PRELIMINARY REPORT
GROUNDWATER CONTAMINATION
GRUMMAN AEROSPACE CORPORATION

MAY 1975

NASSAU COUNTY DEPARTMENT OF HEALTH
JOHN J. DOWLING, M.D., M.P.H., COMMISSIONER

Foreword

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Summary and Conclusions

Water quality at the Grumman Aerospace Corporation has continued to decline to the extent that the most serious and severe instance of Magothy aquifer contamination in Nassau County is now evident. Four of 14 Corporation wells approach or exceed the nitrate limit of 10.0 mg/l, while six wells show high levels of ammonia. In addition, objectionable odors have been detected in five wells, either in association with ammonia or phenols, or both.

While elevated levels of nitrates are not uncommon in the Magothy aquifer in the central portion of Nassau County, ammonia detection is unusual and indicative of more direct sewage contamination. Detection of phenols and odors of a hydrocarbon nature, along with the detection by the Grumman Corporation of such organic contaminants as methane, ethylene, and either methyl propane or propadiene, indicate direct contamination of water supply wells by industrial wastes.

The discharge of sanitary and industrial wastes at and in the vicinity of the Grumman Corporation is considered responsible for the degradation in quality of Grumman Corporation wells. Further analysis is needed, however, to determine more precisely the nature of organic contamination and the significance of nearby sources of contamination in affecting groundwater quality.

Recommendations

1. Further water quality analysis should be conducted with the assistance of New York State Department of Health or the Environmental Protection Agency to determine the specific nature and quantity of organic contaminants present in Grumman Corporation wells and waste discharges, and in the waste discharges of industries in the vicinity of the Corporation.

2. A complete evaluation of the impact of industrial and domestic waste discharge on groundwater quality in the area of the Grumman Corporation should be undertaken by Nassau County with the assistance of an engineering consultant experienced in groundwater hydrology.

3. On the basis of the complete evaluation of the impact of industrial and domestic waste discharge, Nassau County must take action to prevent continued degradation of groundwater quality by terminating such discharges or requiring prompt corrective waste water treatment.

4. An evaluation should be made by Nassau County of the feasibility of hastening the installation of sanitary sewers for the collection of industrial and domestic wastes from the Grumman Corporation and industries in that area of Nassau County.

Introduction

The purpose of this report is to summarize the present evidence of groundwater contamination in the area of the Grumman Aerospace Corporation and to make recommendation for abatement efforts.

The report is preliminary in nature because of the need to conduct additional water quality analysis and investigations to determine more precisely the sources of contamination and their significance.

Background

The Grumman Aerospace Corporation, located in Bethpage, has 14 active wells used in one distribution sytem for consumption, processing, and air conditioning. (See Appendix I and II.) Since 1964, 13 wells have been replaced due to problems of deterioration and odor.

Although Department water quality data exists for many wells dating to 1962, routine annual sampling of all wells did not begin until 1972. Because of the increased levels of nitrates, ammonia, and odor noted at some wells, special sampling was conducted in December 1973, and January 1974, for those constituents as well as for phenols. At that time, samples were collected periodically during continuous well operation. Phenols were not detected then, but high nitrate, ammonia, and odor levels were reconfirmed in the problem wells.

In March 1974, the Environmental Protection Agency, at our request, conducted sampling for organics at Wells 6, 8, and 14, with negative results. Sampling was also conducted at two Grumman sewage plant (A & B) recharge basins with positive PVC results, and at the adjacent Hooker Chemical Corporation condenser water and PVC lagoons. Traces of tri and tetra chlorethylene and larger amounts of octyl alcohol and PVC were found at the condenser water lagoon, while large amounts of PVC and acetic acid were found at the PVC lagoon. In May 1974, the Environmental Protection Agency recommended that further samples be taken to determine just what type of organic contamination was present at the wells.

HOOKER BASINS

Problem of high nitrate, ammonia, and odor levels has continued through the 1975 annual sampling of wells. In addition, phenols have been detected and confirmed at 4 wells and sampling for total organic carbon has been initiated.

Water Quality Problems

Water quality problems in the Grumman water supply wells involve the detection of high levels of nitrate, ammonia, odor, and traces of heavy metals as listed in Table I. Health Department water quality data, used as the basis for this table has been amassed since 1962. (See Appendix III)

Nitrates

Nitrate levels approaching or above the New York State Drinking Water limit of 10.0 mg/l are evident at four wells (#s 5, 6, 8, and 10). Nitrate contamination of the Magothy aquifer has been sporadically observed through central portions of Nassau County and is indicative of long-term sewage contamination of groundwater. The detection of high levels at wells in close proximity may, however, signify the effect of localized discharges of sewage in a greater magnitude than normal for similar unsewered areas of the central portion of the County. All of the wells with elevated nitrate levels are between 350' and 400' in depth.

Ammonia

Ammonia levels above 0.01 mg/l have been detected since 1973 at 6 wells (#s 3, 5, 6, 8, 10, and 14) ranging in depth from 350 - 550'. Four of these wells also exhibited high nitrate levels. Detection of appreciable concentrations of free ammonia is usually indicative of "fresh pollution" of sanitary significance. Detection of ammonia levels above 0.002 mg/l in the Magothy aquifer in the central portion of the County - the primary groundwater recharge area - is unusual.

TABLE I

GRUMMAN WATER SUPPLY INFORMATION

Well No.	N No.	Water Quality Problems[1]					Total Organic Carbon	Depth	1974 Pumpage (MGD)
		Nitrates	Ammonia	Phenols	Odor	Heavy Metals			
1	8842						6	570	1.15
2	8154						6	520	1.42
3	8124		.002 - .032				7	544	0.39
4	1923			<.002 - .003			5	359	0.05
5	7635	.69(1966)-9.2(1974)	.03 - .08		field only		5	394	1.16
6	7534	10.6(1973, 6.9-9.5	.12 - .28		field only		3.0-3+	366	0.32
8	7535	8.0 - 11.0	.002 - .026	<.002 - .004	2D, 2-3H		6.0	357	0.28
9	7536			<.002 - .005	1H		4.0	436	0.63
10	7636	6.9 - 16.0	.002 - .018			Cu .12-.27	4+	373	0.61
11	7637						5	490	0.57
13	8454						4.0	560	1.09
14	8643		<.002-.40 (1973)	<.002- .002	2D,1D (1973)		5.0	467	0.06
15	8816					Pb .02	3.0-5	500	0.62
16	7518						5	375	0.29
									8.64 (Total

Footnote:

[1]All levels or values indicated are representative of analysis conducted since 1974 unless otherwise indicated.

M.JAtyk April , 1975

Phenols

Phenol levels at or above 0.002 mg/l have been detected at four wells (#s 4,8,9, and 14) since 1974. These wells vary from 350 - 470' in depth. Phenols in the low concentrations detected are known to cause undesirable tastes when chlorination is applied. At slightly higher levels (.01 - .1 mg/l) phenols can be detected by an odor test. Concentrations affecting health, however, are far removed from levels causing taste problems. (The NYSHD has recently removed a limit of 0.001 mg/l from the Drinking Water Standards.)

Detection of phenols is indicative of waste discharge by industries using the substance as a raw material. Phenols are used extensively in the synthesis of organic products, particularly phenolic-type resins.

Odor

Odors have been detected at five wells (#s 5, 6, 8, 9, and 14) and have been described as similar to paint or of hydrocarbon origin and disagreeable. At two wells (#s 5 and 6), the odor is noted only in the field and present at wells which have moderate to high (.08 - .28 mg/l) levels of ammonia. At two other wells (#s 8 and 14) odors have been confirmed in laboratory analysis and are noted where significant ammonia and phenol levels have been detected. At Well #9, in which phenols have also been detected, a hydrocarbon odor has been noted.

Heavy Metals

Analysis for copper, zinc, lead, cadmium, aluminum, total chromium, and hexavalent chromates have been conducted at each well. All analysis for cadmium have been negative (less than .005 mg/l),as they have been for aluminum (<0.5 mg/l), total chromium (<0.01 mg/l),and hexavalent chromates (<0.01 mg/l). (See Appendix III) Copper

levels above 0.05 mg/l have been detected in many wells but only at Well #10 at a level above 0.20 mg/l. Zinc has been detected at the five wells sampled (#s 6, 8, 9, 14, and 16) at concentrations varying from 0.06 - 0.10 mg/l. Lead has been detected, at Well #15, at a level of 0.02 mg/l. It has not been determined whether the low levels detected of copper and zinc are or are not attributable to internal well corrosion. The encounter of lead, copper, and zinc will be subject to further observation and verification in future special sampling.

Organics

The detection of phenols at Grumman wells has been described in a previous section. Other evidence of organic contamination of wells is indicated by a report from the Grumman Corporation itself of the detection of methane, ethylene, and either methyl propane or propadiene. Total Organic Carbon (T.O.C.) analysis conducted in cooperation with the Nassau County Department of Public Works indicates levels of T.O.C. of from 3 - 7 mg/l. (See Appendix III)

The detection of odors described as similar to paint or of a hydrocarbon nature are further evidence of contamination by organic or industrial wastes.

Cyanide (CN) has been negative ($<$0.007 mg/l) in all analysis conducted thus far at the Grumman Wells.(See Appendix III)

Sources of Contamination

Grumman Aerospace Corporation wells are located within the large, as yet unsewered portion of Sewer District No. 3 in the Town of Oyster Bay. As a result, all industrial and domestic wastes in the vicinity are discharged after treatment on site to surface or subsurface disposal systems which are considered potential sources of pollution to the groundwater.

Grumman Aerospace Corporation

During 1974, average daily pumpage from Corporation wells was 8.64 million gallons per day (MGD), and ranged on a monthly basis from 3.3 to 15.8 MGD. Measured flows during 1974, from the domestic or sanitary disposal systems and the industrial waste system, however, amounted to only 0.33 MGD. The large difference between withdrawal and measured waste flows indicates that large flows of process water may be directed to the numerous recharge basins on site or to unidentified subsurface disposal systems.

Sanitary Waste Treatment

The Corporation operates and maintains three extended aeration treatment facilities, with an average daily flow in 1974 of 0.23 MGD, for the processing of sanitary wastes only. All wastewater is chlorinated prior to discharge to recharge basins. The removal of suspended solids and BOD at these facilities has averaged approximately 90% at all plants since 1972.

Information on the efficiency of wastewater treatment is found in Appendix IV,accompanied by the results of a survey of select chemical and metallic discharge from the plants.

Ammonia levels of the effluent of Plant A, the largest of the three plants, ranged from 8.4 to 12.0 mg/l while nitrates varied from 9.40 to 13.0 mg/l during Department sampling in 1974.

Wastewater quality sampling conducted at recharge basins of the sewage plants (A, B, and D) has indicated occasional violation of New York State Groundwater Discharge Standards for phenols (0.002 mg/l) and pH (6.5 - 8.5) with examinations not conducted for conformance with the limits for odor (6 units), color (30 units), and carbon chloroform extract (0.4 mg/l). In addition, special sampling for organics conducted by the Environmental Protection Agency at Plant A and B recharge basins has indicated the presence of some Polyvinyl Chloride (PVC).

Industrial Wastes Treatment

The Corporation operates and maintains two industrial waste treatment plants. The first is for hexavalent chromium wastes and rinse waters and treats an average of 0.1 MGD. The average hexavalent chromium and total chromium concentrations in the treated effluent on a monthly basis are 0.01 mg/l and 0.03 mg/l. The second industrial waste treatment plant is utilized for destruction of cyanide and has no discharge as wastewater is evaporated to produce a metallic sludge.

Hooker Chemical Corporation

The Hooker Chemical Corporation located adjacent and to the east of the Grumman Aerospace Corporation discharges approximately 240 gallons per day (gpd) of wastewater. This Company utilizes a wide variety of chemicals in its processes which are listed in Appendix V. One of the Corporation's waste streams is treated by incineration and has received approval in the past from the Department of Environmental Conservation. The second waste stream, which has not received such

approval, discharges organic compounds. There are two wastewater lagoons on the site, one receives condenser water and was sampled by the Environmental Protection Agency in 1974. Traces of tri and tetra chlorethylene, larger amounts of octyl alcohol, and polyvinyl chloride (PVC) have been detected in this lagoon. At the other lagoon, termed the PVC lagoon, large amounts of PVC and acetic acid were detected.

Servo Corporation of America

The Servo Corporation of America, located to the north of the Hooker Chemical Corporation, discharges an industrial waste stream of 750 gpd. Treatment consists of removal of hexavalent chromates and total chromium. Analysis completed in 1974 and 1975, indicate an average concentration of 0.01 hexavalent chromates, less than 0.06 total chromium, less than 0.15 fluoride, and pH of 7.0 - 9.9 in the wastewater.

A listing of chemicals utilized at this industry was not available at the time of report preparation.

Metatronics Manufacturing Corporation

The Metatronics Manufacturing Corporation is located to the south of the Hooker Chemical Corporation and adjacent to the Grumman Aerospace Corporation. Chemicals used at this plant which discharges 1500 gallons of wastewater are listed in Appendix V and contain fluoride, hexavalent chrome, ferricyanide salts, and organic-reducing agents. Analysis of wastes during the past year indicated hexavalent chromates ranging from 0.01 - 0.12 mg/l, total chromium ranging from 0.01 - 0.41 mg/l, and pH in a range of 7.7 to 9.7. Analysis results for cyanide, fluoride, or organics was not available at the time of this report.

Discussion of Results

Analysis of water quality data to date indicates contamination of a number of Grumman Corporation wells by domestic sewage - witness the high levels of ammonia and nitrates. Contamination of some Grumman wells by industrial wastes is indicated by detection of elevated phenol and odor levels, and by the detection of such organic contaminants as methane, ethylene, and methyl propane or propadiene. Further analysis of wells to determine more precisely the nature and degree of organic contamination is needed.

All discharges of domestic wastes in the Grumman vicinity are directed to surface or subsurface disposal systems. Sanitary sewers to direct such wastes to ocean outfalls are not expected to be completed in Nassau County Sewer District No.3, within which the Grumman Corporation lies, until 1990. The most critical factors in determining the degree of contamination experienced at Grumman wells must be related to the effects of both long-term and recent sewage discharge in this area of Nassau County. Long-term sewage discharge has produced elevated levels of nitrates throughout the central portion of the County. High groundwater ammonia levels, however, are more likely the result of recent sewage discharges and are not affected by the extent of sewage treatment since nitrogen removal processes are not practiced in plants discharging to the County groundwaters.

Probable contamination of groundwater by industrial wastes is indicated with the detection by the Environmental Protection Agency of organic contaminants in the Hooker Chemical Corporation lagoons and sewage recharge basins of the Grumman Corporation. The evidence of the presence of organic contaminants

in discharges to the groundwater is quite limited. Further analysis are needed to determine their specific nature and quantity. A large variety of chemicals are used at industrial plants in the vicinity of the Grumman Corporation. Foremost in the variety of chemical use is the Hooker Chemical Corporation (See Appendix V). Information on the use of chemicals at the Grumman Corporation is needed in view of the detection of PVC at some sewage recharge basins.

Further analysis for organic contaminants in both the sources of water supply and in waste discharges are needed. Surveys are needed, also, to monitor the quality and quantity of flow of any previously unmonitored discharges. Particular attention should be given to the analysis of flows, up to several million gallons per day, directed to recharge basins or subsurface disposal facilities at the Grumman Corporation. An analysis of the significance of industrial and domestic waste discharges in the degradation of water quality of the Grumman Corporation wells is finally needed to establish a priority abatement action.

Presently no industrial waste facilities discharging to the groundwaters of Nassau County hold a permit. Under new regulation of the State Department of Environmental Conservation, facilities could be discharging in violation of the groundwater standards and receive a permit with the condition that a specific schedule for meeting the standards is adhered to.

Where groundwater standards are violated, and direct deterioration of groundwater quality is determined, immediate elimination or correction through treatment of the discharge should be implemented. Failure to provide prompt abatement will result in increasing contamination of groundwater and may eventually effect degradation of additonal adjacent wells.

APPENDIX III

NASSAU COUNTY DEPARTMENT OF HEALTH

WATER QUALITY DATA

GRUMMAN AEROSPACE CORPORATION WELLS

GRUMMAN

A412 04/02/75 BACTERIOLOGICAL AND CHEMICAL RESULTS OF GROUND WATER IN NASSAU COUNTY FOR WELL NO. 7518 #16 PAGE 1

TYPE SAMPLE	DIST. NO.	SUPPLIER CODE	NAME	TYPE SUPPLY	LOCATION TWN	COMMUNITY	LATITUDE DEG MIN SEC	LONGITUDE DEG MIN SEC	SEWER DIST.	WELL DEPTH	SCREEN DEPTH	GRD. ELEV.	AQUIFER	CAPACITY	STATUS
N	0016	44	GRUMMAN	04	1	BTHPG	40 45 29	73 29 34	NC03	0375	0314	138	2	1200	

GRUMMAN WELL #16

RECORD CODE	001	002	003	004	005	006	
CASE DEPTH	64.00	64.00	*********	*********	*********	*********	
DATE RECORD	04/67	04/67	*********	*********	*********	*********	
ORIGINAL PUMPAGE	00- 0.0	00- 0.0	*********	*********	*********	*********	
DATE SAMPLE	03/01/66	02/01/68	06/08/72	12/06/73	12/10/74	01/02/75	
SOURCE	1	1	1	1	1	1	
LABORATORY	01	01	01	01	01	01	
ACID PLOT	0001	0001	0001	0001	0001	*********	
DATE EMPL	000	000	000	000	000	*********	
CHECK	00	00	00	00	00	*********	
TURBIDITY	00	00	00	00	00	*********	
DEBR COLO	*********	*********	1A	1A	1A	*********	
CHEM TEST	*********	*********	1A	1A	1A	*********	
TOTAL IRON	0.00	0.00	0.00	0.00	0.00	*********	
MANGANESE	0.00	0.00	0.00	0.00	0.00	*********	
CHLORIDE (CHLORIDE)	012	011	037	051	015	*********	
FLUORIDE	*********	*********	*********	*********	*********	0.00	
ARSENIC	00.002	00.002	00.002	00.002	00.002	00.002	
ALKALINITY	0.002	0.002	0.002	0.002	0.002	0.002	
NITRITE-N	0.000	0.000	0.000	0.000	0.000	0.000	
NITRATE-N	00.97	01.10	03.55	04.80	03.90	04.45	
DAYCO COLOR	00.3	01.0	00.5	00.4	01.7	*********	
CONDUCTIVITY	00004.2	00004.3	00010.2	00010.4	00010.8	00004.6	
TOTAL HARDNESS	010	008	010	024	020	*********	
TOTAL ALKALINITY	003	003	003	008	002	*********	
PH	5.9	5.8	5.3	5.8	5.5	5.6	
TOTAL SOLIDS	*********	*********	00049	00059	00064	*********	
SPEC CONDUCTANCE	*********	*********	00065	00090	00085	00095	
BENZENE	0.00	0.00	0.00	0.00	0.00	*********	
DISSOLVED OXYGEN	*********	*********	10.0	09.6	09.2	*********	
HEX CHROMATE	0.00	0.00	0.00	0.00	0.00	0.00	
CALCIUM HARDNESS	*********	*********	008	012	010	*********	
MAG HARDN	*********	*********	002	001	004	004	
PHENOL ALKALINITY	*********	*********	*********	*********	*********	*********	
TOTAL PHOSPHATES	*********	*********	00.02	00.15	00.01	*********	
DISSD PHOSPHATES	*********	*********	00.00	00.00	00.01	*********	
COPPER	*********	*********	*********	*********	00.00	00.00	
ZINC	*********	*********	*********	*********	*********	*********	
LEAD	*********	*********	*********	*********	*********	*********	
CADMIUM	*********	*********	*********	*********	*********	00.00	
SULFATE	*********	*********	0002	0001	0001	*********	
ALKALIN	*********	*********	*********	*********	*********	*********	
FERROUS	*********	*********	*********	*********	*********	*********	
NICKEL	*********	*********	*********	*********	*********	*********	
COD	*********	*********	*********	*********	*********	*********	
SILICON	*********	*********	006.0	006.0	010.0	*********	
MERCURY	*********	*********	*********	*********	*********	*********	
CL2 RES.	*********	*********	*********	*********	*********	*********	

TYPE SAMPLE	DIST. NO.	SUPPLIER CODE	NAME	TYPE SUPPLY	LOCATION TWN	COMMUNITY	LATITUDE DEG MIN SEC	LONGITUDE DEG MIN SEC	SEWER DIST.	WELL DEPTH	SCREEN DEPTH	GRD. ELEV.	AQUIFER	CAPACITY	STATUS
N	0006	49	GRUMMAN	04	1	BTHPG	40 45 06	73 30 09	NC03	0366	0287	120	2	1200	

GRUMMAN WELL #6

RECORD CODE	001	002	003	004	005	006	007	008	009	010
WATER DEPTH	64.00	*********	*********	*********	*********	*********	*********	*********	*********	*********
DATE RECORD	04/67	*********	*********	*********	*********	*********	*********	*********	*********	*********
ANNUAL PUMPAGE	66- 198.0	*********	*********	*********	*********	*********	*********	*********	*********	*********
DATE SAMPLE	02/01/68	07/18/72	10/16/73	12/26/73	12/26/73	12/27/73	12/28/73	12/21/74	12/21/74	12/22/74
SOURCE	1	1	1	1	3	3	1	3	3	3
LABORATORY	01	01	01	01	01	01	01	01	01	01
AGAR PL CT	0001	0001	0001	11	*********	*********	0001	*********	*********	*********
COLI MPN	000	000	000	[illegible]	*********	*********	000	*********	*********	*********
COLOR	00	00	00	10	*********	*********	00	*********	*********	*********
TURBIDITY	00	00	00	40	*********	*********	00	*********	*********	*********
ODOR COLD	*********	1A	1A	1A	1A	1A	1A	*********	*********	*********
ODOR HOT	*********	1A	1A	1A	1A	1A	1A	*********	*********	*********
TOTAL IRON	0.00	0.00	0.06	8.10	*********	*********	0.13	*********	*********	*********
MANGANESE	0.00	0.00	0.00	6.08	*********	*********	0.00	*********	*********	*********
CARBON DIOXIDE	012	011	028	022	*********	*********	055	*********	*********	*********
FLUORIDE	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
AMMONIA-N	00.000	00.022	00.120	00.300	00.250	00.070	00.060	00.200	00.260	00.120
ALBUMINOID-N	0.000	0.002	0.008	0.030	0.006	0.008	0.012	0.008	0.008	0.008
NITRITE-N	0.000	0.000	0.000	0.020	0.002	0.003	0.000	0.000	0.006	0.001
NITRATE-N	06.60	06.40	10.60	09.50	10.20	10.20	06.90	07.60	09.50	06.90
OXY.CONSUMED	00.7	00.8	01.0	01.5	*********	*********	00.8	*********	*********	*********
CHLORIDES	00008.2	00015.6	00024.0	00026.2	00024.0	00020.0	00018.0	00021.0	00025.0	00019.0
TOTAL HARDNESS	023	032	038	044	*********	*********	030	*********	*********	*********
TOTAL ALKALINITY	003	002	002	007	*********	*********	002	*********	*********	*********
PH	5.5	5.6	5.2	5.9	5.2	5.4	4.9	5.3	5.3	5.3
TOTAL SOLIDS	*********	00123	00174	00203	*********	*********	00126	*********	*********	*********
SPEC. CONDUCTANCE	*********	00150	00190	00205	00190	00160	00150	*********	*********	*********
DETERGENTS	*********	0.00	0.00	0.00	*********	*********	0.00	*********	*********	*********
DISSOLVED OXYGEN	*********	06.8	01.4	01.0	*********	*********	04.4	*********	*********	*********
HEX CHROMATES	*********	0.00	0.00	0.00	*********	*********	0.00	*********	*********	*********
CALCIUM HARDNESS	*********	020	024	026	*********	*********	016	*********	*********	*********
TEMP CARBON	*********	053	[illegible]	[illegible]	057	053	053	*********	*********	*********
PHENOL ALKALINITY	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
TOTAL PHOSPHATES	*********	00.00	00.03	00.17	*********	*********	00.07	*********	*********	*********
ORTHO PHOSPHATES	*********	00.00	00.03	00.11	*********	*********	00.07	*********	*********	*********
COPPER	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
ZINC	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
LEAD	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
CADMIUM	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
SULPHATE	*********	0004	0001	0002	*********	*********	0001	*********	*********	*********
ACIDITY	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
FERROUS	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
NICKEL	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
COD	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
SODIUM	*********	012.0	010.0	020.0	*********	*********	014.0	*********	*********	*********
MERCURY	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
CL2 RES.	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********

TYPE SAMPLE	DIST. NO.	SUPPLIER CODE	SUPPLIER NAME	TYPE SUPPLY	LOCATION TWN	LOCATION COMMUNITY	LATITUDE DEG	LATITUDE MIN	LATITUDE SEC	LONGITUDE DEG	LONGITUDE MIN	LONGITUDE SEC	SEWER DIST.	WELL DEPTH	SCREEN DEPTH	GRD. ELEV.	AQUIFER	CAPACITY	STATUS
N	0006	49	GRUMMAN	04	1	BTHPG	40	45	06	73	30	09	NC03	0366	0287	120	2	1200	

GRUMMAN WELL #6

RECORD CODE	011	012	013	014	015
WATER DEPTH	*********	*********	*********	*********	*********
RATE RECORD	*********	*********	*********	*********	*********
ANNUAL PUMPAGE	*********	*********	*********	*********	*********
LATL SAMPLE	12/22/74	12/23/74	12/23/74	03/17/75	03/17/75
SOURCE	3	1	3	1	1
LABORATORY	01	01	01	01	01
GAL PL CT	*********	0001	*********	*********	0001
FLT-BPN	*********	000	*********	*********	000
COLOR	*********	00	*********	*********	00
TURBIDITY	*********	00	*********	*********	00
ODOR COLD	*********	1A	*********	*********	1A
ODOR HOT	*********	1A	*********	*********	1A
TOTAL IRON	*********	0.00	*********	*********	0.00
MANGANESE	*********	0.00	*********	*********	0.00
CARBON DIOXIDE	*********	018	*********	*********	022
FLUORIDE	*********	*********	*********	*********	*********
AMMONIA-N	00.160	00.106	00.104	00.042	00.170
ALBUMINOID-N	0.006	0.010	0.006	0.004	0.004
NITRITE-N	0.001	0.000	0.000	0.000	0.000
NITRATE-N	07.60	08.20	08.50	02.20	09.20
MAY.CONSUMED	*********	00.9	*********	*********	00.9
CHLORIDES	00019.0	00019.6	00019.0	00007.0	00024.0
TOTAL HARDNESS	*********	052	*********	*********	060
TOTAL ALKALINITY	*********	002	*********	*********	002
PH	5.3	5.4	5.3	5.9	5.3
TOTAL SOLIDS	*********	00120	*********	*********	00150
SPEC. CONDUCTANCE	*********	*********	*********	*********	*********
DETERGENTS	*********	0.00	*********	*********	0.00
DISSOLVED OXYGEN	*********	04.2	*********	*********	00.4
HEX CHROMATES	*********	0.00	*********	*********	0.00
CALCIUM HARDNESS	*********	020	*********	*********	022
TEMP FAHRH	*********	*********	*********	*********	*********
PHENOL ALKALINITY	*********	*********	*********	*********	*********
TOTAL PHOSPHATES	*********	00.00	*********	*********	00.02
ORTHO PHOSPHATES	*********	00.00	*********	*********	00.01
COPPER	*********	00.00	*********	*********	00.00
ZINC	*********	*********	*********	*********	00.10
LEAD	*********	*********	*********	*********	00.00
CADMIUM	*********	*********	*********	*********	*********
SULPHATE	*********	0002	*********	*********	0001
ACIDITY	*********	*********	*********	*********	*********
FERROUS	*********	*********	*********	*********	*********
NICKEL	*********	*********	*********	*********	*********
COD	*********	*********	*********	*********	*********
SODIUM	*********	014.0	*********	*********	010.0
MERCURY	*********	*********	*********	*********	*********
CL2 RES.	*********	*********	*********	*********	*********

TYPE SAMPLE	DIST. NO.	SUPPLIER CODE	NAME	TYPE SUPPLY	LOCATION TWN	COMMUNITY	LATITUDE DEG	MIN	SEC	LONGITUDE DEG	MIN	SEC	SEWER DIST.	WELL DEPTH	SCREEN DEPTH	GRD. ELEV.	AQUIFER	CAPACITY	STATUS
	0008	49	GRUMMAN	04	1	BTHPG	40	45	18	73	29	56	NC03	0357	0280	125	2	1200	

GRUMMAN WELL #8

RECORD CODE	001	002	003	004	005	006	007	008	009	010
WATER DEPTH	99.99	99.99	*********	*********	*********	*********	*********	*********	*********	*********
DATE RECORD	09/65	09/65	*********	*********	*********	*********	*********	*********	*********	*********
MANUAL DUMPAGE	66-9999.9	66-9999.9	*********	*********	*********	*********	*********	*********	*********	*********
DATE SAMPLE	03/01/66	02/01/68	11/16/72	12/15/72	10/15/73	01/02/74	01/02/74	01/03/74	01/04/74	01/07/74
SOURCE	1	1	1	1	1	1	3	3	1	3
LABORATORY	01	01	01	01	01	01	01	01	01	01
AGAR PL CT	0002	0001	0001	0001	0001	0180	0001	0001	0001	0001
COLI MPN	000	000	000	000	000	030	000	009	000	000
COLOR	00	00	00	00	00	00	*********	*********	00	*********
TURBIDITY	00	*********	00	00	00	00	*********	*********	00	*********
ODOR COLD	02	02	1A	21	1A	1A	1A	20	1A	*********
ODOR HOT	02	02	1A	1A	1A	1A	1A	1A	1A	*********
TOTAL IRON	0.00	0.13	0.12	0.16	0.04	0.05	*********	*********	0.09	*********
MANGANESE	0.00	0.00	0.00	0.00	0.00	0.00	*********	*********	0.00	*********
CARBON DIOXIDE	024	036	037	024	027	024	*********	*********	032	*********
FLUORIDE	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
AMMONIA-N	00.002	00.002	00.002	00.002	00.002	00.026	00.002	00.002	00.002	*********
ALBUMINOID-N	0.002	0.008	0.002	0.002	0.004	0.014	0.006	0.002	0.002	*********
NITRITE-N	0.001	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	*********
NITRATE-N	00.24	03.50	10.60	10.20	10.20	08.00	08.90	11.00	10.20	*********
OXY.CONSUMED	00.5	01.1	00.9	00.8	01.0	00.7	*********	*********	00.8	*********
CHLORIDES	00006.6	00016.8	00021.0	00018.8	00024.6	00023.0	00024.0	00021.0	00022.0	*********
TOTAL HARDNESS	022	020	052	050	060	058	*********	*********	050	*********
TOTAL ALKALINITY	004	006	004	004	006	005	*********	*********	005	*********
PH	5.5	5.6	5.4	5.6	5.7	5.7	5.7	5.6	5.6	*********
TOTAL SOLIDS	*********	*********	00177	00155	00208	00180	*********	*********	00172	*********
SPEC. CONDUCTANCE	*********	*********	00200	00210	00240	*********	00250	00230	*********	*********
DETERGENTS	0.00	0.00	0.00	0.00	0.00	0.00	*********	*********	0.00	*********
DISSOLVED OXYGEN	*********	*********	08.0	07.6	06.8	*********	*********	*********	*********	*********
HEX CHROMATES	0.00	0.00	0.00	0.00	0.00	0.00	*********	*********	0.00	*********
CALCIUM HARDNESS	*********	*********	030	030	034	036	*********	*********	032	*********
MAG HARDNESS	*********	*********	043	053	063	*********	052	052	*********	*********
PHENOL ALKALINITY	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
TOTAL PHOSPHATES	*********	*********	00.07	00.03	00.02	00.02	*********	*********	00.00	*********
ORTHO PHOSPHATES	*********	*********	00.05	00.02	00.02	00.02	*********	*********	00.00	*********
COPPER	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
ZINC	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
LEAD	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
CADMIUM	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
SULPHATE	*********	*********	0015	0017	0024	0031	*********	*********	0019	*********
ACIDITY	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
FERROUS	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
NICKEL	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
COD	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
SODIUM	*********	*********	017.0	017.0	022.0	020.0	*********	*********	019.0	*********
MERCURY	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
CL2 RIS.	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********

TYPE SAMPLE	DIST. NO.	SUPPLIER CODE	NAME	TYPE SUPPLY	LOCATION TWN	COMMUNITY	LATITUDE DEG MIN SEC	LONGITUDE DEG MIN SEC	SEWER DIST.	WELL DEPTH	SCREEN DEPTH	GRD. ELEV.	AQUIFER	CAPACITY	STATUS
	0008	44	GRUMMAN	04	1	BTHPG	40 45 18	73 29 56	NC03	0357	0280	125	2	1200	

GRUMMAN WELL #8

RECORD CODE	011	012	013	014
WATER DEPTH	*********	*********	*********	*********
DATE RECORD	*********	*********	*********	*********
ANNUAL PUMPAGE	*********	*********	*********	*********
DATE SAMPLE	01/09/74	12/17/74	12/30/74	03/17/75
SOURCE	1	1	3	1
LABORATORY	01	01	01	01
AGAR PL CT	0001	0001	*********	0001
COLI-MPN	000	000	*********	000
COLOR	00	00	*********	00
TURBIDITY	00	00	*********	00
ODOR COLD	1A	2H	*********	3H
ODOR HOT	1A	1A	*********	1A
TOTAL IRON	0.14	0.05	*********	0.00
MANGANESE	0.00	0.00	*********	0.00
CARBON DIOXIDE	027	028	*********	023
FLUORIDE	*********	*********	0.00	*********
AMMONIA-N	00.002	00.004	00.002	00.010
ALBUMINOID-N	0.004	0.006	0.006	0.004
NITRITE-N	0.000	0.001	0.000	0.002
NITRATE-N	08.00	08.00	08.00	08.00
PAY.CONSUMED	00.9	01.0	*********	01.3
CHLORIDES	00020.0	00019.8	00019.0	00020.0
TOTAL HARDNESS	066	060	*********	062
TOTAL ALKALINITY	004	003	*********	008
PH	5.5	5.8	6.7	5.9
TOTAL SOLIDS	00154	00147	*********	00143
SPEC. CONDUCTANCE	*********	00215	00215	00205
DETERGENTS	0.00	0.00	*********	0.00
DISSOLVED OXYGEN	*********	05.8	*********	05.4
HEX CHROMATES	0.00	0.00	0.00	0.00
CALCIUM HARDNESS	028	032	*********	030
TEMP FAHRN	*********	05m	06	07
PHENOL ALKALINITY	*********	*********	*********	*********
TOTAL PHOSPHATES	00.00	00.00	*********	00.03
ORTHO PHOSPHATES	00.00	00.00	*********	00.03
COPPER	*********	00.07	00.00	00.00
ZINC	*********	*********	*********	00.09
LEAD	*********	*********	*********	00.00
CADMIUM	*********	*********	00.00	*********
SULPHATE	0015	0017	*********	0020
ACTIVITY	*********	*********	*********	*********
FERROUS	*********	*********	*********	*********
NICKEL	*********	*********	*********	*********
COD	*********	*********	*********	*********
SODIUM	020.0	018.0	*********	020.0
MERCURY	*********	*********	*********	*********
CL2 RES.	*********	*********	*********	*********

A412 04/10/75 BACTERIOLOGICAL AND CHEMICAL RESULTS OF GROUND WATER IN NASSAU COUNTY FOR WELL NO. 7536 PAGE 1

TYPE SAMPLE	DIST. NO.	SUPPLIER CODE	SUPPLIER NAME	TYPE SUPPLY	LOCATION TWN	LOCATION COMMUNITY	LATITUDE DEG MIN SEC	LONGITUDE DEG MIN SEC	SEWER DIST.	WELL DEPTH	SCREEN DEPTH	GRD. ELEV.	AQUIFER	CAPACITY	STATUS
	0009	49	GRUMMAN	04	1	BTHPG	40 45 18	73 29 49	NC03	0436	0375	125	2	1200	

GRUMMAN WELL # 9

RECORD CODE	001	002	003	004	005	006	007
WATER DEPTH	99.99	99.99	*********	*********	*********	*********	*********
DATE RECORD	04/65	09/65	*********	*********	*********	*********	*********
ANNUAL PUMPAGE	66-9999.9	66-9999.9	*********	*********	*********	*********	*********
DATE SAMPLE	02/01/66	02/01/68	08/08/72	11/28/73	12/17/74	12/30/74	03/17/75
SOURCE	1	1	1	1	1	3	1
LABORATORY	01	01	1	01	01	01	01
COLI PL CT	0002	.001	.1	0001	0001	*********	0001
COLI MPN	000	000	00	000	000	*********	000
COLOR	00	00	00	00	00	*********	00
TURBIDITY	00	00	00	00	00	*********	00
ODOR COLD	92	92	1A	1A	1H	*********	1A
ODOR HOT	92	92	1A	1A	1A	*********	1A
TOTAL IRON	0.09	0.07	0.00	0.06	0.00	*********	0.00
MANGANESE	0.00	0.00	0.00	0.00	0.00	*********	0.00
CARBON DIOXIDE	022	028	036	022	018	*********	013
FLUORIDE	*********	*********	*********	*********	*********	0.00	*********
AMMONIA-N	00.002	00.002	00.002	00.002	00.002	00.002	00.002
ALBUMINOID-N	0.002	0.000	0.002	0.004	0.002	0.002	0.002
NITRITE-N	0.000	0.000	0.000	0.001	0.000	0.000	0.000
NITRATE-N	00.00	00.41	02.00	03.05	02.60	03.55	02.55
DAY.CONSUMED	00.6	00.4	00.5	00.7	00.8	*********	00.6
CHLORIDES	00004.0	00003.6	00007.8	00008.0	00008.8	00008.0	00005.4
TOTAL HARDNESS	005	006	010	016	014	*********	012
TOTAL ALKALINITY	004	004	003	003	003	*********	003
PH	5.6	5.6	5.3	5.5	5.6	5.6	5.7
TOTAL SOLIDS	*********	*********	00052	00056	00065	*********	00062
SPEC. CONDUCTANCE	*********	*********	00065	00085	00080	00080	00080
DETERGENTS	0.00	0.00	0.00	0.00	0.00	*********	0.00
DISSOLVED OXYGEN	*********	*********	09.0	08.8	08.4	*********	08.4
HEX CHROMATES	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CALCIUM HARDNESS	*********	*********	004	008	004	*********	006
TEMP TAKEN	*********	*********	052	052	054	054	054
PHENOL ALKALINITY	*********	*********	*********	*********	*********	*********	*********
TOTAL PHOSPHATES	*********	*********	00.02	00.03	00.00	*********	00.01
ORTHO PHOSPHATES	*********	*********	00.00	00.02	00.00	*********	00.01
COPPER	*********	*********	*********	*********	00.00	00.00	00.00
ZINC	*********	*********	*********	*********	*********	*********	00.06
LEAD	*********	*********	*********	*********	*********	*********	00.00
CADMIUM	*********	*********	*********	*********	*********	00.00	*********
SULPHATE	*********	*********	0002	0001	0001	*********	0001
ACIDITY	*********	*********	*********	*********	*********	*********	*********
FERROUS	*********	*********	*********	*********	*********	*********	*********
NICKEL	*********	*********	*********	*********	*********	*********	*********
CSD	*********	*********	*********	*********	*********	*********	*********
SODIUM	*********	*********	006.0	007.0	008.0	*********	010.0
MERCURY	*********	*********	*********	*********	*********	*********	*********
LL2 RES.	*********	*********	*********	*********	*********	*********	*********

HA412 04/02/75 BACTERIOLOGICAL AND CHEMICAL RESULTS OF GROUND WATER IN NASSAU COUNTY FOR WELL NO. 7635 PAGE 1

TYPE SAMPLE	DIST. NO.	SUPPLIER CODE	SUPPLIER NAME	TYPE SUPPLY	LOCATION TWN	LOCATION COMMUNITY	LATITUDE DEG	LATITUDE MIN	LATITUDE SEC	LONGITUDE DEG	LONGITUDE MIN	LONGITUDE SEC	SEWER DIST.	WELL DEPTH	SCREEN DEPTH	GRD. ELEV.	AQUIFER	CAPACITY	STATUS
N	0005	49	GRUMMAN	04	1	BTHPG	40	45	00	73	30	04	NC03	0394	0314	115	2	1200	

GRUMMAN WELL #5

RECORD CODE	001	002	003	004	005	006	007	008	009	010
WATER DEPTH	64.00	64.00	*********	*********	*********	*********	*********	*********	*********	*********
DATE RECORD	04/67	04/67	*********	*********	*********	*********	*********	*********	*********	*********
ANNUAL PUMPAGE	66- 213.0	66- 213.0	*********	*********	*********	*********	*********	*********	*********	*********
DATE SAMPLE	02/01/66	01/01/60	07/18/72	11/20/73	12/06/73	01/02/74	01/02/74	01/03/74	01/04/74	12/10/74
SOURCE	1	1	1	1	3	1	3	3	1	1
LABORATORY	01	01	01	01	01	01	01	01	01	01
ALKALINITY	0002	0001	0001	0001	*********	0001	0001	0001	0001	0001
CHLORIDE	100	000	000	000	*********	000	000	000	000	000
COLOR	00	00	00	00	*********	00	*********	*********	00	00
TURBIDITY	00	00	00	00	*********	00	*********	*********	00	00
ODOR TYPE	*********	*********	1A	1A	*********	1A	1A	1A	1A	1A
ODOR NUM	*********	*********	1A	1A	*********	1A	1A	1A	1A	1A
TOTAL IRON	0.05	0.32	0.00	0.07	*********	0.22	*********	*********	0.07	0.07
MANGANESE	0.00	0.00	0.00	0.00	*********	0.00	*********	*********	0.00	0.00
CARBON DIOXIDE	030	017	022	040	*********	025	*********	*********	050	030
FLUORIDE	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
AMMONIA-N	00.002	00.002	00.002	00.030	00.022	00.034	00.032	00.020	00.056	00.006
ALBUMINOID-N	0.002	0.002	0.002	0.006	0.006	0.014	0.006	0.002	0.006	0.006
NITRITE-N	0.000	0.000	0.001	0.000	*********	0.000	0.000	0.000	0.000	0.000
NITRATE-N	00.00	02.80	03.60	04.00	00.70	04.20	00.00	05.10	05.10	00.00
DAY CHLORINE	00.4	00.5	01.0	01.1	*********	00.7	*********	*********	00.9	01.0
CHLORIDE	00002.6	00002.8	00012.2	00012.2	00017.0	00016.2	00017.0	00014.0	00012.6	00015.0
TOTAL HARDNESS	006	013	020	038	*********	034	*********	*********	020	030
TOTAL ALKALINITY	005	003	002	003	*********	002	*********	*********	004	005
PH	5.7	5.6	5.3	5.2	6.5	5.3	5.2	5.3	5.3	5.6
TOTAL SOLIDS	*********	00044	00065	00135	*********	00130	*********	*********	00090	00111
SPEC. CONDUCTANCE	*********	*********	00165	00165	*********	*********	00155	00110	*********	00150
DETERGENTS	0.00	0.00	0.00	0.00	*********	0.00	*********	*********	0.00	0.00
DISSOLVED OXYGEN	*********	*********	06.7	03.0	*********	*********	*********	*********	*********	04.6
HEX CHROMATE	0.00	0.00	0.00	0.00	*********	0.00	*********	*********	0.00	0.00
CARBON HARDNESS	*********	*********	016	018	*********	028	*********	*********	016	018
NON CARBON	*********	*********	005	057	*********	*********	052	054	*********	054
PHENOL ALKALINITY	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
TOTAL PHOSPHATES	*********	*********	00.00	00.04	*********	00.00	*********	*********	00.00	00.00
ORTHO PHOSPHATES	*********	*********	00.00	00.04	*********	00.00	*********	*********	00.00	00.00
COPPER	*********	*********	*********	*********	*********	*********	*********	*********	*********	00.00
ZINC	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
LEAD	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
CADMIUM	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
SULPHATE	*********	*********	0004	0001	*********	0001	*********	*********	0001	0004
ACIDITY	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
PHOSPHOROUS	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
NICKEL	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
IRON	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
SELENIUM	*********	*********	006.0	011.0	*********	012.0	*********	*********	010.0	014.0
MERCURY	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
CLR RES.	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********

TYPE SAMPLE	DIST. NO.	SUPPLIER CODE	NAME	TYPE SUPPLY	LOCATION TWN	COMMUNITY	LATITUDE DEG MIN SEC	LONGITUDE DEG MIN SEC	SEWER DIST.	WELL DEPTH	SCREEN DEPTH	GRD. ELEV.	AQUIFER	CAPACITY	STATUS
N	0005	49	GRUMMAN	04	I	BTHPG	40 45 00	73 30 04	NC03	0394	0314	115	2	1200	

GRUMMAN WELL #5

RECORD CODE	011
WATER DEPTH	**********
DATE RECORD	**********
ANNUAL PUMPAGE	**********
DATE SAMPLE	01/02/75
SERIES	1
LABORATORY	01
ALKALINITY	**********
COLOR	**********
TURBIDITY	**********
IRON, DISS	**********
IRON, TOT	**********
TOTAL IRON	**********
MANGANESE	**********
CARBON DIOXIDE	**********
FLUORIDE	0.00
AMMONIA	00.000
ALBUMINOID-N	0.004
NITRITE-N	0.000
NITRATE-N	00.20
HAZE, ASSUMED	**********
CHLORIDES	0001.0
TOTAL HARDNESS	**********
TOTAL ALKALINITY	**********
PH	5.7
TOTAL SOLIDS	**********
SP. C. CONDUCTANCE	0010
TEMPERATURE	**********
DISSOLVED OXYGEN	**********
BOD, 5 DAYS	0.00
CALCIUM HARDNESS	**********
TEST PAPER	053
PHENOL ALKALINITY	**********
TOTAL PHOSPHATES	**********
ORTHO PHOSPHATES	**********
COPPER	00.00
ZINC	**********
LEAD	**********
CADMIUM	00.00
SOLFIDE	**********
ACIDITY	**********
IRON, SUS	**********
NICKEL	**********
COD	**********
SODIUM	**********
MERCURY	**********
OIL AND GR	**********

TYPE SAMPLE	DIST. NO.	SUPPLIER CODE NAME	TYPE SUPPLY	LOCATION TWN. COMMUNITY	LATITUDE DEG MIN SEC	LONGITUDE DEG MIN SEC	SEWER DIST.	WELL DEPTH	SCREEN DEPTH	GRD. ELEV.	AQUIFER	CAPACITY	STATUS
0010	49	GRUMMAN	04	1 BTHPG	40 45 17	73 29 43	NC03	0373	0312	120	2	1200	

GRUMMAN WELL #10

RECORD CODE	001	002	003	004	005	006	007	008	009	010
WATER DEPTH	99.99	99.99	*********	*********	*********	*********	*********	*********	*********	*********
DATE RECORD	09/65	09/65	*********	*********	*********	*********	*********	*********	*********	*********
ANNUAL PUMPAGE	66-9999.9	66-9999.9	*********	*********	*********	*********	*********	*********	*********	*********
DATE SAMPLE	02/01/66	02/01/68	08/16/72	12/03/73	12/06/73	01/07/74	01/07/74	01/06/74	01/09/74	12/17/74
SOURCE	1	1	1	1	3	1	3	3	1	1
LABORATORY	01	01	01	01	01	01	01	01	01	01
AGAR PL CT	0001	0001	0001	0001	0001	1300	0001	0001	0001	0001
COLI. MPN	000	000	000	000	000	005	000	000	000	000
COLOR	00	00	00	00	*********	00	*********	*********	00	00
TURBIDITY	00	00	00	00	*********	00	*********	*********	00	00
ODOR COLD	92	92	1A	1A	*********	1A	1A	1A	1A	1A
ODOR HOT	92	92	1A	1A	*********	1A	1A	1A	1A	1A
TOTAL IRON	0.02	0.09	0.06	0.12	*********	0.18	*********	*********	0.11	0.00
MANGANESE	0.00	0.00	0.00	0.00	*********	0.00	*********	*********	0.00	0.00
CHLORIDE	046	015	051	039	*********	014	*********	*********	016	024
FLUORIDE	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
AMMONIA-N	00.002	00.002	00.020	00.002	*********	00.010	00.002	00.002	00.002	00.002
ALBUMINOID-N	0.006	0.002	0.002	0.002	*********	0.004	0.002	0.002	0.002	0.004
NITRITE-N	0.000	0.000	0.000	0.000	*********	0.003	0.000	0.000	0.000	0.000
NITRATE-N	01.12	03.40	05.50	09.50	*********	16.00	12.40	11.10	08.20	07.60
[illegible]	00.5	00.4	00.7	00.7	*********	00.8	*********	*********	00.7	00.9
[illegible]	00009.0	00009.2	00012.6	00014.4	*********	00016.4	00016.0	00016.0	00017.4	00022.0
TOTAL HARDNESS	005	012	018	046	*********	024	*********	*********	022	030
TOTAL ALKALINITY	006	002	003	004	*********	003	*********	*********	003	004
PH	5.5	5.5	5.3	5.4	*********	5.7	5.4	5.7	5.6	5.6
TOTAL SOLIDS	*********	*********	00090	00131	*********	00176	*********	*********	00131	00175
SPECS CONDUCTANCE	*********	*********	00125	00160	*********	*********	00163	00157	*********	00255
DETERGENTS	0.00	0.00	0.00	0.00	*********	0.00	*********	*********	0.00	0.00
DISSOLVED OXYGEN	*********	*********	05.8	05.2	*********	*********	*********	*********	*********	04.0
HEX CHROMATES	0.00	0.00	0.00	0.00	*********	0.00	*********	*********	0.00	0.0
CALCIUM HARDNESS	*********	*********	010	014	*********	014	*********	*********	014	016
TEMP FIELD	*********	*********	055	057	*********	*********	054	052	*********	054
PHENOL ALKALINITY	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
TOTAL PHOSPHATES	*********	*********	00.06	00.05	*********	00.01	*********	*********	00.01	00.05
ORTHO PHOSPHATES	*********	*********	00.02	00.00	*********	00.00	*********	*********	00.00	00.05
COPPER	*********	*********	*********	*********	*********	*********	*********	*********	*********	00.27
ZINC	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
LEAD	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
CADMIUM	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
SULPHATE	*********	*********	0002	0002	*********	0005	*********	*********	0003	0020
ACIDITY	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
FERROUS	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
NICKEL	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
CEO	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
SODIUM	*********	*********	013.0	018.0	*********	035.0	*********	*********	021.0	032.0
MERCURY	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
CL2 RES.	*********	*********	*********	*********	00.00	*********	*********	*********	*********	*********

TYPE SAMPLE	DIST. NO.	SUPPLIER CODE	SUPPLIER NAME	TYPE SUPPLY	LOCATION TWN	LOCATION COMMUNITY	LATITUDE DEG MIN SEC	LONGITUDE DEG MIN SEC	SEWER DIST.	WELL DEPTH	SCREEN DEPTH	GRD. ELEV.	AQUIFER	CAPACITY	STATUS
	0010	49	GRUMMAN	04	1	BTHPG	40 45 17	73 29 43	NC03	0373	0312	120	2	1200	

~~GRUMMAN WELL #10~~

RECORD CODE	011
WATER DEPTH	*********
DATE RECORD	*********
ANNUAL PUMPAGE	*********
DATE SAMPLE	01/02/75
SOURCE	1
LABORATORY	01
AGAR 35 C	*********
COLI MPN	*********
COLOR	*********
TURBIDITY	*********
ODOR COLD	*********
ODOR HOT	*********
TOTAL IRON	*********
MANGANESE	*********
CARBON DIOXIDE	*********
FLUORIDE	0.00
AMMONIA-N	00.002
ALBUMINOID-N	0.002
NITRITE-N	0.000
NITRATE-N	00.90
OXY.CONSUMED	*********
CHLORIDES	00010.0
TOTAL HARDNESS	*********
TOTAL ALKALINITY	*********
PH	5.8
TOTAL SOLIDS	*********
SPEC. CONDUCTANCE	00190
DETERGENTS	*********
DISSOLVED OXYGEN	*********
HEX CHROMATES	0.00
CALCIUM HARDNESS	*********
TEMP FAHREN	054
PHENOL ALKALINITY	*********
TOTAL PHOSPHATES	*********
ORTHO PHOSPHATES	*********
COPPER	00.12
ZINC	*********
LEAD	*********
CADMIUM	00.00
SULPHATE	*********
ACIDITY	*********
FERROUS	*********
NICKEL	*********
[illegible]	*********
SODIUM	*********
MERCURY	*********
CO2 RES.	*********

TYPE SAMPLE	DIST. NO.	SUPPLIER CODE	SUPPLIER NAME	TYPE SUPPLY	LOCATION TWN	LOCATION COMMUNITY	LATITUDE DEG	LATITUDE MIN	LATITUDE SEC	LONGITUDE DEG	LONGITUDE MIN	LONGITUDE SEC	SEWER DIST.	WELL DEPTH	SCREEN DEPTH	GRD. ELEV.	AQUIFER	CAPACITY	STATUS
	0011	49	GRUMMAN	04	1	BTHPG	40	45	16	73	29	35	NC03	0490	0430	125	2	1260	

GRUMMAN WELL #11

RECORD CODE	003	002	003	004	005	006
WATER DEPTH	99.99	99.99	*********	*********	*********	*********
DATE RECORD	09/05	09/05	*********	*********	*********	*********
ANNUAL PUMPAGE	66-9999.9	66-9999.9	*********	*********	*********	*********
DATE SAMPLE	02/01/66	02/01/66	06/08/72	12/03/73	12/04/74	01/09/75
SOURCE	1	1	1	1	1	1
ALKALINITY	01	01	01	01	01	01
CAD PL CT	0001	0001	0001	0001	0001	*********
CHT PPB	000	000	000	000	000	*********
CLOR	00	00	00	00	00	*********
CONDUCTIVITY	00	00	00	00	00	*********
COP CHKD	92	92	1A	1A	1A	*********
COP PLT	92	92	1A	1A	1A	*********
DIAL IRON	0.02	0.13	0.00	0.16	0.12	0.10
HARDNESS	0.00	0.00	0.00	0.00	0.00	*********
HARD DIOXIDE	034	069	026	038	012	*********
LOCATION	*********	*********	*********	*********	*********	0.00
MAGNESIUM	00.002	00.004	00.002	00.002	00.002	00.002
NITRATE-N	0.002	0.002	0.002	0.002	0.002	0.002
NITRITE-N	0.000	0.000	0.000	0.000	0.000	0.000
NITROGEN	00.48	00.85	03.45	04.35	03.65	03.90
ORGANICS-UMES	00.2	00.6	00.6	00.7	00.6	*********
PESTICIDES	00004.0	00004.2	00010.4	00004.4	00009.8	00009.6
DIAL PHENOLS	010	004	010	016	010	*********
DIAL ALKALINITY	006	004	003	004	003	*********
PH	5.6	5.4	5.4	5.7	5.8	6.1
DIAL SOLIDS	*********	*********	00064	00105	00075	*********
SPEC CONDUCTANCE	*********	*********	00005	00050	00105	00095
SURFACTS	0.00	0.00	0.00	0.00	0.00	*********
DISSOLVED OXYGEN	*********	*********	07.0	06.4	06.0	*********
TOX COMPOUNDS	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL HARDNESS	*********	*********	004	006	004	*********
TOT PLATES	*********	*********	052	056	054	057
TOTAL ALKALINITY	*********	*********	*********	*********	*********	*********
TOTAL PHOSPHATES	*********	*********	00.02	00.03	00.00	*********
TOTAL PHOSPHATES	*********	*********	00.00	00.00	00.00	*********
COPPER	*********	*********	*********	*********	00.05	00.08
IRON	*********	*********	*********	*********	*********	*********
LEAD	*********	*********	*********	*********	*********	*********
CADMIUM	*********	*********	*********	*********	*********	00.00
SULPHATE	*********	*********	0002	0003	0001	*********
SELENIUM	*********	*********	*********	*********	*********	*********
CHROMIUM	*********	*********	*********	*********	*********	*********
BORON	*********	*********	*********	*********	*********	*********
ZINC	*********	*********	*********	*********	*********	*********
BARIUM	*********	*********	010.0	012.0	012.0	*********
MERCURY	*********	*********	*********	*********	*********	*********
EE2 REC.	*********	*********	*********	*********	*********	*********

[illegible] [illegible]/74 BACTERIOLOGICAL AND CHEMICAL RESULTS OF GROUND WATER I. NASSAU COUNTY [illegible] WELL NO. 4124 [illegible]

VOR MILE	DIST. NO.	SUPPLIER CODE NAME	TYPE SUPPLY	LOCATION TWP. COMMUNITY	LATITUDE DEG MIN SEC	LONGITUDE DEG MIN SEC	SEWER DIST.	WELL DEPTH	SCREEN DEPTH	GRD. ELEV.	AQUIFER	CAPACITY	STAT
	(0003)	40 GRUMMAN	04	1 BTHPG	40 45 00	73 29 54	NC03	0543	0467	115	2	1200	5

GRUMMAN WELL #3

[illegible] CODE	001	002	003	004	005	006	007	008	—
[illegible]	66.00	*********	*********	*********	*********	*********	*********	*********	
[illegible]	06/67	*********	*********	*********	*********	*********	*********	*********	
[illegible]	66- 101.0	*********	*********	*********	*********	*********	*********	*********	
[illegible]	01/01/68	07/10/72	09/24/73	09/24/73	01/07/74	01/27/74	01/18/74	01/09/74	12/4/74
[illegible]	1	1	3	1	1	2	3	1	1
[illegible]	01	01	01	01	01	01	01	01	01
[illegible]	0001	0001	0001	0001	1300	0001	0001	0001	1
[illegible]	000	000	000	000	002	000	000	000	0
[illegible]	00	00	*********	00	00	*********	*********	00	0
[illegible]	01	00	*********	00	30	*********	*********	00	0
[illegible]	*********	1A	*********	1A	1A	1A	1A	1A	1A
[illegible]	*********	1A	*********	1A	1A	1A	1A	1A	1A
[illegible]	0.07	0.00	*********	0.10	0.40	*********	*********	0.10	0.08
[illegible]	0.00	0.00	*********	0.00	0.00	*********	*********	0.0[illegible]	0.00
[illegible]	018	023	*********	016	018	*********	*********	017	14
[illegible]	*********	*********	*********	*********	*********	*********	*********	*********	—
[illegible]	00.002	00.002	*********	00.002	00.032	00.004	00.002	00.002	0.002
[illegible]	0.002	0.002	*********	0.002	0.004	0.004	0.002	0.002	0.002
[illegible]	0.000	0.001	*********	0.000	0.003	0.000	0.000	0.001	0.000
[illegible]	00.46	01.12	*********	04.40	02.55	04.00	01.21	01.74	1.16
[illegible]	00.4	00.7	*********	00.6	00.0	*********	*********	00.8	0.7
[illegible]	00024.2	00035.4	*********	00014.2	00020.2	00017.0	00025.0	00026.2	6.4
TOTAL HARDNESS	036	010	*********	024	008	*********	*********	006	10
TOTAL ALKALINITY	004	006	*********	002	003	*********	*********	002	3
[illegible]	5.7	5.6	*********	5.4	5.5	5.7	6.0	5.5	5.7
TOTAL SOLIDS	00021	00052	*********	00104	00051	*********	*********	00036	51
SPEC. CONDUCTANCE	*********	00050	*********	00065	*********	00065	00073	*********	—
[illegible]	0.00	0.00	*********	0.00	0.00	*********	*********	0.10	0.00
[illegible]	*********	07.4	*********	04.6	*********	*********	*********	*********	7.6
[illegible]	0.00	0.00	*********	0.10	0.00	*********	*********	0.00	0.00
[illegible]	*********	036	*********	028	008	*********	*********	006	10
[illegible]	*********	064	*********	058	*********	054	054	*********	—
[illegible] ALKALINITY	*********	*********	*********	*********	*********	*********	*********	*********	—
TOTAL PHOSPHATES	*********	00.00	*********	00.06	00.12	*********	*********	00.03	0.00
[illegible] PHOSPHATES	*********	00.00	*********	00.02	00.00	*********	*********	00.01	0.00
COPPER	*********	*********	*********	*********	*********	*********	*********	*********	0.06
[illegible]	*********	*********	*********	*********	*********	*********	*********	*********	—
[illegible]	*********	*********	*********	*********	*********	*********	*********	*********	—
[illegible]	*********	*********	*********	*********	*********	*********	*********	*********	—
[illegible]	*********	.0002	*********	.0001	.0003	*********	*********	.0001	1
[illegible]	*********	*********	*********	*********	*********	*********	*********	*********	—
[illegible]	*********	*********	*********	*********	*********	*********	*********	*********	—
[illegible]	*********	*********	*********	*********	*********	*********	*********	*********	—
[illegible]	*********	*********	*********	*********	*********	*********	*********	*********	—
[illegible]	*********	004.0	*********	011.0	014.0	*********	*********	006.0	6.0
[illegible]	*********	*********	*********	*********	*********	*********	*********	*********	—
[illegible]	*********	*********	*********	*********	*********	*********	*********	*********	—

TYPE SAMPLE	DIST. NO.	SUPPLIER CODE	SUPPLIER NAME	TYPE SUPPLY	LOCATION TWN	LOCATION COMMUNITY	LATITUDE DEG	LATITUDE MIN	LATITUDE SEC	LONGITUDE DEG	LONGITUDE MIN	LONGITUDE SEC	SEWER DIST.	WELL DEPTH	SCREEN DEPTH	GRD. ELEV.	AQUIFER	CAPACITY	STATUS
	0002	49	GRUMMAN	04	1	BTHPG	40	44	54	73	29	54	NC03	0520	0424	115	2	1200	5

GRUMMAN CUBE #2

RECORD CODE	001	002	003	004	005
WATER DEPTH	99.99	*********	*********	*********	*********
DATE RECORD	07/65	*********	*********	*********	*********
ANNUAL PUMPAGE	66-9999.9	*********	*********	*********	*********
DATE SAMPLE	01/01/66	07/14/72	09/24/73	12/06/74	01/09/75
SOURCE	1	1	1	1	1
LABORATORY	01	01	01	01	01
AGAR PLATE	0001	0001	0001	0001	*********
COLI FIN	000	000	000	000	*********
COLOR	00	00	00	00	*********
TURBIDITY	00	00	00	00	*********
IRON RED	9Z	1A	1A	1A	*********
IRON DIS	9Z	1A	1A	1A	*********
TOTAL IRON	0.13	0.08	0.00	0.09	0.09
MANGANESE	0.00	0.00	0.00	0.00	*********
CHLORIDE	014	011	020	028	*********
FLUORIDE	*********	*********	*********	*********	0.00
ARSENIC	00.002	00.002	00.002	00.002	00.002
ALKALINITY	0.002	0.002	0.002	0.002	0.002
NITRITE	0.000	0.000	0.000	0.000	0.000
NITRATE	00.55	02.05	03.20	03.00	03.55
OXY-CONSUMED	00.5	00.6	00.8	00.9	*********
COLIFORMS	00009.0	00006.0	00007.4	00009.2	00006.0
TOTAL HARDNESS	006	010	018	012	*********
TOTAL ALKALINITY	005	002	003	004	*********
PH	5.9	5.6	5.5	5.5	5.5
TOTAL SOLIDS	00026	00053	00067	00047	*********
SPECIFIC CONDUCTANCE	*********	00065	00075	00085	00060
MATERIAL	0.00	0.00	0.00	0.00	*********
DISSOLVED OXYGEN	*********	07.8	07.6	07.0	*********
ALKALINITY	0.00	0.00	0.00	0.00	0.00
CALCIUM HARDNESS	*********	006	008	004	*********
TEMP FAHR	*********	055	058	054	055
PHENOL ALKALINITY	*********	*********	*********	*********	*********
TOTAL PHOSPHATES	*********	00.02	00.02	00.02	*********
ORTHO PHOSPHATES	*********	00.00	00.02	00.00	*********
COPPER	*********	*********	*********	00.06	00.06
ZINC	*********	*********	*********	*********	*********
LEAD	*********	*********	*********	*********	*********
CALCIUM	*********	*********	*********	*********	00.00
SULFATE	*********	0004	0001	0001	*********
ACIDITY	*********	*********	*********	*********	*********
FERROUS	*********	*********	*********	*********	*********
NICKEL	*********	*********	*********	*********	*********
COD	*********	*********	*********	*********	*********
SODIUM	*********	005.0	008.0	007.0	*********
ALKALINITY	*********	*********	*********	*********	*********
CL2 RES.	*********	*********	*********	*********	*********

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TYPE SAMPLE	DIST. NO.	SUPPLIER CODE	SUPPLIER NAME	TYPE SUPPLY	LOCATION TWN	LOCATION COMMUNITY	LATITUDE DEG	LATITUDE MIN	LATITUDE SEC	LONGITUDE DEG	LONGITUDE MIN	LONGITUDE SEC	SEWER DIST.	WELL DEPTH	SCREEN DEPTH	GND. ELEV.	AQUIFER	CAPACITY	STATUS
R	0013	49	GRUMMAN	04	1	BTHPG	40	45	24	73	29	44	NC03	0560	0500	127	2	1200	5

GRUMMAN WELL #13

RECORD CODE	001	002	003	004
WATER DEPTH	64.00	*********	*********	*********
DATE RECORD	04/07	*********	*********	*********
ANNUAL PUMPAGE	06-1650	*********	*********	*********
DATE SAMPLED	08/10/72	12/06/73	12/17/74	01/06/75
SOURCE	1	1	1	1
LABORATORY	01	01	01	01
ALK. PH CL	0015	0001	0001	*********
ODOR PPM	000	000	000	*********
COLOR	00	00	00	*********
TURBIDITY	00	00	00	*********
COOK CLED	1A	1A	1A	*********
COOK TET	1A	1A	1A	*********
TOTAL IRON	0.00	0.00	0.00	0.00
FLUORIDE	0.00	0.00	0.00	*********
CARBON DIOXIDE	018	015	012	*********
PHOSPHATE	*********	*********	*********	0.00
AMMONIA	00.002	00.002	00.002	00.002
ALBUMINOID N	0.002	0.002	0.002	0.002
NITRITE	0.000	0.000	0.000	0.000
NITRATE	00.36	00.43	00.34	00.44
CHLORINATED	00.7	00.7	00.8	*********
CHLORIDES	00003.2	00003.4	00003.8	00004.0
TOTAL HARDNESS	010	006	006	*********
TOTAL ALKALINITY	005	005	004	*********
PH	5.8	5.9	5.9	6.1
TOTAL SOLIDS	00039	00026	00026	*********
SPEC. CONDUCTANCE	00035	00045	00035	00050
SULFATES	0.00	0.00	0.00	*********
DISSOLVED OXYGEN	10.0	09.6	13.9	*********
BOD CONSUMED	0.00	0.00	0.00	0.00
CALCIUM HARDNESS	006	006	007	*********
TOTAL SOLIDS	052	052	054	054
PHENOL ALKALINITY	*********	*********	*********	*********
TOTAL PHOSPHATES	00.02	00.11	00.03	*********
ORTHO PHOSPHATES	00.00	00.03	00.02	*********
COPPER	*********	*********	00.16	00.12
ZINC	*********	*********	*********	*********
LEAD	*********	*********	*********	*********
CHROMIUM	*********	*********	*********	00.00
SULPHIDE	0002	0001	0001	*********
ACIDITY	*********	*********	*********	*********
FLUORIDE	*********	*********	*********	*********
NICKEL	*********	*********	*********	*********
IRON	*********	*********	*********	*********
COLOUR	004.0	004.0	004.0	*********
SURFACT	*********	*********	*********	*********
LAS REG.	*********	*********	*********	*********

HA412 04/10/75 BACTERIOLOGICAL AND CHEMICAL RESULTS OF GROUND WATER IN NASSAU COUNTY FOR WELL NO. 0643 PAGE 1

TYPE SAMPLE	DIST. NO.	SUPPLIER CODE	NAME	TYPE SUPPLY	LOCATION TWN	COMMUNITY	LATITUDE DEG MIN SEC	LONGITUDE DEG MIN SEC	SEWER DIST.	WELL DEPTH	SCREEN DEPTH	GRD. ELEV.	AQUIFER	CAPACITY	STATUS
N	0014	49	GRUMMAN	04	1	BTHPG	40 45 13	73 29 56	NC03	0467	0416	125	2	1200	5

GRUMMAN WELL #14

RECORD CODE	001	002	003	004	005	006	007	008	009	010
WATER DEPTH	64.00	*********	*********	*********	*********	*********	*********	*********	*********	*********
DATE RECORD	04/67	*********	*********	*********	*********	*********	*********	*********	*********	*********
ANNUAL PUMPAGE	66- 40.0	*********	*********	*********	*********	*********	*********	*********	*********	*********
DATE SAMPLE	10/17/70	08/06/72	09/24/73	12/10/73	12/26/73	12/26/73	12/27/73	12/28/73	12/04/74	01/06/75
SOURCE	1	1	1	1	1	3	3	1	1	1
LABORATORY	01	01	01	01	01	01	01	01	01	01
AGAR PL CT	0036	0001	0001	0001	1100	*********	*********	0001	0001	*********
COLI MPN	000	000	000	000	038	*********	*********	000	000	*********
COLOR	00	00	00	00	55	*********	*********	00	00	*********
TURBIDITY	10	00	00	00	38	*********	*********	00	00	*********
ODOR COLD	1A	1A	1A	1A	1A	1A	2D	1D	1A	*********
ODOR HOT	1A	1A	1A	1A	1A	1A	1A	1A	1A	*********
TOTAL IRON	0.14	0.00	0.00	0.00	3.20	*********	*********	0.19	0.11	0.00
MANGANESE	0.00	0.00	0.00	0.00	0.11	*********	*********	0.00	0.00	*********
CARBON DIOXIDE	004	01%	026	037	013	*********	*********	030	013	*********
FLUORIDE	*********	*********	*********	*********	*********	*********	*********	*********	*********	0.00
AMMONIA-N	00.002	00.002	00.002	00.002	00.400	00.004	00.002	00.002	00.002	00.002
ALBUMINOID-N	0.002	0.002	0.002	0.002	0.152	0.002	0.004	0.002	0.002	0.002
NITRITE-N	0.000	0.000	0.000	0.003	0.000	0.003	0.004	0.000	0.002	0.000
NITRATE-N	00.35	00.42	01.32	01.70	00.71	01.34	01.46	01.74	01.24	01.56
OXY.CONSUMED	00.9	00.4	00.7	00.6	02.2	*********	*********	01.5	00.8	*********
CHLORIDES	00003.4	00005.6	00005.6	00006.0	00006.8	00005.0	00006.0	00005.8	00005.4	00004.0
TOTAL HARDNESS	008	004	010	006	012	*********	*********	006	008	*********
TOTAL ALKALINITY	004	002	005	004	008	*********	*********	002	004	*********
PH	6.4	5.5	5.6	5.4	6.2	5.9	5.9	5.2	5.9	5.9
TOTAL SOLIDS	00060	00039	00053	00067	00064	*********	*********	00039	00035	*********
SPEC. CONDUCTANCE	*********	00060	00045	*********	00050	00050	00040	00050	*********	00050
DETERGENTS	0.00	0.00	0.00	0.00	0.00	*********	*********	0.00	0.00	*********
DISSOLVED OXYGEN	*********	09.4	08.8	*********	07.6	*********	*********	08.6	08.6	*********
HEX CHROMATES	0.00	0.00	0.00	0.00	0.00	*********	*********	0.00	0.00	0.00
CALCIUM HARDNESS	006	002	006	002	006	*********	*********	004	006	*********
TOT.ALKALINITY	*********	053	053	*********	053	056	053	053	*********	053
PHENOL ALKALINITY	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
TOTAL PHOSPHATES	00.10	00.02	00.05	00.06	00.12	*********	*********	00.02	00.04	*********
ORTHO PHOSPHATES	00.00	00.00	00.03	00.06	00.02	*********	*********	00.02	00.00	*********
COPPER	*********	*********	*********	*********	*********	*********	*********	*********	00.00	00.00
ZINC	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
LEAD	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
CADMIUM	*********	*********	*********	*********	*********	*********	*********	*********	*********	00.00
SULPHATE	0001	0002	0001	0001	0002	*********	*********	0001	0001	*********
ACTIVITY	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
FERROUS	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
NICKEL	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
CCD	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
SODIUM	*********	004.0	007.0	004.0	009.0	*********	*********	006.0	005.0	*********
MERCURY	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********
CL2 RES.	*********	*********	*********	*********	*********	*********	*********	*********	*********	*********

412 04/10/75 BACTERIOLOGICAL AND CHEMICAL RESULTS OF GROUND WATER IN NASSAU COUNTY FOR WELL NO. 8643 PAGE 2

TYPE SAMPLE	DIST. NO.	SUPPLIER CODE	NAME	TYPE SUPPLY	LOCATION TWN	COMMUNITY	LATITUDE DEG	MIN	SEC	LONGITUDE DEG	MIN	SEC	SEWER DIST.	WELL DEPTH	SCREEN DEPTH	GRD. ELEV.	AQUIFER	CAPACITY	STATUS
N	0014	49	GRUMMAN	04	1	BTHPG	40	45	13	73	29	56	NC03	0467	0416	125	2	1200	5

GRUMMAN WELL #14

RECORD CODE	011
WATER DEPTH	*********
SITE RECORD	*********
ANNUAL PUMPAGE	*********
DATE SAMPLE	03/17/75
SOURCE	1
LABORATORY	01
CHLORINE	0001
ALKALINITY	000
COLOR	10
TURBIDITY	00
IRON COLD	1H
IRON HOT	1A
TOTAL IRON	0.06
MANGANESE	0.00
CARBON DIOXIDE	014
FLUORIDE	*********
AMMONIA-N	00.002
ALBUMINOID-N	0.002
NITRITE-N	0.000
NITRATE-N	01.32
OXY.CONSUMED	00.8
CHLORIDES	00005.0
TOTAL HARDNESS	010
TOTAL ALKALINITY	003
PH	5.7
TOTAL SOLIDS	00033
SPEC. CONDUCTANCE	00050
DETERGENTS	0.00
DISSOLVED OXYGEN	04.6
HEX CHROMATES	0.00
CALCIUM HARDNESS	006
TEMPERATURE	055
PHENOL ALKALINITY	*********
TOTAL PHOSPHATES	00.00
ORTHO PHOSPHATES	00.00
COPPER	00.00
ZINC	00.06
LEAD	00.00
BORIUM	*********
SULPHATE	0001
CYCLITY	*********
CHROMIUM	*********
NICKEL	*********
CD	*********
SODIUM	006.0
MERCURY	*********
CL2 RES.	*********

NYSDEC 000041

TYPE SAMPLE	DIST. NO.	SUPPLIER CODE	SUPPLIER NAME	TYPE SUPPLY	LOCATION TWN	LOCATION COMMUNITY	LATITUDE DEG MIN SEC	LONGITUDE DEG MIN SEC	SEWER DIST.	WELL DEPTH	SCREEN DEPTH	GRD. ELEV.	AQUIFER	CAPACITY	STATUS
1	0015	49	GRUMMAN	04	1	BTHPG	40 45 23	73 29 35	NC03	0500	0450	130	2	1200	5

GRUMMAN WELL #15

RECORD CODE	001	002	003	004	005
METER DEPTH	64.00	*********	*********	*********	*********
DATE RECORD	04/67	*********	*********	*********	*********
ANNUAL PUMPAGE	66-1[illegible]6.0	*********	*********	*********	*********
DATE SAMPLE	08/16/72	12/03/73	12/10/74	01/09/75	03/17/75
SOURCE	1	1	1	1	1
LABORATORY	01	01	01	01	01
COLOR PT CT	0001	0001	0001	*********	0001
ODOR-TON	000	000	000	*********	000
ODOR	00	00	00	*********	00
TURBIDITY	00	00	00	*********	00
COLOR COLD	1A	1A	1A	*********	1A
COLOR HOT	1A	1A	1A	*********	1A
TOTAL IRON	0.06	0.11	0.00	0.14	0.00
ORGANICS	0.00	0.00	0.00	*********	0.00
CARBON DIOXIDE	026	019	012	*********	014
CHLORIDE	*********	*********	*********	0.00	*********
AMMONIA-N	00.002	00.002	00.002	00.002	00.002
ALBUMINOID-N	0.002	0.002	0.002	0.002	0.002
NITRITE-N	0.000	0.000	0.000	0.000	0.000
NITRATE-N	01.75	02.65	02.55	02.40	02.55
KJ.CONSUMED	00.6	00.5	01.8	*********	00.6
CHLORIDES	00005.8	00016.8	00007.0	00006.0	00006.6
TOTAL HARDNESS	020	018	012	*********	016
TOTAL ALKALINITY	004	004	004	*********	003
PH	5.5	5.7	5.9	5.8	5.7
TOTAL SOLIDS	00058	00079	00050	*********	00053
SPEC. CONDUCTANCE	00055	00065	00065	00065	00070
PERCENTS	0.00	0.00	0.00	*********	0.00
DISSOLVED OXYGEN	09.4	08.8	08.8	*********	08.6
N CHROMATES	0.00	0.00	0.00	0.00	0.00
CALCIUM HARDNESS	006	006	004	*********	010
MG HARDNESS	002	001	004	007	004
PHENOL ALKALINITY	*********	*********	*********	*********	*********
TOTAL PHOSPHATES	00.02	00.00	00.00	*********	00.00
THO PHOSPHATES	00.00	00.00	00.00	*********	00.00
COPPER	*********	*********	00.00	00.07	00.08
ZINC	*********	*********	*********	*********	00.10
LEAD	*********	*********	*********	*********	00.02
CADMIUM	*********	*********	*********	00.00	*********
CHROMIUM	0002	0001	0001	*********	0001
IRIDITY	*********	*********	*********	*********	*********
PHENOLS	*********	*********	*********	*********	*********
CYANIDE	*********	*********	*********	*********	*********
SILVER	*********	*********	*********	*********	*********
SODIUM	006.0	006.0	008.0	*********	009.0
MERCURY	*********	*********	*********	*********	*********
PESTICIDES	*********	*********	*********	*********	*********

HA412 04/02/75 BACTERIOLOGICAL AND CHEMICAL RESULTS OF GROUND WATER IN NASSAU COUNTY FOR WELL NO. 8842 PAGE 1

TYPE SAMPLE	DIST. NO.	SUPPLIER CODE	SUPPLIER NAME	TYPE SUPPLY	LOCATION TWN	LOCATION COMMUNITY	LATITUDE DEG MIN SEC	LONGITUDE DEG MIN SEC	SEWER DIST.	WELL DEPTH	SCREEN DEPTH	GRD. ELEV.	AQUIFER	CAPACITY	STATUS
N	0001	49	GRUMMAN	04	1	BTHPG	40 44 39	73 29 54	NC03	0570	0519	115	2	1200	5

GRUMMAN WELL #1

RECORD CODE	001	002	003
WATER DEPTH	*********	*********	*********
DATE RECORD	*********	*********	*********
ANNUAL PUMPAGE	*********	*********	*********
DATE SAMPLED	09/24/73	12/10/74	01/06/75
SOURCE	1	1	1
LABORATORY	01	01	01
AGAR PL CT	0040	0001	*********
COLI MPN	000	000	*********
COLOR	00	00	*********
TURBIDITY	00	00	*********
ODOR COLD	1A	1A	*********
ODOR HOT	1A	1A	*********
TOTAL IRON	0.00	0.00	0.00
MANGANESE	0.00	0.00	*********
CARBON DIOXIDE	034	029	*********
FLUORIDE	*********	*********	0.00
AMMONIA-N	00.002	00.002	00.002
ALBUMINOID-N	0.002	0.002	0.002
NITRITE-N	0.000	0.000	0.000
NITRATE-N	02.05	02.40	01.90
OXY.CONSUMED	00.7	01.3	*********
CHLORIDES	00007.2	00007.6	00006.0
TOTAL HARDNESS	014	014	*********
TOTAL ALKALINITY	003	007	*********
PH	5.3	5.8	6.7
TOTAL SOLIDS	00045	00021	*********
SPEC. CONDUCTANCE	00065	00065	00050
DETERGENTS	0.00	0.00	*********
DISSOLVED OXYGEN	07.8	07.4	*********
HEX CHROMATES	0.00	0.00	0.00
CALCIUM HARDNESS	008	008	*********
TEMP FAHR.	055	054	053
PHENOL ALKALINITY	*********	*********	*********
TOTAL PHOSPHATES	00.05	00.02	*********
ORTHO PHOSPHATES	00.03	00.00	*********
COPPER	*********	00.07	00.00
ZINC	*********	*********	*********
LEAD	*********	*********	*********
CADMIUM	*********	*********	00.00
SULPHATE	0001	0001	*********
ACIDITY	*********	*********	*********
FERROUS	*********	*********	*********
NICKEL	*********	*********	*********
CCD	*********	*********	*********
SODIUM	007.0	010.0	*********
MERCURY	*********	*********	*********
[illegible]	*********	*********	*********

0 02/20/74 BACTERIOLOGICAL AND CHEMICAL RESULTS OF GROUND WATER IN NASSAU COUNTY FOR WELL NO. 1923 PAGE 1

E LE	DIST. NO.	SUPPLIER CODE	NAME	TYPE SUPPLY	LOCATION TWN	COMMUNITY	LATITUDE DEG MIN SEC	LONGITUDE DEG MIN SEC	SEWER DIST.	WELL DEPTH	SCREEN DEPTH	GRD. ELEV.	AQUIFER	CAPACITY	STATUS
	0004	49	GRUMMAN	04	1	BTHPG	40 44 41	73 29 52	NC03	0359	0304	115	2	12CC	5

GRUMMAN WELL #4

RD CODE	001	002	003	004	005	006	
R DEPTH	64.00	64.00	64.00	64.00	*********	*********	
E RECORD	04/67	04/67	04/67	04/67	*********	*********	
AL PUMPAGE	66- 86.0	66- 86.0	66- 86.0	66- 86.0	*********	*********	
SAMPLE	01/01/62	02/01/64	02/01/66	01/01/68	07/18/72	11/28/73	11/17/74 12/30/74
CE	1	1	1	1	1	1	1 3
RATORY	01	01	01	01	01	01	01 01
AL CT	0001	0001	0001	0001	0001	0110	1 —
TYPE	000	000	000	000	000	000	0 —
	00	00	00	00	00	00	0 —
LITY	00	00	00	13	00	00	0 —
COLD	*********	*********	*********	*********	1A	1A	1A —
FOT	*********	*********	*********	*********	1A	1A	1A —
AL IRON	0.04	0.09	0.00	0.70	0.00	0.06	0.00 —
ANESE	0.00	0.00	0.00	0.00	0.00	0.00	0 —
ON DIOXIDE	009	011	018	013	022	016	1B —
RIDE	*********	*********	*********	*********	*********	*********	— 0.00
IA-N	00.018	00.006	00.002	00.006	30.002	00.002	0.002 0.002
UMOID-N	0.002	0.002	0.002	0.002	0.002	0.002	0.002 0.002
RITE-N	0.002	0.002	0.000	0.002	0.000	0.000	0.000 0.000
GEN-N	07.50	01.50	02.90	04.20	02.55	03.00	2.50 3.00
CONSUMED	00.9	01.0	00.4	00.7	00.7	00.9	0.7 —
IDES	00004.4	00005.4	00006.6	00009.4	00009.0	00009.0	7.6 11.0
AL HARDNESS	008	010	010	016	012	014	14 —
AL ALKALINITY	003	003	005	003	002	002	1 —
	5.9	5.8	5.8	5.7	5.3	5.4	5.1 5.4
AL SOLIDS	*********	*********	*********	*********	00056	00073	65 —
C. CONDUCTANCE	*********	*********	*********	*********	00005	00065	85 80
IDES	0.00	0.00	0.00	0.00	0.00	0.00	0.00 —
VED OXYGEN	*********	*********	*********	*********	06.8	07.6	7.8 —
SILICATES	0.00	0.00	0.00	0.00	0.00	0.00	0.00 0.00
CIUM HARDNESS	*********	*********	*********	*********	008	006	4 —
P TAMPEN	*********	*********	*********	*********	060	062	54 54
AL ALKALINITY	*********	*********	*********	*********	*********	*********	— —
AL PHOSPHATES	*********	*********	*********	*********	00.00	00.36	002 —
NO PHOSPHATES	*********	*********	*********	*********	00.00	00.05	0.00 —
PER	*********	*********	*********	*********	*********	*********	0.07 0.01
C	*********	*********	*********	*********	*********	*********	— —
D	*********	*********	*********	*********	*********	*********	— —
IUM	*********	*********	*********	*********	*********	*********	— 0.000
PHATE	*********	*********	*********	*********	0002	0003	1 —
ITY	*********	*********	*********	*********	*********	*********	— —
ES	*********	*********	*********	*********	*********	*********	— —
KEL	*********	*********	*********	*********	*********	*********	— —
	*********	*********	*********	*********	*********	*********	— —
IUM	*********	*********	*********	*********	007.0	007.0	8.0 —
URY	*********	*********	*********	*********	*********	*********	— —
ES.	*********	*********	*********	*********	*********	*********	— —

APPENDIX IV

SUMMARY OF GRUMMAN AEROSPACE CORPORATION

SANITARY WASTE TREATMENT FACILITIES

MEMORANDUM

NASSAU COUNTY DEPARTMENT OF HEALTH

240 Old Country Road - Mineola, New York 11501

To : R. D. Cusumano

Date: February 28, 1975

From : J. P. Hurley

Subject : Grumman Aerospace Corporation
Waste Treatment Facilities

With regard to the contamination of Grumman Water Supply Wells, the following information is submitted relative to domestic wastewater treatment at Grumman.

Grumman Aerospace Corporation in Bethpage operates and maintains three (3) extended aeration treatment facilities for the processing of sanitary wastes only. All wastewater is chlorinated prior to discharge into recharge basins (refer to attached General Plan.) The following table summarizes the operation of the three plants in conformance with existing permits as reported by Grumman.

Plant A

		Suspended Solids*			B.O.D.*		
	Flow (MGD)	Inf.	Eff.	% Rem.	Inf.	Eff.	% Rem.
1972	.174						
1973	.187	255	16	93	283	7	98
1974	.187	291	20	93	102	10	90
Permit	.270		67			33	

Plant B

		Suspended Solids			B.O.D.		
	Flow (MGD)	Inf.	Eff.	% Rem.	Inf.	Eff.	% Rem.
1972	.050						
1973	.047	151	17	88	165	8	95
1974	.038	347	27	92	135	11	92
Permit	.068		20			18	

Plant D

	Flow (MGD)	Suspended Solids Inf.	Eff.	% Rem	B.O.D. Inf.	Eff.	% Rem
1972	.006						
1973	.006	173	22	87	151	12	92
1974	.006	281	30	89	154	13	92
Permit	.0336		15			18	

* All influent and effluent values expresses in mg/l.

Bacteriological samples collected by the Department for 1974 indicate log average total and fecal coliform concentrations for Plant A of 93.4 and 8.3 respectively per 100 ml of sample with an average chlorine residual of 1.5 ppm.

Health Department sampling of Plant A for 1974 revealed the following:

Plant A

	Suspended Solids	BOD	NH_3	NO_2	NO_3	pH
Date						
10/31/74						
Influent	290	200	22.00	0.001	0.38	8.0
Effluent	28	4	12.00	0.050	13.00	6.4
5/22/74						
Influent	280	230	66.0	0.001	1.25	8.5
Effluent	56	10	8.4	0.001	9.40	4.0
5/15/74						
Influent	314	260	50.0	0.001	0.51	8.7
Effluent	68	10	9.0	0.26	12.6	3.7
4/15/74						
Influent	260	235	-	-	-	8.2
Effluent	32	14	-	-	-	4.4

In addition to the above, two surveys were conducted with regard to the discharge of metallic and chemical constituents from all inland wastewater treatment plants. The results for Grumman are as follows:

	Pla	A		Plant B		Plant D
	N.W. Basin	S. Basin	S.Basin	S.E.Basin	S.E.Basin	N. Basin
Date	7/24/74	7/24/74	2/10/75	7/24/74	2/10/75	2/10/75
pH	5.5	5.8	6.3	6.3	6.0	5.8
ABS	0.02	0.02	0.05	0.02	0.03	0.18
AS	0.003	0.003	0.003	0.003	0.003	0.003
BA	0.05	0.5	0.5	0.5	0.5	0.5
Cd	0.005	0.005	0.005	0.005	0.009	0.005
Cr^{+6}	0.01	0.01	0.01	0.01	0.01	0.01
Cr (Total)	0.01	0.01		0.01		
Cu	0.17	0.09	0.33	0.11	0.29	0.31
Cn	0.007	0.007	0.007	0.007	0.007	0.007
Fl	0.10	0.10	0.10	0.21	0.85	0.10
Fe	0.17	0.13	0.42	0.31	0.05	0.30
Pb	0.02	0.02	0.02	0.02	0.02	0.03
Hg	0.0005	0.005		0.0005		
Mn	0.07	0.05	0.06	0.05	0.08	0.07
No_3	10.60	10.20	11.0	5.10	5.60	4.10
Phenols	0.002	0.004	0.003	0.002	0.002	0.004
PO_4 (ortho)		1.12		0.04		
PO_4 (total)		1.15		0.06		
Ag	0.05	0.05	0.05	0.05	0.05	0.05
So_4	5	4	6	4	2	6
Ni	0.05	0.05		0.05		
Zn	0.39	0.17	0.25	0.14	0.18	0.38
Diss. Solids	195	180	177	88	98	145
Sus. Solids	3	4	5	5	1	7
NH_3	4.0	4.0		0.20		
Chloride			24.0		11.0	34.0

In 1974 a survey was conducted by the Health Department regarding the constituents in sludge generated from wastewater plants in the County. Results for Grumman are as follows:

Constituent (mg/kg)*	Plant A	Plant B
% Solids	.5	1.6
Cadmium	1600	100
Chromium		700
Copper	680	2200
Iron	4600	
Lead	220	50 LT
Manganese	20 LT	11
Mercury	2	2 LT
Nickel	50 LT	20
Silver		4
Zinc	500	380

The constituent values are the weight of same in the dry solids.

LT refers to the limit of the testing analysis.

JPH:ccg

APPENDIX V

CHEMICALS USED AT

HOOKER CHEMICAL CORPORATION &

METATRONICS CORPORATION

FREDERICK GUMM CHEMICAL COMPANY, INC.
539 Forest Street, Kearny, N.J. 07032 991-4142

January 28, 1975

Mr. Walter Long
Metatronics Mfg. Corporation
111 Bloomingdale Road
Hicksville, Long Island, New York 11802

Dear Mr. Long:

Our Technical Sales Representative, Mr. Sid Boyar, has asked us to send you waste disposal information on the products you purchase from us. The following information should enable you to satisfy the requirements of the state in this regard.

Clepo 31-EE .... is a strongly alkaline etch for aluminum consisting of blended alkalies and complexing agents. It has a total alkalinity equivalent to 66% w/w Na_2O. The alkalies used include sodium hydroxide and sodium carbonate. All complexing agents are biodegradable. There are no phosphates, chromates or cyanide present.

Clepo 83-M .... is a mildly alkaline non-silicated, non-etch cleaner for aluminum. Its alkalinity is less than 15% w/w as Na_2O. Phosphate content is approximately 2.5% as P. There is no free caustic, or carbonate. All wetting agents are biodegradable. There are no chromates or cyanide present.

Clepo 106-A .... is an organic reducing agent. It is a natural hexose and is completely biodegradable.

Clepo 184-D .... is an acid deoxidizing compound and contains acid sulfates, peroxy sulfates and a small amount of fluoride. The fluoride content is less than 1% w/w as F. There are no chromates or phosphates present.

Very truly yours,

FREDERICK GUMM CHEMICAL COMPANY, INC.

Lawrence J. Durney
Technical Director

dmp

METATRONICS MANUFACTURING CORP.
MANUFACTURERS OF ELECTRO-MECHANICAL AND ELECTRONIC DEVICES
111 BLOOMINGDALE ROAD · HICKSVILLE, L. I., NEW YORK · 516 WE 5-9400

February 19, 1975

Nassau County Department of Health
Industrial Waste Control
Bureau of Water Pollution Control
240 Old Country Road
Mineola, N.Y. 11501

Attn: Mr. John F. Welsch

Gentlemen:

This will acknowledge receipt of your letter of January 2, 1975.

Enclosed are lists of all the chemicals that we use as supplied from Frederick Gumm Chemical Co. and Allied-Kelite Products.

We hope this information complies with your request, but if you wish something further, please contact the writer at 935-9400.

Very truly yours,

METATRONICS MANUFACTURING CORP.

Walter A. Long
Purchasing Agent

WAL:rr
Enclos: Lists

WAGE / LABOR STANDARDS ADMINISTRATION
Bureau of Labor Standards

Allied-Kelite
IRIDITE 14-2

SECTION I

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
Allied-Kelite Product Division	313-883-0100
ADDRESS (Number, Street, City, State, and ZIP Code)	
400 Midland St., Detroit, Mich. 48203	
CHEMICAL NAME AND SYNONYMS: Chromate Conversion Coating	TRADE NAME AND SYNONYMS: Iridite 14-2
CHEMICAL FAMILY: Chromate	FORMULA: Proprietary Chemical

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Fluoride	< 9	
Hexavalent Chrome	< 30	
Ferricyanide Salts	< 10	
Avoid contact with organic materials		

SECTION III PHYSICAL DATA

BOILING POINT (°F.)	Dry Compd.	SPECIFIC GRAVITY (H_2O=1)	N.A.
VAPOR PRESSURE (mm Hg.)	N.A.	PERCENT VOLATILE BY VOLUME (%)	N.A.
VAPOR DENSITY (AIR=1)	N.A.	EVAPORATION RATE (_____=1)	N.A.
SOLUBILITY IN WATER	Approx. 99%		
APPEARANCE AND ODOR	Reddish brown powder, brown solution - no odor		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	FLAMMABLE LIMITS	Lel	Uel
None			

EXTINGUISHING MEDIA: Water or foam

SPECIAL FIRE FIGHTING PROCEDURES: Avoid contact with organic materials

UNUSUAL FIRE AND EXPLOSION HAZARDS: Contact with alcohols and some organics may cause spontaneous ignition

Hooker RUCO DIVISION

NEW SOUTH ROAD, HICKSVILLE, NEW YORK 11802
PHONE (516) 931-8100 TWX 510 221-1871

January 29, 1975

Mr. John F. Welsch, Supervisor
Industrial Waste Control
Bureau of Water Pollution Control
240 Old Country Road
Mineola, New York 11501

Dear Mr. Welsch:

In reply to your letter of January 2, 1975, J. Welsch/JBH, the list of chemical raw materials purchased by the Hicksville site is attached.

The list in absolutely no way indicates that a substance may be present in a plant effluent. Many are used in closed operations with no discharge.

The list includes chemicals by manufacturer's name. When there is more than one supplier, only one representative of the compound is included. For more information on chemical composition, please contact supplier. Specific formulations, additives, etc. are generally trade secrets, which we would not know.

It is desired that all information on the list be kept strictly confidential.

We hope this information, together with data previously supplied to you on our discharges, including metals, phenol, sulfate, nitrate, chlorides, BOD, COD and flowrate, will assist you in equitably judging the impact on the ground water.

If we may be of any assistance, do not hesitate to call.

Very truly yours,

Malcolm K. Brown, P.E.
Supervisor Environmental Engineer

MKB:tv
Encls.

RUN DATE 12/28/74 PAGE 0001

PRODUCT NUMBER	PRODUCT DESCRIPTION	VENDOR NAME	VEND CODE
CH0001	VINYL CHLORIDE	SHELL CHEM	SAOS
CH0005	LAUROYL PEROXIDE	PENNWALT CORP	PAKR
CH0007	GELATIN	ATLANTIC GELATIN	ARZF
CH0008	VINYL ACETATE	U.S. INDUS CHEM	UAAN
CH0011	ACETIC ACID	INDEPENDENT -	IACM
CH0037	METHOCEL F-50	MCKESSON+ROBBINS	MASA
CH0233	2-ETHYL HEXANOL	W.R.GRACE	GAOK
CH1001	TOLUENE SULF. ACID	U.S PIPE+FOUNDRY	UAGF
CH1002	PERCHLORETHYLENE		
CH1003	PHTHALIC ANHYDRIDE		
CH1004	ISO OCTYL ALCOHOL	EXXON CHEM	EALW
CH1008	ADIPIC ACID	CELANESE CORP	CALF
CH1010	BUTYL AIC	EASTMAN CHEM	EARH
CH1014	CAPRYLIC ACID	EMERY	EAJN
CH1015	TRIETHYLENE GLYCOL	OLIN CHEMICAL	OAEE
CH1016	DIBUTYL TINDILURATE	CINCIN MILACRON	CAVP

RUN DATE 12/28/74 PAGE 0002

PRODUCT NUMBER	PRODUCT DESCRIPTION	VENDOR NAME	VEND CODE
CH1022	ISO DECYL ALCOHOL	EXXON CHEM	EALW
CH1023	BISPHENOL A	SHELL CHEM	SAOS
CH1033	MALEIC ANHYDRIDE	U.S.S.CHEMICAL	UAIX
CH1035	PELARGONIC ACID	EMERY INDUSTRIES	EAJW
CH1055	TRI DECYL ALCOHOL	EXXON	EALW
CH1056	1,3 BUTYLENE GLYCOL	CELANESE CORP	CALF
CH1060	ETHYLENE GLYCOL	HOUSTON CHEM	HATU
CH1061	1,4 BUTANEDIOL	G.A.F CORP	GAAT
CH1066	GLYCEROL	MCKESSON+ROBBINS	MASA
CH1069	NEUTROL (FILTROL)	FILTROL CORP	FAGL
CH1074	METHYL AMYL ALCOHOL	UNION CARBIDE	UACS
CH1075	C8-C10 FATTY ALCOHOL	UNION CARBIDE	UACS
CH1082	BICARBONATE OF SODA	CHURCH+DWIGHT	CAVC
CH1093	METHOLENE 2208	EMERY IND	EAJW
CH1094	METHYLENE 2209	EMERY IND	EAJW
CH1097	BC 100	CINCIN MILACRON	CAVP
CH1102	ISO PHTHALIC ACID	AMOCO CHEM	ABAP
CH1117	TRIMELLITIC ANHY	AMOCO CHEM	ABAP
CH1118	EMERY 144	EMERY IND	EAJW
CH1119	TRI METHYLOL PROPANE	CELANESE	CALE

RUN DATE 12/28/74 PAGE 0003

PRODUCT NUMBER.	PRODUCT DESCRIPTION	VENDOR NAME	VEND CODE
CH1121	CELLOSOLVE ACETATE	ASHLAND CHEM	ABIV
CH1124	ETHYL ACETATE	ASHLAND CHEM	ABIV
CH1125	TOLUOL	TEXACO INC	TAJX
CH1126	PROPYLENE GLYCOL	ASHLAND CHEM	ABIV
CH1127	STANNOUS CHLORIDE	ALLIED CHEM	AAOQ
CH1129	PM GLYCOL BLEND	WYANDOTTE	WAXL
CH1138	AZELAIC ACID		
CH1144	TETRA ISOP TITANATE	DUPONT	DAST
CH1145	ALFOL 610	CONOCO CHEM	CBLP
CH1149	DMF	CHINOOK CHEM	CAUC
CH1152	ISOPROPANOL	ASHLAND CHEM	ABIV
CH1164	DI-ISO BUTYL CARB	UNION CARBIDE	UACS
CH1181	TOPANOL CA	I.C.I AMERICA	IAAF
CH1186	VORITE #128	BAKER CASTOR OIL	
CH1187	MULTRON R-74	MOBAY CHEM CO	MBGA
CH1189	MULTRON R-12	MOBAY CHEM CO	MBGA
CH2021	HOECHST WAX OP	AMER. HOECHST	AAHI
CH2042	1.6 HEXANEDIOL	CELANESE CORP	CALE
CH2043	ISO BUTYL ALCOHOL	UNION CARBIDE	UACS
CH2044	MULTRATHANE M FLAKE	MOBAY CHEM	MBGA

RUN DATE 12/28/74 PAGE 0004

PRODUCT NUMBER	PRODUCT DESCRIPTION	VENDOR NAME	VEND CODE
CH2056	ALFOL 810	CONOCO CHEM	CBLP
CH2061	NEOPENTYL GLYCOL	EASTMAN CHEM	EABU
CH2062	DIETHYLENE GLYCOL	WYANDOTTE	WAXL
CH2065	STABOXOL I	MOBAY CHEM	MBGA
CH2073	POLY G 1020P DIOL	OLIN CHEMICAL	OAEE
CH2074	HYLENE W	DUPONT EI	DAST
CH2075	2.ETHYL BUTANOL		
CH2083	MONDUR TD80	MOBAY CHEM	MBGA
CH2114	T.H.F	ASHLAND CHEM	ABIV
CH2117	CHDM	EASTMAN CHEM	EABU
CH2122	POLY G630	OLIN CHEM	OAEE
CH2125	NORMAL HEXANOL C-6	ETHYL CORP	EAOV
CH2126	NOR DECYL/DODECANOL	ETHYL CORP	EAOV
CH2128	1,1,1 TRICHLORETHANE	ASHLAND CHEM	ABIV
CH2142	CYMEL 301	AMER CYANAMID	AAVC
CH2156	1010 CATALYST	AMER CYANAMID	AAVC

RUN DATE 12/28/74 PAGE 0005

PRODUCT NUMBER	PRODUCT DESCRIPTIC	VENDOR NAME	VEND CODE
CH2168	ISO NONYL ALCOHOL	ENJAY	
CH2169	FATTY ALC STEARYL	PROCTER+GAMBLE	PREX
CH2182	MDI STEARATE		
CH2183	TDI STEARATE		
CH2187	HYLENE T	DUPONT	DAST
CH2192	TALC CS	SMITH CHEM	SAWH
CH2196	CHEMETRON WAX 100	ARAPAHOE CHEM	ABEL
CH2198	DIETHYLAMINE	ASHLAND CHEM DEPT 605	ABIV
CH2206	L-45 SILICONE	UNION CARBIDE	UACS
CH2208	70%1,6HEXAMETHYL	CELANESE CORP	CALE
CH2209	METHYL CELLOSOLVE	ASHLAND CHEM	ABIV
CH2211	MYRISTYL HYLENE W		
CH2214	CARSTAN 8	CINCIN MILACRON	CAVP
CH2215	CARSTAN 18	CINN MILACRON	CAVP
CH2218	I.P.D.I	THORSON CHEM	TAOS
CH2224	ALFOL 14	CONTINENTAL OIL	CBLP

PRODUCT NUMBER	PRODUCT DESCRIPTION	USE	VENDOR NAME	VEND CODE
CH2253	EAB 272-3		EASTMAN CHEM	EARH
CH2257	N.PROPANOL		ASHLAND CHEM DEPT 605	ABIV
CH2298	CUREME (MPCA)		ACETO CHEM	ABPH
CH2300	CELLULOSE ACETATE		EASTMAN CHEM	EARH
CH2320	I.P.D		THORSON CHEM	TAOS
CH2327	2,4,PENTANE DIONE		UNION CARBIDE	UACS

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PRODUCT NUMBER	PRODUCT DESCRIPTION F	VENDOR NAME	VEND CODE
CH2330	FC-2690 MSA	PENNWALT CORP	PAKB
CH2331	AMP REG	COMMERCIAL SOLV	CBGU
CH2332	DIBROMO BUTANEDIOL	G.A.F CORP	GAAT
CH2343	IRSANOX 1076	CIBA-GEIGY CORP	CAVI
CH2348	45%EAB 381		
CH2355	MULTRATHANE M FUSED	MOBAY CHEM	MBGA
CH2359	CYMEL 370	AMER CYANAMID	AAVC
CH2361	METASOL 57 CM	MERCK CHEMICAL	MBVV
CH2365	DABCO (SOLID)	HOUDRY DIV	HATO
CH2366	SILICONE L-540	UNION CARBIDE	UACS
CH2374	ACRYLOID AT-56	ROHM+HAAS CO	RADO

PRODUCT NUMBER	PRODUCT DESCRIPTION	VENDOR NAME	VEND CODE
CH2375	RAYBO 3	RAYBO CHEM	RADX
CH2396	N-METHYL ETHANOL.	UNION CARBIDE	UACS
CH2399	SURFACTANT B-1400	GOLDSCHMIDT PROD	GBBY
CH2403	ISONATE 125M	UPHOHN	UAIK
CH2404	FREON TF	DUPONT	DAST
CH2418	SODIUM BENZOATE	MONSANTO CO SB PENICK	MBIK PAIU
CH2419	DECANOX	PENNWALT	PAKB
CH2433	RESIMENE X-730	MONSANTO CO	MBIK
CH2438	SILICONE PFA1200	GEN.ELEC CO	GAEM

PRODUCT NUMBER	PRODUCT DESCRIPTION	VENDOR NAME	VEND CODE
CH2450	CAB 381-2	EASTMAN CHEMICAL EABU	
CH2451	CAB 272-3	EASTMAN CHEMICAL EABU	
CH2452	EAB 381-20	EASTMAN CHEMICAL EABU	
C00708	LUDOX AS	MCKESSON+ROBBINS	MASA
EX0372	CELITE	JOHNS MANVILLE	JAFE
PI1376	SUPERBA BLACK	POLYMERS	
PI1403	NUCHAR CN	LOTTE CHEMICAL	
PI1502	TITANIUM DIOXIDE	POLYMERS	
PI1577	POLYCARBON C	AMERICAN NORIT	ABXH
PI1582	TAN OXIDE #9121	R&A CHEMICAL	RAAD
PI1583	WHITE OXIDE #9121	R&A CHEMICAL	RAAD
PI1584	YELLOW OXIDE #9120	R&A CHEMICAL	RAAD
PI1585	BLACK OXIDE #9122	R&A CHEMICAL	RAAD
PI1586	PIGMENT A-1		
PI1589	NUCHAR C-115N	J.F.HENRY	HAMA

RUN DATE 12/28/74 PAGE 0010

PRODUCT NUMBER	PRODUCT DESCRIPTION	VENDOR NAME	VEND CODE
P11592	NUCHAR C.190N	J.F.HENRY	HAMA
P11593	NUCAR (CEEN)	J. F. HENRY	HAMA
P11594	ACTIVATED CARBON	CALGON	CACR
S00113	XYLOL	ASHLAND CHEM	ABIV
S00131	MEK	ASHLAND CHEM	ABIV
S00886	PARAPLEX G-62	ROHM & HAAS	
SY0463	VYHH RESIN	UNION CARBIDE	UACS