1.01- 3/13/1986

N00174.AR.000054
NSWC INDIAN HEAD
5090.3a

DEPARTMENT OF THE NAVY
NAVAL ORDNANCE STATION
INDIAN HEAD, MARYLAND 20640

IN REPLY REFER TO

5090
Ser 04C/15

The Honorable Marland Deen
President, Charles County Commissioners
Charles County Courthouse
La Plata, MD 20646

Dear Mr. Deen:

I am pleased to forward the enclosed State Health Department's analyses of the well water at the Naval Ordnance Station (NAVORDSTA). This information shows the amount of mercury in the water is below the Environmental Protection Agency (EPA) standards. This information also confirms our belief that the groundwater has not been contaminated by our operations as discussed in the meeting held at NAVORDSTA on December 4, 1985.

I have also included for comparison purposes a chart which appeared in the Health section of The Washington Post on Thursday, January 23, 1986. This chart shows area mercury levels to be less than 0.0005 milligrams per liter. Our analyses show the Indian Head levels to also be less than 0.0005 milligrams per liter as recorded on the analyses. All of these figures are below the EPA limit of 0.002 milligrams of mercury per liter for drinking water. The Department of Health and Mental Hygiene laboratories were used for this analysis and the data should be in the same format as other Charles County wells. Well number 18 is low silica and well number 9 is high silica. Well 2012 is located at Stump Neck.

Both wells on the main station are located between the Blazzi Plant site and the Town of Indian Head. Well number 18 is the well closest to the surface contamination in the Blazzi area and is located approximately 1 1/2 miles from the town limits. Well number 9 is located approximately 3/4 of a mile from the town limits. The Stump Neck well is 2 1/2 miles beyond the Blazzi site, away from the Town of Indian Head.

Mr. Jerry Volman, telephone 743-4485, or Mr. Thomas Woo, telephone 743-4320, are available to provide any additional information on these analyses or our drinking water system at NAVORDSTA.

Sincerely,

JAMES D. TADLOCK
Captain, USN
Commanding Officer

Encl:
(1) Analyses of well water at NAVORDSTA
(2) The Washington Post chart

5090
Ser 04C/15

Copy to:
Mr. Linton, State House of Delegates
Mr. Bowie, Mayor of Indian Head
Mr. Mesinger, Congressman Dyson's Office
Ms. Weber, Charles County Department of Public Works
Mr. Witt, Charles County Health Department

STATE OF MARYLAND

DEPA. .MENT OF HEALTH AND MENTAL HYGIENE

LABORATORIES ADMINISTRATION

REPORT OF WATER ANALYSIS

cc-934,867,937

Bottle Number: 808,895 Name: Naval Ord. Station County: Charles

Source of Sample: Rt210 Street Ind Head Town or City Collector: DAuls

Sample Type (Circle): Community Source Non-Community Distribution Private MCL Emergency Recheck Routine

Remarks: Well #9 - High Silica

County	Plant No.	Sampling Station	Date Collected	Time	Acid	Iced
08			121685	1030		✓

Field Data: pH* Chlorine Residual Free 00 Total 0.0 Specific Conductance

✓	ANALYSIS	CODE	RESULTS	✓	ANALYSIS	CODE	RESULTS
✓	pH*	011	7.7	✓	Arsenic	253	<0.01
✓	Alkalinity (Total)	040	116.		Barium	262	
	Alkalinity (HCO_3)	050			Cadmium	273	
	Alkalinity (CO_3)	060			Chromium	283	
	pH*, Ca CO_3 SAT.	071		✓	Lead	302	<0.01
	Alkalinity, Ca CO_3 SAT	080		✓	Mercury	314	<0.0005
✓	Hardness	110	46.		Selenium	323	
	Ammonia-N	143		✓	Silver	333	<0.005
✓	Nitrate-Nitrite N	162	<0.2		Aluminum	192	
	Nitrite N	173			Calcium	231	
✓	MBAS	182			Copper	241	
✓	Chloride	091	6.	✓	Iron	122	<0.10
✓	Fluoride	101	0.73		Magnesium	241	
	Color*	020		✓	Manganese	133	<0.01
✓	Turbidity*	031	1.6		Nickel	391	
	Conductance*, SPEC.	201			Potassium	361	
	Silica	210		✓	Sodium	371	59.3
	Sulfate	220			Zinc	342	
	Total Residue	381					

* Results reported in units, all others in milligrams per liter (ppm)

Date Received DEC 17 1988 Date Reported [illegible] Chemist [illegible] Lab No 007179

DHMH 90-A (7/84) 50M

STATE OF MARYLAND
DEPARTMENT OF HEALTH AND MENTAL HYGIENE

LABORATORIES ADMINISTRATION
TRACE ORGANICS LABORATORY
VOLATILE ORGANICS ANALYSIS

BOTTLE NUMBER 2485D 2485D

Charles
Name of County

SOURCE OF SAMPLE Hand Dug - Rt 210 COLLECTOR DAVIS

SAMPLE TYPE: DISTRIBUTION ✓ SOURCE ____ OTHER (specify) ____

Community ✓ noncommunity ____ private ____

Landfill observation well ____ stream ____ tidal waters ____

Industrial effluent ____ STP sampling station ____ STP effluent ____

Chlorinated ____ preserved with thiosulfate ____

Reason for submitting sample: Trihalomethane Survey ____

Suspected Industrial Chemical Contamination ✓

Suspected Petroleum (gasoline, etc.) Contamination ____

Other (specify) ____

REMARKS: Well #9 Requested by NDS

1	2 3	4 5 6 7	8 9 10 11	12 13 14 15 16 17	18 19
	08			121685	
TRANS TYPE	COUNTY	PLANT NO	SAMPLING STATION	DATE COLLECTED	CARD NO

20 21 22	23 24	25 26
FIELD pH	FIELD RESID. CHLORINE: FREE 00	TOTAL 00

Purgeable Halocarbons (EPA 601)

Chloromethane	<1	trans-1,3-Dichloropropene	<1	Benzene	<1
Bromomethane		Trichloroethene		Toluene	
Dichlorodifluoromethane		Dibromochloromethane		Ethylbenzene	
Vinyl chloride		1,1,2-Trichloroethane		Total Xylenes	<2
Chloroethane		cis-1,3-Dichloropropene		Total Purgeable Hydrocarbons	
Methylene chloride		2-Chloroethylvinylether		Tetrahydrofuran	
Trichlorofluoromethane		Bromoform		Methylethylketone	
1,1-Dichloroethene		1,1,2,2-Tetrachloroethane		(2-Butanone) (MEK)	
1,1-Dichloroethane		Tetrachloroethene		Methylisobutylketone (MIBK)	
trans-1,2-Dichloroethene		Chlorobenzene			
Chloroform		Total Trihalomethanes			
1,2-Dichloroethane		**Other Purgeable Organics:** ND			
1,1,1-Trichloroethane					
Carbon Tetrachloride					
Bromodichloromethane					
1,2-Dichloropropane					

P+T/GC/FID.
Purgeable Aromatics (~~EPA 602~~)

Results reported in micrograms per liter (parts per billion)

DATE RECEIVED DEC 17 1985 DATE REPORTED JAN 3 1986 CHEMIST [illegible] LAB. NO. 002106

DHMH 749 (4/83) 2M

STATE OF MARYLAND

DEP. .TMENT OF HEALTH AND MENTAL HYGIENE

LABORATORIES ADMINISTRATION

REPORT OF WATER ANALYSIS

CC-871 865

Bottle Number: 833, 833, 891 Name: Naval Ord. Station County: Charles

Source of Sample: Rt 210 Indian Head Collector: DAVIS

Street Town or City

Sample Type (Circle): Community Source Non-Community Distribution Private MCL Emergency Recheck Routine

Remarks: Well 18 - Low Silica

County	Plant No.	Sampling Station	Date Collected	Time	Acid	Iced
08			12 16 87	1040		✓

Field Data: pH* | Chlorine Residual: Free 00, Total 00 | Specific Conductance

✓	ANALYSIS	CODE	RESULTS	✓	ANALYSIS	CODE	RESULTS
✓	pH*	011	8.0	✓	Arsenic	253	<0.01
✓	Alkalinity (Total)	040	147		Barium	262	
	Alkalinity (HCO_3)	050			Cadmium	273	
	Alkalinity (CO_3)	060		✓	Chromium	283	
	pH*, Ca CO_3 SAT.	071		✓	Lead	302	<0.01
	Alkalinity, Ca CO_3 SAT	080		✓	Mercury	314	<0.0005
✓	Hardness	110	<6		Selenium	323	
	Ammonia-N	143			Silver	333	
✓	Nitrate-Nitrite N	162	<0.2		Aluminum	192	
	Nitrite N	173			Calcium	231	
	MBAS	182			Copper	241	
✓	Chloride	091	21	✓	Iron	122	0.92
✓	Fluoride	101	0.77		Magnesium	241	
	Color*	020		✓	Manganese	133	0.02
✓	Turbidity*	031	3.9		Nickel	391	
	Conductance*, SPEC.	201			Potassium	361	
	Silica	210		✓	Sodium	371	74.3
	Sulfate	220			Zinc	342	
	Total Residue	381					

* Results reported in units, all others in milligrams per liter (ppm)

Date Received DEC 17 1988 Date Reported DEC 28 1988 Chemist [illegible] Lab No. [illegible]

DHMH 90-A (7/84) 50M

STATE OF MARYLAND

DEPARTMENT OF HEALTH AND MENTAL HYGIENE

LABORATORIES ADMINISTRATION
TRACE ORGANICS LABORATORY
VOLATILE ORGANICS ANALYSIS

BOTTLE NUMBER 24928 24929

Charles
Name of County

SOURCE OF SAMPLE Naval Ord - Rt 210 COLLECTOR DAVIS

SAMPLE TYPE: DISTRIBUTION ✓ SOURCE OTHER (specify)

Community ✓ noncommunity private

Landfill observation well stream tidal waters

Industrial effluent STP mixing station STP effluent

Chlorinated preserved with thiosulfate

Reason for submitting sample: Trihalomethane Survey

Suspected Industrial Chemical Contamination ✓

Suspected Petroleum (gasoline, etc.) Contamination

Other (specify)

REMARKS: Well #18 - Requested by NOS

1	2 3	4 5 6 7	8 9 10 11	12 13 14 15 16 17	18 19
TRANS TYPE	COUNTY	PLANT NO	SAMPLING STATION	DATE COLLECTED	CARD NO

FIELD pH 20 21 22 FIELD RESID. CHLORINE: FREE 23 24 TOTAL 25 26

Purgeable Halocarbons (EPA 601)				Purgeable Aromatics ~~(EPA 602)~~ P+T/GC/FID	
Chloromethane	<1	trans-1,3 Dichloropropene	<1	Benzene	<1
Bromomethane		Trichloroethene		Toluene	
Dichlorodifluoromethane		Dibromochloromethane		Ethylbenzene	
Vinyl chloride		1,1,2-Trichloroethane		Total Xylenes	<2
Chloroethane		cis 1,3 Dichloropropene		Total Purgeable Hydrocarbons	
Methylene chloride		2-Chloroethylvinylether		Tetrahydrofuran	
Trichlorofluoromethane		Bromoform		Methylethylketone	
1,1-Dichloroethene		1,1,2,2-Tetrachloroethane		(2-Butanone) (MEK)	
1,1-Dichloroethane		Tetrachloroethene		Methylisobutylketone (MIBK)	
trans-1,2-Dichloroethene		Chlorobenzene			
Chloroform		Total Trihalomethanes			
1,2-Dichloroethane		Other Purgeable Organics: N.D			
1,1,1-Trichloroethane					
Carbon Tetrachloride					
Bromodichloromethane					
1,2-Dichloropropane					

Results reported in micrograms per liter (parts per billion)

DATE RECEIVED DEC 17 1985 DATE REPORTED JAN 3 1986 CHEMIST Wall LAB. NO. 00210

STATE OF MARYLAND

DEPARTMENT OF HEALTH AND MENTAL HYGIENE

LABORATORIES ADMINISTRATION

REPORT OF WATER ANALYSIS

CC-902, CC-900

Bottle Number: 870,935,959 Name: Stump Neck - Naval County: Charles

Source of Sample: Rt 224 (Street) Chicamuxen (Town or City) Collector: DAVIS

Sample Type (Circle): (Community Source) Non-Community Distribution Private MCL Emergency Recheck Routine

Remarks: Well - 2012

County: 09 Plant No.: Sampling Station: Date Collected: 12/6/85 Time: 1130 Acid: ☐ Iced: ✓

Field Data: pH*: Chlorine Residual: Free: 00 Total: 00 Specific Conductance:

✓	ANALYSIS	CODE	RESULTS	✓	ANALYSIS	CODE	RESULTS
✓	pH*	011	7.4	✓	Arsenic	253	<0.01
✓	Alkalinity (Total)	040	127		Barium	262	
	Alkalinity (HCO_3)	050			Cadmium	273	
	Alkalinity (CO_3)	060			Chromium	283	
	pH*, Ca CO_3 SAT.	071		✓	Lead	302	<.001
	Alkalinity, Ca CO_3 SAT	080		✓	Mercury	314	<0.0005
✓	Hardness	110	10		Selenium	323	
	Ammonia-N	143		✓	Silver	333	<0.005
✓	Nitrate-Nitrite N	162	<0.2		Aluminum	192	
	Nitrite N	173			Calcium	231	
	MBAS	182			Copper	241	
✓	Chloride	091	10	✓	Iron	122	0.47
✓	Fluoride	101	1.02		Magnesium	241	
	Color*	020		✓	Manganese	133	0.03
✓	Turbidity*	031	26		Nickel	391	
	Conductance*, SPEC.	201			Potassium	381	
	Silica	210		✓	Sodium	371	619
	Sulfate	220			Zinc	342	
	Total Residue	381					

* Results reported in units, all others in milligrams per liter (ppm)

Date Received: DEC 17 1985 Date Reported: DEC 28 1985 Chemist: [illegible] Lab No.: [illegible]

DHMH 80-A (7/84) 50M

STATE OF MARYLAND

DEPARTMENT OF HEALTH AND MENTAL HYGIENE

LABORATORIES ADMINISTRATION
TRACE ORGANICS LABORATORY
VOLATILE ORGANICS ANALYSIS

2409

BOTTLE NUMBER 2409

Charles
Name of County

SOURCE OF SAMPLE Stump Neck - Naval COLLECTOR DAVIS

SAMPLE TYPE: _____ DISTRIBUTION ✓ SOURCE _____ OTHER _____ (specify)

Community ✓ noncommunity _____ private _____

Landfill observation well _____ stream _____ tidal waters _____

Industrial effluent _____ STP sampling station _____ STP effluent _____

Chlorinated _____ preserved with thiosulfate _____

Reason for submitting sample: Trihalomethane Survey _____

Suspected Industrial Chemical Contamination ✓

Suspected Petroleum (gasoline, etc.) Contamination _____

Other (specify) 2021-Bldg

REMARKS: _____

1	2 3	4 5 6 7	8 9 10 11	12 13 14 15 16 17	18 19
	0 8			1 2 1 6 8 5	
TRANS TYPE	COUNTY	PLANT NO	SAMPLING STATION	DATE COLLECTED	CARD NO

20 21 22	23 24	25 26
FIELD pH	FIELD RESID. CHLORINE: FREE 0 0	TOTAL 0 0

Purgeable Halocarbons (EPA 601)

Chloromethane	<1	trans-1,3-Dichloropropene	<1	Benzene	<1
Bromomethane		Trichloroethene		Toluene	
Dichlorodifluoromethane		Dibromochloromethane		Ethylbenzene	
Vinyl chloride		1,1,2-Trichloroethane		Total Xylenes	<2
Chloroethane		cis-1,3-Dichloropropene		Total Purgeable Hydrocarbons	
Methylene chloride		2-Chloroethylvinylether		Tetrahydrofuran	
Trichlorofluoromethane		Bromoform		Methylethylketone	
1,1-Dichloroethene		1,1,2,2-Tetrachloroethane		(2-Butanone) (MEK)	
1,1-Dichloroethane		Tetrachloroethene		Methylisobutylketone (MIBK)	
trans-1,2-Dichloroethene		Chlorobenzene			
Chloroform		Total Trihalomethanes			
1,2-Dichloroethane		**Other Purgeable Organics:** ND			
1,1,1-Trichloroethane					
Carbon Tetrachloride					
Bromodichloromethane					
1,2-Dichloropropane					

P+T/GC/FID
Purgeable Aromatics (~~EPA 602~~)

Results reported in micrograms per liter (parts per billion)

DATE RECEIVED DEC 17 1985 DATE REPORTED JAN 3 1986 CHEMIST _____ LAB. NO. 00210

WASHINGTON AREA TAP WATER TEST RESULTS

(MEASURED IN MILLIGRAMS PER LITER)

	pH	NITRATE	HARDNESS	LEAD	FLUORIDE	SODIUM	COPPER	BARIUM	MERCURY	CALCIUM	DICHLORO-BROMOMETHANE	CHLOROFORM	DICHLORO-DIFLUOROMETHANE
MAXIMUM CONTAMINANT LEVEL SET BY EPA	•	10.00	•	0.050	2.40	•	•	1.00	0.002	•	♦	♦	♦
MARYLAND													
1. POTOMAC	7.0	2.21	117	-0.010	0.82	8	0.312	-0.10	-0.0005	35.1	★0.019	★0.060	N.D.
2. WHITE FLINT MALL, ROCKVILLE	7.2	2.20	123	-0.010	0.62	8	0.260	0.11	-0.0005	37.7	★0.018	★0.050	N.D.
3. BETHESDA	7.3	2.21	119	-0.010	0.89	7	0.205	-0.10	-0.0005	35.9	★0.015	★0.050	N.D.
4. SILVER SPRING	7.2	2.28	122	-0.010	0.80	8	0.126	-0.10	-0.0005	36.9	★0.017	★0.047	N.D.
5. ADELPHI	7.1	0.61	45	-0.010	1.10	5	0.221	-0.10	-0.0005	12.9	★0.013	★0.053	N.D.
6. HYATTSVILLE	7.3	1.43	90	-0.010	0.99	6	0.425	-0.10	-0.0005	26.7	★0.015	★0.057	N.D.
7. UPPER MARLBORO	7.0	1.90	115	-0.010	0.92	6	0.106	-0.10	-0.0005	35.3	★0.017	★0.060	N.D.
DISTRICT OF COLUMBIA													
8. CHEVY CHASE	7.2	2.00	145	-0.010	0.81	8	0.084	0.34	-0.0005	45.9	★0.014	★0.050	N.D.
9. DUPONT CIRCLE	7.0	1.72	117	-0.010	1.03	6	0.407	-0.10	-0.0005	35.6	★0.017	■★0.135	N.D.
	7.2	0.56	111	-			0.407	-0.10	-0.0005		-.001	-.001	-.001
10. WASHINGTON POST, 5TH FLOOR	7.3	1.85	124	-0.010	0.91	7	0.267	-0.10	-0.0005	38.1	★0.017	★0.065	N.D.
11. AIR AND SPACE MUSEUM	7.3	1.68	127	-0.010	0.93	6	0.108	-0.10	-0.0005	36.0	★0.010	★0.039	N.D.
12. THE CAPITOL-SENATE SIDE	7.2	1.84	126	-0.010	1.07	7	0.364	0.24	-0.0005	39.0	★0.010	★0.051	N.D.
13. ANACOSTIA SENIOR CITIZEN'S CENTER	6.8	1.84	127	-0.010	0.95	7	0.153	-0.10	-0.0005	39.1	★0.016	★0.060	N.D.
VI[illegible]													
14. ARLINGTON	7.0	1.97	128	-0.010	0.90	7	0.081	-0.10	-0.0005	39.0	★0.016	★0.050	N.D.
15. ALEXANDRIA	7.4	1.32	99	-0.010	0.84	11	0.084	-0.10	-0.0005	29.4	★0.007	★0.040	N.D.
16. RESTON	7.2	2.18	118	-0.010	1.00	15	0.190	0.12	-0.0005	33.1	★0.007	★0.017	N.D.
17. TYSONS CORNER MALL, McLEAN	7.1	2.10	129	-0.010	0.86	7	0.142	-0.10	-0.0005	39.8	★0.016	★0.050	N.D.
18. VIENNA	6.7	1.61	123	-0.010	0.72	9	0.056	0.26	-0.0005	37.9	★0.015	★0.040	N.D.
19. FAIRFAX CITY HALL	★6.3	2.08	63	-0.010	1.04	5	0.218	-0.10	-0.0005	17.2	★0.008	★0.042	N.D.
20. SPRINGFIELD	7.2	0.81	77	-0.010	0.70	7	0.128	0.12	-0.0005	24.7	★0.007	★0.050	N.D.
21. DALE CITY	6.6	0.67	72	-0.010	0.89	5	0.547	-0.10	-0.0005	22.7	★0.005	★0.050	N.D.

N.D. = NOT DETECTABLE ■ EXCEEDS LIMITS SET BY ENVIRONMENTAL PROTECTION AGENCY ★ EXCEEDS LIMITS RECOMMENDED BY WATERTEST CORPORATION LABORATORIES, BUT WITHIN LIMITS SET BY EPA.

• NO LIMIT SET ♦ NO INDIVIDUAL LIMIT SET (see story) + GREATER THAN – LESS THAN

NAVORDSTA Well 18	8.0	-0.2	-6	-0.01	0.77	74	--	--	-0.0005	--	-0.001	-0.001	-0.001
NAVORDSTA Well 9	7.7	-0.2	-6	-0.01	0.73	59	--	--	-0.0005	--	-0.001	-0.001	-0.001
NAVORDSTA S[illegible] Neck 2012	7.4	-0.2	10	-0.01	1.02		--	--	-0.0005	--	-0.001	-0.001	01

ENCLOSURE (2)