecchioli, 1969, Spayd, 1986, USGS, 1997, and Nicholson and Watt, 1998). These studies have described anisotropic behavior in bedrock with ground-water flowing preferentially in the direction of bedding strike.

Based on these findings, it is reasonable to expect PCWS wells to exert greater impact and more extensive capture of ground water in the direction of bedding strike. For all WHPA's located in Paleozoic and Mesozoic sedimentary rock aquifers, NJGS assigned preferential flow direction and an anisotropy ratio. In most cases, the preferential flow direction is bedding strike and in a few cases, the preferential direction is the strike of a major fault from which the well appears to be obtaining water. The strike of bedding and faults were taken from published geologic maps. For the Paleozoic bedrock aquifers, an anisotropy ratio of 3:1 was used and in the Mesozoic sedimentary rock aquifers, the assigned anisotropy ratio was 10:1. Anisotropy ratio is the ratio of the aquifers greatest transmissivity (parallel to the preferred flow direction) to the least transmissivity (perpendicular to the preferred flow direction)

Submission of Delineations

Any person interested in submitting a WHPA to the Department will be required to include the following information:

1. Applicant name, address and telephone number.

2. Well owner name, address, and telephone number.

3. Person(s) performing the delineation and their professional qualifications, company names, address and telephone number.

4. Department permit numbers including, where applicable, the public water system identification number (PWSID), State well permit number, water allocation permit number, well and well-field name (if used), and water use registration number.

5. The WHPA delineations should be submitted in digital format compatible with the Department's GIS and in accordance with the Department's Digital Data Standards. These standards are found on the web at the following address: www.state.nj.us/dep/gis. Conformance with the digital standards will ensure positional accuracy and compatibility to the NJDEP GIS system. WHPA's are stored and managed on this system. In addition, the applicant may submit a mylar overlay of the orthophoto quadrangle map(s) at a scale of 1:24,000 or 1:12,000 showing the well location, well permit number clearly labeled, and the three tiers of the WHPA. The overlay must be drawn in accordance with the delineation mapping requirements section and the digital data standards above.

6. Additional mylar overlays when submited shall be referenced to the map required in item number 5 above to clearly show any physical features, water level elevations and contours, hydrologic boundaries, model grid, and all other wells or data points in the area used in determining the WHPA, as applicable. The overlays will be drawn in accordance with the delineation mapping requirements section.

7. Date of well construction, record of the well's construction, depth of the well, well screen or open-hole location, and other well and aquifer attributes as required for the delineation process, including the method used to locate the well. Sources of information must be documented. Parameters should be reported in consistent units, English or metric, and should be those commonly reported in scientific literature, and identified within the report.

8. All data, equations, derived values, and name of any models used for the delineation process must be included in the submission via electronic media compatible to the Department's GIS and digital data standards referenced above

.

The WHPA delineation data should be sent to the Bureau of Safe Drinking Water, P.O. Box 426, Trenton, NJ 08625.

Delineations, which are completed by the Department, will be submitted for public review within the Department's SWAP Program.
The Department will maintain and make available to the public the WHPA delineations. The Department intends to make the maps available to the public in a digital form, in conformance with the Department's GIS and showing, at a minimum, the well location, well permit number and the three tiers of the WHPA delineation. They are available on the web at: http://www.state.nj.us/dep/njgs/.

Delineation Mapping Requirements

The requirement to submit a mapped WHPA pertains only to those parties volunteering to perform a delineation outside of the Safe Drinking Water permitting process. The Department will perform delineations on all public wells. This section is designed to provide easy review of submitted material while maintaining an accuracy standard of plus or minus 50 feet. The recommended method for submitting WHPA delineations is a digital format compatible with the Department's GIS and Digital Data Standards. The digital version may be accompanied by a hard copy on mylar. Mylar provides the best medium for mapping in terms of accuracy, media stability, and for the purpose of review for an overlay. Therefore, the hard copy, if submitted, of the WHPA delineation is required on a mylar medium.

The maps required for the delineation, along with the data, will speed the review process. It is anticipated that all WHPA delineations along with their pertinent attributes will be placed into a computer database and transferred to the GIS. Submitted data will be reviewed for inconsistencies. Therefore, it is important that data including the WHPA delineation be received in digital format. Digital data should meet the Department's Mapping and Digital Data Standards (NJDEP, 1998). This will facilitate Department review and placement into the Department's GIS.

Well-location accuracy is essential to the delineation process. Well-location error may cause areas to be inappropriately placed under stricter controls than necessary, or conversely to not be included in the WHPA when they should. This required the Department to determine which available method or methods would provide the best accuracy. Methods in which the best accuracy could be obtained were assessed with consideration given to the cost of determining the well location and a reasonable level of technology, which would provide the best accuracy. Two methods were determined to provide an accuracy of plus or minus 50 feet or less. These are:

1) Global Positioning System = with a maximum error of approximately 40 feet to a minimum of three feet, using differential correction of field data.

2) Surveying location to the tenth of a second = 12.8 feet or other surveying technique which provides results within the accuracy limit.

The outer boundary line width of the WHPA corresponds to approximately 24 feet on the ground, using a ball point pen on paper at a scale of 1:24,000. It was decided based on best available technology, that this line would represent the boundary line of the WHPA. Due to the resolution of the well location, WHPA delineations are considered to have an accuracy of plus or minus 50 feet in any direction from the mapped location. In considering all the locational limitations, it was decided that any pollutant source located within or on the boundary of the WHPA will be assumed to be located inside of the WHPA, unless shown otherwise through more accurate well location, WHPA delineation or mapping technique.

The Department has field-located all existing CWS wells, using GPS, as part of its WHPA delineation process. NCWS wells have been field located mostly by the counties and New Jersey Water Association using GPS methods as well.

All maps and digital information must be referenced to the NAD83 geodetic datum.

All maps should have a minimum of four reference points corresponding to the quadrangle tic marks. The coordinates for each tic should be listed by the appropriate tic mark and should be in New Jersey State Plane Feet. Tic marks should be referenced to a mylar orthophoto quadrangle map at a 1:24,000 or 1:12,000 scale. Proper identification for the base map should be provided in the lower right hand corner of the WHPA delineation map.

Maps should not be crowded and care should be taken not to obscure the clarity of data or any features.

Information from other sources should be accurately transferred to either the WHPA mylar or the accompanying features map.

When WHPA delineation is submitted on mylar, delineations should be made with a standard drafting/technical pen producing a line width of no greater than 0.02 inches. In all cases, the well symbols, drafted lines and points should bisect the feature as seen on the base map and must be within 50 feet of its true location.

The name and affiliation of the preparer of the map, the date of preparation, the scale or scales employed, a north arrow, and the source of data used should be stated in a legend block on each map.

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Glossary

Applicant- A person or persons not affiliated with the Department of Environmental Protection who submits or intends to submit a Well Head Protection Area delineation for review and approval.

Anisotropy- The condition of aquifer properties that vary by direction.

Aquifer- A saturated geologic formation, group of formations, or part of a formation which is sufficiently permeable to transmit water to a pumping well or spring in usable and economic quantities. The water table of an unconfined aquifer may vary over time; "aquifer" applies to the full-saturated zone at any time.

Calculated fixed radius (CFR) -The method of describing an aquifer volume around a well in plan view (mapped on the land surface) by a cylinder, using the pumping rate of a well and the storage of water in an aquifer, over a specific pumping time, such that the ground water within the cylinder equals the volume of water pumped by the well.

Confined aquifer- An aquifer which contains ground water under pressure between or below confining unit(s) so that the water surface rises above the top of the aquifer in a tightly-cased well which derives its water from the aquifer.

Confining unit – A body of relatively impermeable material that is above or below one or more aquifers, restricting the flow of water to or from an aquifer or aquifers.

Department – The New Jersey Department of Environmental Protection.

Ground water - The portion of water beneath the land surface that is within the saturated zone.

Hydrologic boundary - Hydrologic or geologic features which form a deterrent to ground-water flow, intercept ground-water flow, or provide a large, continuous source of ground-water flow. These boundaries may include but are not limited to drainage divides, geologic formations, geologic structures, and surface water bodies.

Community water system (CWS) - A public water system that serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

Non-community water system (NCWS) -a public water system that is not a CWS and which serves at least 15 service connections or regularly serves at least 25 individuals more than 60 days of the year.

Public water system - A system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves at least 25 individuals.

Qualified ground-water professional – Any person who has received a baccalaureate or post-graduate degree in hydrogeology, geohydrology, geology, engineering or soil science and has five years of appropriate professional experience in ground-water hydrology. This definition has been modified from the final USEPA municipal solid waste landfill rules published in the Federal Register, October 9, 1991 [40 CFR Section 258.50(f)]. This term has been so defined to focus on the appropriate education and professional experience relevant to the aspects of ground-water modeling required to perform zone of contribution analysis for water-supply wells. Applicants submitting advanced delineations requiring ground-water modeling and ground-water professionals are recommended to submit evidence of their professional credentials.

Regional hydraulic gradient – The change in head, per unit of distance, in a specified direction, within a specified region.

Saturated zone – The subsurface zone in which all the subsurface pores in the rock or soil are filled with water at a pressure greater than or equal to atmospheric.

SWAP - Source Water Assessment Program established and implemented under 1996 Amendments to federal Safe Drinking Water Act (P.L.104-182) and described in the USEPA approved New Jersey Source Water Assessment Program Plan, November 1999.

Time of travel (TOT) - The average time that particles of water will take to travel in the saturated zone from a given point to a pumping well.

Unconfined aquifer - An aquifer in which the water table forms the upper boundary and a confining unit forms the lower boundary.

Water table - The top surface of the saturated zone in an unconfined aquifer, which is under atmospheric pressure.

Well head – The well borehole and related equipment.

Well Head Protection Area (WHPA) - An aquifer area described in plan view around a well, from within which ground water is reasonably likely to flow to the well and through which ground-water pollution, if it occurs, is reasonably likely to pose a significant threat to the water quality of the well. The WHPA is delimited by the use of a time-of-travel, and hydrologic boundaries, and is further subdivided by multiple times of travel.

WHP - Well head protection.

WHPP – The Well Head Protection Program established pursuant to Section 1428 of the Federal Safe Drinking Water Act, P.L. 93-523, 42 USC 300 et. seq. and described within the New Jersey Well Head Protection Program Plan (NJDEP, 1991) and subsequent documents.

Zone of contribution – The portion of an aquifer surrounding a pumping well that encompasses all areas or features that supply ground water or ground-water recharge to the well over time.

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Reference 16

Work Order Number: 20103-001-001-1084-00
Contract Number: 68-W-00-121

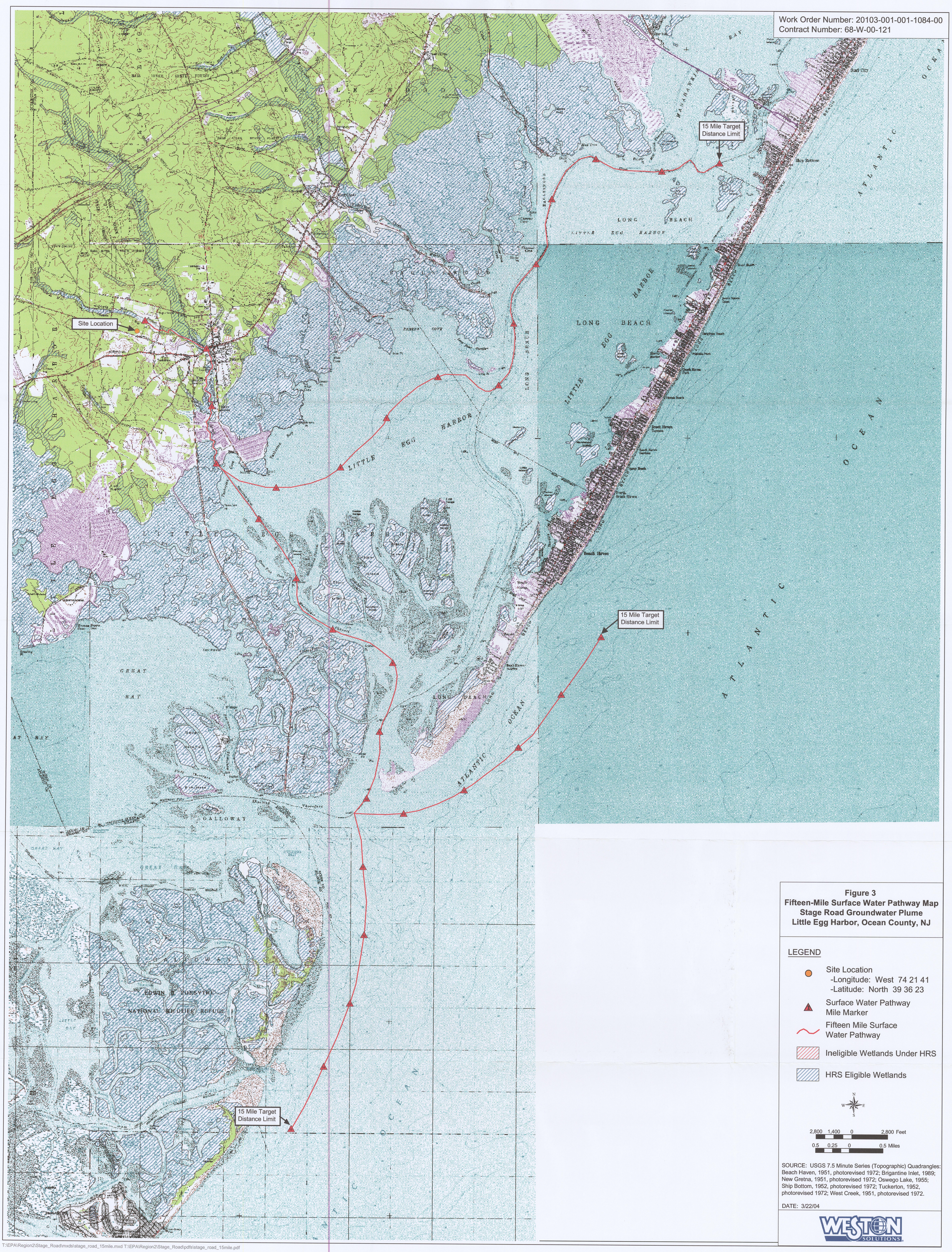

Figure 3
Fifteen-Mile Surface Water Pathway Map
Stage Road Groundwater Plume
Little Egg Harbor, Ocean County, NJ

LEGEND

- Site Location
  - -Longitude: West 74 21 41
  - -Latitude: North 39 36 23
- Surface Water Pathway Mile Marker
- Fifteen Mile Surface Water Pathway
- Ineligible Wetlands Under HRS
- HRS Eligible Wetlands

N W E S

2,800 1,400 0 2,800 Feet

0.5 0.25 0 0.5 Miles

SOURCE: USGS 7.5 Minute Series (Topographic) Quadrangles: Beach Haven, 1951, photorevised 1972; Brigantine Inlet, 1989; New Gretna, 1951, photorevised 1972; Oswego Lake, 1955; Ship Bottom, 1952, photorevised 1972; Tuckerton, 1952, photorevised 1972; West Creek, 1951, photorevised 1972.

DATE: 3/22/04

WESTON SOLUTIONS

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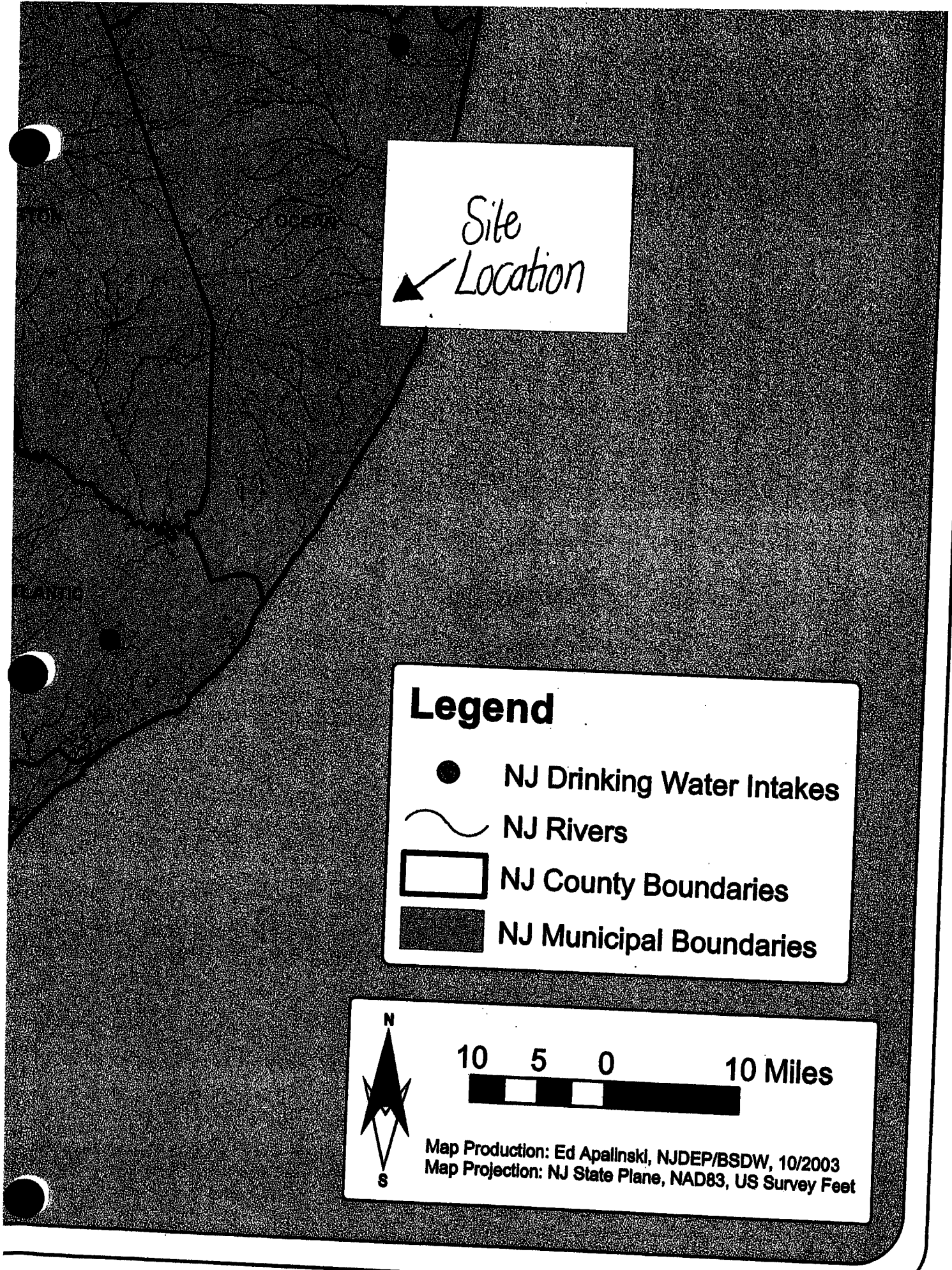
Reference 17


Site Location
Legend
NJ Drinking Water Intakes
NJ Rivers
NJ County Boundaries
NJ Municipal Boundaries
N
S
10 5 0 10 Miles
Map Production: Ed Apalinski, NJDEP/BSDW, 10/2003
Map Projection: NJ State Plane, NAD83, US Survey Feet

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Reference 18

Barnegat Bay Estuary Program • 732-286-7894 • www.bbep.org • March 2001

BARNEGAT BAY ESTUARY

The Barnegat Bay and Little Egg Harbor estuarine system extends along 40 miles of New Jersey's Boreline and encompasses most of Ocean County, New Jersey. The population of the bay's watershed has swelled by more than twenty percent in the 1990s yet, for the most part, Barnegat Bay continues to be a vital and healthy environment for both the citizens and the natural resources of the watershed.

FACTS ABOUT THE ESTUARY

- Boat traffic in and around the bay, including personal watercraft use has grown significantly raising concerns about user conflicts and cumulative impacts.
- Increased development is removing native vegetation and pervious surfaces, resulting in a loss of natural habitat for wildlife and decreased infiltration of rainwater into drinking water aquifers.
- The 660 square mile watershed has a year-round population of 500,000 people but a summer population of well over 1 million.
- The bay is a recreational playground for tens of thousands of boaters and anglers and brings in an estimated $1.65 million in tourism dollars each year.
- The bay area supports a $2.7 million commercial fishery.

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Reference 19

PROJECT NOTE REGION II SITE ASSESSMENT TEAM

To: Stage Road Groundwater Plume **Date:** 12 April 2004 **Page:** 1 of 2

From: Michele Capriglione

Subject: Summary of Domestic Wells in Block 264

Attachment A: Analytical data associated Block 264
Attachment B: New Jersey Drinking Water Standards
Attachment C: Well Installation Records

The attachments to this note document the detections of chlorinated compounds found in analytical data associated with Block 264. The information was obtained from the Ocean County Health Department and compared to New Jersey Drinking Water Standards. Analytical data was collected between 1989 and 1998. Well records were obtained from the NJDEP and are included to document the depth of each well.

Exceedences can be summarized as follows:

Date	Block	Lot	Parameter	Result	Well Depth
07/14/98	264	49	1,2 Dichloroethane	7.73*	80 feet
10/27/97	264	14.01	Methylene Chloride	5.33*	80 feet
10/27/97	264	14.01	1,1 Dichloroethylene	0.14	80 feet
11/13/97	264	14.01	1,1,1 Trichloroethane	0.61	80 feet
11/13/97	264	14.01	1,1 Dichloroethylene	0.28	80 feet
11/14/97	264	14.01	1,1,1 Trichloroethane	0.62	80 feet
11/14/97	264	14.01	1,1 Dichloroethylene	0.22	80 feet
08/15/96	264	49	1,2 Dichloroethane	4.96*	80 feet
08/15/96	264	49	Methylene Chloride	1.23	80 feet
06/17/91	264	48	1,1 Dichloroethylene	0.62	75 feet
06/17/91	264	48	Carbon Tetrachloride	1.22	75 feet

Subject: Population Within 4-Miles

Date	Block	Lot	Parameter	Result	Well Depth
08/23/91	264	43	1,1 Dichloroethylene	1.69	100 feet
08/23/91	264	43	1,1,1 Trichloroethane	9.74	100 feet
03/16/90	264	14.03	Methylene Chloride	0.27	62 feet
03/16/90	264	14.03	1,1,1 Trichloroethane	0.22	62 feet
03/16/90	264	14.03	Trichloroethylene	0.22	62 feet
11/19/90	264	14.04	1,1 Dichloroethylene	0.93	70 feet
11/19/90	264	14.04	1,1,1 Trichloroethane	4.04	70 feet
05/01/89	264	38	Tetrachloroethylene	5.96*	80 feet
05/01/89	264	38	1,1 Dichloroethylene	0.82	80 feet
05/01/89	264	38	Carbon Tetrachloride	0.22	80 feet
05/01/89	264	38	Methylene Chloride	0.07	80 feet
07/24/89	264	14.03	1,1,1 Trichloroethane	2.28	62 feet
07/24/89	264	14.03	1,1 Dichloroethylene	0.36	62 feet
07/24/89	264	14.03	Methylene Chloride	0.28	62 feet
08/16/89	264	14.04	1,1 Dichloroethylene	1.67	70 feet
08/16/89	264	14.04	1,1,1 Trichloroethane	7.82	70 feet

* In excess of New Jersey Drinking Water Standards

Signature Michele Capriglione

Michele Capriglione

Block 264 Lot 14.03 Madeline Lane

Sample_ID: 13737	Community:	Block:	Lot:
Little Egg Harbor	**1516**	**264**	**14.03**

Sample Date: **03/16/1990 0:00:00**

Lab: **ETL**

Incident: **Unspecified**

Sample Type: **Raw water**

Good or Bad: **B**

Parameter	Resul	Qualifier	Comment
Chlordane	0.4	<	
Methylene Chloride	0.27		
Arsenic	0.01	<	
Bacteria (Total Coliform)	0		
Benzene		ND	
Cadmium	0.01	<	
Carbon Tetrachloride		ND	
1,1,1 Trichloroethane	0.22	<	
Chlorobenzene		ND	
Dichlorobenzene(s)		ND	
Chromium	0.05	<	
Mercury	0.002		
1,1 Dichloroethylene		ND	
Nitrates	1	<	
Sodium	5	<	
Tetrachloroethylene		ND	
Trichloroethylene	0.27	<	
Tr1,2 Dichloroethylene		ND	
Vinyl Chloride		ND	
Xylene		ND	
1,2 Dichloroethane		ND	
Lead	0.025	<	

Block 264 Lot 14.03 Madeline Lane

Sample_ID: 13741	Community:	Block:	Lot:
Little Egg Harbor	**1516**	**264**	**14.03**

Sample Date: **07/24/1989 0:00:00**

Lab: **ETL**

Incident: **Unspecified**

Sample Type: **Raw water**

Good or Bad: **B**

Parameter	Resul	Qualifier	Comment
Iron	0.1	<	
1,1,1 Trichloroethane	2.28		
Bacteria (Total Coliform)	3		
Benzene		ND	
Cadmium	0.01	<	
Carbon Tetrachloride		ND	
Chlordane	0.4	<	
Chlorobenzene		ND	
Dichlorobenzene(s)		ND	
Sodium	5.1		
1,2 Dichloroethane		ND	
Xylene		ND	
Vinyl Chloride	0.15	<	
Tr1,2 Dichloroethylene		ND	
Trichloroethylene		ND	
Chromium	0.05	<	
Turbidity	0.4	<	
1,1 Dichloroethylene	0.36		
pH	5.1		
Nitrates	1	<	
Methylene Chloride	0.28		
Mercury	0.001	<	
Manganese	0.05	<	
Lead	0.025	<	
Tetrachloroethylene		ND	

(609) 693-3100 Block 264 Lot 14.03 Fax: 609-693-4682

Cert#0005634

Environmental Testing Laboratories, Inc.

701 ROUTE 9, FORKED RIVER, NEW JERSEY • P. O. BOX #137, LANOKA HARBOR, NEW JERSEY 08734
STATE CERTIFIED TESTING LABORATORY #15126

ETL Report Number: 22981

Purpose of Test: New Construction/Resale

TEST ORDERED BY

Office/Name: Frank Solon Builder
Agent: Mr. Solon
Mail Address: 801 Cedar Street
: Tuckerton, NJ
Phone Number: 296-3734
Customer # : 3519

ADDRESS OF SAMPLE

Street: Madeline Lane
Municipality: Little Egg Harbor
Lot: 14.03 Block: 264
Resident: --
Property Owner: Frank Solon/John Graham
Mail Address: 801 Cedar Street
Tuckerton, NJ 08087

PLING INFORMATION

Collected by: ETL Inc. - RH, LK
Date of Collection: 7-24-89, 8-2, 8-7
Time of Collection: 12:35, 1:05, 2:15
Point of Collection: Kitchen sink
Date/Time Submitted: 7-24-89, 4:10; 8-2, 4:00; 8-7, 3:30

WATER FILTER INFORMATION

Make: Autotrol
Purpose: pH, Iron

Primary parameter samples were drawn with filtration system on bypass.

Water filtration system information relating to the make, model and purpose of the system has been obtained from the homeowner or agent handling the closing. Environmental Testing Laboratories, Inc. is passing on this information at the request of the Ocean County Health Department. The inspection of such equipment is not in the scope of the service provided by Environmental Testing Laboratories,Inc. All procedures used in this analysis are EPA approved. If you should have any questions, please do not hesitate to contact us.

Marlena Yourstone

lena Yourstone
sident

MY/ce

ENV. HEAL... OCEAN COUNTY
AUG 3 1 02 PM '89
RECEIVED

5

Block 264 Lot 14.03 Madeline Lane

Environmental Testing Laboratories, Inc.

STATE CERTIFIED TESTING LABORATORY #15126

Report # 22981- Page # 2

PARAMETER (mg/l unless noted)	O.C.H.D. Water Quality Standards	M.D.L.	Raw Water 7-24-89 Results	Filtered Water 7-24-89 Results
Turbidity	1 TU		<0.4	
Bacteria (Total Coliform)	0 Col/100ml		0	3
Nitrate	10		<1.0	
Iron	0.3		<0.10	<0.10
Manganese	0.05		<0.05	<0.05
pH	6.5-8.5		5.3	5.1
Cadmium	0.01		<0.01	
Chromium	0.05		<0.05	
Lead	0.05		<0.025	
Mercury	0.002		<0.001	
Benzene	1 ug/l	0.41	ND	
Carbon Tetrachloride	2 ug/l	0.14	ND	
Chlorobenzene	4 ug/l	0.36	ND	
Dichlorobenzenes	6 ug/l	0.50	ND	
1,2-Dichloroethane	2 ug/l	0.35	ND	
1,1-Dichloroethylene	2 ug/l	0.35	0.36	
1,2-Dichloroethylene	10 ug/l	0.35	ND	
Methylene Chloride	2 ug/l	0.27	0.28	
Tetrachloroethylene	1 ug/l	0.43	ND	
1,1,1-Trichloroethane	26 ug/l	0.35	2.28	
Trichloroethylene	1 ug/l	0.35	ND	
Vinyl chloride	2 ug/l	0.15	<0.15	
Xylenes	44 ug/l	0.66	ND	
Sodium	50 mg/l		5.1	
Chlordane	0.5 ug/l	0.40	<0.40	

ND = Not Detected

< = Less Than

Block 264
Lot 14.03

Environmental Testing Laboratories, Inc.

STATE CERTIFIED TESTING LABORATORY #15126

Report # 22981 Page # 3

PARAMETER (mg/l unless noted)	O.C.H.D. Water Quality Standards	Filter Adjustment Only 8-2-89 Results	8-7-89 Results
Bacteria (Total Coliform)	0 Col/100ml	0	0
pH	6.5-8.5	8.1	

ND = Not Detected

< = Less Than

Block 264 Lot 14.03

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

S-88-0517

WELL RECORD

Well Permit No. 32 [illegible]
Atlas Sheet Coordinates 32 35 776

OWNER IDENTIFICATION - Owner LOUIS FRANCIS
Address 104 WILLIAM COOK BLVD.
City HAMILTON Township State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address [illegible]
County [illegible] Municipality LITTLE EGG HARB Lot No. 14.03 Block No. 264

WELL USE [illegible] Status [illegible]

WATER USE [illegible] Average [illegible] gals. daily Maximum [illegible] gals. daily

WELL CONSTRUCTION Date well completed 6 / 12 / 89
BOREHOLE DIMENSIONS Depths: Total 63 ft. Finished 62 ft.
Diameter: Top 8-75 in. Bottom 8-75 in.

Land Surface Elevation at well N/A ft. Elevation was determined using N/A
Casing Height (stick-up) above land surface 0 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1	-3	54	4	PVC SCH 40
Casing 2				
Casing 3				
Screen 1	57	5	4	.015 Johnson PVC Wrapped
Screen 2				
Tail Piece		0		
Gravel Pack	55	7		#2 Jessie Morie
Grout	3	52		Bentonite
Grouting Method	Tremie Piped			

WELL FLOWS NATURALLY N/A gals. per min. at N/A ft. above the land surface.
Water rises to N/A ft. above the land surface.

RECORD OF TEST Test Date 6 / 12 / 89
Static water-level before pumping 7 ft. below land surface. Water level [illegible] ft. below land surface after [illegible] hrs. of pumping.
Water level was measured using [illegible] Drawdown [illegible] ft.
Discharge rate measured using [illegible] Discharge Rate 75 gals. per min.
Well was pumped using [illegible] Specific Capacity N/A gals. per min. per ft. of drawdown
Observed effects on nearby wells [illegible]
Water Quality (taste, odor, color, etc.) [illegible]

PERMANENT PUMPING EQUIPMENT Installed by Glenn Robbins Pump Type JET
Mfrs. Name BURKS Model SHNAS
CAPACITY: Pump delivers 10 GPM at 40 PSI pressure.
POWER: 1/2 HP at [illegible] RPM Power Source 115V
DEPTHS: Pump N/A ft. Footpiece 32 ft. Airline [illegible] ft.
FLOW METER: Model [illegible] installed on [illegible] in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor GLENN ROBBINS
Address [illegible]
City [illegible] State [illegible] Zip Code [illegible]
Name of Driller [illegible] License No. [illegible]

Signature of Contractor [signature] Date 8 / 7 / 90

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

Block 264 Lot 14.03

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 15041

32.35.776

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method ROTARY

Type of Rig MUD

Aquifer/Geo. Fm. COHANSEY

DEP USE ONLY

Storet Hydrogeo Code _____

USGS Hydrogeo Code _____

Depth to Bedrock _____ ft.

Bedrock Lith. Code _____

Bedrock Fm. Code _____

Completed by _____

Date ___ / ___ / ___

LOG	Thick.	Lith.	Fm.
0-1 TOP SOIL			
1-7 ORANGE YELLOW CLAY & SAND			
7-16 " " CLAY NO SAND			
16-22 TAN SAND & CLAY MIXED			
22-25 YELLOW MED SAND			
25-26 TAN CLAY			
26-27 " SAND MED COARSE			
27-30 TAN CLAY			
30-53 BROWN-TAN SAND .015			
53-63 WHITE SAND .015			

GWPI No. ___ - _____

NJPDES No. _____ - ___

Latitude ___ ° ___ ' ___ "

Longitude ___ ° ___ ' ___ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____

County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____

Date ___ / ___ / ___

RECEIVED

(9)

Block 264
Lot 14.03

Aviva Engineering Associates
24 PINETREE DRIVE
TUCKERTON NJ 08087
609-296-0900

A-88-1835
July 6. 1989

Ocean County Division of Health
Sunset Avenue
Toms River. N.J. 08753

Att: Bruce Forman

Re: Block 264 Lot 14.03
Madeline Lane
Little Egg Harbor Township

Dear Mr. Forman:

Today we examined the fill at the site of the proposed disposal bed on the above-mentioned lot. All clay was removed (approximate depth of excavation = 11'-6") from the area of the disposal bed prior to construction. The fill consisted of medium to fine sand with a trace of silt. The average percolation rate is estimated to be 1 inch in 10 minutes.

If you have any questions. or if you require any further information. please do not hesitate to call me.

Very truly yours.
Aviva Engineering Associates. P.A.

Ira J. Milovsky, P.E. & L.S.
N.J. License No. 27053

IJM:jw
cc: Francis X. Solon

Block 264
Lot 14.04

Sample_ID: 13751	Community:	Block:	Lot:
Little Egg Harbor	**1516**	**264**	**14.04**

Sample Date: **11/19/1990 0:00:00**

Lab: **ETL**

Incident: **Unspecified**

Sample Type: **Raw water**

Good or Bad: **G**

Parameter	Resul	Qualifier	Comment
Lead	0.01	<	
Bacteria (Total Coliform)	0		
Benzene		ND	
Carbon Tetrachloride		ND	
Trichloroethylene		ND	
Dichlorobenzene(s)		ND	
1,1 Dichloroethylene	0.93		
1,2 Dichloroethane		ND	
Xylene		ND	
Tr1,2 Dichloroethylene		ND	
1,1,1 Trichloroethane	4.04		
Tetrachloroethylene		ND	
Sodium	4	<	
Nitrates	1	<	
Methylene Chloride	0.27	<	
Mercury	0.001	<	
Chlorobenzene		ND	
Vinyl Chloride		ND	

Block 264
Lot 14.04

Sample_ID: 13744	Community:	Block:	Lot:
Little Egg Harbor	**1516**	**264**	**14.04**

Sample Date: **08/16/1989 0:00:00**

Lab: **ETL**

Incident: **Unspecified**

Sample Type: **Raw water**

Good or Bad: **B**

Parameter	Resul	Qualifier	Comment
1,1 Dichloroethylene	1.67		
Chlordane	0.4	<	
1,1,1 Trichloroethane	7.82		
1,2 Dichloroethane		ND	
Xylene		ND	
Vinyl Chloride		ND	
Tr1,2 Dichloroethylene		ND	
Trichloroethylene	0.35	<	
Tetrachloroethylene		ND	
Turbidity	0.4	<	
Sodium	5	<	
Bacteria (Total Coliform)	0		
Nitrates	1	<	
Carbon Tetrachloride		ND	
Cadmium	0.01	<	
Benzene		ND	
Chlorobenzene		ND	
Chromium	0.05	<	
Dichlorobenzene(s)		ND	
Lead	0.087		
Mercury	0.002		
Methylene Chloride	0.27	<	

Lot 14.04

S-88-0071
Cert# No 000572

Environmental Testing Laboratories, Inc.®

512 RT. 9, MIDDLE BRANCH OFFICE COMPLEX, FORKED RIVER, NEW JERSEY 08734 • PHONE 609 693-3100 • FAX: 609-693-4682
A STATE CERTIFIED TESTING LABORATORY

ETL Report Number: 23342
Purpose of Test: New Construction

TEST ORDERED BY		ADDRESS OF SAMPLE	
Office/Name:	Frank Solon Builder	Street:	Madelene Lane
Agent:	Frank Solon	Municipality:	Little Egg Harbor
Mail Address:	184 William Cook Boulevard	Lot: 14.04	Block: 264
:	Manahawkin, NJ 08050	Resident:	--
Phone Number:	597-4172	Property Owner:	Frank Solon Builder
Customer # :	3519	Mail Address:	184 William Cook Boulevard
			Manahawkin, NJ 08050

SAMPLING INFORMATION		WATER FILTER INFORMATION	
Collected by:	ETL Inc. - RH/LK		
Date of Collection:	8-16-89, 8-21, 8-28, 9-1	Make:	Mann
Time of Collection:	11:45, 2:20, 2:25, 10:20	Purpose:	pH
Point of Collection:	Kitchen Sink/Front Faucet		
Date/Time Submitted:	8-16,1:30; 8-21,3:05; 8-28,3:15; 9-1,2:15		

Primary parameter samples were drawn from an unfiltered water tap.

Water filtration system information relating to the make, model and purpose of the system has been obtained from the homeowner or agent handling the closing. Environmental Testing Laboratories, Inc. is passing on this information at the request of the Ocean County Health Department. The inspection of such equipment is not in the scope of the service provided by Environmental Testing Laboratories,Inc. All procedures used in this analysis are EPA approved. If you should have any questions, please do not hesitate to contact us.

Marlena Yourstone

Marlena Yourstone
President

MY/ce

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Lot 14.04

Cert# No 0005792

Environmental Testing Laboratories, Inc.

STATE CERTIFIED TESTING LABORATORY #15126

Report # 23342 Page # 2

PARAMETER (mg/l unless noted)	O.C.H.D. Water Quality Standards	M.D.L.	Raw 8-16-89 Results	Filtered 8-16-89 Results	Filter Adj. Only 8-21-89 Results
Turbidity	1 TU		<0.4		
Bacteria (Total Coliform)	0 Col/100ml		0	0	
Nitrate	10		<1.0		
Iron	0.3		<0.10	<0.10	
Manganese	0.05		<0.05	<0.05	
pH	6.5-8.5		5.1	6.2	6.3
Cadmium	0.01		<0.01		
Chromium	0.05		<0.05		
Lead	0.05		0.087		<0.025
Mercury	0.002		0.002		
Benzene	1 ug/l	0.41	ND		
Carbon Tetrachloride	2 ug/l	0.14	ND		
Chlorobenzene	4 ug/l	0.36	ND		
Dichlorobenzenes	6 ug/l	0.50	ND		
1,2-Dichloroethane	2 ug/l	0.35	ND		
1,1-Dichloroethylene	2 ug/l	0.35	1.67		
1,2-Dichloroethylene	10 ug/l	0.35	ND		
Methylene Chloride	2 ug/l	0.27	<0.27		
Tetrachloroethylene	1 ug/l	0.43	ND		
1,1,1-Trichloroethane	26 ug/l	0.35	7.82		
Trichloroethylene	1 ug/l	0.35	<0.35		
Vinyl chloride	2 ug/l	0.15	ND		
Xylenes	44 ug/l	0.66	ND		
Sodium	50 mg/l		<5.0		
Chlordane	0.5 ug/l	0.40	<0.40		

ND = Not Detected

< = Less Than

Lot 14.04

Environmental Testing Laboratories, Inc.

STATE CERTIFIED TESTING LABORATORY #15126

Report # 23342 Page # 3

PARAMETER (mg/l unless noted)	O.C.H.D. Water Quality Standards	Filter Adjustment Only 8-28-89 Results	9-1-89 Results
pH	6.5-8.5	6.3	6.6
Lead	0.05	<0.025	

ND = Not Detected

< = Less Than

Rancocas Environmental Laboratories, Inc.
502 Burlington Avenue • Delanco, New Jersey 08075 • (609) 461-8830

CLIENT:

Environmental Testing Laboratories, Inc.
P.O. Box 137
Lanoka Harbor, N.J. 08731

Attention: Mr. Walter Holm

Analysis Report No.

Sample Identification: Drinking Water
Log Number: As Below
Collected By: Client
Received 8-18-89
Completed 8-19-89

Results mg/l unless otherwise specified

Log Number	Sample ID Number	Arsenic
89-6827	23143	<0.001
89-6828	23241	<0.001
89-6829	23242	<0.001
89-6830	23243	<0.001
89-6831	23253	<0.001
89-6832	23254	<0.001
89-6833	23272	<0.001
89-6834	23273	<0.001
89-6835	23274	<0.001
89-6836	23275	<0.001
89-6837	23276	<0.001
89-6838	23311	<0.001
89-6839	23313	<0.001
89-6840	23314	<0.001
89-6841	23318	<0.001
89-6842	23319	<0.001
89-6843	23320	0.003
89-6844	23322	<0.001
89-6845	23351	<0.001
89-6846	23357	<0.001
89-6847	23341	<0.001
89-6848	23342	<0.001
89-6849	23343	<0.001
89-6850	23344	<0.001
89-6851	23345	<0.001
89-6852	23349	<0.001

Analysis performed in accordance with Standard Methods, 15th Edition.

Respectfully submitted,

Wanda J. Jacobusek

Laboratory Manager/Supervisor

NJDEP NO. 03151

(16)

14.04 5-88-0071

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 14334
Atlas Sheet Coordinates ___ : ___ : ___

OWNER IDENTIFICATION - Owner SOMON, FRANCIS
Address 154 WILLIAM COOK BLVD
City NAMAHAWKIN State NJ Zip Code 08050

WELL LOCATION - If not the same owner please give address. Owner's Well No. ___
Address Madeline Lane (off Stage Rd.)
County Ocean Municipality LITTLE EGG HARB Lot No. 14.04 Block No. 354

WELL USE Withdrawl Status In Use

WATER USE New Domestic Average 400 gals. daily Maximum 800 gals. daily

WELL CONSTRUCTION Date well completed 10 / 5 / 88
BOREHOLE DIMENSIONS Depths: Total 70 ft. Finished 70 ft.
Diameter: Top 8 3/4 in. Bottom 8 3/4 in.
Land Surface Elevation at well N/A ft. Elevation was determined using N/A
Casing Height (stick-up) above land surface ___ ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1	-3	62	4	PVC Sch 40
Casing 2				
Casing 3				
Screen 1	65	5	4	PVC .015 Johnson Wrapper
Screen 2				
Tail Piece				
Gravel Pack	63	7		#2 Jessie Morris
Grout	61	2		Hole Plug
Grouting Method	Cuttings to 10' from well seal, cement to well seal			

WELL FLOWS NATURALLY N/A gals. per min. at N/A ft. above the land surface.
Water rises to N/A ft. above the land surface.

RECORD OF TEST Test Date 10 / 5 / 88
Static water-level before pumping 14 ft. below land surface. Water level 20 ft. below land surface after 1 hrs. of pumping.
Water level was measured using M-Scope Drawdown 6 ft.
Discharge rate measured using Pre-measured Container Discharge Rate 50 gals. per min.
Well was pumped using Centrifugal Specific Capacity 8.3 gals. per min. per ft. of drawdown
Observed effects on nearby wells N/A
Water Quality (taste, odor, color, etc.) OK None Clear

PERMANENT PUMPING EQUIPMENT Installed by Glenn Robbins Pump Type Jet
Mfrs. Name Burks Model 5HNAS
CAPACITY: Pump delivers 10 GPM at 40 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source 110V
DEPTHS: Pump N/A ft. Footpiece 32 ft. Airline N/A ft.
FLOW METER: Model N/A installed on N/A in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor Water Well Service, Inc.
Address 159 Atsion Rd.
City Indian Mills State N.J. Zip Code 08088
Name of Driller Glenn Robbins License No. 1183

Signature of Contractor [signature] Date 8 / 23 / 89

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

(17)

Form DWR-138
11/85

14.04

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 71334

32-35-775

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method: ROTARY

Type of Rig: MUD

Aquifer/Geo. Fm.: COHANSEY

DEP USE ONLY

Storet Hydrogeo Code: _____

USGS Hydrogeo Code: _____

Depth to Bedrock: _____ ft.

Bedrock Lith. Code: _____

Bedrock Fm. Code: _____

Completed by: _____

Date ____ / ____ / ____

LOG

	Thick.	Lith.	Fm.
0-1 TOP SOIL			
1-7 YELLOW CLAY TRACES FINE SAND			
7-9 " MED SAND			
9-16 YELLOW CLAY			
16-23 " MED-FINE SAND			
23-25 " CLAY			
25-43 " FINE SAND .012			
43-70 MED BROWN SAND .015			

GWPI No. ____ - ____

NJPDES No. ____ - ____

Latitude ____ ° ____ ' ____ "

Longitude ____ ° ____ ' ____ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle: _____

Drainage Basin Code: _____

County/Municipality Code: _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☒ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by: _____

Date ____ / ____ / ____

Lot 48

Sample_ID: 13715

Community:	Block:	Lot:
Little Egg Harbor	1516	264	48

215 Pine Oak Dr.

Sample Date: 06/17/1991 0:00:00

Lab: ETL

Incident: Unspecified

Sample Type: Raw water

Good or Bad: B

Parameter	Resul	Qualifier	Comment
Methylene Chloride	0.39	<	
Benzene		ND	
Nitrates	1	<	
Manganese	0.05	<	
Lead	0.01	<	
Mercury	0.001	<	
Iron	0.91		
Dichlorobenzene(s)		ND	
Carbon Tetrachloride	1.22		
pH	4.9		
1,1,1 Trichloroethane		ND	
Bacteria (Total Coliform)	0		
Chlorobenzene		ND	
Sodium	5	<	
Turbidity	0.4	<	
Tetrachloroethylene		ND	
Trichloroethylene	0.62	<	
Tr1,2 Dichloroethylene		ND	
Vinyl Chloride		ND	
Xylene		ND	
1,2 Dichloroethane		ND	
1,1 Dichloroethylene	0.62		

Lot 48

Sample_ID: 13717

Community:	Block:	Lot:
Little Egg Harbor	**1516**	**264**	**48**

Sample Date: **06/29/1992 0:00:00**

Lab: **ETL**

Incident: **Unspecified**

Sample Type: **Raw water**

Good or Bad: **G**

Parameter	Resul	Qualifier	Comment
1,2 Dichloroethane		ND	
1,1 Dichloroethylene		ND	
Vinyl Chloride		ND	
Bacteria (Total Coliform)	0		
1,1,1 Trichloroethane		ND	
Xylene		ND	
Tr1,2 Dichloroethylene		ND	
Trichloroethylene		ND	
Tetrachloroethylene		ND	
Sodium	5.2		
Carbon Tetrachloride		ND	
Methylene Chloride		ND	
Mercury	0.001	<	
Lead	0.018		
Dichlorobenzene(s)		ND	
Chlorobenzene		ND	
Benzene		ND	
Chlordane	0.4	<	
Nitrates	1	<	

Form DWR-138 11/85 Lot 48

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 17360
Atlas Sheet Coordinates 32 : 34 : 994

OWNER IDENTIFICATION - Owner KEN MAXWELL BUILDERS
Address P O BOX 282
City WEST CREEK State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County PINE OAK LA OCEAN Municipality LITTLE EGG HARB Lot No. 48 Block No. 264

WELL USE WITHDRAWAL Status IN USE

WATER USE DOMESTIC Average 100 gals. daily Maximum 200 gals. daily

WELL CONSTRUCTION
BOREHOLE DIMENSIONS
Date well completed 12 / 2 / 90
Depths: Total 75' ft. Finished 75'' ft.
Diameter: Top 8" in. Bottom 8" in.
Land Surface Elevation at well 10' ft. Elevation was determined using SITE PLAN
Casing Height (stick-up) above land surface 1.0' ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1		65'	4"	P.V.C.
Casing 2				
Casing 3				
Screen 1				
Screen 2	65'	10'	4"	P.V.C. .015
Tail Piece				
Gravel Pack				
Grout	65	10'	1/4"	STERILIZED GRITT
Grouting Method	5	60'		PURE SODIUM BENTONITE

PRESSURE PUMP / TREME PIPE

WELL FLOWS NATURALLY — gals. per min. at — ft. above the land surface.
Water rises to — ft. above the land surface.

RECORD OF TEST Test Date 12 / 3 / 90
Static water-level before pumping 14 ft. below land surface. Water level 15 ft. below land surface after 1 hrs. of pumping.
Water level was measured using TAPE Drawdown 1 ft.
Discharge rate measured using FLOWULATOR Discharge Rate 25 gals. per min.
Well was pumped using AIR Specific Capacity gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) GOOD

PERMANENT PUMPING EQUIPMENT Installed by Pascale L. Pump Type SUBMERSIBLE
Mfrs. Name red jacket Model
CAPACITY: Pump delivers 20 GPM at 30 PSI pressure.
POWER: 1/2 HP at 3450 RPM Power Source ELECTRIC
DEPTHS: Pump 50 ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on 1" in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor BARNEGAT WELL DRILLING
Address
City 515 ROUTE 09 State NJ Zip Code
Name of Driller BARNEGAT PASCALE License No. 08005 1093

DEC 31 1 PM '90

Signature of Contractor [signature] Date 12 / 28 / 90

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

21

Form DWR-138
11/85

Lot 48

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

Well Permit No. 32 - 17360
32 34 994

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☑ No

Drilling Method: Rotary

Type of Rig: Cyclone

Aquifer/Geo. Fm.: Cohansey

DEP USE ONLY

Storet Hydrogeo Code
USGS Hydrogeo Code
Depth to Bedrock ft.
Bedrock Lith. Code
Bedrock Fm. Code

Completed by
Date / /

LOG	Thick.	Lith.	Fm.
0'-6' Medium Sand			
6'-20' Clay			
20'-35' Silty Clay			
35'-45' Silty Sand			
45'-60' Fine Sand			
60'-75' Medium Sand			

GWPI No. -

NJPDES No. -

Latitude ° ' "

Longitude ° ' "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle

Drainage Basin Code

County/Municipality Code

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data ☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by

Date / /

Lot 48

Environmental Testing Laboratories, Inc.®

512 RT. 9, MIDDLE BRANCH OFFICE COMPLEX, FORKED RIVER, NEW JERSEY 08734 • PHONE 609 693-3100 • FAX: 609-693-4682
A STATE CERTIFIED TESTING LABORATORY

ETL Report Number: 29371

Purpose of Test: New Construction

TEST ORDERED BY

Office/Name: Kenneth B. Maxwell, Inc.
Agent: Ken
Mail Address: 11 White Oak Lane
: Parkertown, NJ 08087
Phone Number: 296-7273
Customer # : 2782

ADDRESS OF SAMPLE

Street: 215 Pine Oak Drive
Municipality: Little Egg Harbor
Lot: 48 Block: 264
Resident: Vacant
Property Owner: Kenneth B. Maxwell Inc.
Mail Address: 11 White Oak Lane
Parkertown, NJ

SAMPLING INFORMATION

Collected by: ETL Inc. - LK
Date of Collection: 6-17-91
Time of Collection: 11:50
Point of Collection: Kitchen Sink
Date/Time Submitted: 6-17,4:08

WATER FILTER INFORMATION

Make: Clearwater
Purpose: pH, Iron

Primary parameter samples were drawn with filtration system on bypass.

Water filtration system information relating to the make, model and purpose of the system has been obtained from the homeowner or agent handling the closing. Environmental Testing Laboratories, Inc. is passing on this information at the request of the Ocean County Health Department. The inspection of such equipment is not in the scope of the service provided by Environmental Testing Laboratories,Inc. All procedures used in this analysis are EPA approved. If you should have any questions, please do not hesitate to contact us.

Marlena Yourstone (P.F.)
Marlena Yourstone
President

MY/ce

Lot 48

Environmental Testing Laboratories, Inc.

Report # 29371 Page # 2

PARAMETER (mg/l unless noted)	O.C.H.D. Water Quality Standards	M.D.L.	Raw Results	Filtered Results
Turbidity	5 TU		<0.4	
Bacteria (Total Coliform)	0 Col/100ml		0	0
Nitrate	10		<1.0	
Iron	0.3		0.91	<0.10
Manganese	0.05		<0.05	<0.05
pH	6.5-8.5		4.9	6.8
Lead	0.05		<0.010	
Mercury	0.002		<0.001	
Benzene	1 ug/l	0.25	ND	
Carbon Tetrachloride	2 ug/l	0.70	1.22	
Chlorobenzene	4 ug/l	0.29	ND	
Dichlorobenzenes	6 ug/l	0.39	ND	
1,2-Dichloroethane	2 ug/l	0.51	ND	
1,1-Dichloroethylene	2 ug/l	0.62	0.62	
1,2-Dichloroethylene	10 ug/l	0.39	ND	
Methylene Chloride	2 ug/l	0.39	<0.39	
Tetrachloroethylene	1 ug/l	0.41	ND	
1,1,1-Trichloroethane	26 ug/l	0.35	ND	
Trichloroethylene	1 ug/l	0.62	<0.62	
Vinyl chloride	2 ug/l	0.51	ND	
Xylenes	44 ug/l	0.64	ND	
Sodium	50 mg/l		<5.0	

ND = Not Detected

< = Less Than

Lot 43

Sample_ID: 13713

Community:	Block:	Lot:
Little Egg Harbor	1516	264	43

232 Pine Oak Dr.

Sample Date: 08/23/1991 0:00:00

Lab: Other

Incident: Unspecified

Sample Type: Raw water

Good or Bad: B

Parameter	Resul	Qualifier	Comment
Dichlorobenzene(s)	0.09	<	
Methylene Chloride	0.11	<	
Mercury	0.0001	<	
Benzene	0.08	<	
Carbon Tetrachloride	0.17	<	
Chlorobenzene	0.07	<	
Nitrates	0.6		
Coliform Multi	0		
Trichloroethylene	0.1	<	
Manganese	0.01	<	
Iron	0.02	<	
Lead	0.003	<	
Coliform Membrane	0		
pH	4.85		
Sodium	20.8		
Tetrachloroethylene	0.08	<	
Tr1,2 Dichloroethylene	0.33	<	
Vinyl Chloride	0.22	<	
Xylene	0.37		
1,2 Dichloroethane	0.44	<	
1,1 Dichloroethylene	1.69		
1,1,1 Trichloroethane	9.74		
Turbidity	0.21		

Lot 43

A.A. LABS, INC.

Analytical Associates Laboratory

NJDEP CERTIFICATION # 12660

WELL WATER TEST REPORT

1375 OFFICE CENTER
PRINCETON MEADOWS
P.O. BOX 749
PLAINSBORO, N.J. 08536
609-799-8787

LAB LOG NO: 010105

PROPERTY LOCATION: 232 Pine Oak Drive, Little Egg Harbor
MUNICIPALITY: Little Egg Harbor Twp. LOT #: 43 BLOCK #: 264

PROPERTY OWNER: Val Bernhardt ADDRESS: above
REQUESTER: owner REASON: new well

DATE SAMPLED: 8/23/91, 9:45am SAMPLER & ID #: D. Tobia; D-1905 DATE ANALYZED: 8/23/91
SYSTEM: [ ] No; [X] Yes; TYPE: feeder pump Purpose: raise pH
COLLECTION POINT: [X] Before system; [ ] After system; [ ] Kitchen; [ ] Bath; [X] Pump;
[ ] pH, Fe, Mn, col., turb. after; all others before; [ ] Outside tap.

PARAMETER	TEST RESULTS	RANGE OR UPPER LIMIT*	PARAMETER	TEST RESULTS	RANGE OR UPPER LIMIT
rbidity	0.21 N.T.U.	5 N.T.U.	1,2-Dichloroethylene	<0.33 ug/L	10 ug/L
tal Coliform **	0 /100 mL	0 /100ml	Methylene chloride	<0.11 ug/L	2 ug/L
trates	0.60 mg/L	10 mg/L	Tetrachloroethylene	<0.08 ug/L	1 ug/L
on	<0.020 mg/L	0.3 mg/L	1,1,1-Trichloroethane	9.74 ug/L	26 ug/L
nganese	<0.010 mg/L	0.05 mg/L	Trichloroethylene	<0.10 ug/L	1 ug/L
l	4.85	6.5 - 8.5	Vinyl chloride	<0.22 ug/L	2 ug/L
ad	<0.003 mg/L	0.05 mg/L	Xylenes	0.37 mg/L	44 ug/L
rcury	<0.0001 mg/L	0.002 mg/L	Sodium	20.8 mg/L	50 mg/L
nzene	<0.08 ug/L	1 ug/L	Chlordane	- ug/L	0.5 ug/L
rbon Tetrachloride	<0.17 ug/L	2 ug/L	Dichlorobenzenes	<0.09 ug/L	6 ug/L
lorobenzene	<0.07 ug/L	4 ug/L			
2-Dichloroethane	<0.44 ug/L	2 ug/L			
1-Dichloroethylene	1.69 ug/L	2 ug/L			

As prescribed by the Ocean County Board of Health Ordinance 90-1. **All coliform testing is done by Perritt Labs [NJ DEP# 11147].

A.A. Labs, Inc. is fully certified by the state of New Jersey to perform the above analyses, and all testing is done by a qualified staff member in accordance with EPA methodology.

Thomas J. Mullen
Vice-President

DATE: 8/30/91

(7/90)

Mail to

Water Allocation
CN 029
Trenton, N.J. 08625

42237
Lot 43

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
TRENTON, N.J.

16

Permit No. 3217808

PERMIT TO DRILL WELL

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 32 35.746

Owner: Val Bernhadt 296-7266
Address: 44 White Oak Lane
Little Egg Harbor Twp.

Driller: Mike Turner
Address: 279 Main Street
Port Republic, N.J. 08241

Name of Facility: residence
Address: 232 Pine Oak Drive
Little Egg Harbor, NJ.

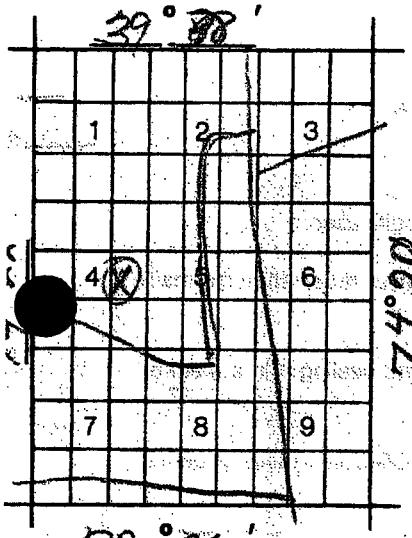
Diameter of Well	4" Inches	Proposed Depth of Well	100 Feet
Proposed Capacity of Pump	18 GPM	Method of Drilling (cable-tool, rotary, etc.)	Rotary
Use of Well (See Reverse)	Domestic	New	
Drinking Water Supply?	(yes) (see #6 on reverse)		no

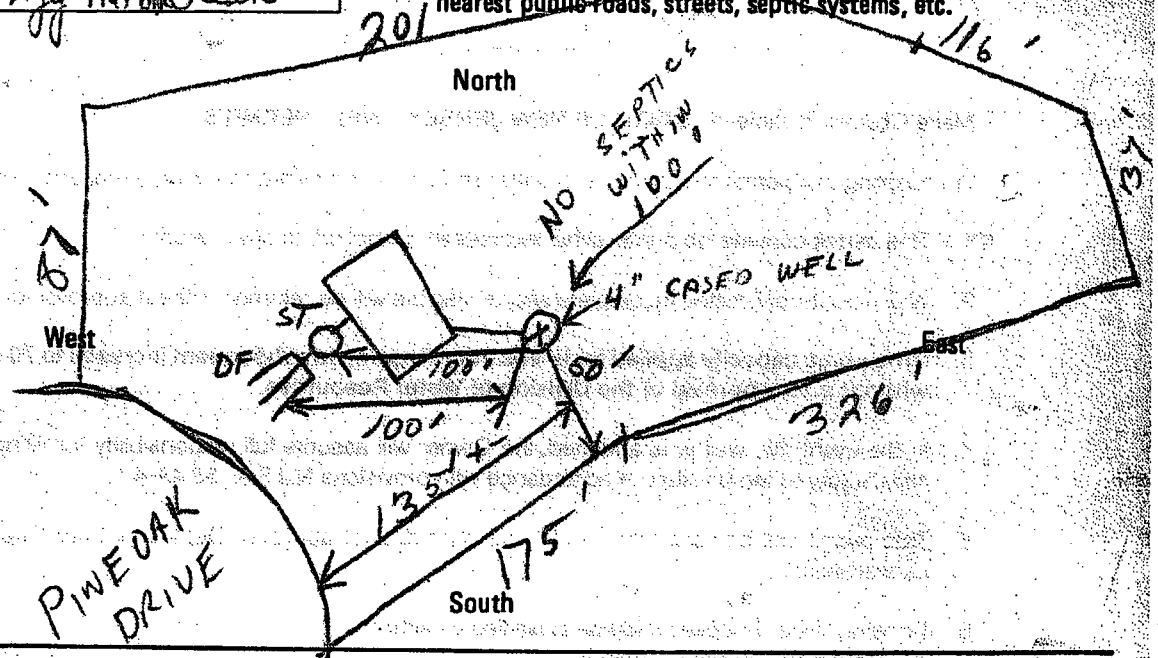
LOCATION OF WELL

Lot #	Block#	Municipality	County
43	264	Little Egg Harbor	Ocean

State Atlas Map No. 32

Draw sketch showing distance and relations of well site to nearest public roads, streets, septic systems, etc.





SEE REVERSE SIDE FOR IMPORTANT PROVISIONS AND REGULATIONS PERTAINING TO THIS PERMIT. APPROVAL OF THIS PERMIT IS MADE SUBJECT TO ACCEPTANCE OF AND COMPLIANCE WITH THE FOLLOWING ADDITIONAL CONDITIONS.

- [x] **DOMESTIC/PUBLIC NON-COMMUNITY** Water Supply Wells shall comply with N.J.A.C. 7:10-12.1 et. seq.
- [ ] **PUBLIC COMMUNITY** Water Supply Wells shall obtain construction and operation permits from the Bureau of Safe Drinking Water in accordance with N.J.A.C. 7:10-11.1et. seq.
- [ ] **DOMESTIC IRRIGATION SUPPLY** - No piping from the well for which the permit applies shall enter any building.
- [ ] **HEAT PUMP WELLS** - Wells must be a minimum of 50 feet apart and the water must be returned to the same aquifer as the production well. A two hour pump test must be performed on the return well at a rate of 1½ times the estimated return flow of water.
- [ ] **INDUSTRIAL SUPPLY** - A physical connection control permit shall be obtained pursuant to the provisions of N.J.A.C. 7:10-10.1 et. seq.
- [ ] **REPLACEMENT WELL** - Existing well must be sealed by a certified New Jersey licensed well driller upon abandonment.
- [ ] IRRIGATION PURPOSES ONLY [ ] TEST PURPOSES ONLY
- [ ] PINELANDS - Well must be drilled and cased to a minimum depth of 100' unless the provisions of N.J.A.C. 7:50-6.84(a)4.v. are met.
- [ ] GEOPHYSICAL LOGS of this well must be made. Permanent pumping equipment *SHALL NOT* be installed until such logs are made.
- [ ] SAMPLES of cuttings required every _____ feet or change in material.
- [ ] MINIMUM distance requirements as per N.J.A.C. 7:10-12.13 have not been met - see attached additional condition(s).
- [ ] _____

This Space for Approval Stamp

WELL PERMIT APPROVED
Dept. of Environmental Protection
Water Resources/Water Allocation
JUL 15 1991

In compliance with N.J.S.A. 58:4A-14, application is made for a permit to drill a well as described above.

Date: July 7, 1991

Signature of Driller: Michael Turner License No. 1250

Signature of Owner: Val Bernhadt MCT

COPIES: Water Allocation — White 27 Health Dept. — Yellow Owner — Blue Driller — White

DWR-133 (2/89) 21015

Mail to
Water Allocation
CN 029
Trenton, N.J. 08625

Lot 43

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
TRENTON, N.J.

Permit No. 32 16992

PERMIT TO DRILL WELL

VALID ONLY AFTER APPROVAL BY THE D.E.P. COORD #: 32-34 .996

Owner Val Bernhardt
Address 1652 Harvard Avenue
Brick, NJ 08723

Name of Facility
Address CHAP 349-3223

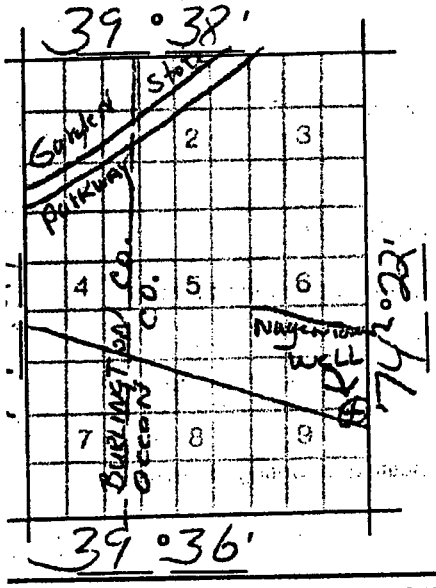
Driller Jonas Endreson
Address 40-3rd Bayway
Toms River, NJ 08753

Diameter of Well	4" Inches	Proposed Depth of Well	90 Feet
Proposed Capacity of Pump	12 GPM	Method of Drilling (cable-tool, rotary, etc.)	Rotary
Use of Well (See Reverse)	Domestic		
Drinking Water Supply?	a	yes (see #6 on reverse)	no

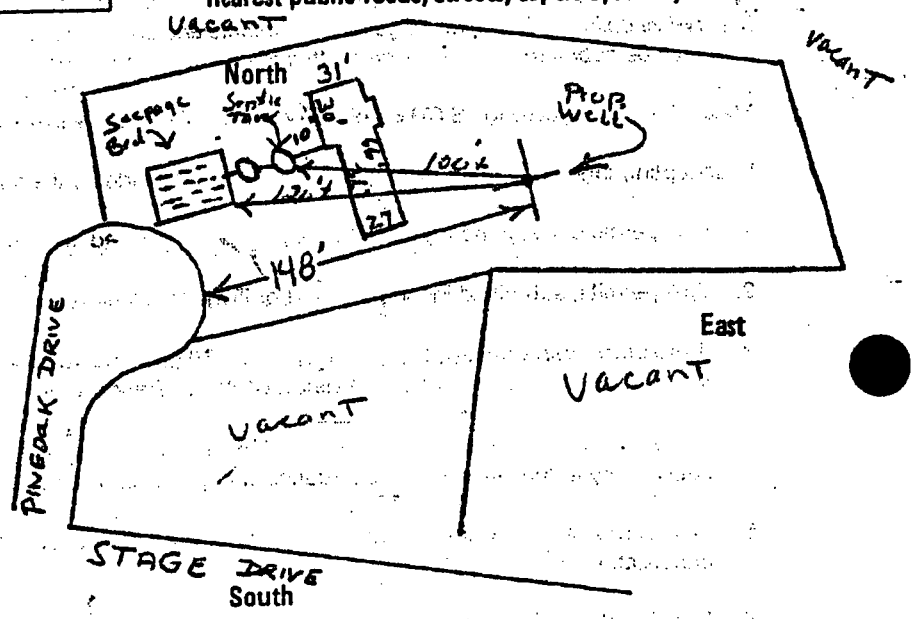
LOCATION OF WELL

Lot #	Block #	Municipality	County
43	264	Little Egg Harbor Township	Ocean

State Atlas Map No. 32



Draw sketch showing distance and relations of well site to nearest public roads, streets, septic systems, etc.



SEE REVERSE SIDE FOR IMPORTANT PROVISIONS AND REGULATIONS PERTAINING TO THIS PERMIT. APPROVAL OF THIS PERMIT IS MADE SUBJECT TO ACCEPTANCE OF AND COMPLIANCE WITH THE FOLLOWING ADDITIONAL CONDITIONS.

- [x] **DOMESTIC/PUBLIC NON-COMMUNITY** Water Supply Wells shall comply with N.J.A.C. 7:10-12.1 et. seq.
- [ ] **PUBLIC COMMUNITY** Water Supply Wells shall obtain construction and operation permits from the Bureau of Safe Drinking Water in accordance with N.J.A.C. 7:10-11.2 and be constructed in compliance with N.J.A.C. 7:10-11.3.
- [ ] **DOMESTIC IRRIGATION SUPPLY** - No piping from the well for which the permit applies shall enter any building.
- [ ] **HEAT PUMP WELLS** - Wells must be a minimum of 50 feet apart and the water must be returned to the same aquifer as the production well. A two hour pump test must be performed on the return well at a rate of 1½ times the estimated return flow of water.
- [ ] **INDUSTRIAL SUPPLY** - A physical connection control permit shall be obtained pursuant to the provisions of N.J.A.C. 7:10-10-1 et. seq.
- [ ] **REPLACEMENT WELL** - Existing well must be sealed by a certified New Jersey licensed well driller upon abandonment.
- [ ] MONITORING PURPOSES ONLY [ ] IRRIGATION PURPOSES ONLY [ ] TEST PURPOSES ONLY
- [ ] PINELANDS - Well must be drilled over 100' deep or a clay layer at least 4' in thickness must be encountered.
- [ ] GEOPHYSICAL LOGS of this well must be made. Permanent pumping equipment *SHALL NOT* be installed until such logs are made.
- [ ] SAMPLES of cuttings required every _____ feet or change in material.
- [ ] RESULTS of a volatile organic scan must be obtained prior to using the water and submitted to _____
- [ ] MINIMUM distance requirements as per N.J.A.C. 7:10-12.13 have not been met - see attached additional condition(s).
- [ ]

This Space for Approval Stamp

WELL PERMIT
Dept. of Environmental Protection
Water Resources/Water Allocation
JUN 19 1990

In compliance with N.J.S.A. 58:4A-14, application is made for a permit to drill a well as described above.

Date _____

Signature of Driller Jonas Endreson
Signature of Owner Val Bernhardt

Water Allocation — White 28 Health Dept. — Yellow Owner — Blue Driller — White

Lot 43

HORN, TYSON & YODER, INC.

CONSULTING ENGINEERS
SURVEYORS & PLANNERS

HN L. YODER III
ILLIAM Z. TYSON 1960-1987
EGMONT HORN

94 E. WATER STREET
OMS RIVER, NEW JERSEY 08753
(201) 349-5500

8510 LONG BEACH BOULEVARD
BEACH HAVEN CREST, LONG BEACH ISLAND
NEW JERSEY 08008
(609) 492-5050
(609) 693-0613
TELEFAX: (609) 492-4163

August 1, 1990

PLEASE REPLY TO:
TOMS RIVER

Ocean County Health Department
CN 2191 Sunset Ave.
Toms River, NJ 08754

RE: OCHD # S-90-0094
Bernhardt
Lot 43 Block 264
Little Egg Harbor Township

Gentlemen:

In regard to comments contained in your July 31, 1990 rejection please consider the following:

1. Based upon profile pits and permeability tests it was determined that hydraulically restrictive soils occured below elevation 14.8 at which level massive hard clay was encountered. We therefore designed a raised bed mounded system so that the bottom of the zone of disposal would be at elevation 15.5. Hydraulically restrictive soils were not encountered in the zone of treatment or zone of disposal.

2. Permeability tests taken within the zone of disposal at elevation 18.7 yielded rates of 7 and 27 inches per hour.

3. The depth of the zone of disposal is shown in the "general notes" on the plan sheet titled "Septic System Details".

4. On the same plan sheet is shown the exact spacing of holes on the detail titled "Seepage Bed Lateral Detail".

5. Further on the upper left hand corner of the same sheet is shown the soils information requested based upon the Ocean County Soils Maps.

Very truly yours,

John L. Yoder

JLY/dr
cc: CHAP Corporation

Lot 43

WELL WATER REPORT - RETEST

A.A. LABS, INC.
Analytical Associates Laboratory

1375 OFFICE CENTER
PRINCETON MEADOWS
P.O. BOX 749
PLAINSBORO, N.J. 08536
609-799-8787

LAB LOG NO: 010106

NJDEP CERTIFICATION # 12660

PROPERTY LOCATION: 232 Pine Oak Drive, Little Egg Harbor
MUNICIPALITY: Little Egg Harbor Twp. LOT #: 43 BLOCK #: 264

PROPERTY OWNER: Val Bernhardt ADDRESS: above
REQUESTER: owner REASON: new well / Retest

DATE SAMPLED: 8/23/91 SAMPLER & ID #: D. Tobia; D-1905 A DATE ANALYZED: 8/23/91

SYSTEM: [ ] No; [X] Yes: TYPE: feeder pump Purpose: raise pH

Collection Point: [ ] Before system; [X] After system; [ ] Kitchen; [ ] Bath; [ ] Pump; [ ] pH, Fe, Mn, col., turb. after; all others before; [X] Outside tap.

PARAMETERS	TEST RESULTS	RANGE AND/OR UPPER LIMIT*
pH	6.80	6.5 - 8.5
Coliform	0/100ml	0/100ml

* As prescribed by the Ocean County Board of Health Ordinance 90-1. All coliform testing is done by Perritt Labs, Inc. [NJ DEP# 11147].

A.A. Labs, Inc. is fully certified by the state of New Jersey to perform the above analyses and all testing is done by a qualified staff member in accordance with EPA Methodology.

DATE: 8/30/91

Thomas J. Mullen
Vice-President

30

Lot 43

PERRITT
LABORATORIES
Post Office Box 147
Hightstown, New Jersey 08520
(609) 443-4848
FAX (609) 443-5293

Report to: A.A. Labs, Inc.
1375 Office Center - Princeton Meadows
P.O. Box 749
Plainsboro, NJ 08536
Date: August 26, 1991
Sample of: Drinking Water
Property: 232 Pine Oak Drive, Little Egg Harbor, NJ - Ocean County
Sample Date: August 23, 1991 - A.A. Lab Log No. 010105
Analysis Date: August 23, 1991
Sampled by: Client
P.L. Lab Log No. 91-1393

OBJECTIVE

The above water sample was analyzed to determine:

Coliform Bacteria

METHOD

Coliform Bacteria are analyzed by the Membrane Filtration Method. The procedure is cited in Standard Methods for the Examination of Water.

	RESULT	STANDARD
Coliform Bacteria	0/100ml	0/100ml

Submitted by:
PERRITT LABORATORIES, INC.

Alexander M. Perritt, Ph.D.,
President

N.J. State Department of Environmental Protection
Current Certification #11147 for the analysis performed

Microbiology • Package Testing • Water Analyses • Consulting

Lot 14.01

Sample_ID: 55295

Community:	Block:	Lot:
Little Egg Harbor	1516	264	14.01

9 Madeline Rd.

Sample Date: **10/27/1997 0:00:00**

Lab: **Other**

Incident: **Unspecified**

Sample Type: **Raw water**

Good or Bad: **B**

Parameter	Resul	Qualifier	Comment
1,1,1 Trichloroethane	0.4		
Turbidity	0.12		
Tetrachloroethylene		ND	
Trichloroethylene		ND	
Tr1,2 Dichloroethylene		ND	
Vinyl Chloride		ND	
Xylene		ND	
Sodium	6.92		
1,1 Dichloroethylene	0.14		
Methylene Chloride	5.33		
1,2 Dichloroethane		ND	
Nitrates	0.39		
Mercury		ND	
Manganese		ND	
Lead	0.013		
Iron	0.112		
Dichlorobenzene(s)		ND	
Coliform Multi	0		
Coliform Membrane	0		
Chlorobenzene		ND	
Carbon Tetrachloride		ND	
Benzene		ND	
pH	4.5		

Lot 14.01

Sample_ID: 55297	Community:	Block:	Lot:
Little Egg Harbor	**1516**	**264**	**14.01**

Sample Date: **11/13/1997 0:00:00**

Lab: **Other**

Incident: **Unspecified**

Sample Type: **Raw water**

Good or Bad: **B**

Parameter	Resul	Qualifier	Comment
Tr1,2 Dichloroethylene		ND	
1,1,1 Trichloroethane	0.61		
1,1 Dichloroethylene	0.28		
1,2 Dichloroethane		ND	
Benzene		ND	
Vinyl Chloride		ND	
Carbon Tetrachloride		ND	
Trichloroethylene		ND	
Tetrachloroethylene		ND	
Dichlorobenzene(s)		ND	
Coliform Multi	0		
Coliform Membrane	0		
Chlorobenzene		ND	
Methylene Chloride		ND	
Xylene		ND	

Lot 14.01

Sample_ID: 55298	Community:	Block:	Lot:
Little Egg Harbor	**1516**	**264**	**14.01**

Sample Date: **11/14/1997 0:00:00**

Lab: **Other**

Incident: **Unspecified**

Sample Type: **Raw water**

Good or Bad: **B**

Parameter	Resul	Qualifier	Comment
Carbon Tetrachloride		ND	
1,1 Dichloroethylene	0.22		
1,1,1 Trichloroethane	0.62		
1,2 Dichloroethane		ND	
Trichloroethylene		ND	
Methylene Chloride		ND	
Dichlorobenzene(s)		ND	
Coliform Multi	0		
Chlorobenzene		ND	
Benzene		ND	
Tr1,2 Dichloroethylene		ND	
Tetrachloroethylene		ND	
Vinyl Chloride		ND	
Xylene		ND	
Coliform Membrane	0		

Lot 14.01

Specialists in Drinking Water Testing Technologies ■ Residential ■ Industrial ■ Municipal

PRECISION ANALYTICAL SERVICES, INC.

P.O. BOX 1867 TOMS RIVER, NJ 08753 PHONE (908) 914-1515 FAX (908) 914-1616

CERTIFICATE OF ANALYSIS

Schultz
239 Madeline Lane
Little Egg Harbor, NJ
Lot 14.01 Block 264

Collected By: Kelly A. Caldwell
Kelly Hogan
Purpose of test: New Well
Conditioner: Yes

Report date: January 14, 1998

Parameters	Results	Results	Results	Results	Results	MDL	MCL
	Raw Water	After Conditioner	Raw Water	Raw Water	After Conditioner		
PAS, Inc. Sample ID	D2798	D2798	D2933a	D2933b	E170		
Sample Date/Time	10/27/97, 10:00	10/27/97, 10:15	11/13/97, 09:45	11/13/97, 09:50	01/13/98, 09:50		
Water Drawn From:	Kitchen Faucet	Kitchen Faucet	Outside Spigot	Outside Spigot	Kitchen Faucet		
	(Bypass On)						
Microbiology:							
Total Coliform Bacteria	0/100 ml	0/100 ml				1/100 ml	0/100ml
Inorganics:							
pH	4.5	4.9			7.3	N/A	6.5 - 8.5
Nitrate as N	0.39 mg/L					0.33 mg/L	10.0 mg/L
Turbidity	0.12 NTU	0.12 NTU				0.05 NTU	5.0 NTU
Metals:							
Iron	0.112 mg/L	ND				0.050 mg/L	0.30 mg/L
Manganese	ND	ND				0.020 mg/L	0.05 mg/L
Sodium	6.92 mg/L	15.7 mg/L				0.10 mg/L	50.0 mg/L
Lead	0.013 mg/L					0.002 mg/L	0.05 mg/L
Mercury	ND					0.0003 mg/L	0.002 mg/L
Volatile Organics:							
Benzene	ND		ND	ND		0.28 ug/L	1.0 ug/L
Carbon Tetrachloride	ND		ND	ND		0.50 ug/L	2.0 ug/L
Chlorobenzene	ND		ND	ND		0.05 ug/L	50.0 ug/L
1,2-Dichlorobenzene	ND		ND	ND		0.09 ug/L	600 ug/L
1,3-Dichlorobenzene	ND		ND	ND		0.10 ug/L	600 ug/L
1,4-Dichlorobenzene	ND		ND	ND		0.07 ug/L	75 ug/L
1,2-Dichloroethane	ND		ND	ND		0.07 ug/L	2.0 ug/L
1,1-Dichloroethylene	0.14 ug/L (J)		0.28 ug/L	0.22 ug/L (J)		0.24 ug/L	2.0 ug/L
cis-1,2 Dichloroethylene	ND		ND	ND		0.11 ug/L	10 ug/L
trans-1,2 Dichloroethylene	ND		ND	ND		0.05 ug/L	10 ug/L
Methylene Chloride	5.33 ug/L		ND	ND		0.14 ug/L	3.0 ug/L
Tetrachloroethylene	ND		ND	ND		0.88 ug/L	1.0 ug/L
1,1,1-Trichloroethane	0.40 ug/L		0.61 ug/L	0.62 ug/L		0.26 ug/L	30 ug/L
Trichloroethylene	ND		ND	ND		0.07 ug/L	1.0 ug/L
1,2,3-Trichlorobenzene	ND		ND	ND		0.15 ug/L	9.0 ug/L
1,2,4-Trichlorobenzene	ND		ND	ND		0.05 ug/L	9.0 ug/L
Total Xylenes	ND		ND	ND		0.07 ug/L	1000 ug/L
MTBE	ND		ND	ND		0.10 ug/L	70 ug/L
Pesticides:							
Chlordane	N/A					0.20 ug/L	0.50 ug/L

ND = Non-Detected
MDL = Method Detection Limit
MCL = Maximum Contaminant Level
N/A = Not Applicable
NL = No Limit
(J) estimated value, compound detected below specified detection limit.

All samples are analyzed in accordance with New Jersey Department of Environmental Protection protocols for the analysis of Drinking Water.

Mark D. Feitelson, Laboratory Director

New Jersey Department of Environmental Protection Certification #15001

Lot 14.01 FH 15811

Specialists in Drinking Water Testing Technologies ■ Residential ■ Industrial ■ Municipal

PRECISION ANALYTICAL SERVICES, INC.

P.O. BOX 1867 TOMS RIVER, NJ 08753 PHONE (908) 914-1515 FAX (908) 914-1616

CERTIFICATE OF ANALYSIS

Schultz
239 Madeline Lane
Little Egg Harbor, NJ
Lot 14.01 Block 264

Collected By: Kelly A. Caldwell
Purpose of test: New Well
Conditioner: Yes

Report date: November 06, 1997

Parameters	Results	Results	Results	MDL	MCL
	Raw Water	After Conditioner	After Conditioner		
PAS, Inc. Sample ID	D2798	D2798			
Sample Date/Time	10/27/97, 10:00	10/27/97, 10:15			
Water Drawn From:	Kitchen Faucet	Kitchen Faucet			
	(Bypass On)				
Microbiology:					
Total Coliform Bacteria	0/100 ml	0/100 ml		1/100 ml	0/100ml
Inorganics:					
pH	4.5	** 4.9		N/A	6.5 - 8.5
Nitrate as N	0.39 mg/L			0.33 mg/L	10.0 mg/L
Turbidity	0.12 NTU	0.12 NTU		0.05 NTU	5.0 NTU
Metals:					
Iron	0.112 mg/L	ND		0.050 mg/L	0.30 mg/L
Manganese	ND	ND		0.020 mg/L	0.05 mg/L
Sodium	6.92 mg/L	15.7 mg/L		0.10 mg/L	50.0 mg/L
Lead	0.013 mg/L			0.002 mg/L	0.05 mg/L
Mercury	ND			0.0003 mg/L	0.002 mg/L
Volatile Organics:					
Benzene	ND			0.28 ug/L	1.0 ug/L
Carbon Tetrachloride	ND			0.50 ug/L	2.0 ug/L
Chlorobenzene	ND			0.05 ug/L	4.0 ug/L
1,2-Dichlorobenzene	ND			0.09 ug/L	600 ug/L
1,3-Dichlorobenzene	ND			0.10 ug/L	600 ug/L
1,4-Dichlorobenzene	ND			0.07 ug/L	75 ug/L
1,2-Dichloroethane	ND			0.07 ug/L	2.0 ug/L
1,1-Dichloroethylene	0.14 ug/L (J)			0.24 ug/L	2.0 ug/L
cis-1,2 Dichloroethylene	ND			0.11 ug/L	10 ug/L
trans-1,2 Dichloroethylene	ND			0.05 ug/L	10 ug/L
Methylene Chloride	** 5.33 ug/L			0.14 ug/L	2.0 ug/L
Tetrachloroethylene	ND			0.88 ug/L	1.0 ug/L
1,1,1-Trichloroethane	0.40 ug/L			0.26 ug/L	26 ug/L
Trichloroethylene	ND			0.07 ug/L	1.0 ug/L
1,2,3-Trichlorobenzene	ND			0.15 ug/L	NL
1,2,4-Trichlorobenzene	ND			0.05 ug/L	NL
Total Xylenes	ND			0.07 ug/L	44 ug/L
MTBE	ND			0.10 ug/L	NL
Pesticides:					
Chlordane	N/A			0.20 ug/L	0.50 ug/L

**** Parameters *FAILED*, result outside accepatble limits.**

ND = Non-Detected
MDL = Method Detection Limit
MCL = Maximum Contaminant Level
N/A = Not Applicable
NL = No Limit
(J) estimated value, compound detected below specified detection limit.

All samples are analyzed in accordance with New Jersey Department of Environmental Protection protocols for the analysis of Drinking Water.

Ocean County Health Department: For your Information.

Mark D. Feitelson, Laboratory Director

Lot 14.01

QC Inc.

Analytical Results

10/31/97 08:12pm

MARK FEITELSON
PRECISION ANALYTICAL SERVICES, INC.
726 BERNICE COURT
TOMS RIVER, NJ 08753

Regarding:

MARK FEITELSON
PRECISION ANALYTICAL SERVICES, INC.
726 BERNICE COURT
TOMS RIVER, NJ 08753

Account No: W02995, PRECISION ANALYTICAL SERVICES
Project No: W02995, PRECISION ANALYTICAL SERVICES
P.O. No:
PWSID No:
Inv. No: EOM-10/97

Sample Number	Sample Description	Samp. Date/Time/Temp	Sampled by
L271541-1	D2798 K SINK RAW SCHULTZ,239 MADELINE LN,LEH	10/28/97 10:00am NA°F	Customer Sampled

Parameter	Method	Result	PQL	Test Date
COLIFORM-MF	STD Methods 18th Ed. 9222	NEG col/100ml	1. col/100ml	10/28/97

Sample Number	Sample Description	Samp. Date/Time/Temp	Sampled by
L271541-2	D2798 K SINK AFTER SCHULTZ,239 MADELINE LN,LEH	10/28/97 10:15am NA°F	Customer Sampled

Parameter	Method	Result	PQL	Test Date
COLIFORM-MF	STD Methods 18th Ed. 9222	NEG col/100ml	1. col/100ml	10/28/97

L271541-1:
1. A water supply is considered bacteriologically "SAFE" if no Coliform bacteria are detected. To be considered "SAFE" your report should indicate "NEG" for the Coliform Test. If your report indicates a positive result "Pos" or a value of one (1) or greater then your supply is "UNSAFE FOR DRINKING" contact your local Health Dept. or QC for advice.

L[illegible]1-2:
1. A water supply is considered bacteriologically "SAFE" if no Coliform bacteria are detected. To be considered "SAFE" your report should indicate "NEG" for the Coliform Test. If your report indicates a positive result "Pos" or a value of one (1) or greater then your supply is "UNSAFE FOR DRINKING" contact your local Health Dept. or QC for advice.

A result of "ND" indicates the concentration of the analyte tested was either not detected or below the PQL.
QC INC's laboratory certification numbers are; PADER 09-131; NJDEP 77166; NC 488; NY,CT,DE and MD UPON REQUEST.
Definitions: ND=not detected; NEG=negative; POS=positive; COL=colonies; PQL=practical quanitation level; L/A=laboratory accident; TNTC=too numerous to count
A result marked with "DRY" indicates that the result was calculated and reported on a dry weight basis.

Allen D. Schopbach, President

QC INC. • 1205 INDUSTRIAL BLVD. • P.O. BOX 514 • SOUTHAMPTON, PA 18966-0514 • (215) 355-3900
VINELAND DIVISION VINELAND, NJ (609) 563-0101
MAE MALLOY DIVISION WILDWOOD, NJ (609) 522-9000
RITCHESON DIVISION PITMAN, NJ (609) 582-1919
AMBLER DIVISION AMBLER, PA (215) 646-1057

37

Lot 14.01 SERIAL # 09887

DWR-133
(4/96)

1581

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

Mail to
NJDEP
Bureau of Water Allocation
CN 426
Trenton, NJ 08625-0426

Permit No. 32 22489
10/15/97

16

PERMIT TO DRILL WELL

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 32 • 34 • 982

Owner: Timothy Schultz
Address: 9 Madeline Road
Tuckerton, NJ 08087

Driller: Callahan Well Drilling
Address: 177a North Ave
West Berlin, NJ 08091

Name of Facility:
Address: same

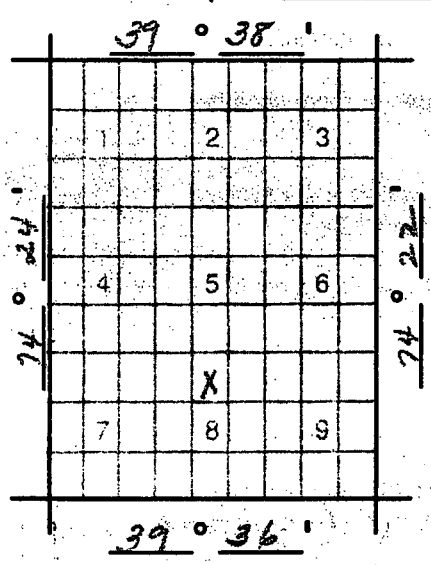
Diameter of Well	4 Inches	Proposed Depth of Well	80 Feet
Proposed Capacity of Pump	12 GPM	Method of Drilling (cable-tool, Rotary, etc.)	rotary
Use of Well (See Reverse)	domestic-replace-EMER		
Drinking Water Supply?	X yes (see # 6 on reverse)		no

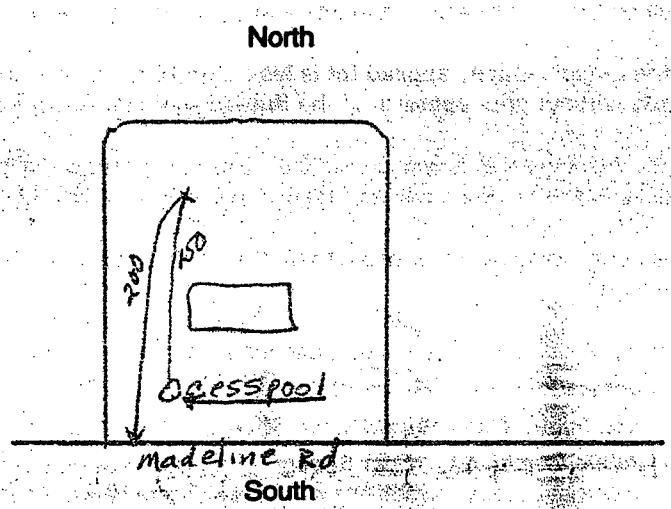
LOCATION OF WELL

Lot #	Block #	Municipality	County
14.01	264	LEH	Ocean

State Atlas Map No. 32.34.982

Draw sketch showing distance and location of well site to nearest public roads, streets, components of the nearest sewage disposal system, etc.





SEE REVERSE SIDE FOR IMPORTANT PROVISIONS AND REGULATIONS PERTAINING TO THIS PERMIT. APPROVAL OF THIS PERMIT IS MADE SUBJECT TO ACCEPTANCE OF AND COMPLIANCE WITH THE FOLLOWING ADDITIONAL CONDITIONS.

- [x] **DOMESTIC/PUBLIC NON-COMMUNITY/NON-PUBLIC** Water Supply Wells shall comply with N.J.A.C. 7:10-12.1 et seq.
- [ ] **PUBLIC COMMUNITY** Water Supply Wells shall obtain construction and operation permits from the Bureau of Sale Drinking Water in accordance with N.J.A.C. 7:10-11.1 et seq.
- [ ] **CLOSED LOOP GEOTHERMAL** – see attached conditions.
- [ ] **OPEN LOOP GEOTHERMAL HEAT PUMP WELLS** – Wells must be a minimum of 50 feet apart and the water must be returned to the same aquifer as the production well.
- [ ] **INDUSTRIAL SUPPLY** – A physical connection control permit shall be obtained pursuant to the provisions of N.J.A.C. 7:10-10.1 et seq.
- [ ] **IRRIGATION SUPPLY** – A physical connection control permit may be required pursuant to the provisions of N.J.A.C. 7:10-10.1 et seq.
- [x] **REPLACEMENT WELL** – Existing well must be sealed by a certified New Jersey licensed well driller upon abandonment.
- [ ] IRRIGATION PURPOSES ONLY [ ] TEST PURPOSES ONLY
- [ ] PINELANDS – Well must be drilled and cased to a minimum depth of 100' unless the provisions of N.J.A.C. 7:50-6.84 (a)4.v. are met.
- [ ] MINIMUM distance requirements as per N.J.A.C. 7:10-12.13 have not been met – see attached additional condition(s).
- [ ] The well shall be equipped with a totalizing flow meter per N.J.A.C. 7:19-2 et seq.
- [ ]

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
OCT 15 1997
BUREAU OF WATER ALLOCATION

In compliance with N.J.S.A. 58:4A-14, application is made for a permit to drill a well as described above.

Date 10/15/97 Signature of Driller Thomas Callahan jc Registration No. J1106

Signature of Owner for Timothy Schultz/cc

COPIES: Water Allocation — White Health Dept. — Yellow Owner — Blue Driller — White

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Lot 14.01

DWF 138
5/95

15811

New Jersey Department of Environmental Protection
Bureau of Water Allocation

WELL RECORD

Well Permit Number 32 — 22489

Atlas Sheet Coordinates 32 34 : 982

OWNER SCHULTZ, TIMOTHY

Address 9 MADELINE RD.

City TUCKERTON State NJ Zip Code 08087

WELL LOCATION ADDRESS 9 MADELINE RD. Owner's Well No. 1

County OCEAN Municipality LITTLE EGG HARB Lot No. 14.01 Block No. 264

WELL USE DOMESTIC REPLACEMENT

DATE WELL STARTED 10 / 17 / 97

DATE WELL COMPLETED 10/ 17 / 97

WELL CONSTRUCTION

Total Depth Drilled 80 ft.

Finished Well Depth 80 ft.

Borehole Diameter:
Top 8 in.
Bottom 8 in.

Well Casing Begins:
1 ft. above grade or
ft. below grade

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	+1	70	4	pvc	sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	70	80	4	pvc	sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	70	80		bar sand	
Grout	4	70		Neat Cement / Bentonite	lbs / 200 lbs

RECORD OF TEST

Test Date 10 / 17 / 97

Static Water Level 12 ft. below land surface

Water Level Measured Using tape

Pumping Water Level 13 ft. below land surface

Well Was Pumped Using airlift

Well Yield 50 gpm

If Pump Tested: Discharge Rate ____ gpm

Duration of Test ____ hours

Grouting Method pressure thru tremie

Drilling Method rotary

PERMANENT PUMPING EQUIPMENT

Installed by Callahan Well Reg. No. J-1106

Pump Type submersible

Depth of Pump below land surface 45 ft.

Capacity 12 gpm Horsepower ½

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

2-9 yellow caly
9-11 white clay
11-24 white & red clay
24-35 white clay
35-38 white clay & brown sand
38-45 brown sand
45-62 red sand
62-80 white sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company THOMAS CALLAHAN WELL

Well Driller (Print) Thomas Callahan

Driller's Signature Thomas Callahan JC

Registration No. J-1106 Date 10-28- / 97

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

39

Lot 14.01

NOTICE OF VIOLATION

To: Timothy Smith
9 Madeline Rd. Tuckerton N.J. 08087

Take notice that the following condition exists on the property owned or occupied by you and designated as

BLOCK 264 LOT 14.01 L.2.14. Twp.

AKA _____

THE ITEMS CHECKED ARE IN VIOLATION:

- ☐ The presence of a malfunctioning septic system.
- ☐ Accumulation of garbage.
- ☐ Accumulation of animal excrement.
- ☐ Maintaining a breeding place or harborage for insects.
- ☐ Maintaining a breeding place or harborage for rodents.
- ☐ Allowing the growth or presence of ragweed.
- ☐ Allowing the growth or presence of poison ivy.
- ☐ Allowing the existence or presence of any water in which mosquitoes breed or exist.

A satisfactory OCHD 54-1 water analysis not submitted for a well drilled on 11/24/97.

abated 1/15/98

This condition constitutes a violation of the Sanitary Code, Public Health Nuisance Code or of other Ordinances in force in the Municipality or of statutes pertaining to Health in the State of New Jersey.

Unless the above stated unsanitary or other unlawful condition(s) are corrected on or before the 5th day of February 19 98, appropriate legal action will be taken by the Board of Health.

PENALTY

Note that any person, firm or corporation who shall violate any of the provisions of the Sanitary Code, Public Health Nuisance Code, or other Health Ordinances or statutes, shall, upon conviction, be subject to a fine of not more than Five Hundred ($500.00) Dollars or imprisonment in the County Jail or both or such other penalty the law may impose.

Dated: 1/5/98

John S. Giaha
Inspector

Ocean County Health Department
P.O. Box 2191, Sunset Avenue
Toms River, N.J. 08754-2191
(908) 341-9700

H.D.42

40

Lot 14.01

DWR-020
9/96

New Jersey Department of Environmental Protection
Water Supply Element — Bureau of Water Allocation

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
CN 426
Trenton, NJ 08625-0426

WELL PERMIT # 32-unknown of well sealed

DATE WELL SEALED 10-17-97

PROPERTY OWNER Timothy Schultz

ADDRESS 9 Madeline Rd Tuckerton, NJ 08087 A/K/A 232 Madeline Rd

WELL LOCATION 9 Madeline Rd A/K/A 232 Madeline Rd LBH Ocean
Street & No., Township, County

1 Lot 14.01 Bk 264
Well No. Lot No. Block No.

USE OF WELL PRIOR TO ABANDONMENT: domestic

REASON FOR ABANDONMENT: mercury

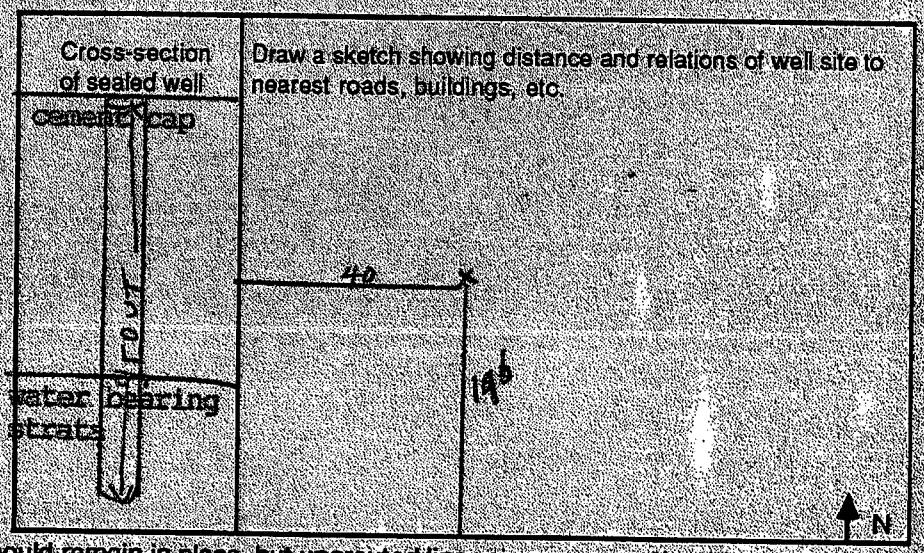
WAS A NEW WELL DRILLED? [X] YES [ ] NO PERMIT # OF NEW WELL: 32-22489

TOTAL DEPTH OF WELL 51'
DIAMETER 3"
CASING LENGTH unknown
SCREEN LENGTH unknown
NUMBER OF CASINGS unknown

MATERIAL USED TO DECOMMISSION WELL:

100 Gallons of Water
Lbs. of Cement
100 Lbs. of Bentonite
Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: Consolidated
X Unconsolidated



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? [X] YES [ ] NO CASING MATERIAL: steel

WERE OTHER OBSTRUCTIONS LEFT IN WELL? [ ] YES [X] NO WHAT WERE THE OBSTRUCTIONS: lines

IF "YES", AUTHORIZATION GRANTED BY _____ (NJDEP Official) ON _____ (Date)

Was an alternative decommissioning method used? [ ] YES [ ] NO

If "YES", aauthorization granted by _____ (NJDEP Official) ON _____ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9-9.1 et seq.

Callahan Well Drilling — Name of NJ Certified Well Sealer Performing Work (Print or Type)

177a North Ave West Berlin, NJ 08091 — Address

10-28-97 — Mailing Date

Thomas Callahan jrc — Signature of NJ Certified Well Sealer Performing Work

J-1106 — License #

COPIES: White - Water Allocation Yellow - Owner Pink - Health Dept. Goldenrod - Driller

41

Lot 14.01

OCEAN COUNTY CONSTRUCTION INSPECTION DEPARTMENT

Robert A. McCullough, Director

15811

PLEASE REPLY TO:

() ELECTRICAL
2 Mott Place Complex
Washington St., C.H. 2191
Toms River, NJ 08754
908-929-4730

(X BUILDING, PLUMBING & FIRE
2 Mott Place Complex
Washington St., C.H. 2191
Toms River, NJ 08754
908-929-2170

(X) Recovery Road
Manahawkin, N.J. 08050
597-4280
597-5820

Ocean County Health Department
P.O. Box 2191
Toms River, N.J. 08754-2191

Re: Well Permits Potable Water

232 Madeline Road Block 264 Lot 14.01

Little Egg Harbor does not have potable water available at this time and a well permit may be issued.

Thank you

Mike Wendruff

Mike Wendruff
Plumbing Sub Code Official

Lic # 000614

42

SERIAL # 09887

WR-133
(1/98)

Lot 14.01

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

Mail to
NJDEP
Bureau of Water Allocation
CN 426
Trenton, NJ 08625-0426

16

Permit No. 32 22489

PERMIT TO DRILL WELL

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 32 .34 .982

Owner Timothy Schultz

Address 9 Madeline Road
Tuckerton, NJ 08087

Name of Facility

Address same

Driller Callahan Well Drilling

Address 177a North Ave
West Berlin, NJ 08091

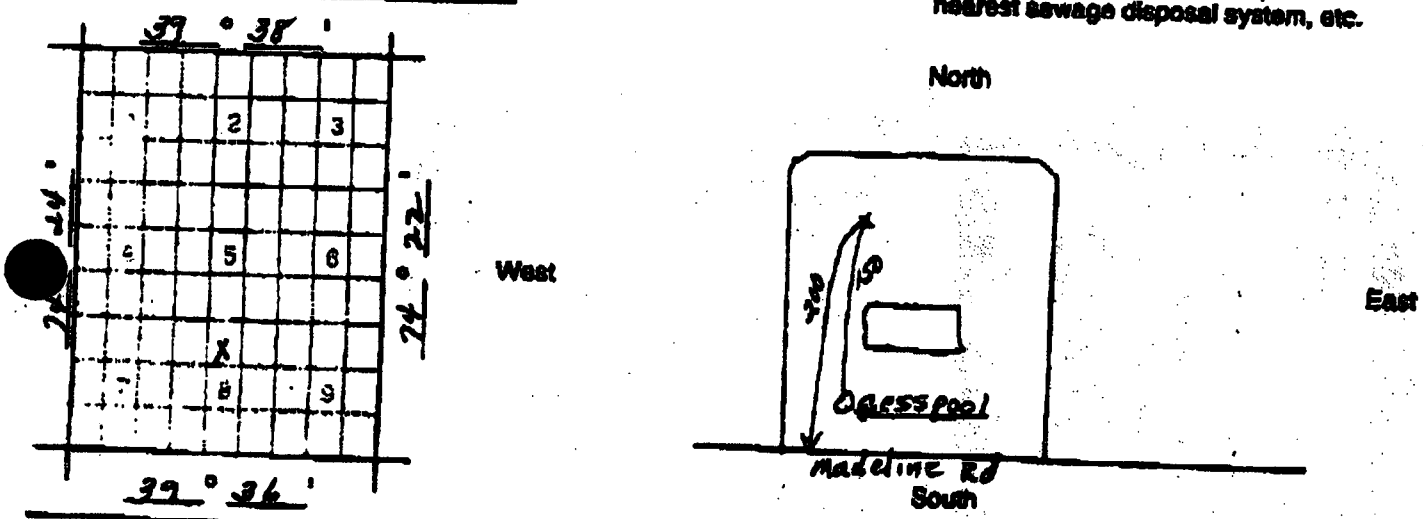
Diameter of Well	4 inches	Proposed Depth of Well	80 Feet
Proposed Capacity of Pump	12 CFM	Method of Drilling (cable-tool, rotary, etc.)	rotary
Use of Well (for Reverse)	domestic-replace EMER		
Drinking Water Supply?	X yes (see # 6 on reverse)		no

LOCATION OF WELL

Lot #	Block #	Municipality	County
14.01	264	LEH	Ocean

State Atlas Map No. 32.34.982

Draw sketch showing distance and location of well site to nearest public roads, streets, components of the nearest sewage disposal system, etc.



SEE REVERSE SIDE FOR IMPORTANT PROVISIONS AND REGULATIONS PERTAINING TO THIS PERMIT. APPROVAL OF THIS PERMIT IS MADE SUBJECT TO ACCEPTANCE OF AND COMPLIANCE WITH THE FOLLOWING ADDITIONAL CONDITIONS.

- [X] DOMESTIC/PUBLIC NON-COMMUNITY/NON-PUBLIC Water Supply Wells shall comply with N.J.A.C. 7:10-12.1 et seq.
- [ ] PUBLIC COMMUNITY Water Supply Wells shall obtain construction and operation permits from the Bureau of Safe Drinking Water in accordance with N.J.A.C. 7:10-11.1 et seq.
- [ ] CLOSED LOOP GEOTHERMAL – see attached conditions.
- [ ] OPEN LOOP GEOTHERMAL HEAT PUMP WELLS – Wells must be a minimum of 50 feet apart and the water must be returned to the same aquifer as the production well.
- [ ] INDUSTRIAL SUPPLY – A physical connection control permit shall be obtained pursuant to the provisions of N.J.A.C. 7:10-10.1 et seq.
- [ ] IRRIGATION SUPPLY – A physical connection control permit may be required pursuant to the provisions of N.J.A.C. 7:10-10.1 et seq.
- [X] REPLACEMENT WELL – Existing well must be sealed by a certified New Jersey licensed well driller upon abandonment.
- [ ] IRRIGATION PURPOSES ONLY
- [ ] TEST PURPOSES ONLY
- [ ] PINELANDS – Well must be drilled and cased to a minimum depth of 100' unless the provisions of N.J.A.C. 7:50-6.84 (a)4.v. are met.
- [ ] MINIMUM distance requirements as per N.J.A.C. 7:10-12.13 have not been met – see attached additional condition(s).
- [ ] The well shall be equipped with a totalizing flow meter per N.J.A.C. 7:19-2 et seq.

This Space for Approval Stamp

RECEIVED
OCT 15 PM 2:11

In compliance with N.J.S.A. 58:4A-14, application is made for a permit to drill a well as described above.

Date 10/15/97

Signature of Driller Thomas Callahan/cc Registration No. J1106

Signature of Owner for Timothy Schultz/cc

COPIES: Water Allocation — White Health Dept. — Yellow Owner — Blue Driller — White

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Lot 38

Sample_ID: 13706	Community:	Block:	Lot:
Little Egg Harbor	**1516**	**264**	**38**

212 Pine Oak

Sample Date: **05/01/1989 0:00:00**

Lab: **Other**

Incident: **Unspecified**

Sample Type: **Raw water**

Good or Bad: **B**

Parameter	Resul	Qualifier	Comment
Coliform Membrane		ND	
Chromium		ND	
Chlorobenzene		ND	
Chlordane		ND	
Sodium	5.6		
Benzene		ND	
Arsenic		ND	
Lead	0.038		
Manganese		ND	
Mercury		ND	
Coliform Multi	0		
Dichlorobenzene(s)		ND	
Methylene Chloride	0.07		
Nitrates	0.367		
1,1,1 Trichloroethane		ND	
Carbon Tetrachloride	0.22		
Cadmium	0.004		
Turbidity	3.75		
Tetrachloroethylene	5.95		
Trichloroethylene		ND	
Tr1,2 Dichloroethylene		ND	
Vinyl Chloride		ND	
Xylene		ND	
1,2 Dichloroethane		ND	
Iron	0.08		
1,1 Dichloroethylene	0.82		
pH	6.02		

Lot 38

ENVIRONMENTAL PROFILE LABORATORIES

ROUTE 37 BUSINESS PARK
SUITE 13
TOMS RIVER, NJ 08755
201-244-6278

DRINKING WATER ANALYSIS FOR OCEAN COUNTY (87-1) CERTIFICATION # 15526

SUZANNE TEMPLE
212 PINE OAK DRIVE
TUCKERTON, NJ 08087
LOT: 38 BLOCK: 264
TOWNSHIP: LITTLE EGG HARBOR

SAMPLE ID# 05018904
DATE OF COLLECTION: 05/01/89 TIME: 5:30PM
ANALYSIS START: 05/01/89
ANALYSIS COMPD: 05/05/89
REASON FOR ANALYSIS: NEW WELL
COLLECTED BY: ENVIRONMENTAL PROFILE LABS INC.

TEST PARAMETERS:	RAW	COND.	RETEST	RETEST	SAMPLER: ONLY IF NOT EPL INC.	
DRAWN FROM:	KT	KT	KT			
COND: ON/OFF	OFF	ON	ON			
DATE: (RETEST)			5/05/89		KT=KITCHEN TAP	
TIME OF RETEST:			4:00PM		MDL	MAXIMUM LEVEL
Nitrates (mg/L)	0.367				0.10	10.0
Turbidity (NTU)	3.75		0.84		0.2	1.0
pH (units)	4.83	6.02	6.50		NA	6.5-8.5
TOTAL COLIFORM/100ml	ND	ND			1	0
Volatile Organics: Expresed as ug/L (ppb)						
Benzene	ND				0.38	1.00
Carbon Tetrachloride	0.22				0.04	2.00
Chlorobenzene	ND				0.38	0.50
1,2-Dichloroethane	ND				0.03	2.00
1,1-Dichloroethylene	0.82				0.14	2.00
Methylene Chloride	0.07				0.02	2.00
Tetrachloroethylene	ND				0.08	1.00
(T)1,2-Dichloroethylene	ND				0.06	10.0
1,1,1-Trichloroethane	5.95				0.04	26.0
Trichloroethylene	ND				0.03	1.00
Vinyl Chloride	ND				0.15	2.00
Xylene(s)	ND				0.38	14.0
Dichlorobenzene(s)	ND				0.40	6.00
Bromodichloromethane	0.29				0.06	NLE
Chloroform	13.39				0.03	NLE
Trace Metals Expressed as mg/L (ppm)						
Arsenic (As)	ND				0.005	0.05
Cadmium (Cd)	0.004				0.002	0.01
Chromium (Cr)	ND				0.01	0.05
Iron (Fe)	0.18	0.08			0.05	0.3
Lead (Pb)	0.038				0.005	0.05
Manganese (Mn)	ND				0.02	0.05
Mercury (Hg)	ND				0.0005	0.002
Sodium (Na)	5.6				0.10	50.0
Pesticides: Expressed as ug/L (ppb)						
Chlordane	ND				0.01	0.8

CONDITIONING EQUIPMENT: LINDSAY FUNCTION: pH AND Fe
MDL=METHOD DETECTION LIMIT NLE=NO LIMIT ESTABLISHED <=LESS THAN
ND=LESS THAN METHOD DETECTION LIMIT
NEW SYSTEM INSTALLED:

Mike Kauffman D.K.W.
LABORATORY DIRECTOR

45

DWR-133 (9/88) 02832

Mail to Lot 38

Water Allocation
CN 029
Trenton, N.J. 08625

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
TRENTON, N.J.

Permit No. 32-15516

PERMIT TO DRILL WELL

16

VALID ONLY AFTER APPROVAL BY THE D.E.P. COORD #: 32.34.9

Owner: Frank Temple
Address: 37 Country Club Blvd.
Tuckerton, N.J. 08087

Driller: Mike Turner
Address: 279 Main Street
Port Republic, N.J. 08241

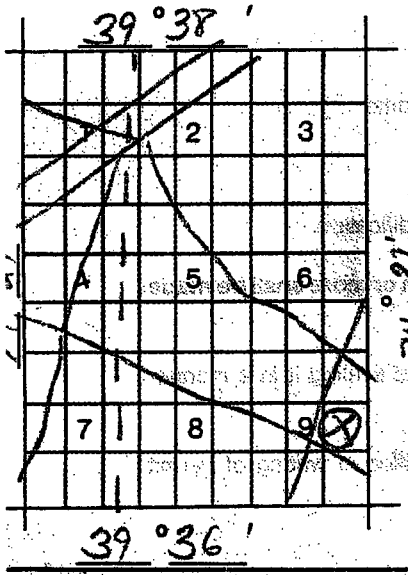
Name of Facility: RESIDENCE
Address: PINE OAK DR
TUCKERTON, N.J.

Diameter of Well	4 Inches	Proposed Depth of Well	80 Feet
Proposed Capacity of Pump	18 GPM	Method of Drilling (cable-tool, rotary, etc.)	ROTARY
Use of Well (See Reverse)	DOMESTIC / HEAT PUMP SUPPLY		
Drinking Water Supply?	X yes (see #6 on reverse)		no

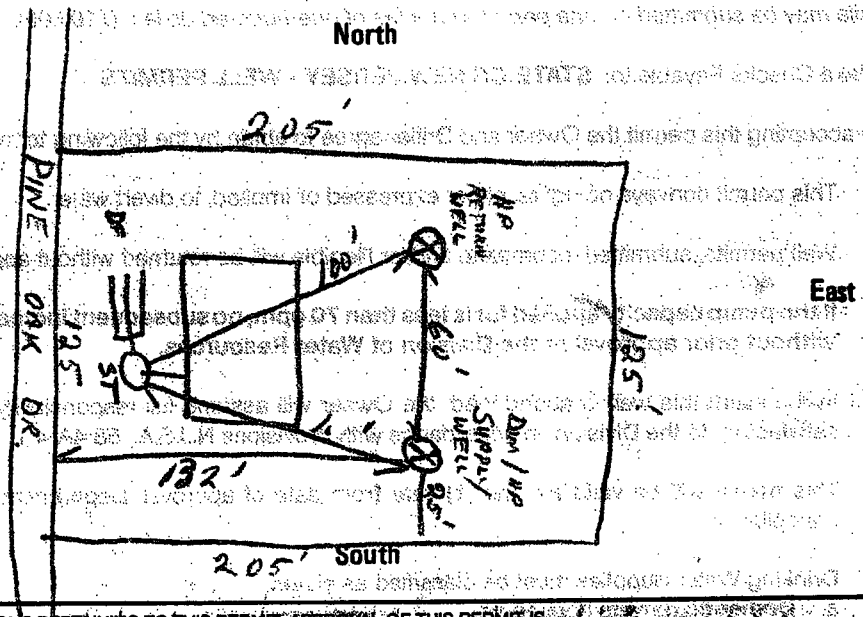
LOCATION OF WELL

Lot #	Block#	Municipality	County
38	264	Little Egg Harbor TWP	OCEAN

State Atlas Map No. 32



Draw sketch showing distance and relations of well site to nearest public roads, streets, septic systems, etc.



SEE REVERSE SIDE FOR IMPORTANT PROVISIONS AND REGULATIONS PERTAINING TO THIS PERMIT. APPROVAL OF THIS PERMIT IS MADE SUBJECT TO ACCEPTANCE OF AND COMPLIANCE WITH THE FOLLOWING ADDITIONAL CONDITIONS.

- [ ] **DOMESTIC/PUBLIC NON-COMMUNITY** Water Supply Wells shall comply with N.J.A.C. 7:10-12.1 et. seq.
- [ ] **PUBLIC COMMUNITY** Water Supply Wells shall obtain construction and operation permits from the Bureau of Safe Drinking Water in accordance with N.J.A.C. 7:10-11.2 and be constructed in compliance with N.J.A.C. 7:10-11.3.
- [ ] **DOMESTIC IRRIGATION SUPPLY** - No piping from the well for which the permit applies shall enter any building.
- [x] **HEAT PUMP WELLS** - Wells must be a minimum of 50 feet apart and the water must be returned to the same aquifer as the production well. A two hour pump test must be performed on the return well at a rate of 1½ times the estimated return flow of water.
- [ ] **INDUSTRIAL SUPPLY** - A physical connection control permit shall be obtained pursuant to the provisions of N.J.A.C. 7:10-10-1 et. seq.
- [ ] **REPLACEMENT WELL** - Existing well must be sealed by a certified New Jersey licensed well driller.
- [ ] MONITORING PURPOSES ONLY [ ] IRRIGATION PURPOSES ONLY [ ] TEST PURPOSES ONLY
- [ ] PINELANDS - Well must be drilled over 100' deep or a clay layer at least 4' in thickness must be encountered.
- [ ] GEOPHYSICAL LOGS of this well must be made. Permanent pumping equipment *SHALL NOT* be installed until such logs are made.
- [ ] SAMPLES of cuttings required every _____ feet or change in material.
- [ ] RESULTS of a volatile organic scan must be obtained prior to using the water and submitted to _____
- [ ] MINIMUM distance requirements as per N.J.A.C. 7:10-12.13 have not been met - see attached additional condition(s).
- [ ] _____

This Space for Approval Stamp

WELL PERMIT APPROVED
Dept. of Environmental Protection
Water Resources / Water Allocation

JAN 13 1989

RECEIVED

In compliance with N.J.S.A. 58:4A-14, application is made for a permit to drill a well as described above.

Date: Dec. 20, 1988

Signature of Driller: Mike Turner

Signature of Owner: Frank Temple (MT)

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Lot 49

Sample_ID: 49042

Community:	Block:	Lot:
Little Egg Harbor	1516	264	49

5 Pine Oak Dr.

Sample Date: **08/15/1996 0:00:00**

Lab: **ETL**

Incident: **Unspecified**

Sample Type: **Raw water**

Good or Bad: **B**

Parameter	Resul	Qualifier	Comment
Nitrates	1	<	
Carbon Tetrachloride		ND	
Chlorobenzene		ND	
Dichlorobenzene(s)		ND	
Iron	0.1	<	
Lead	0.009		
Manganese	0.016		
Mercury	0.0002	<	
Methylene Chloride	1.23		
pH	6.1		
Sodium	6.16		
Turbidity	0.1	<	
Tetrachloroethylene		ND	
Trichloroethylene		ND	
Tr1,2 Dichloroethylene		ND	
Vinyl Chloride		ND	
Xylene		ND	
1,2 Dichloroethane	4.96		
Bacteria (Total Coliform)	0		
1,1,1 Trichloroethane		ND	
Benzene		ND	
1,1 Dichloroethylene		ND	
Chlordane		ND	

Lot 49

Sample_ID: 49044	Community:	Block:	Lot:
Little Egg Harbor	**1516**	**264**	**49**

Sample Date: **08/28/1996 0:00:00**

Lab: **ETL**

Incident: **Unspecified**

Sample Type: **Raw water**

Good or Bad: **B**

Parameter	Resul	Qualifier	Comment
Trichloroethylene		ND	
Carbon Tetrachloride		ND	
Chlordane		ND	
Chlorobenzene		ND	
Dichlorobenzene(s)		ND	
Methylene Chloride		ND	
Benzene		ND	
Tetrachloroethylene		ND	
Bacteria (Total Coliform)	0		
Tr1,2 Dichloroethylene		ND	
Vinyl Chloride		ND	
Xylene		ND	
1,2 Dichloroethane		ND	
1,1 Dichloroethylene		ND	
1,1,1 Trichloroethane		ND	
Sodium		ND	

Lot 49

Sample_ID: 49045	Community:	Block:	Lot:
Little Egg Harbor	**1516**	**264**	**49**

Sample Date: **09/10/1996 0:00:00**

Lab: **ETL**

Incident: **Unspecified**

Sample Type: **Raw water**

Good or Bad: **G**

Parameter	Resul	Qualifier	Comment
Dichlorobenzene(s)		ND	
Bacteria (Total Coliform)	0		
Benzene		ND	
Carbon Tetrachloride		ND	
Chlorobenzene		ND	
Methylene Chloride		ND	
Sodium		ND	
Tetrachloroethylene		ND	
1,1 Dichloroethylene		ND	
Chlordane		ND	
1,1,1 Trichloroethane		ND	
Trichloroethylene		ND	
1,2 Dichloroethane		ND	
Xylene		ND	
Vinyl Chloride		ND	
Tr1,2 Dichloroethylene		ND	

Lot 49

Sample_ID: 57500	Community:	Block:	Lot:
Little Egg Harbor	**1516**	**264**	**49**

Sample Date: **07/14/1998 0:00:00**

Lab: **ETL**

Incident: **Unspecified**

Sample Type: **Raw water**

Good or Bad: **B**

Parameter	Resul	Qualifier	Comment
Manganese	0.001	<	
Sodium	3.12		
Chlordane	0.01		
Carbon Tetrachloride		ND	
Benzene		ND	
Bacteria (Total Coliform)	0		
Methylene Chloride		ND	
Chlorobenzene		ND	
Mercury	0.0002	<	
1,1,1 Trichloroethane		ND	
Nitrates	0.297		
Iron	0.018	<	
pH	5.4		
Lead	0.002	<	
Dichlorobenzene(s)		ND	
1,2 Dichloroethane	7.73		
Vinyl Chloride		ND	
Tr1,2 Dichloroethylene		ND	
Trichloroethylene		ND	
Tetrachloroethylene		ND	
Turbidity	0.21		
1,1 Dichloroethylene		ND	
Xylene		ND	

if 2 consecutive samples collected where parameter is below standard OCHD will not follow up. – R. Ingenito

– no analytical data sheets associated with this sampling because it is a resale not new construction.

–OCHD B. Ingenito

– resales are kept for 3 years

Lot 49

Sample_ID: 57502	Community:	Block:	Lot:
Little Egg Harbor	**1516**	**264**	**49**

Sample Date: **07/27/1998 0:00:00**

Lab: **ETL**

Incident: **Unspecified**

Sample Type: **Raw water**

Good or Bad: **B**

Parameter	Resul	Qualifier	Comment
1,2 Dichloroethane		ND	
Bacteria (Total Coliform)	0		

Lot 49

Sample_ID: 57503	Community:	Block:	Lot:
Little Egg Harbor	**1516**	**264**	**49**

Sample Date: **07/28/1998 0:00:00**

Lab: **ETL**

Incident: **Unspecified**

Sample Type: **Raw water**

Good or Bad: **G**

Parameter	Resul	Qualifier	Comment
1,2 Dichloroethane		ND	
Bacteria (Total Coliform)	0		

Lot 49

601 #21123

CHEMTECH
CONSULTING GROUP, INC.

LABORATORY REPORT

AL Report Number: 38069

Purpose of Test: New Construction

TEST ORDERED BY		ADDRESS OF SAMPLE	
Office/Name:	Kenneth Maxwell	Street:	5 Pine Oak Drive
Agent:		Municipality:	Little Egg Harbor Township
Mail Address:	160 Mathis Town Rd.	Lot:49	Block:264
	Tuckerton NJ 08089		
Phone Number:	1(609)296-7273	Property Owner:	Kenneth Maxwell
Customer # :		Mail Address:	160 Mathis Town Rd.
			Tuckerton NJ 08089

SAMPLING INFORMATION		WATER FILTER INFORMATION	
Collected by:	AL/TR		
Date of Collection:	8/15/96, 8/28/96, 9/10/96	Make:	Unknown
Time of Collection:	1:00 p.m. 3:30 p.m., 12:30 p.m.	Purpose:	pH
Point of Collection:	Well Tank/Outside Faucet		
Date/Time Submitted:	8/15/96 4:00 p.m., 8/28/96 5:00 p.m., 9/10/96 5:00 p.m.		

Primary parameter samples were taken with filtration unit on bypass.

Water filtration system information relating to the make, model and purpose of the system has been obtained from the homeowner or agent handling the closing. Aappalachian Laboratories, Inc. is passing on this information at the request of the Ocean County Health Department. The inspection of such equipment is not in the scope of the service provided by Aappalachian Laboratories,Inc. All procedures used in this analysis are EPA approved. If you should have any questions, please do not hesitate to contact us.

Divya Mehta M.B.

Divya Mehta

110 Route 4 ● Englewood, New Jersey 07631 Phone: (201) 567-6868 Fax: (201) 567-1333

NYSDOH Certification No. 10624 NJDEPE Certification No. 02548

Lot 49

38069

PARAMETER (mg/l unless noted)	OCHD Standards	MDL	Results Raw 8/15/96	Results Filter 8/15/96	Results Raw 8/28/96	Results Raw 9/10/96
Turbidity	5 TU		<0.1			
Total Coliform (colonies/100 l)	0		0	0		
Nitrate	10		<1.0			
Iron	0.3		<0.1	<0.1		
Manganese	0.05		0.016	<0.015		
pH	6.5-8.5		6.1	7.6		
Lead	0.05[1]		0.009			
Mercury	0.001		<0.0002			
Benzene	1 ug/l	0.08	ND		ND	ND
Carbon Tetrachloride	2 ug/l	0.12	ND		ND	ND
Chlorobenzene	4 ug/l	0.09	ND		ND	ND
Dichlorobenzenes	75 ug/l	0.08	ND		ND	ND
1,2-Dichloroethane	2 ug/l	0.07	4.96		ND	ND
1,1-Dichloroethylene	2 ug/l	0.15	ND		ND	ND
1,2-Dichloroethylenes(s)	10 ug/l	0.07	ND		ND	ND
Methylene Chloride	2 ug/l	0.09	1.23		ND	ND
Tetrachloroethylene	1 ug/l	0.07	ND		ND	ND
1,1,1-Trichloroethane	26 ug/l	0.07	ND		ND	ND
Trichloroethylene	1 ug/l	0.09	ND		ND	ND
Trichlorobenzene(s)	---	0.12	ND		ND	ND
Vinyl chloride	2 ug/l	0.14	ND		ND	ND
Xylenes	44 ug/l	0.13	ND		ND	ND
Sodium	50		6.16		ND	ND
Chlordane	0.5 ug/l	0.5	ND		ND	ND

ND = Not Detected < = Less Than

[1] EPA Lead Action level is 0.015 ug/l

Lot 49

DWR-138
11/94

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER ALLOCATION

401

WELL RECORD

Well Permit No. 32 - 20442
Atlas Sheet Coordinates

OWNER IDENTIFICATION - Owner MAXWELL, KEN
Address 100 MATHISTOWN ROAD
City TUCKERTON State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address
County OCEAN Municipality LITTLE EGG HARB Lot No. 49 Block No. 204

WELL USE DOM HR SUPPLY Status IN USE

WATER USE SUPPLY Average 400 gals. daily Maximum 1000 gals. daily

WELL CONSTRUCTIONS Date well completed 7/24/96
BOREHOLE DIMENSIONS Depths: Total 70 ft. Finished 80 ft.
Diameter: Top 8 in. Bottom 8 in.

Land Surface Elevation at well 29 ft. Elevation was determined using EST
Casing Height (stick-up) above land surface 1.5 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1		75	4	5-40 PVC
Casing 2				
Casing 3				
Screen 1	75	5	4	.012 5-40 PVC
Screen 2				
Tail Piece				
Gravel Pack	75	5	8	#1 MORIE
Grout	8	70		BENTONIT
Grouting Method	PRESSURE			

WELL FLOWS NATURALLY — gals. per min. at — ft. above the land surface.
Water rises to ft. above the land surface.

RECORD OF TEST Test Date 7/24/96
Static water-level before pumping 15 ft. below land surface. Water level 15 ft. below land surface after 2 hrs. of pumping
Water level was measured using TAPE Drawdown — ft.
Discharge rate measured using WATER Discharge Rate 75 gals. per min.
Well was pumped using AIRLIFT Specific Capacity — gals. per min. per ft. of drawdown
Observed effects on nearby wells NONE
Water Quality (taste, odor, color, etc.) GOOD, NONE, CLEAR

PERMANENT PUMPING EQUIPMENT Installed by M. TURNER Pump Type SUB
Mfrs. Name MYERS Model 51
CAPACITY: Pump delivers 20 GPM at 30 PSI pressure
POWER: 3/4 HP at 3450 RPM Power Source ELECTRIC
DEPTHS: Pump 40 ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe

CONTRACTOR - Name of Drilling Contractor MICHAEL TURNER
Address 279 MAIN Street
Port Republic State NJ Zip Code 08241
Name of Driller Michael Turner License No. J7250 D001042

Signature of Contractor Michael Turner Date 8/1/96

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

53

Lot 49

DWR-138
8/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

WELL RECORD

Well Permit No. 32 - 20442
35 34 99

Driller: Please use the space below for the log description. Note water bearing zones or geological formation.

Are samples available? ☐ Yes ☒ No

Drilling Method Rotary

Type of Rig Top Head

Aquifer/Geo. Fm. Sand

DEP USE ONLY

Storet Hydrogeo Code _____
USGS Hydrogeo Code _____
Depth to Bedrock _____ ft.
Bedrock Lith. Code _____
Bedrock Fm. Code _____

Completed by _____
Date ___ / ___ / ___

LOG	Thick.	Lith.	Fm.
0-10 Clt & Sand			
10-50 Wh, Org/Pink			
& Gray Clay			
Layers			
50-60 I Yel Tan Muddy			
Sand			
60-70 M Wh Sand			
70-80 C Wt Tan Sand			

GWPI No. ___ - _____ NJPDES No. _____ - _____

Latitude ___ ° ___ ' ___ " Longitude ___ ° ___ ' ___ "

Lat-Long Accuracy ☐ 1" ☐ 5" ☐ 10" ☐ 20"

USGS Quadrangle _____

Drainage Basin Code _____ County/Municipality Code _____

OTHER FILES: ☐ Lithologic Log ☐ Samples Available ☐ Aquifer Test ☐ Water Level Data
☐ Geophysical Logs ☐ Water Chemistry ☐ Pollution Case

Checked by _____ Date ___ / ___ / ___

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Reference 20

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

CONTENTS

Summary
What is chlordane?
What happens to chlordane when it enters the environment?
How might I be exposed to chlordane?
How can chlordane affect my health?
How likely is chlordane to cause cancer?
Is there a medical test to show whether I've been exposed to chlordane?
Has the federal government made recommendations to protect human health?
Glossary
References
Contact Information

RELATED RESOURCES

ToxFAQ™ 31k
ToxFAQ™ en Español 27k
Public Health Statement 72k
Toxicological Profile 6.0MB
MMG 60k

A-Z INDEX

A B C
D E
F G H I
J K
L M N O P
Q R S
T U
V W X Y Z

September 1995

ToxFAQs™ for Chlordane

(Clordano)

CAS# 57-74-9

This fact sheet answers the most frequently asked health questions about chlordane. For more information, you may call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

SUMMARY: Exposure to chlordane occurs mostly from eating contaminated foods, such as root crops, meats, fish, and shellfish, or from touching contaminated soil. High levels of chlordane can cause damage to the nervous system or liver. This chemical has been found in at least 171 of 1,416 National Priorities List sites identified by the Environmental Protection Agency.

What is chlordane?

Chlordane is a manufactured chemical that was used as a pesticide in the United States from 1948 to 1988. Technical chlordane is not a single chemical, but is actually a mixture of pure chlordane mixed with many related chemicals. It doesn't occur naturally in the environment. It is a thick liquid whose color ranges from colorless to amber. Chlordane has a mild, irritating smell.

Some of its trade names are Octachlor and Velsicol 1068. Until 1983, chlordane was used as a pesticide on crops like corn and citrus and on home lawns and gardens.

Because of concern about damage to the environment and harm to human health, the Environmental Protection Agency (EPA) banned all uses of chlordane in 1983 except to control termites. In 1988, EPA banned all uses.

back to top

What happens to chlordane when it enters the environment?

- Chlordane entered the environment when it was used as a pesticide on crops, on lawns and gardens, and to control termites.

ATSDR RESOURCES
ToxFAQs™
ToxFAQs™ en Español
Public Health Statements
Toxicological Profiles
Minimum Risk Levels
MMGs
MHMIs
Interaction Profiles
Priority List of Hazardous Substances
Division of Toxicology

- Chlordane sticks strongly to soil particles at the surface and is not likely to enter groundwater.
- It can stay in the soil for over 20 years.
- Most chlordane leaves soil by evaporation to the air.
- It breaks down very slowly.
- Chlordane doesn't dissolve easily in water.
- It builds up in the tissues of fish, birds, and mammals.

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How might I be exposed to chlordane?

- By eating crops grown in soil that contains chlordane.
- By eating fish or shellfish caught in water that is contaminated by chlordane.
- By breathing air or touching soil near homes treated for termites with chlordane.
- By breathing air or by touching soil near waste sites or landfills.

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How can chlordane affect my health?

Chlordane affects the nervous system, the digestive system, and the liver in people and animals. Headaches, irritability, confusion, weakness, vision problems, vomiting, stomach cramps, diarrhea, and jaundice have occurred in people who breathed air containing high concentrations of chlordane or accidentally swallowed small amounts of chlordane. Large amounts of chlordane taken by mouth can cause convulsions and death in people.

A man who had long-term skin contact with soil containing high levels of chlordane had convulsions. Japanese workers who used chlordane over a long period of time had minor changes in liver function.

Animals given high levels of chlordane by mouth for short periods died or had convulsions. Long-term exposure caused harmful effects in the liver of test animals.

We do not know whether chlordane affects the ability of people to have children or whether it causes birth defects. Animals exposed before birth or while nursing developed behavioral effects later.

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How likely is chlordane to cause cancer?

The International Agency for Research on Cancer has determined that chlordane is not classifiable as to its carcinogenicity to humans. Studies of workers who made or used chlordane do not show that exposure to chlordane is related to cancer, but the information is not sufficient to know for sure. Mice fed low levels of chlordane in food developed liver cancer.

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Is there a medical test to show whether I've been exposed to chlordane?

Laboratory tests can measure chlordane and its breakdown products in blood, fat, urine, feces, and breast milk. The amount of

breakdown products measured in body fat or breast milk does not tell how much or how long ago you were exposed to chlordane or if harmful effects will occur.

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Has the federal government made recommendations to protect human health?

In 1988, the EPA banned all uses of chlordane. The EPA recommends that a child should not drink water with more than 60 parts of chlordane per billion parts of drinking water (60 ppb) for longer than 1 day. EPA has set a limit in drinking water of 2 ppb.

EPA requires spills or releases of chlordane into the environment of 1 pound or more to be reported to EPA.

The Food and Drug Administration (FDA) limits the amount of chlordane and its breakdown products in most fruits and vegetables to less than 300 ppb and in animal fat and fish to less than 100 ppb.

The Occupational Safety and Health Administration (OSHA), the National Institute for Occupational Health and Safety (NIOSH), and the American Conference of Governmental Industrial Hygienists (ACGIH) set a maximum level of 0.5 milligrams of chlordane per cubic meter (mg/m^3) in workplace air for an 8-hour workday, 40-hour workweek. These agencies have advised that eye and skin contact should be avoided because this may be a significant route of exposure.

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Glossary

Carcinogenicity: Ability to cause cancer.

Long-term: Lasting one year or longer.

Milligram (mg): One thousandth of a gram.

Pesticide: A substance that kills pests.

ppb: Parts per billion.

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References

Agency for Toxic Substances and Disease Registry (ATSDR). 1995. Managing Hazardous Materials Incidents. Volume III – Medical Management Guidelines for Acute Chemical Exposures: Chlordane. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Agency for Toxic Substances and Disease Registry (ATSDR). 1994. Toxicological Profile for chlordane. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

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Where can I get more information?
ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

For more information, contact:

Agency for Toxic Substances and Disease Registry
Division of Toxicology
1600 Clifton Road NE, Mailstop F-32
Atlanta, GA 30333
Phone: 1-888-42-ATSDR (1-888-422-8737)
FAX: (770)-488-4178
Email: ATSDRIC@cdc.gov

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ATSDR Information Center / ATSDRIC@cdc.gov / 1-888-422-8737

This page was updated on Monday, April 5, 2004

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MARKET DATA RETRIEVAL
MDR/FIPS CROSS REFERENCE COUNTY CODE LIST

31 NEW JERSEY

MDR STATE/ COUNTY CODE	FIPS STATE/ COUNTY CODE	COUNTY NAME	MDR STATE/ COUNTY CODE	FIPS STATE/ COUNTY CODE	COUNTY NAME
31/001	34/001	ATLANTIC			
31/002	34/003	BERGEN			
31/003	34/005	BURLINGTON			
31/004	34/007	CAMDEN			
31/005	34/009	CAPE MAY			
31/006	34/011	CUMBERLAND			
31/007	34/013	ESSEX			
31/008	34/015	GLOUCESTER			
31/009	34/017	HUDSON			
31/010	34/019	HUNTERDON			
31/011	34/021	MERCER			
31/012	34/023	MIDDLESEX			
31/013	34/025	MONMOUTH			
31/014	34/027	MORRIS			
31/015	34/029	OCEAN			
31/016	34/031	PASSAIC			
31/017	34/033	SALEM			
31/018	34/035	SOMERSET			
31/019	34/037	SUSSEX			
31/020	34/039	UNION			
31/021	34/041	WARREN			
21 - COUNTIES					

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