

APR 10 1991



March 6, 1991

Mr. P. Howard Flanders  
Environmental Engineering Supervisor  
Vermont Department of Environmental Conservation  
Permits, Compliance, and Protection  
103 South Main Street  
Waterbury, Vermont 05676

Re: International Cheese Company - Monitoring Well Installations

Dear Mr. Flanders:

Adams Engineering, under the supervision of Lincoln Applied Geology, Inc. (LAG), installed two ground water sampling grade monitoring wells at the above mentioned site on February 18, 1991. The wells are denoted as LAG-1 and LAG-2. LAG-1 is located halfway between the subject lagoons and the town's well house. LAG-2 is located approximately 10 feet to the well house side of the drainage swale.

Each of the wells was installed utilizing hollow stem auger techniques with intermittent split spoon sampling to determine soil types. LAG-1 was drilled to a depth of completion of 14 feet, and LAG-2 was drilled to a depth of completion of 12.3 feet. Each well is constructed of 10 feet of 2 inch .020 slot Deitrich well screen and sufficient solid riser to bring the top of the well casing approximately 3 feet above grade. The entire length of the well screen was sand packed and a bentonite seal placed directly on top of the packing materials to grade.

The soils encountered at each of the well sites were very similar and consisted of a silty fine sandy loam overlying a gray, mottled, fractured and varved clay with intermittent silt lenses. Adams Engineering's descriptive well logs are included with this document.

Upon completion, Adams Engineering attempted to develop the wells, however, inflow of ground water to the wells was fairly slow and did not allow development to occur on the 19th. LAG visited the site on February 25, 1991 to properly develop each of the wells. At least six well volumes of ground water was removed from each of the wells. The quality of water removed was described as clear and sediment free.

ADAMS ENGINEERING  
 Gerard Adams  
 RD #1, Box #3700  
 Underhill, Vt. 05489  
 899-4945  
 Fed. ID 03-0296943

April 22, 1990

Mr. Michael Wurth  
 T.W.M. Northeast.

The following are the boring logs for the International Cheese Co. Hinesburgh project conducted under your direction:

4/20/90 MW #101 next to 3" well #2. Drilled with 4.25" hollow stem augers.

SOILS WELL

+2'	Top of well, 10' Solid Riser, 2" Diedrich, typ.
-2.5'	Top of wetted granular bentonite placed in open hole, typ.
-3.1>5.1'	2,2,3,3,P. (blows from a #300 hammer falling 30" to drive a 2" standard penetration sampler 6" -blow counts are not intended for load bearing information, ie; emphasis is on sample recovery), Mottled grays & browns fine sandy silt, fill at top, damp at tip.
-6.0'	Top of bentonite pellets, 3/8" placed inside augers.
-7.0'	Bottom of pellets, top of sand pack 3-50# bags .49 mm pool filter sand, placed dry, typ.
-8.0'	Top of well screen, 5'X 2"X .020" slot, Diedrich, typ.
-8.3>10.3'	.5,.5,.5,.5.P. Gray silt/clay.
-12.5'	Bottom of well screen.
-13.0'	Bottom of well, sand pack, & boring.
-13.3>15.3'	Fell.P. Gray silt/clay.
	Developed by air pumping very slow recovery clean.
MW #102	Along LaPlatt Between #2 & Generator building.
+2.5'	Top of well.
-2'	Top of granular bentonite.
-3.0>5.0'	2,2,3,3,P. Mottled grays & browns damp fine sandy silt.
-5.3'	Top of bentonite pellets.
-6.5'	Bottom of pellets, top of sand pack 3.3 bags.
-7.5'	Top of well screen.
-8.0>10.0'	Fell.P. Same over brown gray silt.
-12.0'	Bottom of well screen.
-12.5'	Bottom of sand pack, boring, & well.
-14.3>16.3'	Fell.P. Blue gray silt/clay.
	Developed fair recovery clean.
MW #103	Between 3" #1 & #2 Along Swail.
+3'	Top of well.
-1'	Top of granular bentonite, over some collapsed fill.
-3.3>5.3'	2,2,2,2,P. Damp mottled fine sandy silt over silt.
-5'	Top bentonite pellets, bridged inside augers.
-5.8'	Bottom of pellets, top of sand pack, placed wet, 3 bags.
-6.8>8.8'	Pressed.P. Same over mottled silt.
-7.0'	Top of well screen.
-8.3>10.3'	Fell.P. Soft gray silt/clay.

MAR 24 1989

NEW ENGLAND  
MARINE CONTRACTORS, INC.  
13 Dorset Lane  
Williston, Vermont 05495  
Telephone: 802-879-8800  
Facsimile: 802-879-1273

March 17, 1989

Mr. Earnie Senecal  
International Cheese  
P.O. Box 9  
Hinesburg, VT 05461

**NEMC**  
NEMC

Re: Monitoring well installation

Dear Earnie,

Enclosed, please find the site map showing the locations of the soil borings and monitoring wells which we installed at your facility in Hinesburg, on March 8, 1989. Also enclosed are the well logs.

Our original plan was to install one monitoring well upgradient of the tanks and three wells downgradient. We were not, however, able to install a groundwater monitoring well upgradient of the tanks because the bedrock is at a depth of two to three feet in that area. The soils on top of the bedrock are not saturated in that vicinity, and therefore, will not yield water which can be sampled in the well.

We did manage to install three downgradient wells. They are listed on the map as MW-1, MW-2 and MW-3. SB-1, SB-2, SB-3 and SB-4 on the site map indicate the locations of soil borings in which we found no water and did not set wells. No obvious signs of petroleum contamination were detected in the soils in any of the three monitoring wells or in the four soil borings.

Regular monitoring of the water in the three wells should help to detect a leak in either of the tanks. I will make the trip to your facility shortly to explain monitoring

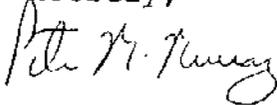
2940 Curry Rd  
Schenectady, N.Y. 12303-2802  
518-356-4755  
(Fax) 518-356-5226

P.O. Box 2974  
Poughkeepsie, N.Y. 12603  
914-473-3455  
(Fax) 914-473-7259

ENVIRONMENTAL SERVICES  
HAZARDOUS WASTE TRANSPORTATION  
GROUNDWATER REMEDIATION

procedures and to help you choose an inexpensive bailer from some of my trade journals. If you have any questions regarding this matter, please contact me at 879-8800. Thank you.

Sincerely,

A handwritten signature in cursive script, appearing to read "Peter M. Murray".

Peter M. Murray  
Project Geologist

PMM/tbg

Enclosures

# SITE MAP

PROJECT: INTERNATIONAL CHEEZE  
LOCATION: HINESBURG, VT

● SOIL BORING / MONITORING WELL



● MW-2

● MW-3

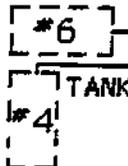
TRANSFORMER



● SB-2

● MW-1

PIPING



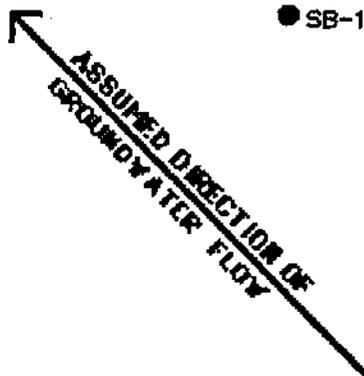
SILD

● SB-4

● SB-3

● SB-1

INTERNATIONAL  
CHEEZE



RT. 116



PROJECT INTERNATIONAL CHEEZE

LOCATION UNIMCOLOGO, VT

DATE DRILLED 3/8/89 TOTAL DEPTH OF HOLE 9'

DIAMETER 6"

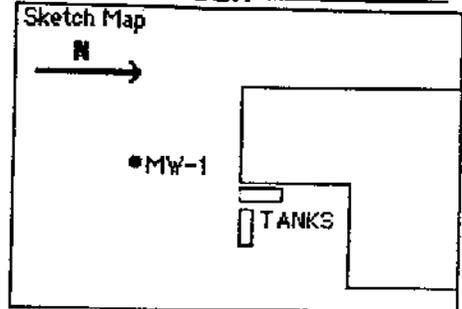
SCREEN DIA. 2" LENGTH 7' SLOT SIZE .010"

CASING DIA. 2" LENGTH 2' TYPE PVC

DRILLING CO. NEMC DRILLING METHOD HOLLOW STEM AUGER

DRILLER TOM THORNTON LOG BY P. MURRAY

WELL NUMBER MW-1



DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0		ROAD BOX		
0		CEMENT		
0		WELL CASING		
0		BENTONITE		
1				
2				SAND and GRAVEL fill
3				
4				NO PETROLEUM ODOR
5		WELL SCREEN		<p style="text-align: center;">————— WATER TABLE —————</p> Dark brown-grey CLAY, little fine sand and gravel
6				NO PETROLEUM ODOR
7		SAND PACK		Light brown CLAY, trace sand and gravel
8				
9				BASE OF EXPLORATION AT 9'
10				
11				
12				
13				
14				
15				
16				

2,  
4/89

PROJECT INTERNATIONAL CHEEZE

LOCATION HINESBURG, VT

WELL NUMBER MW-2

DATE DRILLED 3/8/89 TOTAL DEPTH OF HOLE 9'

DIAMETER 6"

SCREEN DIA. 2" LENGTH 7' SLOT SIZE .010"

CASING DIA. 2" LENGTH 2' TYPE PVC

DRILLING CO. NEMC DRILLING METHOD HOLLOW STEM AUGER

DRILLER TOM THORNTON LOG BY P. MURRAY

Sketch Map

MW-2 ●



DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0	ROAD BOX			
0	CEMENT			
1	BENTONITE			CLAY and GRAVEL fill
2	WELL CASING			
3				
4	WELL SCREEN			Light brown, fine SAND and SILT NO PETROLEUM ODOR WATER TABLE
5	SAND PACK			
6				
7				NO PETROLEUM ODOR Brown CLAY, some sand and gravel
8				
9				BASE OF EXPLORATION AT 9'
10				
11				
12				
13				
14				
15				
16				

PROJECT INTERNATIONAL CHEEZE

LOCATION HINESBURG, VT

DATE DRILLED 3/8/89 TOTAL DEPTH OF HOLE 9'

DIAMETER 6"

SCREEN DIA. 2" LENGTH 7' SLOT SIZE .010"

CASING DIA. 2" LENGTH 2' TYPE PVC

DRILLING CO. NEMC DRILLING METHOD HOLLOW STEM AUGER

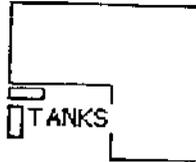
DRILLER TOM THORNTON LOG BY P. MURRAY

WELL NUMBER MW-3

Sketch Map



• MW-3



DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0		ROAD BOX		
		CEMENT		
1		BENTONITE		
2		WELL CASING		CLAY and GRAVEL fill
3				
4		WELL SCREEN		Light brown, silty CLAY, trace fine sand NO PETROLEUM ODOR WATER TABLE
5		SAND PACK		
6				
7				NO PETROLEUM ODOR Brown CLAY, some sand and gravel
8				
9				BASE OF EXPLORATION AT 9'
10				
11				
12				
13				
14				
15				
16				

New England Marine Contractors

PROJECT INTERNATIONAL CHEEZE

LOCATION HINESBURG, VT

DATE DRILLED 3/8/89 TOTAL DEPTH OF HOLE 2.5'

DIAMETER 6"

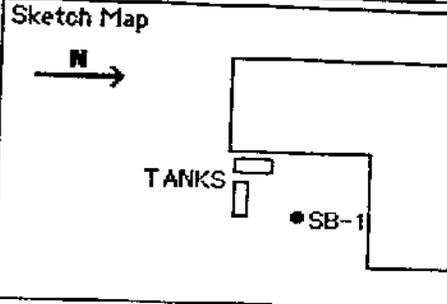
SCREEN DIA. \_\_\_\_\_ LENGTH \_\_\_\_\_ SLOT SIZE \_\_\_\_\_

CASING DIA. \_\_\_\_\_ LENGTH \_\_\_\_\_ TYPE \_\_\_\_\_

DRILLING CO. NEMC DRILLING METHOD HOLLOW STEM AUGER

DRILLER TOM THORNTON LOG BY P. MURRAY

WELL NUMBER SB-1

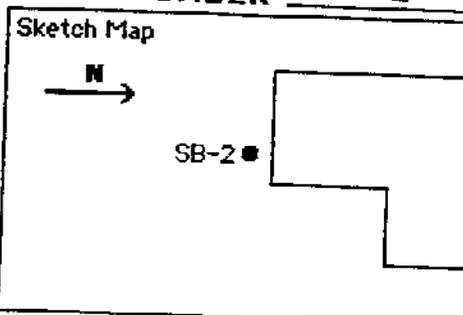


DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0				
1		BOREHOLE		Silty SAND
2		NATIVE BACKFILL		Silty SAND and fine to coarse GRAVEL, few cobbles NO PETROLEUM ODOR
3		BEDROCK		BASE OF EXPLORATION AT 2.5'
4				BEDROCK
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

New England Marine Contractors

PROJECT INTERNATIONAL CHEEZE  
 LOCATION HINESBURG, VT  
 DATE DRILLED 3/8/89 TOTAL DEPTH OF HOLE 3'  
 DIAMETER 6"  
 SCREEN DIA. \_\_\_\_\_ LENGTH \_\_\_\_\_ SLOT SIZE \_\_\_\_\_  
 CASING DIA. \_\_\_\_\_ LENGTH \_\_\_\_\_ TYPE \_\_\_\_\_  
 DRILLING CO. NEMC DRILLING METHOD HOLLOW STEM AUGER  
 DRILLER TOM THORNTON LOG BY P. MURRAY

WELL NUMBER SB-2



DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0		BOREHOLE		Dark brown to black, clayey SAND and GRAVEL few cobbles  NO PETROLEUM ODOR  WATER TABLE  BASE OF EXPLORATION AT 3'
1				
2		NATIVE BACKFILL		
3		BEDROCK		BEDROCK
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

PROJECT INTERNATIONAL CHEESE

LOCATION HINCHBURG, VT

DATE DRILLED 3/8/89 TOTAL DEPTH OF HOLE 2.5'

DIAMETER 6"

SCREEN DIA. \_\_\_\_\_ LENGTH \_\_\_\_\_ SLOT SIZE \_\_\_\_\_

CASING DIA. \_\_\_\_\_ LENGTH \_\_\_\_\_ TYPE \_\_\_\_\_

DRILLING CO. NEMC DRILLING METHOD HOLLOW STEM AUGER

DRILLER TOM THORNTON LOG BY P. MURRAY

WELL NUMBER SB-3

Sketch Map



DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0				
1		BOREHOLE		Light brown, fine silty SAND, some fine to medium gravel
2		NATIVE BACKFILL		NO PETROLEUM ODOR
3				WATER TABLE _____
4		BEDROCK		BASE OF EXPLORATION AT 2.5'
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

PROJECT INTERNATIONAL CHEEZE

LOCATION HINESBURG, VT

DATE DRILLED 3/8/89 TOTAL DEPTH OF HOLE 2'

DIAMETER 6"

SCREEN DIA. \_\_\_\_\_ LENGTH \_\_\_\_\_ SLOT SIZE \_\_\_\_\_

CASING DIA. \_\_\_\_\_ LENGTH \_\_\_\_\_ TYPE \_\_\_\_\_

DRILLING CO. NEMC DRILLING METHOD HOLLOW STEM AUGER

DRILLER TOM THORNTON LOG BY P. MURRAY

WELL NUMBER SB-4

Sketch Map



SB-4 ●



DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0		BOREHOLE		
1		NATIVE BACKFILL		CLAY and GRAVEL fill NO PETROLEUM ODOR
2				BASE OF EXPLORATION AT 2'
3		BEDROCK		BEDROCK
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				