

HEALTH DEPT. APPROVAL REQUIRED FOR THE ISSUANCE OF CERTIFICATE OF OCCUPANCY

Applicant Dan Smith Block: 62 lot: 4

location Bees Tavern Rd - Rt 579

Sewage Disposal Systems

Installation approved 6-17-88

~~Pump and alarm~~ approved Siphon 6-17-88

Grading Approved 6-17-88

As-built approved 6-17-88

This office has performed inspections or received the necessary certification required for issuance of a certificate of occupancy

Temporary CO

Date _____

Inspector _____

Onsite Water Supply

Well Casing Inspection 8-17-87

Pump Installation Report 5-20-88

Well Construction Report 5-20-88

Water Availability test 10-8-87

Primary Water Quality
(bacterial, nitrate) 6-17-88

Secondary Water Quality
(Iron, manganese, ph) 6-17-88

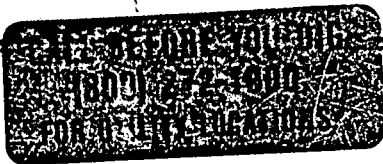
Final Grade Inspection 6-1-88
(casing must extend 12 inches above grade)

Final CO

Date 6-17-88

Inspector glean

11102



August 3, 1987

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

PERMIT

PERMISSION IS HEREBY GRANTED TO Dan Smith

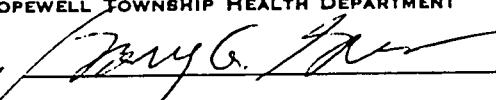
To construct a water supply and system

AT Block 62, Lot 4, Bear Tavern Rd.

NATURE OF PROPOSED WORK An Individual Water Supply and System

FEE \$50.00

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

BY 

11259



February 2, 1988

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

PERMIT

PERMISSION IS HEREBY GRANTED TO Dan Smith

To Construct sewage disposal System

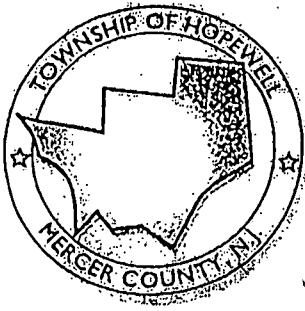
AT Block 62, lot 4.01, Trenton-Harbourton Road

NATURE OF PROPOSED WORK sewage disposal system

FEE \$100.00

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

BY 



TOWNSHIP of HOPEWELL

DEPARTMENT of HEALTH

Serving Hopewell Borough and Pennington Borough

201 WASHINGTON CROSSING PENNINGTON ROAD, TITUSVILLE, N.J. 08560

TELEPHONE 609-737-0120 / FAX: 609-737-2770

STATEMENT OF CONFIRMATION: NUMBER OF BEDROOMS

BLOCK 62 LOT 4.01

The proposed renovations to my home will **not** result in an expansion of the potential number of bedrooms in my home. My house currently has 4 bedrooms; at the completion of the proposed construction, the house will have 4 bedrooms.

9/11/06
Date

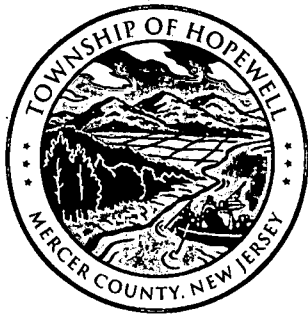
[Signature]
Signature of Homeowner

CODE INTERPRETATION

N.J.A.C. 7:9A, Standards for Individual Subsurface Sewage Disposal Systems indicates the volume of sanitary sewage generated from a private residence shall be estimated based on the number of potential bedrooms in the dwelling. The existing septic system was designed and approved based on the number of potential bedrooms constructed in the house. An increase in the number of bedrooms in an existing house, via renovations, requires a review of the existing septic system capacity.

Increasing the number of bedrooms in a house may require the homeowner to increase the capacity of the septic system.

"BEDROOM" is defined in N.J.A.C. 7:9A as, "any room within a dwelling unit, finished or unfinished, which may reasonably be expected to serve as a bedroom or dormitory. The term bedroom shall be considered to include any room or rooms within an expansion attic."



COPY
TOWNSHIP of HOPEWELL
MERCER COUNTY
DEPARTMENT OF HEALTH

Serving Hopewell Borough & Pennington Borough
201 Washington Crossing Pennington Road Titusville, New Jersey 08560-1410
Phone: 609.737.0120 Fax: 609-737-6836

August 10, 2006

Mr. & Mrs. Smith
1262 Bear Tavern Road
Titusville, NJ 08560

RE: Block 62, lot 4.01 (1262 Bear Tavern Road)

Dear Mr. & Mrs. Smith:

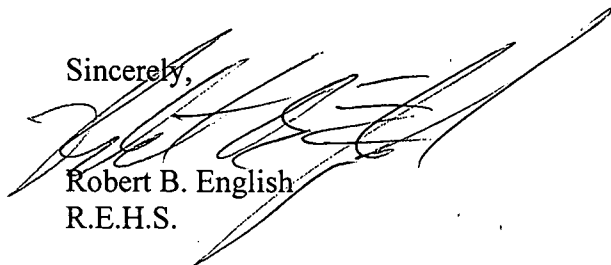
This office has received your construction application for Health Department review and cannot determine the total number of bedrooms in the above referenced property from the information provided. The following information must be provided to this Department for review:

1. A floor plan of the existing dwelling prior to renovation. (Floor plans need not be architectural drawings, but must show layout of all floors and indicate room dimensions)
2. A floor plan of the dwelling as it will appear after completion of the proposed project.

N.J.A.C. 7:9A, Standards for Individual Subsurface Sewage Disposal Systems indicates the volume of sanitary sewage generated from a private residence shall be estimated based on the number of potential bedrooms in the dwelling. The existing septic system was designed and approved based on the number of potential bedrooms constructed in the house. An increase in the number of bedrooms in an existing house, via renovations, requires a review of the existing septic system capacity. Also, increasing the number of bedrooms in a house may require the homeowner to increase the capacity of the septic system. Our records indicate this dwelling currently has four (4) bedrooms.

Your attention to this matter is appreciated. You may contact this office at (609) 737-0120 on Monday through Friday, 8:30 – 4:30.

Sincerely,

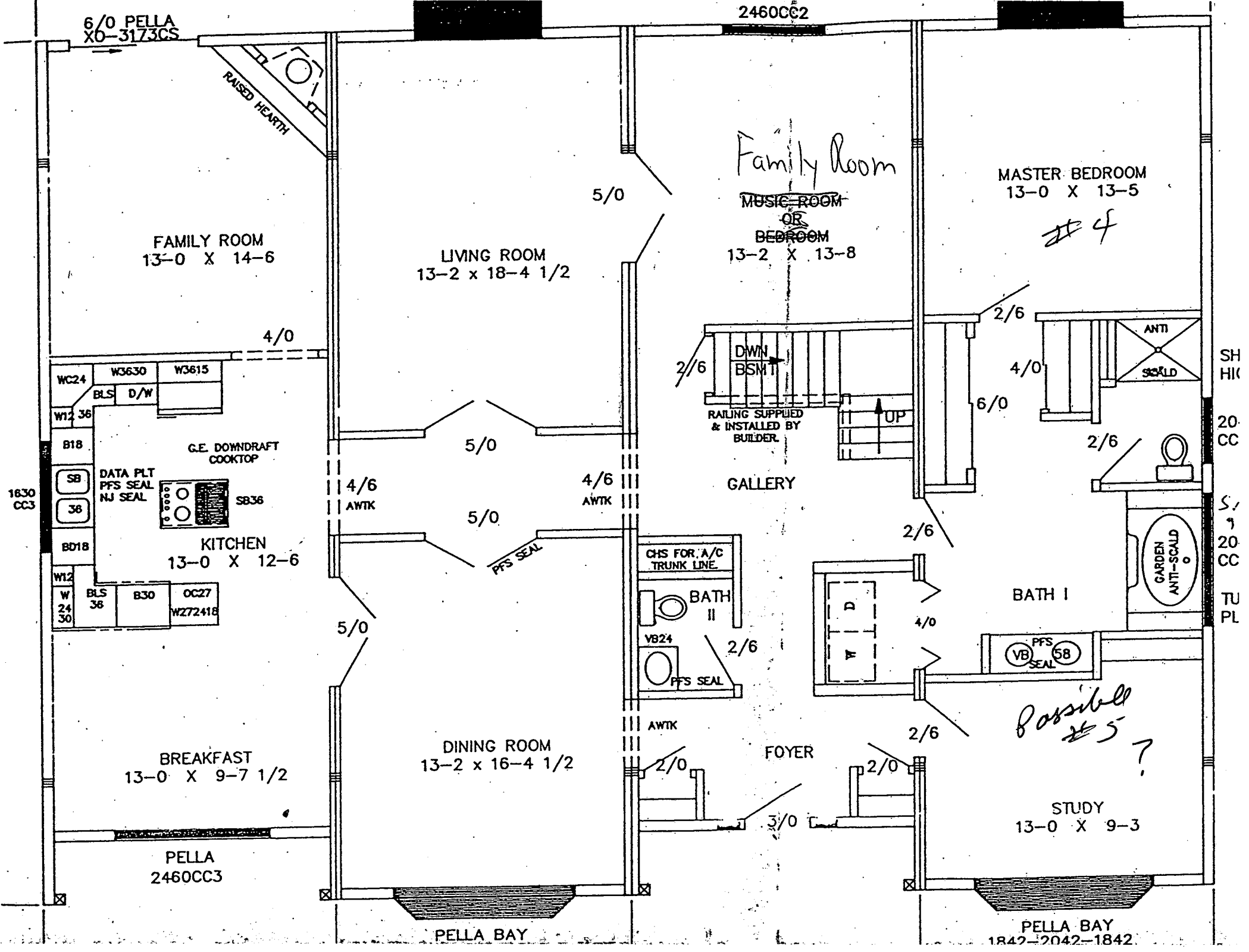


Robert B. English
R.E.H.S.

Waiting on
Sign-off

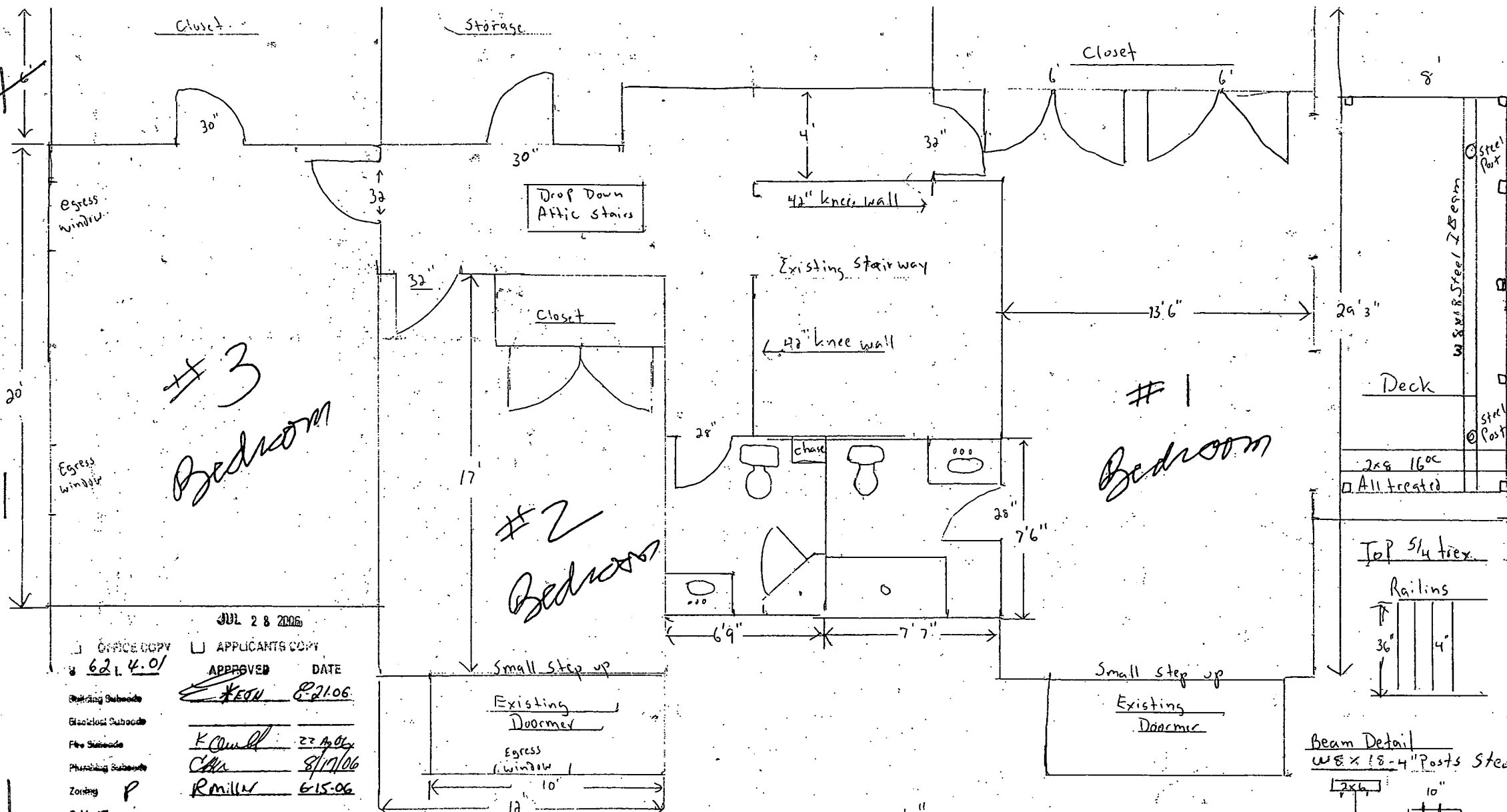
cell 609-922-6778
cell 609-203-1290

Long Whales
409-947-5043



Smith
Block 4.01 Lot 62
1262 Bear Tavern

Up stairs

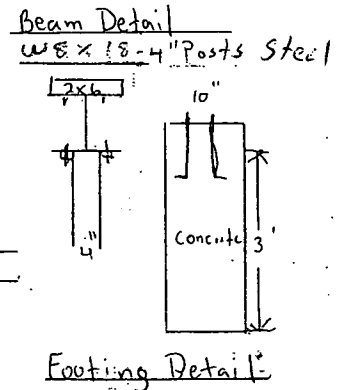


JUL 28 2006
☐ OFFICE COPY ☐ APPLICANT'S COPY
 621.4.01 APPROVED DATE
 Building Subcode *KEON* 8-21-06
 Electrical Subcode *K. O'Neill* 22-12-06
 Fire Subcode *CH* 8/17/06
 Plumbing Subcode *R Miller* 6-15-06
 Zoning *P*
 Outpost To
 Applicant's copy to be available at job site for inspector use.

Construction
 Block 62
 LOT 4-01
 No exterior changes.
Owner

Floor Existing 2x10 with 3/4" + 5/8" Ply

1/4" = 1 ft
 2x4 interior walls 16" O.C.
 Existing Exterior Walls 2x6 16" O.C. R19 insulation
 Existing Ceiling Joists 2x8 16" O.C. R-30 insulation
 1/2" sheetrock walls + ceilings
 HVAC Located in Attic
 Ceiling Height 8'



HOPEWELL TOWNSHIP HEALTH DEPARTMENT
Route 546 and Scotch Road, Titusville, New Jersey 08560
(609) 737-0120

APPLICATION FOR SEWAGE DISPOSAL SYSTEMS

Applicant Dan Smith Block 62 Lot 4.01
Mailing Address RR 2, Box 283 Location Trenton-Harbourton Road
Titusville, N. J. 08560 Size of Lot 490,855 Square Feet
Phone # (Home) _____ (Work) 396-7500 Zoning Designation R-200
Builder if different than above _____ Phone # _____
Mailing Address _____
Signature of Applicant [Signature] Date _____
Fee \$ 100.00 Date Received 2-1-88
Type of Construction or Usage Residential
Number of Bedrooms 4 Gal/Day if Commercial _____
Water Source Existing Well Square Footage of Bldg. 3,740

SOIL TEST RESULTS

Perc Test Results			Soil Log	
Hole No.	Depth	Rate Min/In	Depths	Description of Soil Encountered
101	48"	39 min/inch	0"- 12"	Brown silt loam
102	57"	55 min/inch	12"- 60"	Reddish brown silty clay loam
107	34"	2.5 min/inch	60"- 96"	Reddish brown fractured shale

Date of Perc Tests 6/26/87
Date of Soil Logs 6/26/87
Professional Firm VanNote Harvey Associates
Test Conducted by Dave Sharp
Witnessed By Guarino-Kiesel
Design Certified By: [Signature]
(Signature of Professional Engineer)
License # 30111
Date 1/29/88

Depth to Bedrock 3½' - 5'
Depth to Seasonal High Water Table 6+
Determined by (check one):
a) Physical Measurement _____ Jan 1 - May 15
b) Soil Maps X List Below
c) Soil Detail _____ Describe Below
Mercer County Soil Survey
Sheet #11

SYSTEM DESIGN SHALL COMPLY WITH N.J.D.E.P. STANDARDS FOR THE CONSTRUCTION OF INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM AND HOPEWELL TOWNSHIP SEWAGE DISPOSAL ORDINANCE.

No. of Bedrooms 4 ~~X~~ 480 Square Footage/Bedroom = 3780 ~~1920~~ Square Feet
Tank(s) Size 1500 Gal. Square Footage Designed _____
Installer S+T Phone # 896-0333
Address Princeton NJ 466-3032

Three copies of Design to be submitted on 8 ½" x 14" sheets.
Minimum Distance to all Water Courses, Flood Plains and Wells, 100 feet unless approved by Administrative Authority.
Distance to other disposal systems on adjacent lots - 50 feet minimum.
Expansion attics require additional design area square footage.
Garbage disposals require 25% over design and an additional tank in series.
Distance to foundations and foundation drains, etc. 25 feet minimum.
Pump design to include pitless adapter, pump size and model, and minimum wet well size.

Application Approved _____ Date 2-25-88
Installation Approved _____ Date 6-17-86
As Built Approved _____ Date 6-17-86

van note-harvey associates

Research Park, 327 Wall Street
Princeton, New Jersey 08540-0623
(609) 924-0413



August 5, 1987

RECEIVED
AUG 10 1987
Hopewell Township Health Dept.

Mr. Gary Guarino
Hopewell Township Health Department
Route 546 and Scotch Road
Titusville, New Jersey 08560

RE: Submittal of Percolation Results
for Mr. Dan Smith
VNH #25576

Dear Gary:

Enclosed is the percolation certification, location map, and field notes for the successful witnessed soil test conducted for Mr. Dan Smith on Lot 4, Block 62, Hopewell Township.

If you have any questions concerning this submittal, please call.

Very truly yours,

VAN NOTE-HARVEY ASSOCIATES

Richard A. Jasaitis

RAJ/law
Enclosure

cc: Mr. Dan Smith

van note-harvey associates

Research Park, 327 Wall Street
Princeton, New Jersey 08540-0623
(609) 924-0413

RECEIVED**AUG 10 1987**

Hopewell Township Health Dept.

vnh
consulting-engineers,
planners & land surveyors

CERTIFICATION IS HEREBY MADE FOR A PERCOLATION TEST
AND SOIL LOG ON A PARCEL OF LAND IN Hopewell Township
IN THE COUNTY OF Mercer, STATE OF NEW JERSEY, HEREINAFTER
DESCRIBED.

1. PRESENT OWNER: Elmer Smith
MAILING ADDRESS: Trenton Herrontown Road
POST OFFICE: Hopewell, N.J.
2. TAX MAP DATA: SHEET _____ BLOCK C2 LOT 4
3. APPROXIMATE SIZE OF LOT: N/A
4. REQUESTED BY: Dan Smith
MAILING ADDRESS: same
POST OFFICE: _____
5. ORDER NO. 25576
6. WEATHER: sunny
7. APPARENT SOIL MOISTURE PRIOR TO TEST: moist
8. PERCOLATION TEST RESULTS:

DATE: 6/26/87WITNESSED BY: Guarino-Kiesal

HOLE NO.	TIME IN MIN/IN	NO. OF TESTS TO DETERMINE SATURATION	DEPTH	DEPTH GROUND WATER ENCOUNTERED
101	39/1"	6	48"	N/A
102	55/1"	6	57"	N/A
103	abandoned	dug deeper	65"	See 105
104	abandoned	dug deeper	52"	See 106
105	abandoned	no movement	68"	
106	abandoned	no movement	80"	
107	2.5/1"	6	34"	N/A
108	abandoned		74"	

9. SOIL LOG:

DATE

8/2/87

GARY T. BOYER
GARY T. BOYER, P.E.
N.J. License #28544

(See Other Side)

SOIL LOG REPORT

100

DAN SMITH JOB
PERFORMED BY DAVE SHARP
6/26/87
VNH #25576

RECEIVED
AUG 10 1987
Hopewell Township Health Dept.

- 0 - 12" (10YR 4/3) brown silt loam, 15% angular gravel; moderate sub-angular structure; friable; common fine roots; a clear smooth boundary.
- 12" - 60" (5YR 3/3) dark reddish brown; silty clay loam; 35% angular gravel; a moderate angular structure; firm; sticky; few fine roots; a gradual slightly wavy boundary.
- 60" - 96" (5YR 3/3) dark reddish brown; fractured shale, 75%; cobble size pieces of fractured shale, a strong platy structure; friable; well fractured; grading to a bedrock; 96"; no water entering pit; seasonal high water table not available.

DAN SMITH INC.
VNH #25576

SOIL LOG REPORT

DAN SMITH SITE

HOPEWELL TOWNSHIP

VNH #25576

BY DES

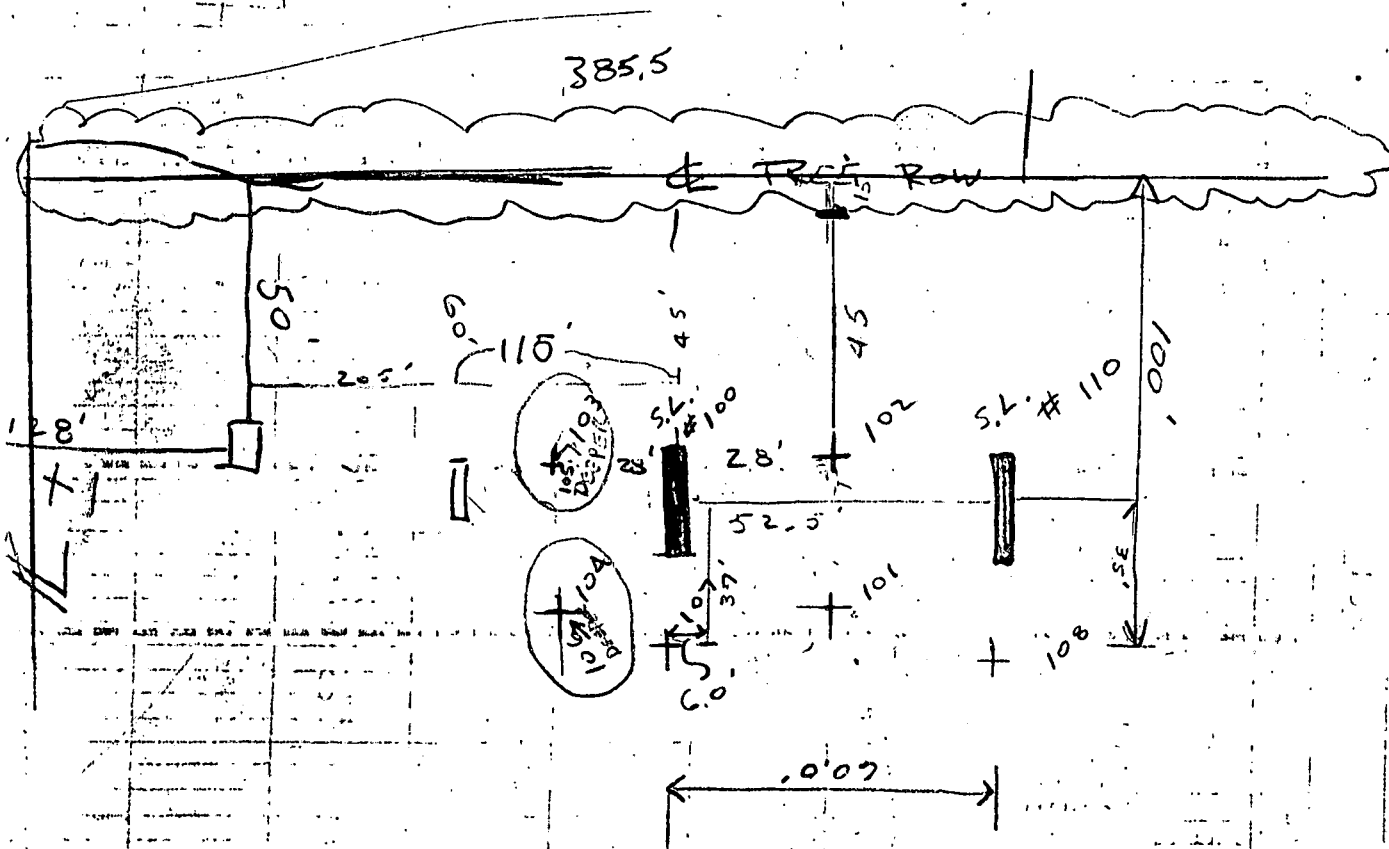
PERFORMED 6/26/87

SOIL LOG REPORT #110

- 0 - 16" (10YR 4/3) brown silt loam; 15% angular gravel; with a moderate subangular structure; moist; friable; common roots; a clear slightly wavy boundary.
- 16" - 46" A strong brown (7.5YR 4/6) silty clay loam, 5% angular gravel; with few fine distinct (10YR 7/1) light gray; mottles; 16" - 46"; moderate massive structure; moist; firm; sticky; few fine roots; a gradual smooth boundary.
- 46" - 54" (5YR 3/3) dark reddish brown silt loam, 40% angular gravel; with a moderate angular structure; moist; sticky; no roots; gradual smooth boundary.
- 54" - 84" Dark reddish brown; fractured shale, 75% cobble size pieces of fractured shale; friable; no roots; grading to bedrock; with no water entering pit.

DAN SMITH INC.
VNH #25576

54



2
6
11
12
13
14

100

10

500

100-443887-100

3750

110

[illegible]

PERCOLATION HOLE NO: 101

HOLE 14"
DEPTH: 48"

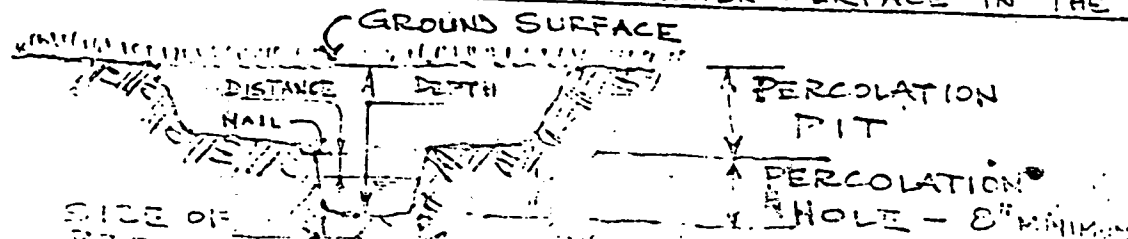
PRE SOAK	FILL HOLE WITH WATER	1ST READING	2ND READING	3RD READING	4TH READING	5TH READING	6TH READING	WATER DRAINED
TIME (WATCH READING)	10:32	12:38	12:39	3:01	8:30	8:35		
DISTANCE (IN INCHES)	0	5 1/2"		0	DRY	REFILL		
RATE								

OVERNIGHT
PRE SOAK

STABILIZE RATE	7 1/2" WATER	BEFORE REFILL	AFTER REFILL	BEFORE REFILL	AFTER REFILL	BEFORE REFILL	AFTER REFILL	BEFORE REFILL	AFTER REFILL	BEFORE REFILL	AFTER REFILL	BEFORE REFILL	AFTER REFILL
TIME (WATCH READING)	9:07	9:17	9:17	9:27	9:27	9:37	9:37	9:47	9:47	9:57	9:57	10:07	
DISTANCE (INCHES)	0	3/4"	0	3/4"	0	3/4"	0	3/4"	0	3/4"	0	3/4"	

PERC TEST	1ST READING	2ND READING	3RD READING	4TH READING	5TH READING	6TH READING	7TH READING	8TH READING	9TH READING	10TH READING
TIME (WATCH READING)	10:07	12:43	1:35	2:01	3:01					
DISTANCE (INCHES)	0	5 1/4	5 3/4	6"						
RATE										

NOTE: DISTANCE (IN INCHES) TO BE READ FROM AN ESTABLISHED FIXT POINT (NAIL) AT THE TOP OF THE PERCOLATION HOLE TO WATER SURFACE IN THE HOLE.



CARD BY DATE
TOWNSHIP OF: HOPEWELL HEALTH DEPT WITNESS:
OUR FILE 25578 OF

DES
DATE 6/25/87
SUBJECT SMITH

van nola/harvey
associates
TAD 1/2 SHEET

PERCOLATION TEST REPORT

P6.2 of 2

PERCOLATION HOLE NO. 102

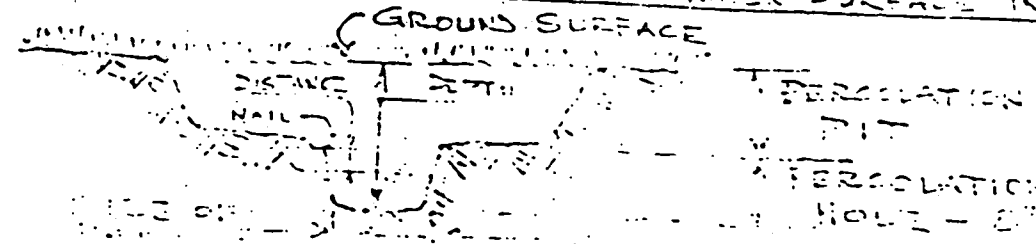
DEPTH. 57"

PRE SOAK	FILL HOLE WITH WATER	1ST READING	2ND READING	3RD READING	4TH READING	5TH READING	6TH READING	WATER DRAINED
TIME (WATCH READING)	4:22	8:30	OVERNIGHT	6:11	8:35			
DISTANCE (IN INCHES)	0	DRY	PRE SOAK		0			
RATE					REFILL			

STABILIZE RATE	FILL HOLE BEFORE 7 1/2" AND G. FILL	AFTER BEFORE REFILL	AFTER BEFORE REFILL	AFTER BEFORE REFILL	AFTER BEFORE REFILL	AFTER BEFORE REFILL	AFTER BEFORE REFILL	AFTER BEFORE REFILL	AFTER BEFORE REFILL	AFTER BEFORE REFILL	AFTER BEFORE REFILL	AFTER BEFORE REFILL	AFTER BEFORE REFILL
TIME (WATCH READING)	9:06	9:16	9:16	9:26	9:36	9:36	9:36	9:46	9:46	9:56	9:56	10:06	
DISTANCE (INCHES)	0	3/4"	0	3/4"	0	3/4"	0	3/4"	0	3/4"	0		

PERC TEST	1ST READING	2ND READING	3RD READING	4TH READING	5TH READING	6TH READING	7TH READING	8TH READING	9TH READING	10TH READING
TIME (WATCH READING)	10:06	1:44	1:16	2:02	2:28	3:13	3:38			
DISTANCE (INCHES)	0	4 1/4"	4 1/2"	4 3/4"	5"	5 3/4"	6"			
RATE								55.33 1/1"		

NOTE: DISTANCE (IN INCHES) TO BE READ FROM AN ESTABLISHED FIVE POINT (NAIL) AT THE TOP OF THE PERCOLATION HOLE TO WATER SURFACE IN THE HOLE.



DR. DATE 6/26/82 SUBJECT DAN SMITH
 WASHINGTON STATE DEPARTMENT OF HEALTH
 DIVISION OF FIELD SERVICES
 LAB NO. SHEET 2 OF 2
 OUR FILE 25576

PERCOLATION HOLE NO:

102

DEPTH:

57

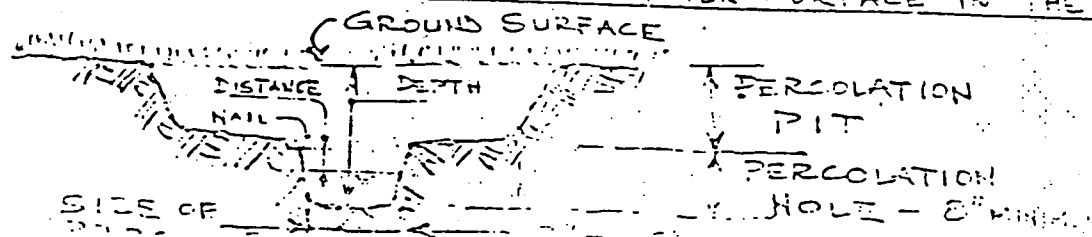
7"

FRE SOAK	FILL HOLE WITH WATER	1ST READING	2ND READING	3RD READING	4TH READING	5TH READING	6TH READING	WATER DRAINED
TIME (WATCH READING)	1046	12:57		1:54				
DISTANCE (IN INCHES)		5 1/2	20 1/2	DRY				
RATE								

STABILIZE RATE	FILL HOLE BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER
TIME (WATCH READING)	1:54	2:04	2:04	2:14	2:14	2:24	2:24	2:34	2:34	2:44	2:44	2:54		
DISTANCE (INCHES)	0	1"	0	3/4"	0	1/2"	0	3/4"	0	3/4"	0	3/4"		

PERC TEST	1ST READING	2ND READING	3RD READING	4TH READING	5TH READING	6TH READING	7TH READING	8TH READING	9TH READING	10TH READING
TIME (WATCH READING)	2:54	4:20	REFILL							
DISTANCE (INCHES)	0	3"								
RATE										

NOTE: DISTANCE (IN INCHES) TO BE READ FROM AN ESTABLISHED FIXT POINT (NAIL) AT THE TOP OF THE PERCOLATION HOLE TO WATER SURFACE IN THE HOLE.



CHECKED BY: DATE: TOWNSHIP OF: HOPEWELL HEALTH DEPT. WITNESS: OUR FILE: 25572

DES BY: DATE: 6/25/87 SUBJECT: SMITH DAV WIN NOLLO/HARVEY ASSOCIATES TAP INC SHEET: OF

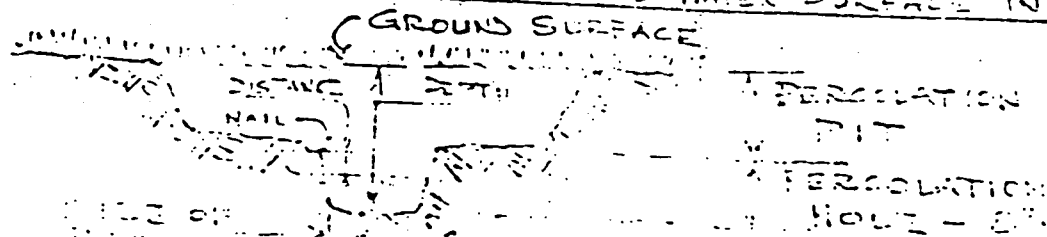
PERCOLATION TEST REPORT

DEPTH. 65

ABANDONED GOING DEEPER

105

NOTE: DISTANCE (IN INCHES) TO BE READ FROM AN ESTABLISHED FIXT POINT (NAIL)
AT THE TOP OF THE PERCOLATION HOLE TO WATER SURFACE IN THE HOLE.
(GROUND SURFACE)



PERCOLATION HOLE NO. 104 DEPTH 52"

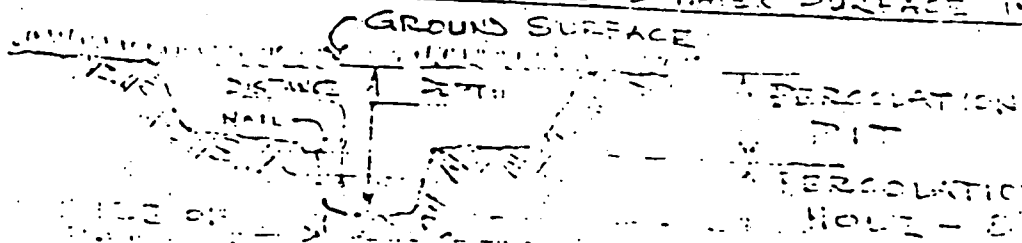
PRE SOAK	FILL HOLE WITH WATER	1ST READING	2ND READING	3RD READING	4TH READING	5TH READING	6TH READING	WATER DRAINED
TIME (WATCH READING)	10:58	114						
DISTANCE (IN INCHES)		3"						
RATE								

ABANDONED GONG DEEPER SEE 106

STABILIZE RATE	FILL HOLE BEFORE 7 1/2 YARD REFILL	AFTER REFILL	BEFORE REFILL	AFTER REFILL	BEFORE REFILL	AFTER REFILL	BEFORE REFILL	AFTER REFILL	BEFORE REFILL	AFTER REFILL	BEFORE REFILL	AFTER REFILL
TIME (WATCH READING)												
DISTANCE (INCHES)												
RATE												

PERC TEST	1ST READING	2ND READING	3RD READING	4TH READING	5TH READING	6TH READING	7TH READING	8TH READING	9TH READING	10TH READING
TIME (WATCH READING)										
DISTANCE (INCHES)										
RATE										

NOTE: DISTANCE (IN INCHES) TO BE READ FROM AN ESTABLISHED FIXT POINT (NAIL) AT THE TOP OF THE PERCOLATION HOLE TO WATER SURFACE IN THE HOLE.



SHIP OF: HOPEWELL HEALTH DEPT WITNESSES: OUR FILE 25576

DATE 6/25/67 SUBJECT DAN SMITH

WITNESSES/REVIEWING OFFICERS TAD HIG SHEET NO. OF

PERCOLATION HOLE NO. 105

DEPTH. 68"

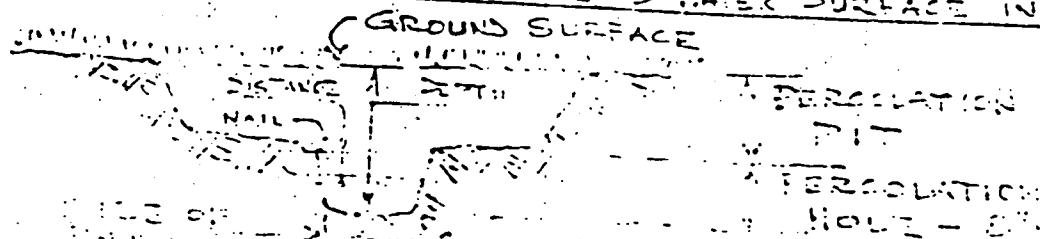
PRE SOAK	FILL HOLE WITH WATER	1ST READING	2ND READING	3RD READING	4TH READING	5TH READING	6TH READING	WATER DRAINED
TIME (WATCH READING)	12:25		3:02					
DISTANCE (IN INCHES)			0					
RATE								

OVERNIGHT
PRESOAK

STABILIZE RATE	FILL HOLE BEFORE 7 1/2" DEPTH	AFTER REFILL	BEFORE REFILL	AFTER REFILL	BEFORE REFILL	AFTER REFILL	BEFORE REFILL	AFTER REFILL	BEFORE REFILL	AFTER REFILL	BEFORE REFILL	AFTER REFILL	BEFORE REFILL	AFTER REFILL	BEFORE REFILL	AFTER REFILL
TIME (WATCH READING)																
DISTANCE (INCHES)																

PERC TEST	1ST READING	2ND READING	3RD READING	4TH READING	5TH READING	6TH READING	7TH READING	8TH READING	9TH READING	10TH READING
TIME (WATCH READING)										
DISTANCE (INCHES)										
RATE										

NOTE: DISTANCE (IN INCHES) TO BE READ FROM AN ESTABLISHED FIXT POINT (NAIL) AT THE TOP OF THE PERCOLATION HOLE TO WATER SURFACE IN THE HOLE.



DATE

WELL

HEALTH

DEPT

WITNESS

OUR FILE NO. 25576

DATE

DATE 6/25/57

SUBJECT SMITH

WITNESS/REVIEW ASSOCIATES

TAB No. SHEET 1 OF 1

PERCOLATION HOLE NO. 106

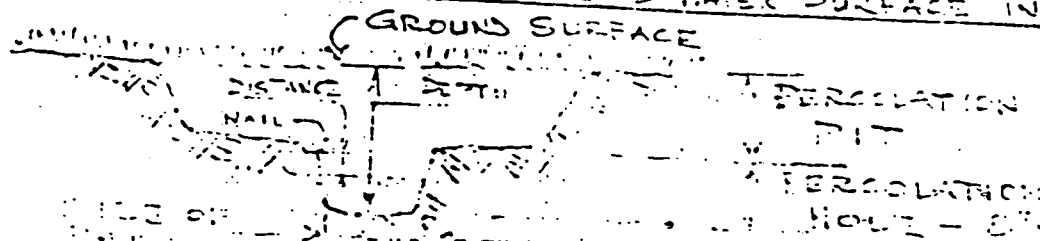
HOLE 10"
DEPTH 80"

PRE SOAK	FILL HOLE WITH WATER	1ST READING	2ND READING	3RD READING	4TH READING	5TH READING	6TH READING	WATER DRAINED
TIME (WATCH READING)	1.27							
DISTANCE (IN INCHES)	0							
RATE								

STABILIZE RATE	FILL HOLE BEFORE 7 1/2 YRS. REFILL	AFTER 25 YRS. REFILL	AFTER 50 YRS. REFILL	AFTER 75 YRS. REFILL	AFTER 100 YRS. REFILL	AFTER 125 YRS. REFILL	AFTER 150 YRS. REFILL	AFTER 175 YRS. REFILL	AFTER 200 YRS. REFILL
TIME (WATCH READING)									
DISTANCE (INCHES)									

PERC TEST	1ST READING	2ND READING	3RD READING	4TH READING	5TH READING	6TH READING	7TH READING	8TH READING	9TH READING	10TH READING
TIME (WATCH READING)										
DISTANCE (INCHES)										
RATE										

NOTE: DISTANCE (IN INCHES) TO BE READ FROM AN ESTABLISHED FIXT POINT (NAIL) AT THE TOP OF THE PERCOLATION HOLE TO WATER SURFACE IN THE HOLE.



DATE 6/25/07

DATE 6/25/07

SUBJECT DAY SMITH

WATERWORKS DIVISION

DATE 6/25/07

HEALTH DEPT. WITNESS:

OUR FILE 25576

DATE 6/25/07

DATE 6/25/07

DATE 6/25/07

DATE 6/25/07

DATE 6/25/07

PERCOLATION HOLE NO. 107

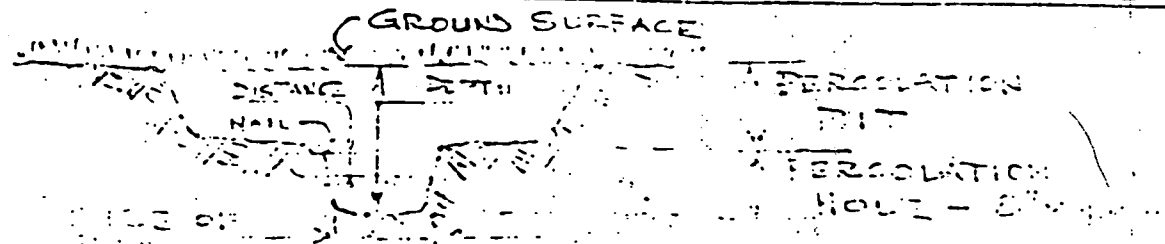
HOLE 12"
DEPTH 34"

PRE SOAK	FILL HOLE WITH WATER	1ST READING	2ND READING	3RD READING	4TH READING	5TH READING	6TH READING	WATER DRAINED
TIME (WATCH READING)	1:42	1:57						
DISTANCE (IN INCHES)	0	DRY						
RATE								

STABILIZE RATE	FILL HOLE BEFORE 7 1/2" DEPTH	AFTER REFILL	BEFORE REFILL	AFTER REFILL	BEFORE REFILL	AFTER REFILL	BEFORE REFILL	AFTER REFILL	BEFORE REFILL	AFTER REFILL	BEFORE REFILL	AFTER REFILL
TIME (WATCH READING)	1:59	2:09	2:09	2:19	2:19	2:29	2:29	2:39	2:39	2:49	2:49	2:59
DISTANCE (INCHES)	0	5 1/4"	0	5 1/4"	0	5"	0	5"	0	5"	0	5"

PERC TEST	1ST READING	2ND READING	3RD READING	4TH READING	5TH READING	6TH READING	7TH READING	8TH READING	9TH READING	10TH READING
TIME (WATCH READING)	2:59	3:14								
DISTANCE (INCHES)	0	6"	2.5"	1"						
RATE										

NOTE: DISTANCE (IN INCHES) TO BE READ FROM AN ESTABLISHED FIXT POINT (NAIL) AT THE TOP OF THE PERCOLATION HOLE TO WATER SURFACE IN THE HOLE.



DISCHARGE OF: PERCUT DATE 6/25/82 OUR FILE NO. 2576

DATE 6/25/82 SUBJECT DAN SMITH SHEET 1 OF 1

WATERWORKS
ASSOCIATES
TAD W. SHEET

PERCOLATION HOLE NO. 108

DEPTH 74"

46"

PRE SOAK	FILL HOLE WITH WATER	1ST READING	2ND READING	3RD READING	4TH READING	5TH READING	6TH READING	WATER DRAINED
TIME (WATCH READING)	9:25	10:07		10:30	2:05			
DISTANCE (IN INCHES)	0	1/2"		0	5"			
RATE								

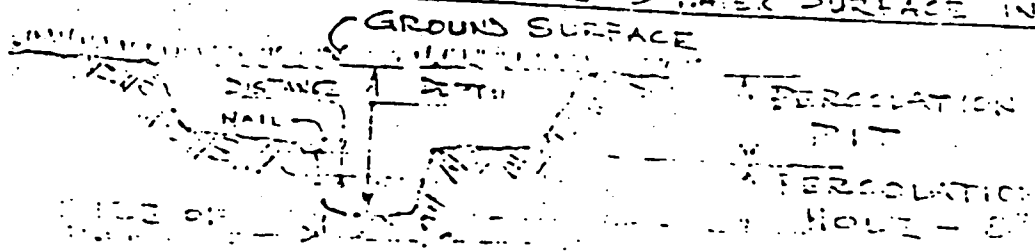
ABANDONED
DUG DEEPER

ABANDONED

DUG DEEPEN																		ABANDONED	
STABILIZE RATE	FILL HOLE	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER		
	7 1/2" REFILL	REFILL	REFILL	REFILL	REFILL	REFILL	REFILL	REFILL	REFILL	REFILL	REFILL	REFILL	REFILL	REFILL	REFILL	REFILL	REFILL		
TIME (WATCH READING)																			
DISTANCE (INCHES)																			

PERC TEST	1ST READING	2ND READING	3RD READING	4TH READING	5TH READING	6TH READING	7TH READING	8TH READING	9TH READING	10TH READING
TIME (WATCH READING)										
DISTANCE (INCHES)										
RATE										

NOTE: DISTANCE (IN INCHES) TO BE READ FROM AN ESTABLISHED FIXT POINT (NAIL) AT THE TOP OF THE PERCOLATION HOLE TO WATER SURFACE IN THE HOLE.



RECEIVED OF: HOPKINSON DATE: 6/26/87 SUBJECT: T.M. SMITH

DES: DATE: 6/26/87 SUBJECT: T.M. SMITH

WATER/STATION 7
ELEVATION
TAD 1/16 SHEET 2 OF 2

OUR FILE: 85576

BLOCK

LOCATION

ENGINEER

DATE OF LOG

DATE OF PERC

DEPTH OF GROUND WATER.

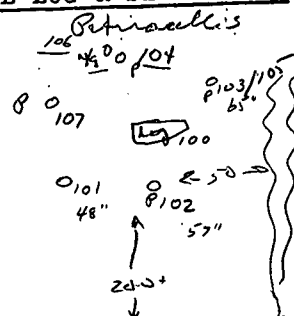
SOIL LOG

LOCATION: SOIL LOG & PERC TESTS

18; refused

no water
moist - root 2-3 feet.

HOLE # 107



১৫০৮৯

HOLE # 102

STABILIZATION		
DEPTH: 34		
TIME	INCHES	
1:59	0	
2:09	5 1/4	5 1/4
2:09	0	
2:19	5 1/4	5 1/4
2:19	0	
2:29	5	5
2:29	0	
2:39	5	5
2:39	0	
2:49	5	5
2:49		
2:59	5	5

RATE:

[illegible]

STABILIZATION		
DEPTH: 57		
TIME	INCHES	
1:54	0	
2:04	1	1
2:04	0	
2:14	$\frac{3}{4}$	$\frac{3}{4}$
2:14	0	
2:24	$\frac{1}{2}$	$\frac{1}{2}$
2:24	0	
2:34	$\frac{3}{4}$	$\frac{3}{4}$
2:34	0	
2:44	$\frac{3}{4}$	$\frac{3}{4}$
2:44	0	
2:54	$\frac{3}{4}$	

RATE:

[illegible]

ROAD

TRENT
678.AB

1150 (5)

~~210474~~

well

PROPOSED WEEK
LOCATION FOR
EQUIP + DRAW-
SMITH

89.32Ac.

A
Prop
SEPT
AREA

Tree Row

530

165'

31 2.38 AC.

74
4.02 Ac

76

75
7.579

696.45

727

DEFINITION -

TITUSVILLE 845.06

41.5'

499.13

1752.30

SHEET

ftb Copy

TOWNSHIP OF HOPEWELL

DEPARTMENT OF HEALTH

Dan Smith
RR 2, Box 283
Titusville, NJ 08560

Block 62, Lot 4.01

Location: Trenton-Harb. Rd.

Date: February 11, 1988

Re: Sewage Disp. Application

Dear Mr. Smith:

Your application for an individual sewage disposal system for the subject property has been reviewed by this office and must be denied for the following:

1. System not designed to minimum square footage required by Township Ordinance.
2. Based on a design rate of 55 min/inch, trenches must be 7.5 feet on center
3. Over 600 linear feet of distribution line requires mechanical dosing or siphon.

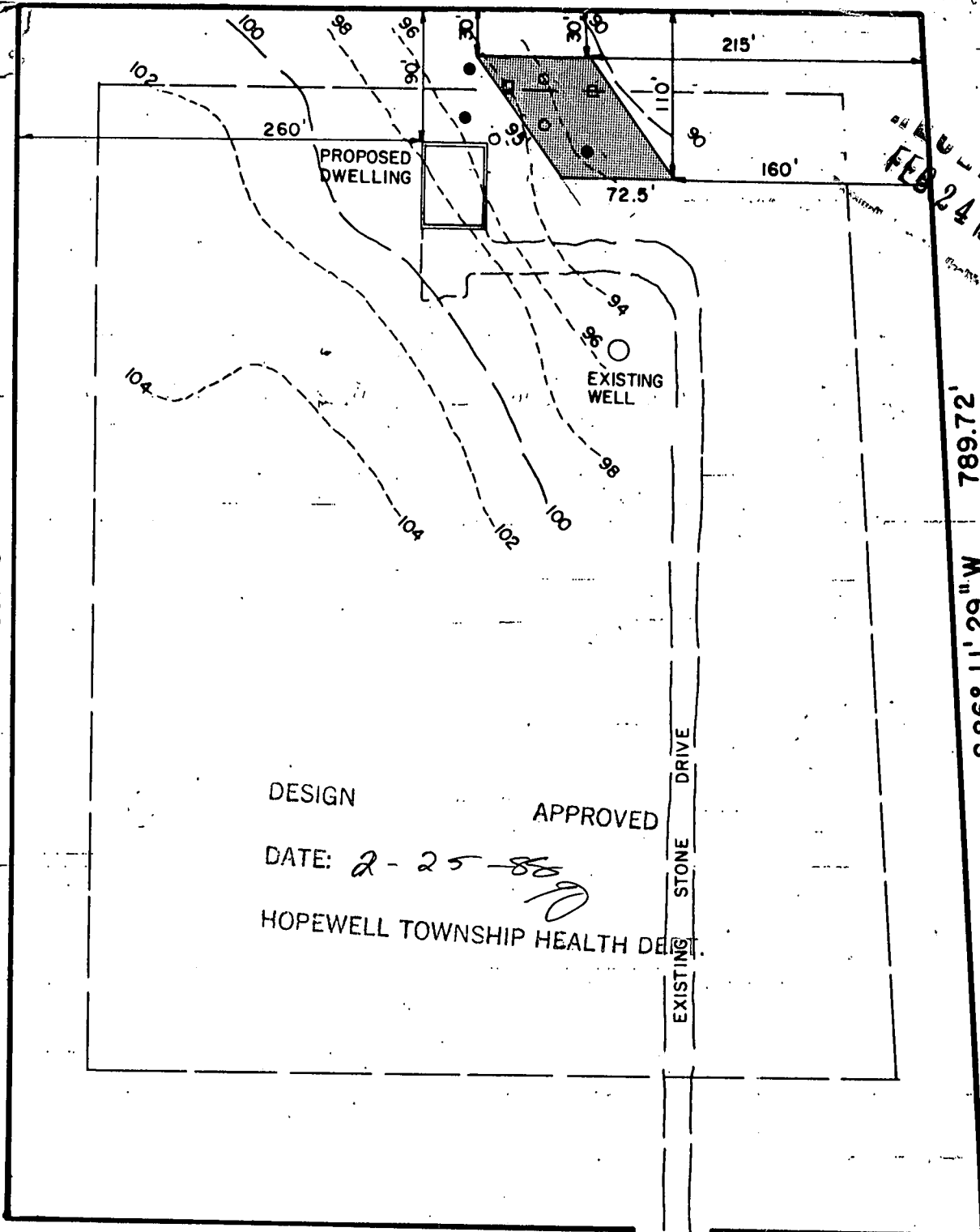
Very truly yours,

George Kiesel
Sanitary Inspector

GK/ss

BENCH MARK
IRON PIN
100.00
(ASSUMED)

S00°12'55"E 575.16'



N 89° 47' 05" E 785.73'

S 86° 11' 29" W 789.72'

DESIGN APPROVED

DATE: 2-25-88

HOPEWELL TOWNSHIP HEALTH DEPT.

N 00° 05' 00" W 400.00'

N 89° 55' 00" E 378.07'

N 00° 05' 00" W 174.59'

TAX MAP DATA

LOT 4.01
BLOCK 62
SHEET 13
10.83 Ac.

R=2337'
L=50.61'
CB=S08° 49' 03" W
CH=50.61'

TRENTON

HARBOURTON ROAD

REVISIONS

2-12-88 REV PER HOPEWELL TOWNSHIP
HEALTH DEPT.
2-23-88 REV PER TOWNSHIP
HEALTH DEPT.

DAVID E. GOLDENBAUM
& ASSOCIATES, INC. — LAND SURVEYING & PLANNING
119 DOUGLAS STREET LAMBERTVILLE, NJ 08530
608-397-1505

SEWAGE DISPOSAL SYSTEM FOR

DAN SMITH

HOPEWELL TOWNSHIP MERCER COUNTY NEW JERSEY

KENNETH E. BAILL NJPE 30111

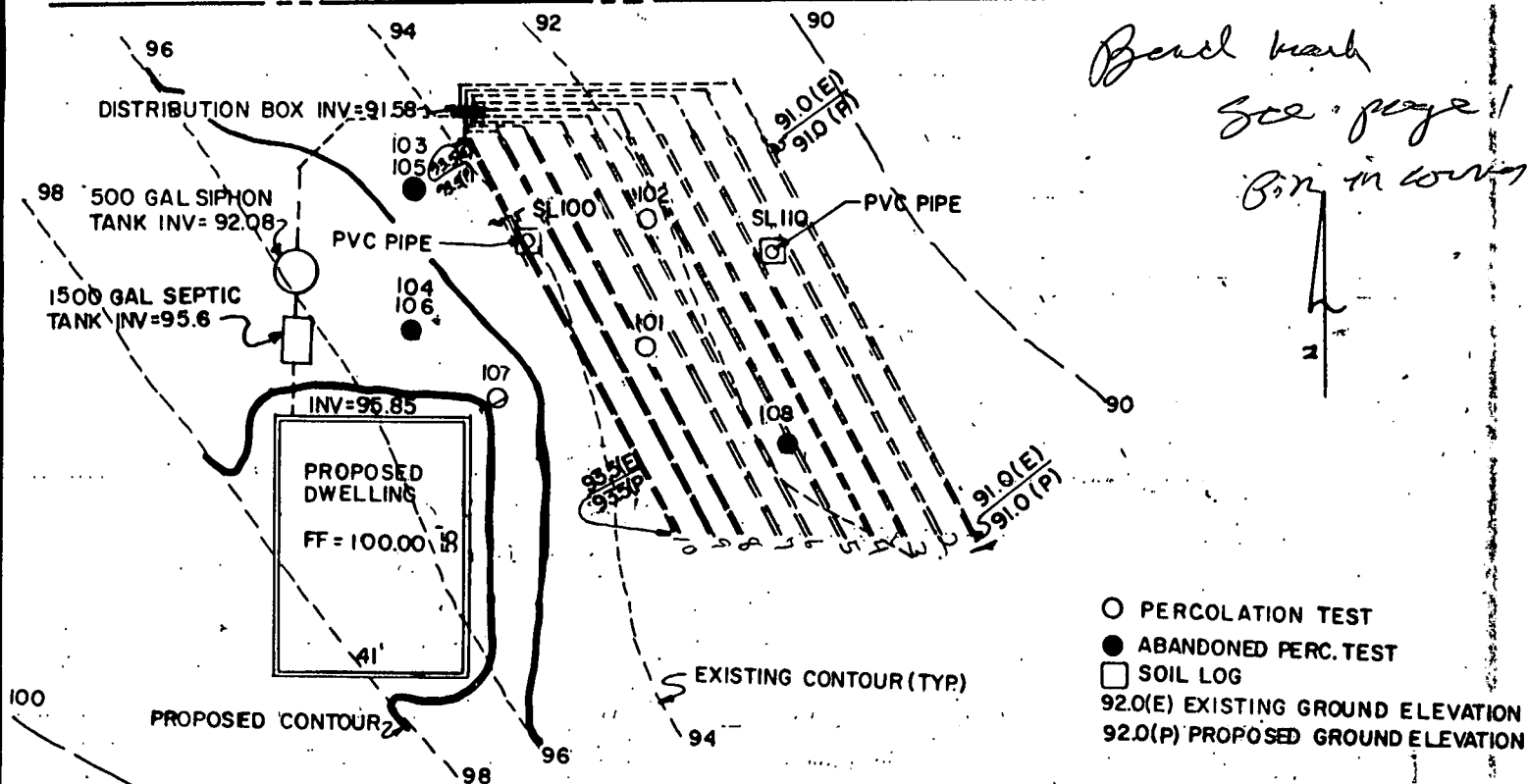
DRAWN BY: PAH

CHECKED BY: [Signature]

SCALE: 1"=100'

DATE: 1/28/88

PROJ. NO.: 84-538-1 1/3



Soil Logs and Percolation Tests performed on 6/26/87 by Dave Sharp under the supervision of Gary T. Boyer, NJPE #28544 of VanNote Harvey Associates and witnessed by Guarino-Kiesal of Hopewell Township Health Department

Soil Log #100

- 0 - 12" (10YR 4/3) brown silt loam, 15% angular gravel; moderate sub-angular structure; friable; common fine roots; a clear smooth boundary.
- 12" - 60" (5YR 3/3) dark reddish brown; silty clay loam; 35% angular gravel; a moderate angular structure; firm; sticky; few fine roots; a gradual slightly wavy boundary.
- 60" - 96" (5YR 3/3) dark reddish brown; fractured shale, 75%; cobble size pieces of fractured shale, a strong platy structure; friable; well fractured; grading to a bedrock; 96"; no water entering pit; seasonal high water table not available.

Soil Log #110

- 0 - 16" (10YR 4/3) brown silt loam; 15% angular gravel; with a moderate subangular structure; moist; friable; common roots; a clear slightly wavy boundary.
- 16" - 46" A strong brown (7.5YR 4/6) silty clay loam, 5% angular gravel; with few fine distinct (10YR 7/1) light gray; mottles; 16"-46"; moderate massive structure; moist; firm; sticky; few fine roots; a gradual smooth boundary.
- 46" - 54" (5YR 3/3) dark reddish brown silt loam, 40% angular gravel; with a moderate angular structure; moist; sticky; no roots; gradual smooth boundary.
- 54" - 84" Dark reddish brown; fractured shale, 75% cobble size pieces of fractured shale; friable; no roots, grading to bedrock; with no water entering pit.

Percolation Tests

#101	48" Depth	39 min/inch
#102	57" Depth	55 min/inch
#103	65" Depth	abandoned
#104	52" Depth	abandoned
#105	68" Depth	abandoned
#106	80" Depth	abandoned
#107	34" Depth	2.5 min/inch
#108	74" Depth	abandoned

WATER TABLE @ 75.6" MEASURED IN TWO (2) PVC PIPES ON 1/25/88

REVISIONS

- 2-12-88 REV PER HOPEWELL TOWNSHIP HEALTH DEPT.
2-23-88 REV PER TOWNSHIP HEALTH DEPT.

DAVID E. GOLDENBAUM
A ASSOCIATES, INC. - LAND SURVEYING & PLANNING
119 DOUGLAS STREET LAMBERTVILLE, NJ 08530
609-397-1505

SEWAGE DISPOSAL SYSTEM FOR
DAN SMITH

HOPEWELL TOWNSHIP MERCER COUNTY NEW JERSEY

K E B
KENNETH E. BAILL NJPE 30111

DRAWN BY:

PAH

CHECKED BY:

SCALE:

1"=40'

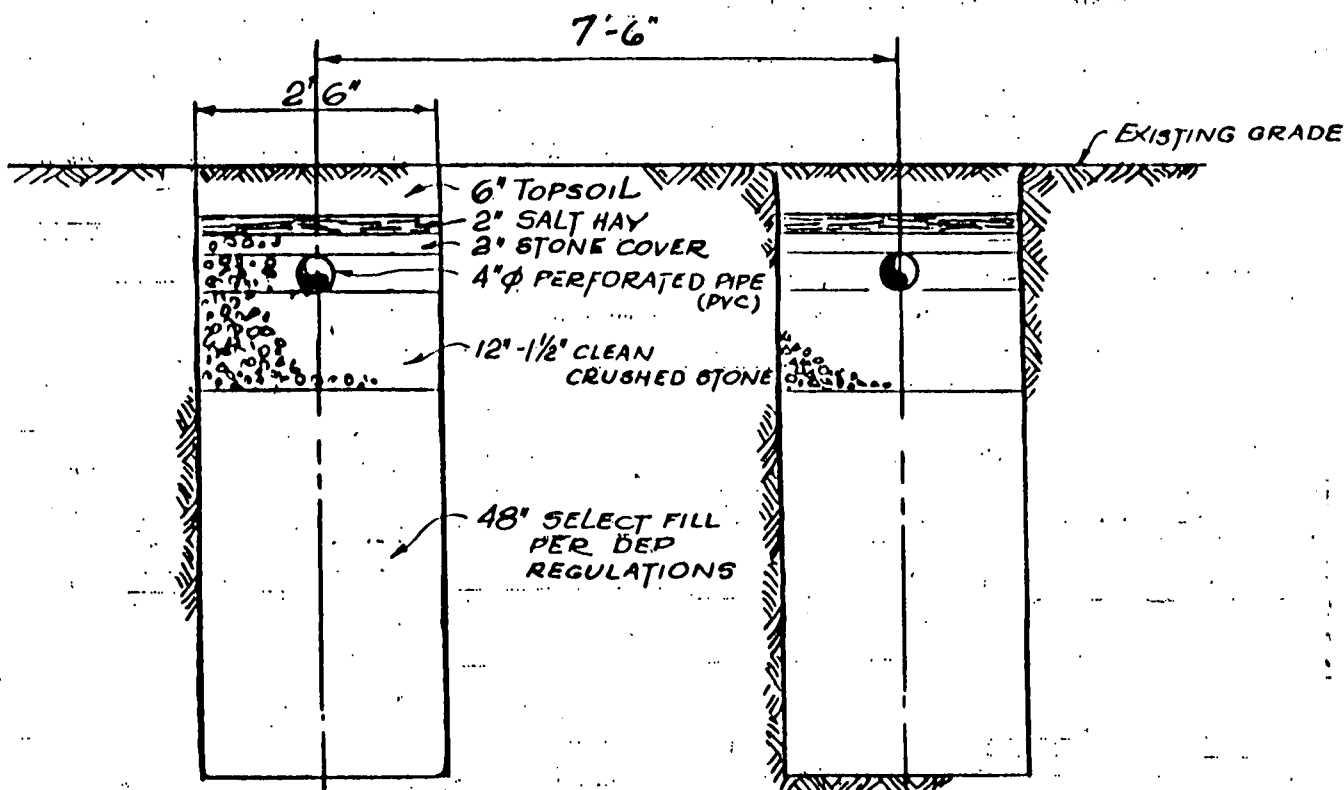
DATE:

1/28/88

PROJ. NO.:

84-538-1

2/3



DISPOSAL TRENCH - TYPICAL SECTION

SCALE: 1/2" = 1'-0"

GENERAL NOTES

1. Percolation tests and disposal design in accordance with Local Ordinance and N.J. Chapter 199.
2. All field pipe (excluding disposal field) shall be sch. 40 PVC pipe.
3. Minimum slope of pipe shall be 1/8" per ft. (use 1/4" per ft.)
4. Disposal system shall consist of 4" Ø PVC perforated pipe in stone trenches.
5. Elevations are based on assumed datum.
6. A clean-out shall be installed every 50'.
7. All trees shall be removed within 10' of system.
8. Install 10 trenches at 95' each.
9. This design is based on a four bedroom single family dwelling.
10. There are no potable water wells within 100' of this installation.
11. Siphon tank as manufactured by Modern Concrete Septic Tank Co. or equal.

REVISIONS

2-23-88 REV PER TWP HEALTH DEPT.

DAVID E. GOLDENBAUM

& ASSOCIATES, INC. - LAND SURVEYING & PLANNING
119 DOUGLAS STREET LAMBERTVILLE, NJ 08530
609-397-1505

SEWAGE DISPOSAL SYSTEM FOR

DAN SMITH

HOPEWELL TOWNSHIP MERCER COUNTY NEW JERSEY

K. E. BAIL

KENNETH E. BAIL NJPE 30111

DRAWN BY:

PAH

CHECKED BY:

808

SCALE:

AS SHOWN

DATE:

1/28/88

PROJ. NO.:

84-538-1

3/3

6-1-88 Siphon not working
over filter active - may be too short.

Regrabs around tent.

6-8-88 - Grading ok
- Will Hughes ok

6-16-88 - Siphon - Ran H₂O, 45mm, no drop in H₂O level ok

6-17-88 am - Siphon - water level has dropped below top of Bell
Siphon appears to be operating ok 97

**TOWNSHIP OF HOPEWELL
HEALTH DEPARTMENT**

Route 546 and Scotch Road
Titusville, NJ 08560

February 24, 1988

Dan Smith
897 East Drive
Bordentown, NJ

Re: Block 62, lot 4.01

Your application for an onsite subsurface sewage disposal system has been approved with the following conditions:

1. A copy of this letter must be forwarded to your construction contractor and sewage disposal installer prior to installation of said system.
2. The house location must be staked by a licensed surveyor or professional engineer to assure proper location and elevation as represented on the attached plan.
3. The sewage disposal system must be located and staked prior to installation by a licensed surveyor or professional engineer to guarantee the proper alignment of the system in the area of the soil tests, and to insure it will conform to all site restrictions as represented on the attached design.
4. The required elevation of the sewage disposal system should be verified by the licensed professional engineer or surveyor, the builder and the plumbing contractor as it relates to the foundation height, the point where the sewer line exits the dwelling and the height of the septic tank. If this is a gravity system and the minimum height of the sewer line is not maintained, an ejector system will be required after the septic tank.
5. An onsite conference is required with your installer and a representative from this office prior to installation of any part of this system. This should avoid any problem during the installation which can be costly to all parties concerned.
6. The design engineer must be notified at the beginning of the installation. Field measures must be made

for the required as-built design. The as-built will reflect any changes caused by site conditions, construction changes and installation problems, and will provide a detailed location of the installed system so it can be located once it is covered.

7. No excavating machinery shall be permitted in the excavation

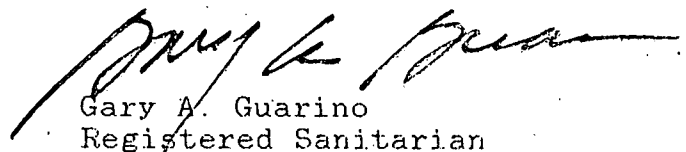
8. All trees within 10 feet of the disposal area must be removed.

9. All phases of construction of the disposal system must be inspected by the Health Department. It is your responsibility (or your contractors) to notify the Health Department by **no later than 9:00 a.m.** on every day that construction is underway so inspections can be scheduled.

10. Engineer has not delineated a reserve area as required. It is strongly suggested that the area around perc hole 107 be reserved for future repairs. In order to do this, the house would need to be moved further away (**a** 25 foot minimum distance to foundation is required).

11. Access lids required on siphon tank to grade.

Very truly yours,



Gary A. Guarino
Registered Sanitarian

GAG/ss

3/25/88 Stake appen correct
System not started yet. OK

3/29/88 #1 started, 1st 15 ft Leds open to Rain.
must be pumped out and dug slightly deeper to get rid of silt
Depth 74" $\pm$ No H₂O in remainder of Trench. OK

3/30/88 #1 Dug - Sand In
Stone going in OK

#2 start 1 ft sand
add additional fabric to prevent
settling in at edge. S

3-31-88 #3 started sand start 6"

leave ends open.

Sand Analysis Report

4/4/88 - #7 Sand going in - Rodded - 48" $\pm$
- Bottom depth 75" $\pm$

#6 } Stone & Sand In } Stone Rocked 18-20" $\pm$ throughout
#5 } Siltier Fabric on }

4/5 #8 Being dug - depth 74" $\pm$ No H₂O after heavy but brief Rain
on 4/4 a.m. OK

4/5 pm #8 - Sand in
Redded 48" full length
Stone & Pipe going in.

4/6 #10 Being dug depth ok OK

4/8 #10 done

4/20/88 #9 & 10 OK to Backfill - D-Box Grouted OK

Need Signal Grade Insp / As-built & Siphon check OK

JOB 84-538-1 Dan Smith

SHEET NO. 1 OF SEPTIC LOC. ASBUILT

CALCULATED BY JL DATE 4-22-88

CHECKED BY [Signature] DATE 6-14-88

SCALE None

1. E. C. B. 6/8/88

RECEIVED

MAY 20 1988

HOPEWELL TOWNSHIP HEALTH DEPT.

Office Use Only

Permit No.

Date:

Fee Received

BOARD OF HEALTH OF HOPEWELL TOWNSHIP
ROUTE 546, TITUSVILLE, NEW JERSEY 08560

APPLICATION FOR PERMIT TO LOCATE AND CONSTRUCT AN INDIVIDUAL WATER SUPPLY
AND SYSTEM OR ALTER AN EXISTING WATER SUPPLY SYSTEM.

SECTION A

Owners Name (print) Dan Smith
Present Address 897 East Drive Telephone 298-3782
Bordertown N.J.
Location of property
for which this application is made Bear Tavern Rd Block 62 Lot 4.01
Name of Contractor or well driller Walter P. Travis Inc.
Address 1650 Pennington Rd. Trenton N.J. Telephone 852-3107
Contractor [Signature] signature Owner [Signature] signature

SECTION B

Inspection of construction was made on the following date 8-17-87
Length of Casing 50 Method of grouting of annular space pressure grout
Installation and construction of well is certified to be in accordance with Hopewell Township Ordinance and N.J.D.E.P.
Standards for Construction of Public non-community and non-public water systems.
[Signature]
Inspector

SECTION C

WELL DATA AS COMPLETED

N.J. State well drilling permit # 27-09177 dated 7-13-87
Length of casing (to extend 12" min. above Final Grade) 52' ft.
Depth 290 ft.
Water level below top of casing 44 ft.
Diameter of Well 6 in.
Estimated capacity of well 15 gpm
Length of pumping test 8 hr.

I certify that the above information is correct and the well has been drilled, sealed, and disinfected according to the latest Hopewell Township Ordinance.

may 1988 Dated [Signature] Well driller 614 License #

Pump Data

Type of Pump submersible Actual Pump Setting 100 ft.
Manufacturer Goulds Depth of jet below top of casing _____ ft.
Model 7EH Tank Data
Horse power 1/2 Type of Tank X-Trol
Number of Stages 11 Capacity 203 gal.
Lowest Possible Setting 180 ft. Manufacturer X-Fol
Type of Pipe plastic

I certify the above information is correct and the installation has been in accordance with manufacturer specifications and all required codes.

This must be completed and filed prior to
issuance of a certificate of occupancy.

[Signature] Pump Installer 614 License No.

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
TRENTON, N.J.

Mail to

Water Allocation

CN 029

Trenton, N.J. 08625

Permit No. 2709177PERMIT TO DRILL WELL 6

VALID ONLY AFTER APPROVAL BY THE D.E.P.

27.14.5.53

Owner Don Smith
Address 897 East Drive
Bordentown N.J.
Name of Facility same
Address Bear Tavern Rd
Titusville N.J.

Driller Walter P. Travis Inc
Address 1650 Pennington Rd
Trenton N.J.

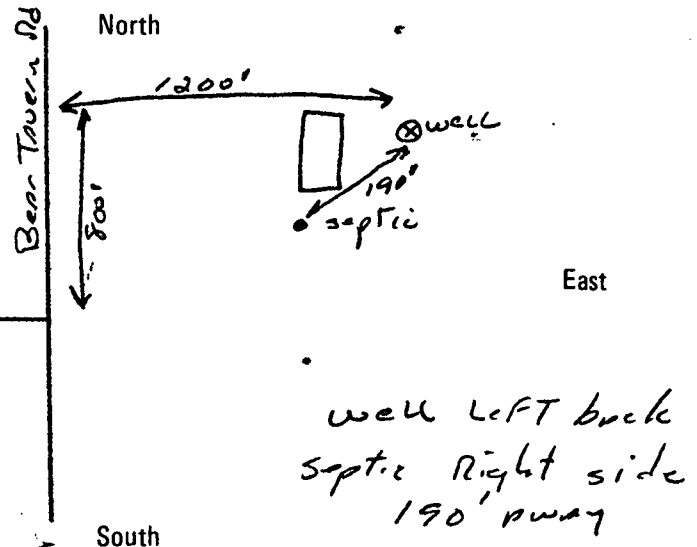
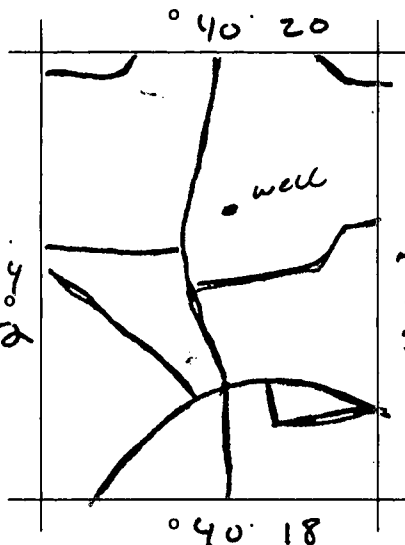
Diameter of Well	<u>6</u> Inches	Proposed Depth of Well	<u>170</u> Feet
Proposed Capacity of Pump	<u>7</u> GPM	Method of Drilling	<u>(cable-tool, rotary, etc.)</u>
Use of Well (See Reverse)	<u>Domestic - New</u>		

LOCATION OF WELL

Lot #	Block #	Municipality	County
<u>4</u>	<u>62</u>	<u>Hopewell Twp</u>	<u>Mercer</u>

State Atlas Map No. 27

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.

- ☐ Pinelands - Well must be drilled over 100' deep or a clay layer at least 4' in thickness must be encountered.
- ☐ It is necessary that Geophysical Logs of this well be made. Permanent pumping equipment SHALL NOT be installed until such logs are made.
- ☐ Authorization by rule under N.J.A.C. 7:14A-1 et seq.
- ☐ Samples of cuttings required every _____ feet or change in material.
- ☐ The results of a volatile organic scan must be obtained prior to using the water and submitted to _____.
- ☐ Domestic Potable Water Supply - The service line for water from the public community water supply system shall be turned off at the curb cock, and the meter shall be removed by the water purveyor.
- ☐ Domestic Irrigation Supply - No piping from the well for which the permit applies shall enter any building.
- ☐ Industrial/Commercial Supply - A physical connection permit shall be obtained pursuant to the provisions of N.J.A.C. 7:10-10-1 et seq., and a vigorous cross connections control program shall be instituted and maintained within the premises.
- ☐ Heat Pump Wells - Wells must be 50 feet apart and the water must be returned to the same aquifer as the production well.
- ☐ _____

This Space for Approval Stamp

WELL PERMIT APPROVED
Dept. of Environmental Protection
Water Resources/Water Allocation

JUL 7 1987

RECEIVED

JUL 13 1987

Hopewell Township Health Dept.

In compliance with R.S. 58:4A-14, application is made for a permit to drill a well as described above.

Date July 2, 1987

Signature of Owner

Don Smith

COPIES:

Water Allocation - White

Health Dept. - Yellow

Owner - Blue

Driller - White

USE OF WELL:

Please Specify

Domestic
Deepening
Replacement
Irrigation
Observation
Monitoring
Exploration
Dewatering
Recovery

Heat Pump
Recharge
Test
Industrial
Commercial
Public Supply
Non-Community
Fire Protection
Decontamination

Application must be accompanied by a legal fee of ten dollars (\$10.00) for wells under 70 gallons per minute and twenty five dollars (\$25.00) for over 70 gallons per minute.

Make Checks Payable to: STATE OF NEW JERSEY – WELL PERMITS

In accepting this permit the Owner and Driller agree to abide by the following terms and conditions:

1. This permit conveys no rights, either expressed or implied, to divert water.
2. **If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Division of Water Resources.**
3. In the event this well is abandoned, the Owner will assume full responsibility for filling and sealing it in a manner satisfactory to the Division, in accordance with provisions of R.S. 58:4A-4.1.
4. This permit will be valid for one year from date of approval.
5. If this well is to be used for public non-community or non-public supply, it must be constructed in accordance with provisions of "Standards for the Construction of Public Non-Community and Non-Public Water Systems" and be approved by the local Board of Health.
6. A well record must be filed with the Water Allocation Office within 60 days after the well is completed.
7. Authorization by rule may be revoked at any time.

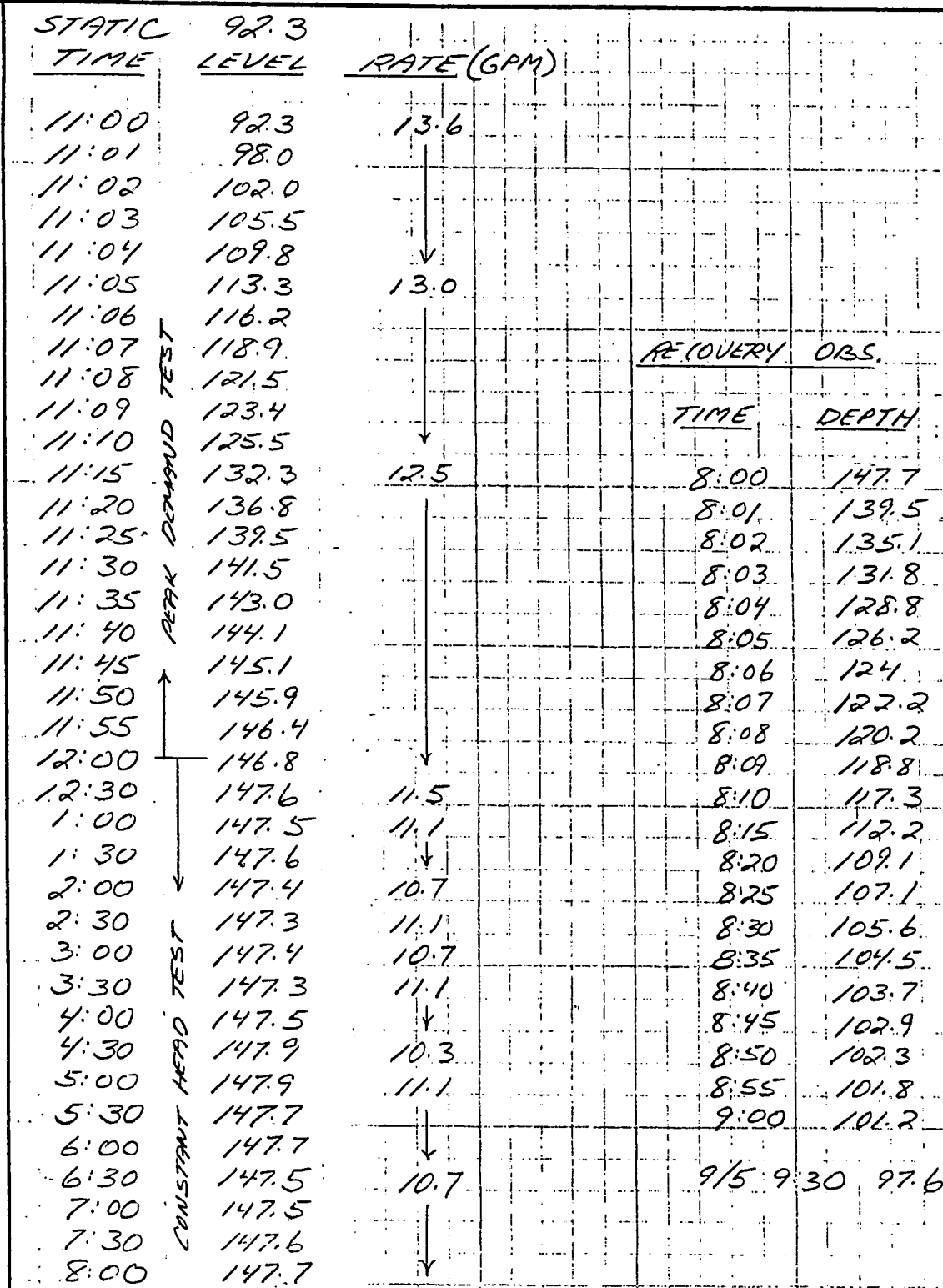
van note/harvey
associatesBY RAJ DATE 9/4/87 SUBJECT SMITH WELL TEST SHEET _____ OF _____CHKD. BY _____ DATE _____ OUR FILE 25757

FIGURE 6



CHYUN ASSOCIATES
Architectural, Engineering & Laboratory

Research Park, 267 Wall Street
Princeton, New Jersey 08540
609-924-5151

LABORATORY ANALYSIS REPORT

Client: Smith Residence
Address: RR #2 Box 279A
Titusville, NJ 08560
Attention: Mr. Dan Smith

Test Number: L88623
Date Received: June 2, 1988
Date Sampled: June 2, 1988
Job Number: 03994-1

SAMPLE NUMBER	SAMPLE DESIGNATION/DESCRIPTION					
1	Tap Water: Lot 4201 Block 62 Hopewell Twp.					
Limit	Maximum Contaminant Level					
SAMPLE NUMBER						
PARAMETER/CONSTITUENT	1	Limit				
Iron, total	< 0.01	0.3				
Manganese, total	< 0.01	0.05				
Nitrate as N	4.8	10				
pH, (units)	7.5	6.5-8.5*				
Total Coliforms colonies/100ml	0	0				
Sampled by Chyun Associates						
*NJDEP acceptable pH range						
All results in mg/l (ppm) except where noted						
Laboratory ID No. 11198						

June 7, 1988
Date


Michael Wright
Technical Director

RECEIVED

OCT 8 1987

WELL TEST REPORT

FOR

HOPEWELL TWP. PLANNING/ZONING

MR. DAN SMITH

LOT 4.01

BLOCK 62

HOPEWELL TOWNSHIP

MERCER COUNTY, NEW JERSEY

PREPARED BY:

VAN NOTE-HARVEY ASSOCIATES

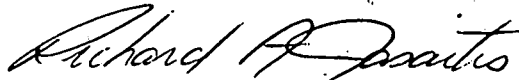
CONSULTING ENGINEERS

327 WALL STREET

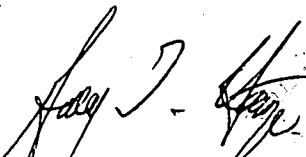
PRINCETON, NEW JERSEY 08540

VNH #25757

SEPTEMBER 16, 1987



RICHARD A. JASAITIS, GEOLOGIST



GARY T. BOYER, N.J.P.E. #28544

GEOHYDROLOGY

The subject well is located in an area which underlies Brunswick Shale. The well was tested for certification to allow the subdivision of a single lot.

The proposed lot is located on the east side of Bear Tavern Road east of Baldpate Mountain (see quadrangle map, figure 1). The tested location overlies Brunswick Shale (Trb) located adjacent to another Mesozoic-aged unit known as the Lockatong Argillite (Trl) which trends in a northeasterly direction through the area. The appearance of both rock types in the well bore was confirmed by an examination of the drill cuttings. The test location is near the Hopewell Fault, a major Mesozoic-aged normal fault, which lies approximately 1-1/4 miles north of the test area (see geologic map, figure 2).

The test area lies on soils described by the Soil Conservation Service as belonging to the Penn Series, Penn Shaly Silt Loam, 0 to 6 percent slopes (PeB). This is a shallow soil (depth to bedrock 1-1/2 - 2-1/2 feet) consisting of moderately well-drained silty loams.

Surface drainage at the test location is to the south downslope, eventually draining east towards Jacobs Creek which flows south and southwest to the Delaware River.

TECHNICAL SPECIFICATIONS

Test Well

The subject well is 6" diameter and was drilled on 8/17/87 to a total depth of 290 feet. This well was drilled in red shale and gray argillite as confirmed by a visual examination of the drilling cuttings. Nineteen pound steel casing was set to fifty-two feet. Upon completion the well yielded 15 GPM. The test well is located approximately 245 feet above sea level and is 138 feet from the proposed septic field location (survey figure 3). During the period of the test a temporary submersible electric pump was set at 200 feet.

Observation Well

There was no observation well for this test as this is a single lot subdivision and the closest adjacent well lies 587 feet away to the northeast.

TEST SUMMARY

The subject well was tested for "peak demand" and "constant head" at flow rates determined in accordance with "New Jersey Geological Survey Ground-Water Report Series No. 1, Two Part Pump Test for Evaluating the Water Supply Capabilities of Domestic Wells" (figure 4 and figure 5). At the time of the test, the house size was anticipated to be 4 bedrooms and 3-1/2 baths.

Rates obtained on the peak demand test, from 13.6 to 12.5 GPM, would allow up to 4 bathrooms. The declining rate observed during the test is due to the increasing head against which the pumping takes place. The depth of the well (290 feet) combined with the proper pump placement would yield an adequate storage capacity to satisfy the peak load requirements without additional above ground storage capacity. Rates measured on the constant head test, that is the long term aquifer contribution rate, is 10.7 GPM. This rate is more than sufficient to supply the daily demand volume of a 4 bedroom residence (tables, figure 4, figure 5).

The pumped phase of the test lasted 9 hours and recovery observations were conducted for an additional 1 hour (field notes enclosed, figure 6). Total subject well drawdown was 55.4 feet.

The field measurements are graphed (figure 7) and indicate more than adequate performance for the anticipated residence. The recovery observations (figure 8) show that the well recovered 84% of the test drawdown in 1 hour with complete recovery prior to the 9:30 AM reading the next day.

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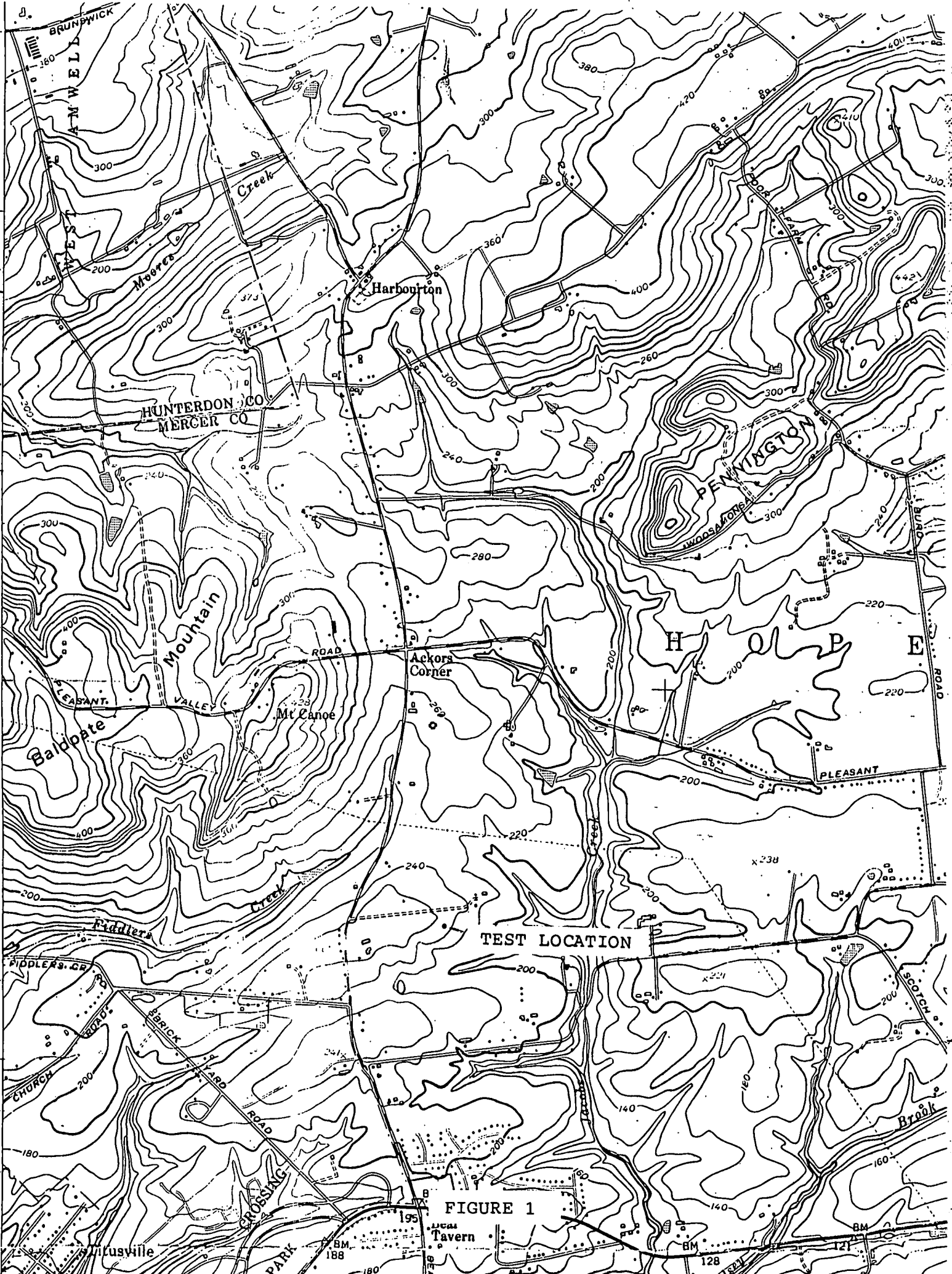


FIGURE 1

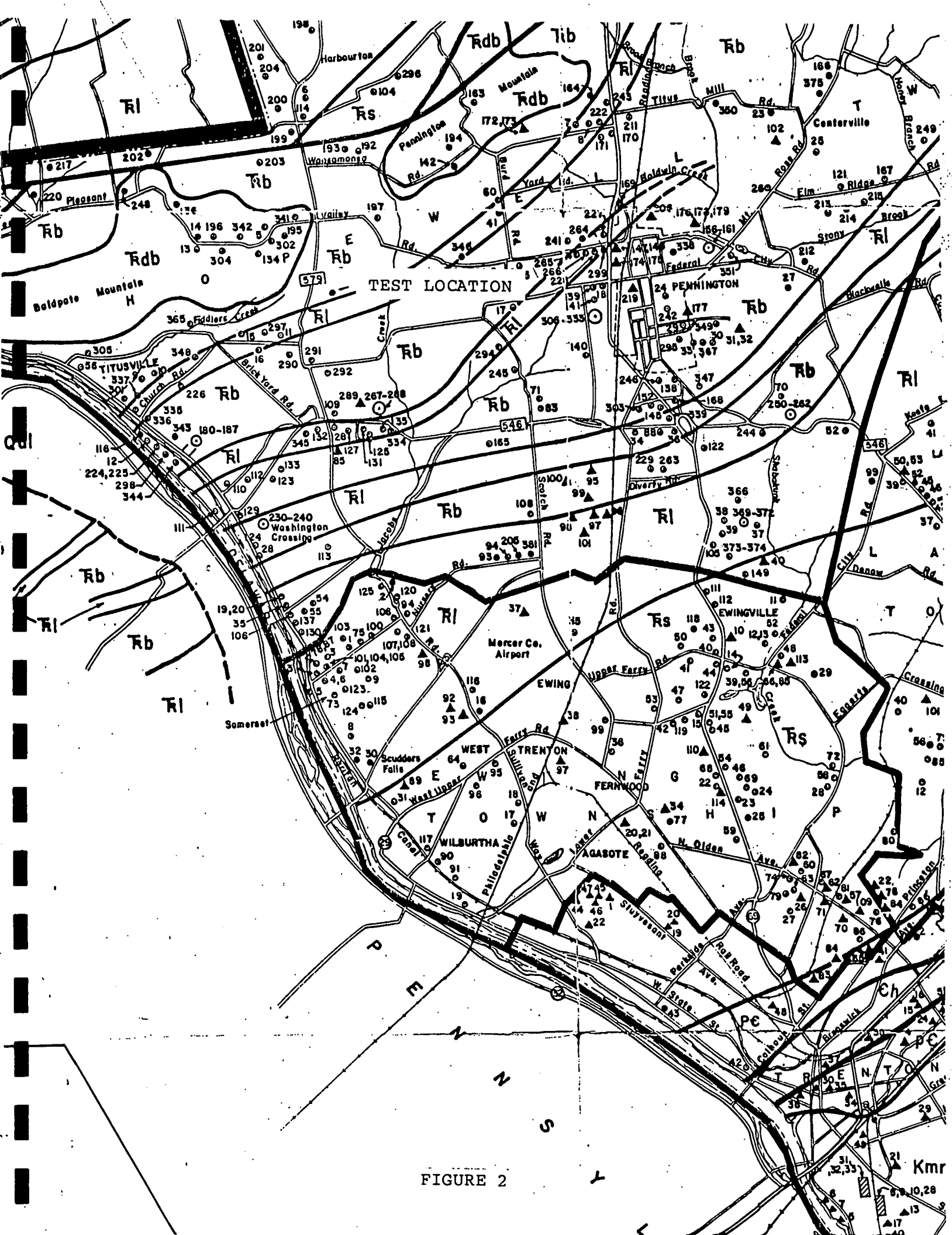


FIGURE 2

TABLES

Table 1: Duration of peak time in minutes as a function of the numbers of bedrooms and bathrooms in a dwelling.

		Number of Bathrooms				
		1	1½	2	2½	3
Number of Bedrooms	1	33.3	22.2	16.7	13.3	11.1
	2	66.7	44.4	33.3	26.7	22.2
	3	100.0	66.7	50.0	40.0	33.3
	4	133.3	88.8	66.7	53.3	44.4
	5	166.7	111.1	83.3	66.7	55.5

Table 2: Peak demand rate as a function of the number of bathrooms in a dwelling.

Number of Bathrooms	Peak Demand Rate (gpm)
1	3
1½	4.5
2	6
2½	7.5
3	9

Table 3: Flow volumes in gallons per minute corresponding to flow volumes in gallons per day.

Flow Volume (gpm)	Flow Volume (gpd)
0.01	14.4
0.02	28.8
0.05	72.0
0.1	144.0
0.2	288.0
0.3	432.0
0.4	576.0
0.5	720.0
0.6	864.0
0.7	1,008.0
0.8	1,152.0
0.9	1,296.0
1.0	1,440.0
2.0	2,880.0
5.0	7,200.0
10.0	14,400.0

Table 4: Daily demand volume and peak load as a function of the number of bedrooms in a dwelling.

Number of Bedrooms	Daily Demand Volume (gallons)	Peak Load (gallons)
1	200	100
2	400	200
3	600	300
4	800	400
5	1,000	500

DOMESTIC WELL WORKSHEET FOR TWO-PART PUMP TEST

(sheet 1 of 2)

PUMP TEST

Test Design

Preliminary Well Summary

1. Depth of well 290 feet
2. Static water level (depth to water from top of casing) 92.3 feet
3. Number of hours between well completion and measurement of static water level 792 hours

Dwelling Summary

4. Number of bedrooms 4
5. Number of bathrooms 3-1/2

Peak Demand Test Requirements

6. Peak time (required minimum duration of test, from table 1) .. less than 44 minutes
7. Peak demand rate (required minimum discharge rate from pump during test, from table 2) 10.5 gpm
8. Peak load (from table 4) 800 gallons

Test Measurements

Peak Demand Test

9. Depth to water at beginning of test (static water level) 92.3 feet
10. Depth to pump at end of test 53.2 feet
11. Discharge rate measured during test (use minimum observed) 12.5 gpm
12. Duration of test 60 minutes
13. Depth to water at end of test 146.8 feet
14. Drawdown at end of peak demand test line 13—line 9 = 54.5 feet

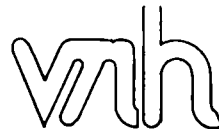
Constant Head Test

15. Constant head pumping rate 10.7 gpm
16. Duration of pumping at constant head rate 480 minutes
17. Depth to water at end of test 147.7 feet
18. Drawdown at end of constant head test line 17—line 9 = 55.4 feet

Evaluation of Results

19. Peak demand test duration. If line 12 is less than line 6 then well fails peak demand test pass pass or fail
20. Peak demand pump test rate. If line 11 is less than line 7 then well fails peak demand test pass pass or fail

21. Calculate aquifer contribution (multiply line 15 by 1440 or use table 3) 15,408 gpd
22. Daily home water demand (from table 4) 800 gpd
23. Aquifer contribution rate. If line 21 is less than line 22 then well fails constant head pump test ... pass pass or fail



van note/harvey
associates

BY RAJ DATE 9/4/87 SUBJECT SMITH WELL TEST SHEET OF

CHKD. BY DATE OUR FILE 25757

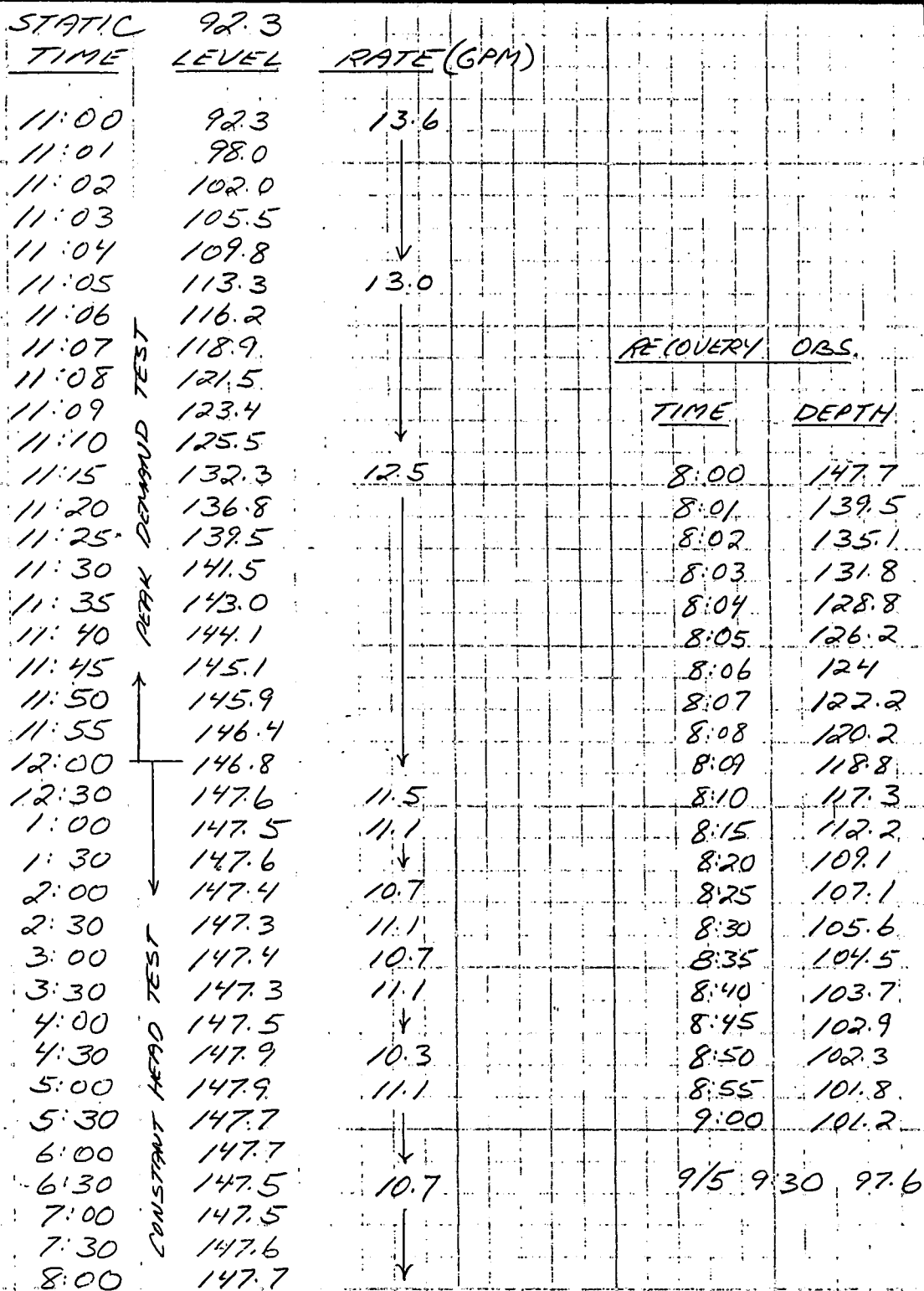


FIGURE 6

Semi-Logarithmic
3 Cycles x 10 to the Inch

TIME DRAWDOWN GRAPH:

TIME SINCE PUMP STOPPED (MIN)

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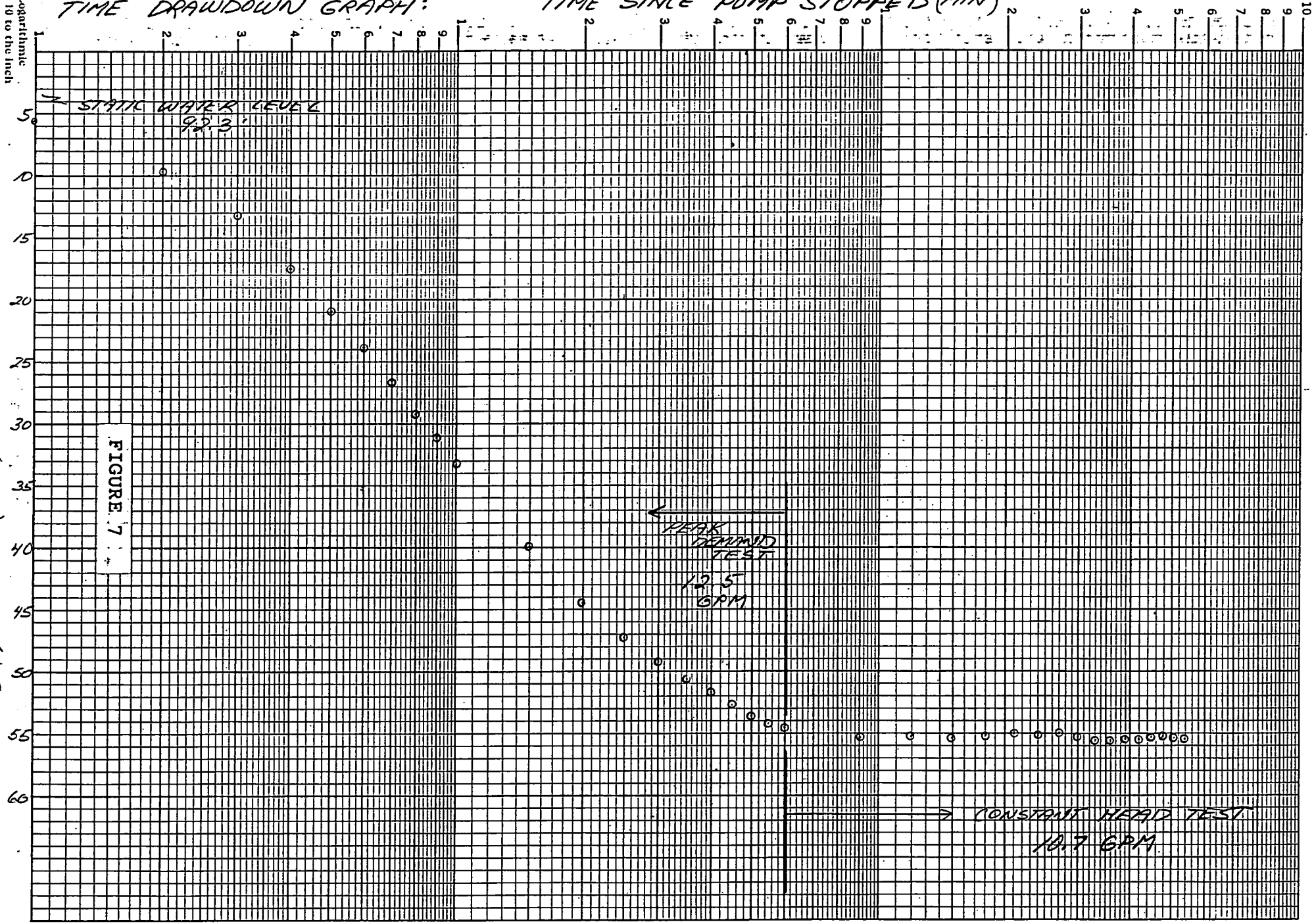


FIGURE 7

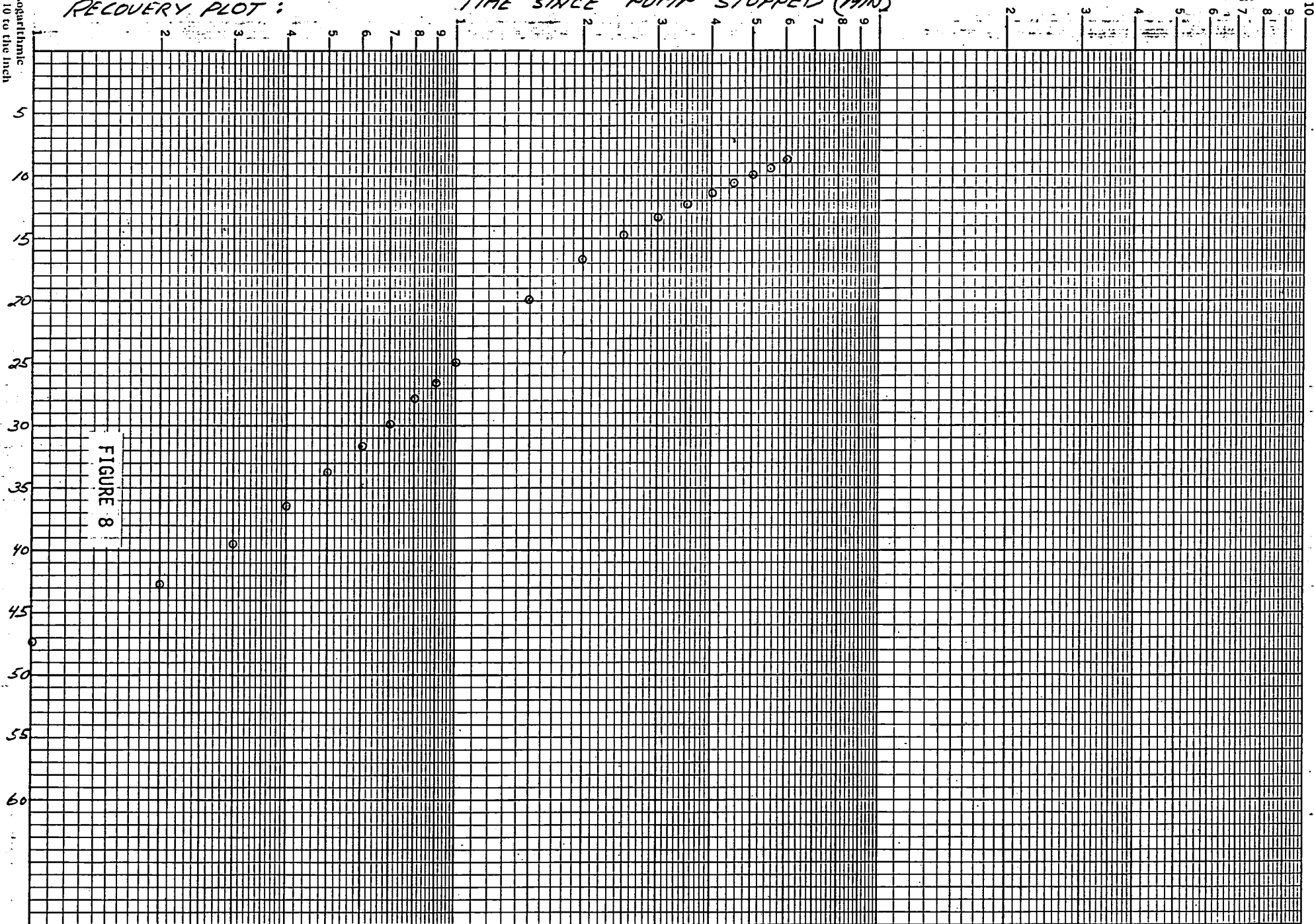
RECOVERY PLOT :

TIME SINCE PUMP STOPPED (MIN)

Semi-Logarithmic
3 Cycles x 10 to the inch

(FT)
NIMAXMADL

FIGURE 8



HOPEWELL TOWNSHIP HEALTH DEPARTMENT

MEMORANDUM

TO: Hopewell Township Planning Board
FROM: Gary A. Guarino, Registered Sanitarian *GA*
DATE: December 8, 1987
RE: Elmer Smith
Block 62, Lot 4

This office has received the requested information and found it to be in compliance.

Therefore, this office takes no exception to approval of this subdivision.