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NWS EARLE
5090.3a

MONITORING WELL ABANDONMENT LETTER REPORT WITH TRANSMITTAL NWS EARLE
NJ
10/1/2004
TETRA TECH



TETRA TECH NUS, INC.

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2856-5,2-022

PHIL-18571

December 15, 2004

Project Number 2856

Mr. Brian Helland
Senior Environmental Engineer
Engineering Field Activity Northeast
Naval Facilities Engineering Command
10 Industrial Highway Mail Stop No. 82
Lester, Pennsylvania 19113-2090

Reference: CLEAN Contract No. N62467-94-D-0888
Contract Task Order No. 808

Subject: Submission of Letter Report
Monitoring Well Abandonment and Repairs
Naval Weapons Station Earle - Colts Neck, New Jersey

Dear Mr. Helland:

Tetra Tech NUS, Incorporated (TtNUS) is pleased to provide three copies of the subject final report. We are providing you with two copies, and we forwarded a copy to Naval Weapons Station Earle.

Please advise us of any corrections or revisions that you require.

Sincerely,

A handwritten signature in cursive script that reads "Russell E. Turner".

Russell E. Turner
Project Manager

RET/nfs

Enclosures

c: Alicia Hartmann, Navy (NWS Earle) (Original NJDEP Well Abandonment Forms)
Garth Glenn (TtNUS) (w/o enclosure)
File

**NAVAL WEAPONS STATION EARLE
MONITORING WELL ABANDONMENT REPORT
OCTOBER 2004**

1.0 Introduction

This report has been prepared to document work on monitoring well repair and abandonment activities conducted by Tetra Tech NUS (TtNUS) for the Naval Weapons Station Earle located in Colts Neck, Monmouth County, New Jersey. TtNUS has conducted groundwater monitoring at both Mainside and waterfront locations (C-16/C17, S-106B, Building 566 and R6/7) over several years. After reviewing several years of monitoring well data and after conferring with both the Navy and State of New Jersey Department of Environmental Protection (NJDEP), TtNUS personnel determined that eight wells could be abandoned. In addition it was also determined that two flush mount well pads in the Waterfront area were in need of repair.

2.0 Scope Of Work

On October 26, 2004 Tetra Tech NUS enlisted the services of a NJDEP licensed well driller, Groundwater & Environmental Services, Inc (GES), to abandon eight wells located within sites C-16/C17 (MW-16-01), S-106B (MW-S106B-01, MW-S106B-06), Building 566 (566-MW-111, 566-MW-112, 566-MW-113) on the mainside and Buildings R6/7 (R6/7 MW-111, R6/7 MW-112) at the Waterfront at the NWS Earle Site.

3.0 Monitoring Well Abandonment

The wells were abandoned in accordance with NJDEP requirements using a bentonite and water slurry poured down the well casing to ground surface and allowed to cure (See Appendix A for Well Abandonment Forms). All required forms/notifications have been submitted to NJDEP by the well driller on behalf of the Navy.

4.0 Monitoring Well Repair

Waterfront wells R6/7-MW-102 and R6/7-MW-106 were repaired by removing the outer cement pad and vault and replacing them with a new cement pad and vault. The damaged concrete pads were first jack hammered out and the vault was then removed. A new vault was installed at each of the repair locations and the cement pad was then replaced. All demolition materials were removed and disposed of properly by the driller.

APPENDIX A
Well Abandonment Forms

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
PO Box 426
Trenton, NJ 08625-0426

WELL PERMIT # 29-36537
of well sealed

DATE WELL SEALED 10-26-04

PROPERTY OWNER US Naval Weapons Station - Earle

ADDRESS Route 34, Colts Neck NJ

WELL LOCATION Route 34, Colts Neck Twp - Monmouth Co.

Street & No., Township, County

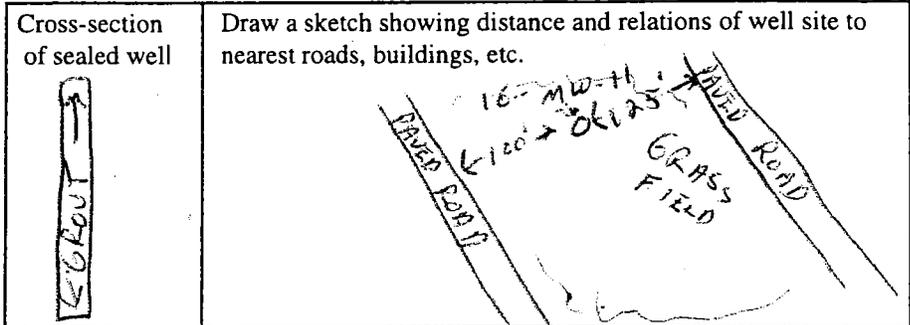
566 MW 21 (566 MW-11) N/A N/A
Well No. Lot No. Block No.

USE OF WELL PRIOR TO ABANDONMENT: MONITORING

REASON FOR ABANDONMENT: NO LONGER IN USE

WAS A NEW WELL DRILLED? YES NO PERMIT # OF NEW WELL _____

TOTAL DEPTH OF WELL 13
DIAMETER 2
CASING LENGTH 3
SCREEN LENGTH 10
NUMBER OF CASINGS 1



MATERIAL USED TO DECOMMISSION WELL:
70 Gallons of Water
- Lbs. of Cement
50 Lbs. of Bentonite
- Lbs. of Sand/Gravel
(none if well is contaminated)

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLACE COORDINATE IN US SURVEY FEET
NORTHING: _____ EASTING: _____
OR
LATITUDE: _____ LONGITUDE: _____

FORMATION: Consolidated
 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? YES NO CASING MATERIAL: PVC

WERE OTHER OBSTRUCTIONS LEFT IN WELL? YES NO WHAT WERE THE OBSTRUCTIONS: _____

IF "YES", AUTHORIZATION GRANTED BY _____ ON _____
(NJDEP Official) (Date)

Was an alternative decommissioning method used and/or approval to decommission granted by a DEP official? YES NO

IF "YES", authorization granted by _____ ON _____
(NJDEP Official) (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9D-3 et seq.
WILLIAM M. LOEWENBERG 19 N. OLYMPIA DR WARETOWN NJ 11-10-04
Performing Work (Print or Type) Mailing Date
Name of NJ Licensed Well Driller William M. Loewenberg Address 19 N. Olympia Dr Waretown NJ
Signature of NJ Licensed Well-Driller Performing Work Registration # 50 1610



New Jersey Department of Environmental Protection
Bureau of Water Allocation
MONITORING WELL RECORD

Well Permit No. 29 36537

Atlas Sheet Coordinates 29 : 22 : 329

OWNER IDENTIFICATION - Owner US NAVAL WEAPONS STA. EARL
Address ROUTE 34
City COLTS NECK State NJ Zip Code _____

WELL LOCATION - If not the same as owner please give address. Owner's Well No. 566mw21 (566mw11)
County MONMOUTH Municipality COLTS NECK TWP Lot No. NA Block No. NA
Address ROUTE 34

DATE WELL STARTED 3/5/97
DATE WELL COMPLETED 3/5/97
TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well SPILLFUND SITE Case I.D.# 93-2-12-0939-57

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) _____ Tele. # _____

WELL CONSTRUCTION

Total depth drilled 13.0 ft.
Well finished to 13.0 ft.

Borehole diameter:
Top 8.0 in.
Bottom 8.0 in.

Well was finished: above grade
 flush mounted

If finished above grade, casing height (stick up) above land surface 0 ft.

Was steel protective casing installed?
 Yes No

Static water level after drilling 3.0 ft.

Water level was measured using OT-Scanner

Well was developed for 1 hours
at 2 gpm

Method of development Sub pump

Was permanent pumping equipment installed? Yes No

Pump capacity N/A gpm

Pump type: N/A

Drilling Fluid N/A Type of Rig CME-55

Health and Safety Plan submitted? Yes No

Level of Protection used on site (circle one) None D B B A

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 JAMES C. ANDERSON ASSOC. INC.

Well Driller (Print) STEVEN N BURGER JR.

Driller's Signature [Signature]

Registration No. JD1624 Date 3/5/97

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	<u>0</u>	<u>3.0</u>	<u>2"</u>	<u>PVC</u>	<u>Sch. 40</u>
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	<u>3.0</u>	<u>13.0</u>	<u>2"</u>	<u>PVC</u>	<u>.010 510 Sch. 40</u>
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	<u>2.0</u>	<u>13.0</u>	<u>#1 MARBLE SAND</u>		
Grout	<u>0</u>	<u>2.0'</u>		<u>Neat Cement Bentonite</u>	<u>105 lbs. 7 lbs.</u>

Grouting Method Tremie grout
Drilling Method Auger

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-13.0 olive, Brown Fine Silty Sand

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
PO Box 426
Trenton, NJ 08625-0426

WELL PERMIT # 29-36538
of well sealed

DATE WELL SEALED 10-20-04

PROPERTY OWNER US Naval Weapons Station - Earle

ADDRESS Route 34, Colts Neck NJ

WELL LOCATION Route 34, Colts Neck Twp - Monmouth Co.
Street & No., Township, County

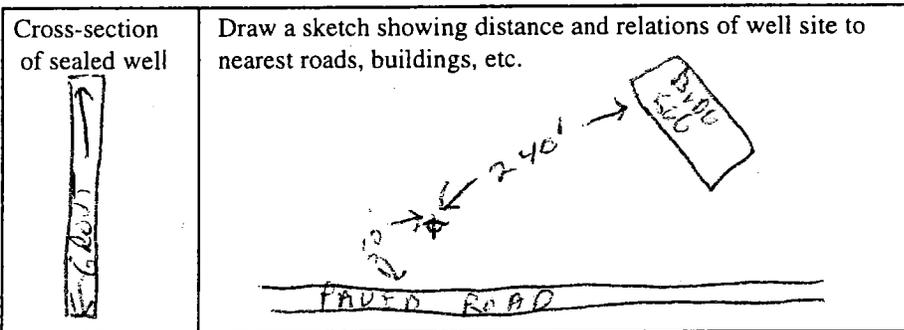
566 MW33 (SAMPT) N/A N/A
Well No. Lot No. Block No.

USE OF WELL PRIOR TO ABANDONMENT: MONITORING

REASON FOR ABANDONMENT: NO FURTHER USE

WAS A NEW WELL DRILLED? YES NO PERMIT # OF NEW WELL _____

TOTAL DEPTH OF WELL 7
DIAMETER 2
CASING LENGTH 2
SCREEN LENGTH 5
NUMBER OF CASINGS 1



MATERIAL USED TO DECOMMISSION WELL:

70 Gallons of Water
= Lbs. of Cement
50 Lbs. of Bentonite
- Lbs. of Sand/Gravel
(none if well is contaminated)

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLACE COORDINATE IN US SURVEY FEET
NORTHING: _____ EASTING: _____
OR
LATITUDE: _____ LONGITUDE: _____

FORMATION: Consolidated
 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? YES NO CASING MATERIAL: PVC

WERE OTHER OBSTRUCTIONS LEFT IN WELL? YES NO WHAT WERE THE OBSTRUCTIONS: _____

IF "YES", AUTHORIZATION GRANTED BY _____ ON _____
(NJDEP Official) (Date)

Was an alternative decommissioning method used and/or approval to decommission granted by a DEP official? YES NO

IF "YES", authorization granted by _____ ON _____
(NJDEP Official) (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9D-3 et seq.
WILLIAM M LOVENSERG 14 W. JAYMIA DR WARETOWN N.J. 08778 11-10-04
Performing Work (Print or Type) Address Mailing Date
Name of NJ Licensed Well Driller [Signature] [Signature] 50 1610
Signature of NJ Licensed Well Driller Performing Work Registration #

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
PO Box 426
Trenton, NJ 08625-0426

WELL PERMIT # 29-36539
of well sealed

DATE WELL SEALED 10-20-04

PROPERTY OWNER US Naval Weapons Station - Earle

ADDRESS Route 34, Colds Neck NJ

WELL LOCATION Route 34 Colds Neck Twp - Monmouth Co.

Street & No., Township, County

566 MW 28 (566AW13) N/A N/A
Well No. Lot No. Block No.

USE OF WELL PRIOR TO ABANDONMENT: MONITORING

REASON FOR ABANDONMENT: NO LONGER IN USE

WAS A NEW WELL DRILLED? YES NO PERMIT # OF NEW WELL _____

TOTAL DEPTH OF WELL 7
DIAMETER 2
CASING LENGTH 2
SCREEN LENGTH 5
NUMBER OF CASINGS 1

Cross-section of sealed well 	Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.
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MATERIAL USED TO DECOMMISSION WELL:

20 Gallons of Water
- Lbs. of Cement
50 Lbs. of Bentonite
- Lbs. of Sand/Gravel
(none if well is contaminated)

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

↑ N

NORTHING: _____ EASTING: _____
OR
LATITUDE: _____ LONGITUDE: _____

FORMATION: Consolidated
 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? YES NO CASING MATERIAL: PVC

WERE OTHER OBSTRUCTIONS LEFT IN WELL? YES NO WHAT WERE THE OBSTRUCTIONS: _____

IF "YES", AUTHORIZATION GRANTED BY _____ ON _____
(NJDEP Official) (Date)

Was an alternative decommissioning method used and/or approval to decommission granted by a DEP official? YES NO

IF "YES", authorization granted by _____ ON _____
(NJDEP Official) (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9D-3 et seq.

WILLIAM M. LOEWENBERG 19 N. OLYMPIA DR WAREHOUSING NJ 08758 11-10-04
Performing Work (Print or Type) Mailing Date
Name of NJ Licensed Well Driller [Signature] Address [Signature] Registration # 501610
Signature of NJ Licensed Well Driller Performing Work

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
PO Box 426
Trenton, NJ 08625-0426

WELL PERMIT # 29-36547
of well sealed

DATE WELL SEALED 10-26-04

PROPERTY OWNER US Naval Weapons Station - Earle

ADDRESS Route 34, Colts Neck NJ

WELL LOCATION Route 34, Colts Neck Twp - Monmouth Co.

Street & No., Township, County

5106 MW46 (5106 MW01) N/A
Well No. Lot No.

N/A
Block No.

USE OF WELL PRIOR TO ABANDONMENT: MONITORING

REASON FOR ABANDONMENT: NO LONGER IN USE

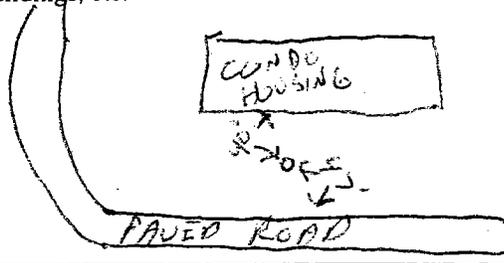
WAS A NEW WELL DRILLED? YES NO

PERMIT # OF NEW WELL _____

TOTAL DEPTH OF WELL 33.5
DIAMETER 2"
CASING LENGTH 23.5
SCREEN LENGTH 10'
NUMBER OF CASINGS 1

MATERIAL USED TO DECOMMISSION WELL:
40 Gallons of Water
- Lbs. of Cement
100 Lbs. of Bentonite
- Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: Consolidated
 Unconsolidated

<p>Cross-section of sealed well</p> 	<p>Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.</p> 
<p>AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM) NJ STATE PLACE COORDINATE IN US SURVEY FEET</p> <p>NORTHING: _____ EASTING: _____ OR LATITUDE: _____ " LONGITUDE: _____ "</p>	

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? YES NO CASING MATERIAL: PVC

WERE OTHER OBSTRUCTIONS LEFT IN WELL? YES NO WHAT WERE THE OBSTRUCTIONS: _____

IF "YES", AUTHORIZATION GRANTED BY _____ ON _____
(NJDEP Official) (Date)

Was an alternative decommissioning method used and/or approval to decommission granted by a DEP official? YES NO

IF "YES", authorization granted by _____ ON _____
(NJDEP Official) (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9D-3 et seq.
WILLIAM A. LOVENBERG 19 N. OLYMPIA DE WARE TOWN NJ 08058 11-10-04
Performing Work (Print or Type) Address Mailing Date
Name of NJ Licensed Well Driller [Signature] JN 1610
Signature of NJ Licensed Well Driller Performing Work Registration #

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 29 36547

Atlas Sheet Coordinates 29 22 329

OWNER IDENTIFICATION - Owner US NAVAL WEAPONS STA. EARL
Address ROUTE 34
City COLTS NECK State NJ Zip Code _____

WELL LOCATION - If not the same as owner please give address. Owner's Well No. S406mw40 (S106mw01)
County MONMOUTH Municipality COLTS NECK TWP Lot No. NA Block No. NA
Address ROUTE 34

TYPE OF WELL (as per Well Permit Categories) MONITORING DATE WELL STARTED 3/03/97
Regulatory Program Requiring Well UST DATE WELL COMPLETED 3/03/97
Case I.D.# 90-05-09-1324

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) _____ Tele. # _____

WELL CONSTRUCTION

Total depth drilled 33.5 ft.
Well finished to 33.5 ft.

Borehole diameter:
Top 8.0 in.
Bottom 8.0 in.

Well was finished: above grade
 flush mounted

If finished above grade, casing height (stick up) above land surface 2.0 ft.

Was steel protective casing installed?
 Yes No

Static water level after drilling 26.7 ft.

Water level was measured using m-scope
Well was developed for 1 hours
at 2 gpm

Method of development 2" Sub pump

Was permanent pumping equipment installed? Yes No

Pump capacity N/A gpm

Pump type: N/A

Drilling Fluid N/A Type of Rig CMB-55

Health and Safety Plan submitted? Yes No

Level of Protection used on site (circle one) None D B A

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 JAMES C. ANDERSON ASSOC. INC.

Well Driller (Print) STEVEN N BURGER JR.

Driller's Signature [Signature]

Registration No. JD1624 Date 3/03/97

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	<u>2.0</u>	<u>23.5</u>	<u>2"</u>	<u>PVC</u>	<u>Sch. 40</u>
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used)	<u>23.5</u>	<u>33.5</u>	<u>2"</u>	<u>PVC</u>	<u>.010 slot Sch. 40</u>
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	<u>21.0</u>	<u>33.5</u>	<u>#1</u>	<u>MURKIN SAND</u>	
Grout	<u>0</u>	<u>21.0</u>		<u>Neat Cement Bentonite</u>	<u>564 lbs. 30 lbs.</u>

Grouting Method Tremie Grout
Drilling Method Auger

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-6" BROWN FINE SILTY CLAYEY SAND

6-33.5 ORANGY OLIVE BROWN FINE SILTY SAND

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
PO Box 426
Trenton, NJ 08625-0426

WELL PERMIT # 29-36915
of well sealed

DATE WELL SEALED 10-26-04

PROPERTY OWNER US Naval Weapons Station - Earle

ADDRESS Route 34, Colts Neck NJ

WELL LOCATION Route 34, Colts Neck Twp Monmouth Co.
Street & No., Township, County

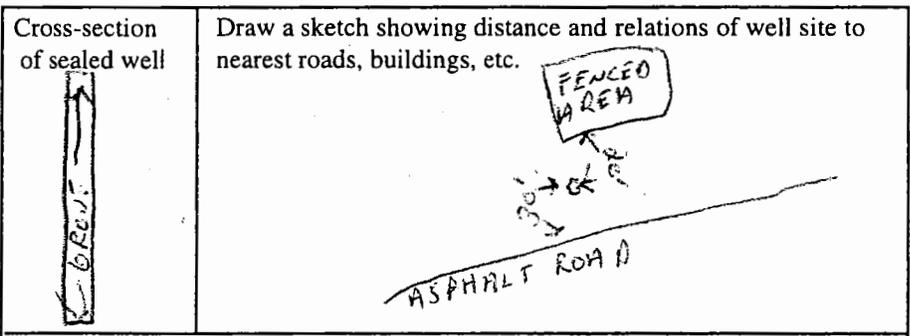
MW-06 516 CB MW-06 N/A N/A
Well No. Lot No. Block No.

USE OF WELL PRIOR TO ABANDONMENT: MONITORING

REASON FOR ABANDONMENT: NO LONGER IN USE

WAS A NEW WELL DRILLED? YES NO PERMIT # OF NEW WELL _____

TOTAL DEPTH OF WELL 28'
DIAMETER 2
CASING LENGTH 18
SCREEN LENGTH 10
NUMBER OF CASINGS 1



MATERIAL USED TO DECOMMISSION WELL:
40 Gallons of Water
- Lbs. of Cement
100 Lbs. of Bentonite
- Lbs. of Sand/Gravel
(none if well is contaminated)

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLACE COORDINATE IN US SURVEY FEET
NORTHING: _____ EASTING: _____
OR
LATITUDE: _____ LONGITUDE: _____

FORMATION: Consolidated
 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? YES NO CASING MATERIAL: PVC

WERE OTHER OBSTRUCTIONS LEFT IN WELL? YES NO WHAT WERE THE OBSTRUCTIONS: _____

IF "YES", AUTHORIZATION GRANTED BY _____ ON _____
(NJDEP Official) (Date)

Was an alternative decommissioning method used and/or approval to decommission granted by a DEP official? YES NO

IF "YES", authorization granted by _____ ON _____
(NJDEP Official) (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9D-3 et seq.
William M. Lovenberg 19 N. OLYMPIA DR WARETOWN NJ 02758 11-10-04
Performing Work (Print or Type) Address Mailing Date
Name of NJ Licensed Well Driller [Signature] 501610
Signature of NJ Licensed Well Driller Performing Work Registration #

5085-4.3-34

DWR 1587
11/96

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 29 36915

Atlas Sheet Coordinates 29 22 329

OWNER IDENTIFICATION - Owner U.S. NAVAL WEAPONS STATION

Address RT 34

City CULTS NICK State NJ Zip Code 07752

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW06 S106B-MU-06

County MONMOUTH Municipality CULTS NICK TWP Lot No. N/A Block No. N/A

Address RT 34

DATE WELL STARTED 05/22/97
DATE WELL COMPLETED 05/22/97

TYPE OF WELL (as per Well Permit Categories) MONITORING
regulatory Program Requiring Well DEP Case I.D.# 95-06-00-132A

CONSULTING ENGINEER/SUPERVISOR (if applicable) _____ Tele. # _____

WELL CONSTRUCTION
Total depth drilled 28.0'
Well finished to 28.0'
Well casing diameter:
Top 8.0"
Bottom 8.0"
Well was finished above grade
 at ground level
Type of casing material used:
 galvanized steel
 black steel
 PVC
 other _____
Type of well casing used PVC
The well was constructed using air
 mud
Well developed for 2 hour
gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Well/Boring (log no.)
Single Inner Casing	0'	18.0'	2"	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole at Bottom (No. Used)	17.0'	28.0'	2"	PVC	Sch 40
Blank Casing (No. Used)					
Full Pipe					
Gravel Pack	16.0'	28.0'	#4 Marine Gravel		
Grout	0'	16.0'	Neat Cement Bentonite		Sch 40

Grouting Method Tremie Grout
Drilling Method HSA

Type of development sub pump
Is permanent pumping equipment installed? Yes No

MP capacity N/A
MP type N/A

Drilling Fluid N/A Type of Rig CME-55

Health and Safety Plan submitted? Yes No

Level of Protection used on site (circle one): None C B A

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 JAMES D. ANDERSON ASSOC., INC.

Driller (Print) STEVEN N BURGER

Driller's Signature Steve Burger

Registration No. JD1624 Date 6/17/97

GEOLOGIC LOG	
Note each depth where water was encountered or consolidated formations.	
0-15'	lt tan brn fine to med sand trace silt
5-28'	tan brn fine to med sand

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
PO Box 426
Trenton, NJ 08625-0426

WELL PERMIT # 29-33503
of well sealed

DATE WELL SEALED 10-26-09

PROPERTY OWNER U.S. Naval Weapons Station - Earle

ADDRESS Route 34, Colts Neck NJ

WELL LOCATION Route 34, Colts Neck NJ, Monmouth Co.
Street & No., Township, County

MW-16-1 Well No. N/A Lot No. N/A Block No.

USE OF WELL PRIOR TO ABANDONMENT: MONITORING

REASON FOR ABANDONMENT: NO LONGER NEEDED

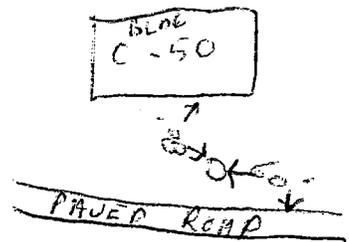
WAS A NEW WELL DRILLED? YES NO PERMIT # OF NEW WELL _____

TOTAL DEPTH OF WELL 16
DIAMETER 2
CASING LENGTH 0
SCREEN LENGTH 10
NUMBER OF CASINGS 1

MATERIAL USED TO DECOMMISSION WELL:

40 Gallons of Water
- Lbs. of Cement
100 Lbs. of Bentonite
- Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: Consolidated
 Unconsolidated

<p>Cross-section of sealed well</p> 	<p>Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.</p> 
<p>AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM) NJ STATE PLACE COORDINATE IN US SURVEY FEET</p> <p>NORTHING: _____ EASTING: _____ OR LATITUDE: _____ LONGITUDE: _____</p>	

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? YES NO CASING MATERIAL: PVC

WERE OTHER OBSTRUCTIONS LEFT IN WELL? YES NO WHAT WERE THE OBSTRUCTIONS: _____

IF "YES", AUTHORIZATION GRANTED BY _____ ON _____
(NJDEP Official) (Date)

Was an alternative decommissioning method used and/or approval to decommission granted by a DEP official? YES NO

IF "YES", authorization granted by _____ ON _____
(NJDEP Official) (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9D-3 et seq.

WILLIAM M. LOEWENBERG 194-027-1111 OR WAREHOUSE MS 11-10-09
Performing Work (Print or Type) Address Mailing Date
Name of NJ Licensed Well Driller [Signature] 501610
Signature of NJ Licensed Well Driller Performing Work Registration #

MONITORING WELL RECORD

Well Permit No. 29 - 33503
Atlas Sheet Coordinates 29 : 22 : 329

OWNER IDENTIFICATION - Owner U.S. NAVAL WEAPONS STATION
Address ROUTE 34
City COLTS NECK State NJ Zip Code 07722

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW161
County MONMOUTH Municipality COLTS NECK TWP Lot No. N/A Block No. N/A
Address same

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 7/9/95
Regulatory Program Requiring Well CERCLA Case I.D. # _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) _____ Tele. # _____

WELL CONSTRUCTION

Total depth drilled 16 ft.

Well finished to 16 ft.

Borehole diameter:

Top 8 in.

Bottom 8 in.

Well was finished: above grade
 flush mounted

If finished above grade, casing height (stick up) above land surface _____ ft.

Was steel protective casing installed? Yes No

Static water level after drilling 5.0 ft.

Water level was measured using m scope

Well was developed for 2 hours at 2 gpm

Method of development pumping

Was permanent pumping equipment installed? Yes No

Pump capacity N/A gpm

Pump type: N/A

Drilling Method Hollow Stem Auger

Drilling Fluid None Type of Rig CME-55

Name of Driller Steve Burger

Health and Safety Plan submitted? Yes No

Level of Protection used on site (circle one) None D C B A

N.J. License No. JD 1624

Name of Drilling Company JAMES C. ANDERSON ASSOC. INC.

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0	6	2	Sch. 40 PVC
Outer Casing (Not Protective Casing)				
Screen (Note slot size)	6	16	2	.010 slot pvc
Tail Piece				
Gravel Pack	3	16		#1 Morie
Annular Seal/Grout	0	3		Cement-bentonite
Method of Grouting	Tremie			

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0-16' Red brown, yellow brown silty fine sand

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

Driller's Signature Jon Urban (CP) Date 8/15/95

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

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
PO Box 426
Trenton, NJ 08625-0426

WELL PERMIT # 29-38443
of well sealed

DATE WELL SEALED 10-26-04

PROPERTY OWNER US Naval Weapons Station - Earle

ADDRESS Route 34, Colts Neck NJ

WELL LOCATION Route 34, Colts Neck Twp - Monmouth Co.
Street & No., Township, County

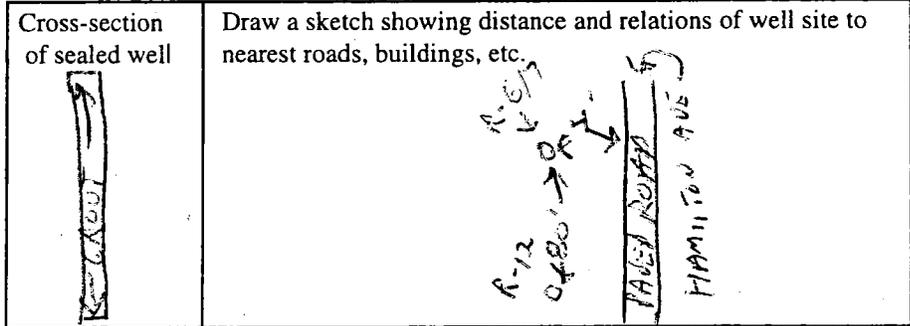
R617-MW-111 N/A N/A
Well No. Lot No. Block No.

USE OF WELL PRIOR TO ABANDONMENT: MONITORING

REASON FOR ABANDONMENT: NO LONGER IN USE

WAS A NEW WELL DRILLED? YES NO PERMIT # OF NEW WELL _____

TOTAL DEPTH OF WELL 18'
DIAMETER 2"
CASING LENGTH 3
SCREEN LENGTH 15
NUMBER OF CASINGS 1



MATERIAL USED TO DECOMMISSION WELL:
40 Gallons of Water
- Lbs. of Cement
100 Lbs. of Bentonite
- Lbs. of Sand/Gravel
(none if well is contaminated)

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLACE COORDINATE IN US SURVEY FEET
NORTHING: _____ EASTING: _____
OR
LATITUDE: _____ LONGITUDE: _____

FORMATION: Consolidated
 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? YES NO CASING MATERIAL: PVC

WERE OTHER OBSTRUCTIONS LEFT IN WELL? YES NO WHAT WERE THE OBSTRUCTIONS: _____

IF "YES", AUTHORIZATION GRANTED BY _____ ON _____
(NJDEP Official) (Date)

Was an alternative decommissioning method used and/or approval to decommission granted by a DEP official? YES NO

IF "YES", authorization granted by _____ ON _____
(NJDEP Official) (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9D-3 et seq.
WILLIAM M. LOVENBERG 19 N. 2ND ST WARETOWN N.J. 11-10-04
Performing Work (Print or Type) Address Mailing Date
Name of NJ Licensed Well Driller [Signature] 501610
Signature of NJ Licensed Well Driller/Performing Work Registration #

New Jersey Department of Environmental Protection
Bureau of Water Allocation
MONITORING WELL RECORD

Well Permit No. 29 - 38493

Atlas Sheet Coordinates 29 22 327

OWNER IDENTIFICATION - Owner US NAVAL WEAPONS STATION
Address RT 34
City COLTS NECK State NJ Zip Code PERMIT # R/6/7mw-17

WELL LOCATION - If not the same as owner please give address. Owner's Well No. R6/7-mw-111
County MORRIS Municipality COLTS NECK TWP Lot No. N/A Block No. N/A
Address ROUTE 34

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well UST DATE WELL STARTED 6/2/98
DATE WELL COMPLETED 6/2/98 Case I.D.# 98-09-10-1044

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Tetra Tech Inc, Inc Tele. # 610/491-9688

WELL CONSTRUCTION

Total depth drilled 18 ft.
Well finished to 18 ft.

Corehole diameter:
Top 8.25 in.
Bottom 8.25 in.

Well was finished: above grade
 flush mounted

Finished above grade, casing height (stick up) above land surface 3 ft.

Was steel protective casing installed?
 Yes No

Static water level after drilling _____ ft.

Water level was measured using _____

Well was developed for _____ hours
_____ gpm

Method of development _____

Was permanent pumping equipment installed? Yes No

Pump capacity _____ gpm

Pump type: _____

Drilling Fluid None Type of Rig Trailer

Health and Safety Plan submitted? Yes No

Level of Protection used on site (circle one) None C B A

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 ADVANCED DRILLING, INC.

Well Driller (Print) ROBERT LOGEL

Driller's Signature Robert Logel

Registration No. 1166 Date 7/13/98

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	0	3	2	PVC	40
Middle Casing (for triple cased wells only)	-				
Outer Casing (largest diameter)	-				
Open Hole or Screen (No. Used <u>10</u>)	3	18	2	PVC	40
Blank Casings (No. Used)	-				
Tail Piece <u>SAND FILTER</u>	2.5	18		#1 SAND FILTER	
Gravel Pack	2	2.5		<u>Detritite Slurry Seal</u>	
Grout <u>CONCRETE</u>	0	2		Neat Cement Bentonite	500 lbs.

Grouting Method TREMIE
Drilling Method H3 AUGER

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-4' WET SANDY SILT

4'-6' WET SAND + GRAVEL

6'-18' WET COARSE SAND

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
PO Box 426
Trenton, NJ 08625-0426

WELL PERMIT # 79-38494
of well sealed

DATE WELL SEALED 10-26-04

PROPERTY OWNER US Naval Weapons Station - Earle

ADDRESS Route 34, Colts Neck NJ

WELL LOCATION Route 34 Colts Neck Twp - Monmouth Co.
Street & No., Township, County

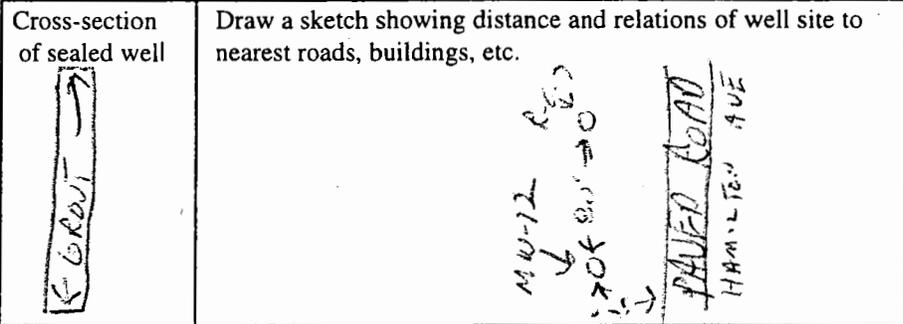
RC17-MW-112 N/A N/A
Well No. Lot No. Block No.

USE OF WELL PRIOR TO ABANDONMENT: MONITORING

REASON FOR ABANDONMENT: NO LONGER IN USE

WAS A NEW WELL DRILLED? YES NO PERMIT # OF NEW WELL _____

TOTAL DEPTH OF WELL 18
DIAMETER 2
CASING LENGTH 3
SCREEN LENGTH 15
NUMBER OF CASINGS 1



MATERIAL USED TO DECOMMISSION WELL:
40 Gallons of Water
- Lbs. of Cement
100 Lbs. of Bentonite
- Lbs. of Sand/Gravel
(none if well is contaminated)

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLACE COORDINATE IN US SURVEY FEET
NORTHING: _____ EASTING: _____
OR
LATITUDE: _____ LONGITUDE: _____

FORMATION: Consolidated
 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? YES NO CASING MATERIAL: PVC

WERE OTHER OBSTRUCTIONS LEFT IN WELL? YES NO WHAT WERE THE OBSTRUCTIONS: _____

IF "YES", AUTHORIZATION GRANTED BY _____ ON _____
(NJDEP Official) (Date)

Was an alternative decommissioning method used and/or approval to decommission granted by a DEP official? YES NO

IF "YES", authorization granted by _____ ON _____
(NJDEP Official) (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9D-3 et seq.
WILLIAM M. LOVESBERG 19 N. 204th AVE DR WARETOWN N.J. 08758 11-10-04
Performing Work (Print or Type) Address Mailing Date
Name of NJ Licensed Well Driller [Signature] JD 1610
Signature of NJ Licensed Well Driller Performing Work Registration #

New Jersey Department of Environmental Protection
Bureau of Water Allocation
MONITORING WELL RECORD

Well Permit No. 29 - 38494

Atlas Sheet Coordinates 29 : 22 327

OWNER IDENTIFICATION - Owner US NAVAL WEAPONS STATION
Address RT. 34
City COLTS NECK State NJ Zip Code PERMIT # R/6/7-MW-18

WELL LOCATION - If not the same as owner please give address. Owner's Well No. R6/7-MW-112
County MONMOUTH Municipality COLTS NECK TWP Lot No. N/A Block No. N/A
Address ROUTE 34

DATE WELL STARTED 6/3/98
DATE WELL COMPLETED 6/3/98
TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well DST Case I.D.# 80-09-10-1044

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Tetra Tech, Inc. Tele. # 610/491-9688

WELL CONSTRUCTION

Total depth drilled 18 ft.
Well finished to 18 ft.

Borehole diameter:
Top 8.25 in.
Bottom 8.25 in.

Well was finished: above grade
 flush mounted

Well finished above grade, casing height (stick up) above land surface 3 ft.

Was steel protective casing installed?
 Yes No

Static water level after drilling _____ ft.

Water level was measured using _____

Well was developed for _____ hours
_____ gpm

Method of development _____

Was permanent pumping equipment installed? Yes No

Pump capacity _____ gpm

Pump type: _____

Drilling Fluid Water Type of Rig Tower

Health and Safety Plan submitted? Yes No

Level of Protection used on site (circle one) None C B A

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 ADVANCED DRILLING, INC.

Well Driller (Print) ROGER LOVEL

Driller's Signature Roger Lovel

Registration No. 1166 Date 7/13/98

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	0	3	2	PVC	40
Middle Casing (for triple cased wells only)	-				
Outer Casing (largest diameter)	-				
Open Hole or Screen (No. Used <u>10</u>)	3	18	2	PVC	40
Blank Casings (No. Used <u>1</u>)	-				
Tail Piece <u>SAND FILTER</u>	2.5	18		<u>#1 SAND FILTER</u>	
Gravel Pack	2	2.5		<u>Bentonite Slurry Seal</u>	
Grout <u>CONCRETE</u>	0	2		<u>Neat Cement Bentonite</u>	<u>300 lbs.</u>

Grouting Method TREMIE
Drilling Method H S AUGER

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-4' - MOIST SILTY SAND, GRAVEL FOINDEAS
4'-14' - WET F-M SAND
14'-18' - WET m-c SAND