

**LAKE BOON
HUDSON & STOW, MASSACHUSETTS
LAKE-LEVEL DRAWDOWN
WELL IMPACT REPORT**

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PREPARED BY:

**LEE LYMAN, PRESIDENT
LYCOTT ENVIRONMENTAL, INC.
600 CHARLTON STREET
SOUTHBRIDGE, MASSACHUSETTS
(508) 765-0101 OR (800) 462-8211**



**LAKE BOON
LAKE-LEVEL DRAWDOWN
WELL IMPACT REPORT**

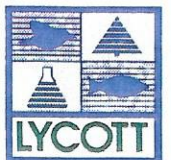
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**LAKE BOON
HUDSON & STOW, MASSACHUSETTS**

LAKE-LEVEL DRAWDOWN WELL IMPACT REPORT

Introduction

For a number of years the Lake Boon Commission and residents of Stow and Hudson have been studying and reviewing management methods for the excessive, invasive aquatic plant growth in Lake Boon. The Towns of Hudson and Stow have decided to move forward with an integrated management program that will involve the use of lake-level drawdown and herbicide/algicide management.

Lycott entered into a contract with the Lake Boon Commission to undertake a drawdown study and private well study prior to instituting a management program at Lake Boon. A report entitled Lake-level Drawdown Study has been prepared by Lycott indicating the methodology, timing and impacts of lake-level drawdown to Lake Boon.

Significant data on the wells around the shoreline has been gathered by the Lake Boon Commission, Friends of Lake Boon and Lycott. The following is a more comprehensive report on the impacts to private wells as a result of instituting lake-level drawdown to reduce the nutrient buildup and proliferation of the aquatic vegetative growth in Lake Boon.

Implementation of lake-level drawdown

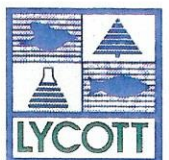
The lake-level drawdown is being proposed in phases over a three-year period:

The first year the water level will be lowered 24". Any wells that are adversely affected will be identified and documented, and the water level will be raised 12" to restore water to those wells for the first year.

The second year the water level will be lowered 40". Any wells that are adversely affected will be identified and documented, and the water level will be raised 16" to the 24" level.

Given the typical rain events that occur during September and October, it should not take more than one-to-two weeks to raise the water level one foot to restore the affected wells.

The third year the water level will be lowered 40" and will remain at that level until refilling occurs during January/February.



Calculations have been conducted to determine the refill rate of Lake Boon after the 40" drawdown. Given the hydrology budget of Lake Boon during January and February, the lake should be refilled within fifty-two days (see Appendix A).

Existing groundwater level and potential impacts

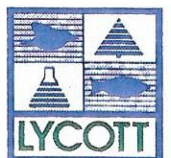
Generally speaking, the groundwater elevation around most water bodies is equal to, or slightly above, the water level in the water body. Based on the studies conducted, this is true in Lake Boon, as a significant portion of the hydrology budget for the lake is derived from groundwater flow.

Basically, the water level in Lake Boon provides the head pressure to the groundwater table around the lake. When the lake level is lowered or dropped, the groundwater table around the shoreline drops to meet the lowered elevation of the lake. As a result, any wells located 50' - 100' from the shoreline of Lake Boon, depending on the soil type, may be adversely affected by the lake-level drawdown. Based on the experiences at other lakes, wells greater than 100' from the shore should not be adversely affected by the drawdown.

Members of the Lake Boon Commission and Friends of Lake Boon have spent a considerable amount of time and effort surveying properties within 100 feet of the lake, reviewing maps from the Stow Assessor's office, Hudson Department of Public Works, and the Boards of Health to determine what properties have town water and bedrock wells. Door-to-door surveys were conducted, and questionnaires were sent to all lake residents. The questionnaires were reviewed to determine the properties that have private wells, the type and depth of wells, and whether there was a problem with the well in the past. The property owners were asked if they would be willing to deepen or replace their wells if the water level in the lake is drawn down.

The Committee and Lycott have thoroughly reviewed this information and developed a list of properties that have a high probability of being affected by the drawdown (dark gray) and a list of properties that will potentially have a problem (light gray) (see Appendix B). It is unlikely that the remaining properties will be affected by the drawdown. There are properties, however, that have well points and very little water storage capacity; those wells could show reduced flow as a result of the drawdown.

While many of these property owners purchase bottled water for drinking, all of the wells are used for domestic purposes such as bathing and cooking. Some of the dwellings and associated wells around the lake are only used during the spring and summer. These wells have not been included on the list of affected wells since the lake's level will only be drawn down during the fall and early winter when the wells are not in use.



Tax maps for the properties around Lake Boon in Hudson and Stow have also been used to locate the wells and determine which wells will most likely be affected by the lake-level drawdown. Generally speaking, it is anticipated that approximately 40 - 50 wells will be adversely affected by the first year of drawdown. The second phase, or second year of the drawdown when the water is lowered 40" will affect 50 - 100 wells. As these wells are negatively impacted, the property owners should evaluate various options to rectify the water supply issue and be prepared to institute remedial actions prior to the following years drawdown. The towns and the Lake Boon Commission will pursue financial aid for the affected properties.

The wells that are within 4' - 5', from the shoreline and are driven well points at a depth of approximately 5' - 10', will be the first wells to be negatively impacted during the initial phase of the drawdown. The wells that are further from the shoreline, approximately 8' - 10' or more, and have a larger diameter because they were hand-dug or constructed with a backhoe, will be the next group of wells to be adversely affected by the drawdown.

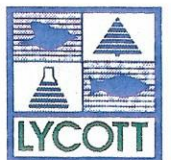
Some of the well points and/or shallow wells are located in the cellars or inside dwellings. Unfortunately, these wells will not be able to be upgraded and will need to be replaced if a problem develops.

Solutions

The options for wells that are adversely affected by the drawdown include: (1) deepening the well; (2) replacing the well (given the size of the lots and Title V restrictions, this could create problems for some properties); and (3) connecting to a nearby municipal water supply.

The wells that go dry temporarily during the first two years will need to have water supplied for a period of one-to-two weeks as the water level in the lake rises to the level that will re-establish the water to the wells. Lycott has contacted the National Guard Headquarters in Boston to inquire about supplying water to dwellings that lose water as a result of the drawdown. Preliminary discussions seem to indicate that it may be possible for this to be arranged.

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APPENDIX A

Table A-1
 Lake Boon
 Drawdown Calculations
 Page 1 of 3

General Information	Units	Data
Lake Size	Acres	163
Total Lake Square feet	SF	7,100,280
Volume of Water per foot	Gallons	53,110,094
Volume of Water in 40 Inches	Gallons	175,263,312

Pond Lowering Calculations
 To drawdown 40" in the one month period of from September 15 through October 15

Volume to Remove in 40 inches (mgal)	Inflow		Evaporation (mgal)	Outflow				Total Volume of water to Remove (mgal)		
	Surface Runoff (mgal)	Ground-water (mgal)		Direct Precipitation (mgal)	Calculated Streamflow (mgal/day)	Calculated Streamflow (gallons/hour)	Calculated Streamflow (gallons/min)		Calculated Streamflow (CFS)	
175.00	1.70	37.70	7.90	(10.55)	211.75	7.06	294,097.22	4,901.62	10.94	211.75
October 15 through October 31 data	1.70	18.85	5.95	(3.95)	22.55					
November Data	82.30	37.70	31.90	(4.10)	147.80					
December Data	31.40	37.70	6.40	-	75.50					
Total (mid Oct - Dec 31)	115.40	113.10	46.20	(14.65)	435.05					

Total volume of water to remove to achieve 40 inch drawdown in 30 days (mid Sept - mid Oct) (mgal) 211.75
 Number of days mid Sept - Oct 30.00
 Average Daily flow required to achieve drawdown (million gallons per day) 7.06
 Average Daily flow required to achieve drawdown (gallons per hour) 294,097.22
 Average Daily flow required to achieve drawdown (gallons per minute) 4,901.62

Volume of water to remove to maintain 40 inch drawdown (mid Oct - Dec 31) (mgal) 435.05
 Number of days mid Oct - Dec 31 76.00
 Average Daily flow required to maintain drawdown (million gallons per day) 5.72
 Average Daily flow required to maintain drawdown (gallons per hour) 238,514.25
 Average Daily flow required to maintain drawdown (gallons per minute) 3,975.24

Table A-1
Lake Boon
Drawdown Calculations
Page 2 of 3

Pond Filling Calculations

To fill Pond in the months of January and February

	Inflow			Outflow					
	Surface Runoff (mgal)	Ground-water (mgal)	Direct Precipitation (mgal)	Total Inflow (mgal)	Evaporation (mgal)	100.00 Streamflow (mgal)	Percentage of "normal" streamflow at outlet	Streamflow (mgal)	Streamflow (mgal)
Jan	59.3	37.7	17.7	114.7	0	114.70	75.00	50.00	25.00
Feb	37.2	37.7	14.6	89.5	0	89.50	67.13	44.75	22.38
Total	96.5	75.4	32.3	204.2	0	204.20	153.15	102.10	51.05

Average Pond Inflow per day in the months of January and February

	With Zero flow at outlet	With 25% normal flow at outlet	With 50% normal flow at outlet	With 75% normal flow at outlet	With 100% normal flow at outlet
Total Inflow (mgal)	204.2	153.15	102.10	51.05	0
Total Flow at outlet (mgal)	0	51.05	102.10	153.15	204.2
Days in Jan/Feb	60	60	60	60	60
Average Daily Inflow (mgal)	3.403	2.553	1.702	0.851	0.000
Volume Required to Refill (mgal)	175	175	175	175	175
Number of Days for Refill	51.42	68.56	102.84	205.68	

mgal = Million Gallons

Data Source
Camp Dresser & McKee Diagnostic/Feasibility Study, Lake Boon, August 1987
Hydrologic budget section 2.3.1.
Table 2-8
Figure 2-13
Table 2-9

BOON LAKE
M2000-223

Phosphorus Removal Calculations

- Assume: 1) 0.03 mg/L phosphorus in every liter of water
2) 160 million gallons of water to be removed (36 inches of pond level)

$$160 \text{ million/G} \cdot 3.785 \text{ L/G} = 605.60 \text{ Mliters}$$

Thus:

- 1) 605,600,000 Liters $\cdot 0.03 \text{ mg/L} = 18,168,000 \text{ mg}$
- 2) 18,168,000 mg $\cdot \frac{1000 \text{ mg}}{1 \text{ gram}} = 18,168.0 \text{ grams}$
- 3) 18,168.0 grams $\cdot \frac{453.5924 \text{ G}}{1 \text{ pound}} = 40.0536 \text{ pounds}$

Conclusion:

160 million gallons of water with a phosphorus content of 0.03 mg/L
contains approximately 40 pounds of phosphorus

*Assumes specific gravity & density of phosphorus are equal to that of water

- Assume: 1) 0.03 mg/L phosphorus in every liter of water
2) 175 million gallons of water to be removed (40 inches of pond level)

$$175 \text{ million/G} \cdot 3.785 \text{ L/G} = 662.40 \text{ Mliters}$$

Thus:

- 1) 662,400,000 Liters $\cdot 0.03 \text{ mg/L} = 18,168,000 \text{ mg}$
- 2) 18,168,000 mg $\cdot \frac{1000 \text{ mg}}{1 \text{ gram}} = 19,872.0 \text{ grams}$
- 3) 19,872.0 grams $\cdot \frac{453.5924 \text{ G}}{1 \text{ pound}} = 43.8103 \text{ pounds}$

Conclusion:

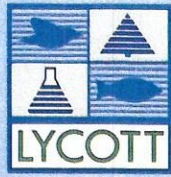
175 million gallons of water with a phosphorus content of 0.03 mg/L
contains approximately 44 pounds of phosphorus

*Assumes specific gravity & density of phosphorus are equal to that of water

Table 2-9 Lake Boon, Year of Study Hydrologic Budget (millions of gallons)

	<u>Surface Runoff</u>	<u>Ground- water</u>	<u>Direct Precipitation</u>	<u>Total In</u>	<u>Evaporation</u>	<u>Outflow</u>	<u>Total Out</u>
1985							
October	3.4	37.7	11.9	53.0	7.9	45.1	53.0
November	82.3	37.7	31.4	151.4	4.1	137.3	141.4
December	31.4	37.7	6.4	75.5	0.0	75.5	75.5
1986							
January	59.3	37.7	17.7	114.7	0.0	114.7	114.7
February	37.2	37.7	14.6	89.5	0.0	89.5	89.5
March	118.0	37.7	15.6	171.3	2.3	169.0	171.3
April	15.5	37.7	6.0	67.3	7.1	60.2	67.3
May	0.0	37.7	6.4	38.3	12.1	26.2	38.3
June	0.0	37.7	40.8	104.8	14.8	90.0	104.8
July	0.0	37.7	20.8	65.5	18.4	47.1	65.5
August	0.0	37.7	10.4	40.9	16.8	24.1	40.9
September	<u>0.0</u>	<u>37.7</u>	<u>3.9</u>	<u>13.2</u>	<u>13.2</u>	<u>0.0</u>	<u>13.2</u>
TOTAL	347.1	452.4	185.9	985.4	96.7	888.7	985.4

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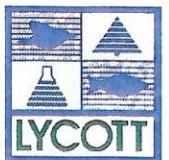
APPENDIX B

LAKE BOON WELL SURVEYS

Members of the Friends of Lake Boon conducted a survey of properties within 100 feet of the lake to determine which homes receive water from private wells or town water. The locations of these properties were determined by consulting maps from the Stow Assessor's office and from the Hudson Department of Public Works. The Hudson DPW's maps showed which Hudson residents had town water. They then consulted the Board of Health records in Stow and Hudson to determine which homes had bedrock wells. The remaining residents were assumed to have shallow private wells. They were surveyed door-to-door, by telephone, or were encouraged to return a survey mailed out to all lake residents as part of the Lake Boon Association gazette. Out of 279 properties in the database, they collected information on 261, for a response rate of 93%.

In many cases the respondents did not know the depths of their wells. In situations where they estimated, giving a range of depth of well or distance from lake, the greater well depth and the lesser distance from the lake was entered into the database.

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A	B	C	D	E	F	G	H	I	J	K	L	M
Last Name	First Name	No.	Street	Town	well type	d/d/d	depth	dist. Frm. Lake	well/pump	problems 2 1/4'	problems in '70s	replace well?
1 Benander	Nikol	21c	Worcester Ave.	Hudson	shallow/point	driven	"not very"	25	out/in	yes?	no?	no
3 Bleau	Richard	70	Pine Point Rd.	Stow	shallow/point	dug (?)	16	30	in/in	yes/yes	?	no
4 Smith	Frank	1	Worcester Ave.	Hudson	shallow/point	driven	15 to 18	30	out/in	yes	no	no (can't--\$)
5 Smith	Frank	3	Worcester Ave.	Hudson	shallow/point	driven	8 to 10	30	out/in	yes	no	no (can't--\$)
6 Twine	Shirlee	120	Barton Rd.	Stow	shallow/point	?	?	40	out/in	yes	no	no
7 Hurwitz	Matthew	156	Barton Rd.	Stow	shallow/point	drilled	40	100	out/out	yes	some	no
8 LeBlanc	Barbara	204	Barton Rd.	Stow	shallow/point	driven	30	20	out/out	yes	not here	no
9 Winters	Thomas---	208	Barton Rd.	Stow	shallow/cister	dug	10	6	out	yes	no	no
10 Dargaty	George	212	Barton Rd.	Stow	shallow/point	driven	16	25	ins	yes	yes	no
11 Ellenhom	Ross	220	Barton Rd.	Stow	shallow/point	?	?	60	in/in	yes	?	not sure
12 Parker	Regina	230	Davis Rd.	Stow	shallow/point	driven	?	40	in	yes	yes	no
13 Prescott	Carl	27	Hale Rd.	Stow	shallow/point	driven	4	ins	in/in	yes	yes	no
14 Butler	William	34	Hallock Point Rd.	Stow	shallow/point	driven	18	100	in/in	yes	yes	no
15 Alving	Ruth	82	North Shore Dr.	Stow	shallow/point	driven	25	60	out/out	yes	?	no
16 Ritchie	Douglas	142	North Shore Dr.	Stow	shallow/point	driven	14	65	in/in	yes	had problem	possibly not
17 Fitzpatrick	John	30	Pine Point Rd.	Stow	shallow/point	driven	25	ins	ins	yes	ins	ins
18 McMahon	John	84	Pine Point Rd.	Stow	didn't answer	?	45	25	?	yes	yes	no
19 Hill	Tim	94	Pine Point Rd.	Stow	shallow/point	?	?	35	in/in	yes	not here	no
20 Jansen	Willem	269	Sudbury Rd.	Stow	shallow/point	driven	16	15	out/in	yes	not here	no
21 Adams	Janet	273	Sudbury Rd.	Stow	shallow/point	?	11	4	out/out	yes	yes	no
22 Hughes	Richard	551	Sudbury Rd.	Stow	shallow/point	driven	15	40	in/in	yes	dk	no
23 Stone	Vaughn	41	Hale Rd.	Stow	shallow/point	driven (?)	20	50	in/in	yes	summer	no
24 Adams	Bob	50	Lakeside Ave.	Hudson	shallow/point	dug	20	30	out/in	probably	?	possibly
25 Worrall	Allan	76	Lakeside Ave.	Hudson	shallow/point	dk	2	20	out/in	probably	not here	not sure
26 Lombardi	Richard	206	Barton Rd.	Stow	shallow/point	driven	?	70	in/in	probably	not here	no
27 White	Ted	21	Hale Rd.	Stow	shallow/point	driven	?	60	in/in	probably	not here	yes
28 Nicholson	Daniel	281	Sudbury Rd.	Stow	shallow/point	driven	25	10	n/a	prob no	prob no	yes
29 Benander	Nikol	21A	Worcester Ave.	Hudson	shallow/point	driven	?	more than 50	?	no?	no	no
30 Garrison	Thomas	23	Worcester Ave.	Hudson	?	?	30	75	out/in	no?	no	no
31 Benander	Nikol	21B	Worcester Ave.	Hudson	shallow/point	driven	24	50	out/in	no?	no	no
32 Barowski	Ed	35	Hale Rd.	Stow	ins	driven	33	25	out/in	no?	no	yes
33 Hindley	Scott	66	Lakeside Ave.	Hudson	deep	n/a	ins	3	out/out	no/no	?	no
34 Estrin	Lee	145	Barton Rd.	Stow	shallow/point	?	20	?	out/in	no/no	?	? (tenant)
35 Telfer	Linda	109	Kingland Rd.	Stow	shallow/point	?	?	100	in/in	no idea	no	not sure
36 Recos	Rick	9A	Worcester Ave.	Hudson	shallow/point	dk	10	30	in/in	no idea	not here	tenant

?=respondent doesn't know answer to question
 ins=information not supplied in town records or by respondent
 all measurements in feet

A	B	C	D	E	F	G	H	I	J	K	L	M
37 Johnson	Jeff	34 Lakeside Ave.	Hudson	shallow/point	driven	?	?	100 in/in	no	no	not here	town h2o soon
38 MacKinnon	Keith	37 Lakeside Ave.	Hudson	deep	?		250	250 out/out	no	no	no	n/a
39 Hill	Pearl F.	46 Lakeside Ave.	Hudson	shallow/point	?		?	50 out/out	no	no	no	ins
40		40 Old Country Rd.	Hudson	shallow/point	driven		21	35 out/out	no	no	no	yes
41 Larsen	Steve	45 Old Country Rd.	Hudson	shallow/point	driven		21	35 out/out	no	no	no	yes
42 Benander	Nikol	9 Worcester Ave.	Hudson	shallow/point	?		18 to 22	100 in/in	no	no	no	no
43 Stewart	Norman	20 Worcester Ave.	Hudson	shallow/point	dug		24	300 out/in	no	no	no	n/a
44		105 Barton Rd.	Stow	deep	n/a		>150	35 out/in	no	no	?	n/a
45 Zitter	Sherry	116 Barton Rd.	Stow	deep	n/a		80	20 out/out	no	no	new well	yes
46 Lord	George	128 Barton Rd.	Stow	deep	n/a		100	20 out/out	no	no	no	n/a
47 French	Martin	151 Barton Rd.	Stow	deep	?		?	out/out	no	no	new well	no
48 Hart	Dirk	174 Barton Rd.	Stow	deep	n/a		?	30 outside	no	no	new well	not sure
49 Zarow	Mark	187 Barton Rd.	Stow	deep	n/a		200 >100	outside	no	no	?	not sure
50 Curley	Eugene	194 Barton Rd.	Stow	shallow/point	driven		20	100 ins	no	no	ins	no
51 Ferrara	Richard	202 Barton Rd.	Stow	shallow/point	driven		24	75 in/in	no	no	no	no
52 Smith	John	6 Davis Rd.	Stow	deep	n/a		243	40 out/out	no	no	no. pre 1991	yes
53 Haliday	James	32 Davis Rd.	Stow	shallow/point	driven		?	45 out/?	no	no	not here	yes
54 Myles	Keith	38 Davis Rd.	Stow	wash well	drilled		64	200 out/out	no	no	no prob w/14 feet	prob yes
55 Rinkus	Michael	15 Hale Rd.	Stow	shallow/point	dk		37	100 in/in	no	no	not here	no
56 Miller	Robert	20 Hale Rd.	Stow	shallow/point	dug		32?	250 out/in	no	no	no	no
57 Chapman	W.D.	25 Hale Rd.	Stow	deep	n/a		?	40 out/?	no	no	n/a	n/a
58 Dusseault	Michelle	43 Hale Rd.	Stow	shallow/point	driven (?)		20	10 out/in	no	no	no	possibly
59 Himmelman	Scott	67 Kingland Rd.	Stow	sub pump	driven		85	60 out/out	no	no	not here	possibly
60 O'Connell	Daniel	73 Kingland Rd.	Stow	shallow/point	?		20	100 out/out	no	no	not here	no
61 Walker	Jeffrey	93 Kingland Rd.	Stow	shallow/point	driven		5	20 in	no	no	new well	no
62 Carey	Ralph	107 Kingland Rd.	Stow	deep well	dug		?	150 out/in	no	no	unknown	yes
63 Ball	Don	10 North Shore Dr.	Stow	deep	n/a		280	75 out/?	no	no	new well	n/a
64 Diamond	Laura	76 North Shore Dr.	Stow	deep	n/a		250	600 out/?	no	no	new well	possibly
65 Harpin	Barbara	150 North Shore Dr.	Stow	deep	n/a		250	140 out/out	no	no	new well	n/a
66 Kibida	Heleen	154 North Shore Dr.	Stow	deep	n/a		>200	150 out/in	no	no	new well	n/a
67 Arvin	Tracy	168 North Shore Dr.	Stow	deep	n/a		>200	70 out/out	no	no	?	n/a
68 Gray	David	12 Pine Point Rd.	Stow	deep	n/a		200	75 out/out	no	no	no	n/a
69 Jackson	Paul	68 Pine Point Rd.	Stow	dug well	dug well		6 to 8	20 in/in	no	no	no	yes
70 King	Skijp	76 Pine Point Rd.	Stow	shallow/point	dug		2	50 out/in	no	no	n/a	?
71 Vaughan	Lanny	80 Pine Point Rd.	Stow	shallow/point	driven		?	10 out/in	no	no	no	yes
72 Barstow	Daniel	99 Pine Point Rd.	Stow	deep	n/a		180	250 out/in	no	no	not here	yes

?=respondent doesn't know answer to question
 ins=information not supplied in town records or by respondent
 all measurements in feet

	A	B	C	D	E	F	G	H	I	J	K	L	M
73	Spaulding	Dorothy	104	Pine Point Rd.	Stow	deep	?	90	20	out/in	no	no	n/a
74	Gjeltema	Paul	285	Sudbury Rd.	Stow	deep	n/a	200	325	out/out	no	n/a	no
75	Stewerski	David	178	Barton Rd.	Stow	deep	n/a	175	75	outside	n/a	no	no
76	Karkman	Alanna	190	Barton Rd.	Stow	deep	n/a	?	50	outside	n/a	no	not sure
77	Duchesneau	Roger	99	North Shore Dr.	Stow	deep	n/a	300	35	?/?	n/a	n/a	n/a
78	Ervin	Joseph	62	Pine Point Rd.	Stow	deep	n/a	250	30	out/?	n/a	n/a	n/a
79	Temple	Roger	278	Sudbury Rd.	Stow	deep	n/a	220	ins	?/?	n/a	n/a	n/a
80	Lafamme	David	103	Kingland Rd.	Stow	shallow/point	driven	20	20	in	maybe	don't remember	no
81	Bonitatibus	Manuel	78	Pine Point Rd.	Stow	shallow/point	n/a	17	10	out/in	maybe	summer house	no
82	Sweet	Douglas	54	Pine Point Rd.	Stow	shallow/point	driven	20	10	out/out	maybe	not here	yes
83	Tramontozzi	Beth	124	Barton Rd.	Stow	deep	n/a	110	ins	ins	ins	ins	ins
84	Larkin	Robert	138	Barton Rd.	Stow	deep	n/a	210	ins	ins	ins	ins	ins
85	McNeil	Lee	150	Barton Rd.	Stow	deep	n/a	220	ins	ins	ins	ins	ins
86	Curley	Cindy	166	Barton Rd.	Stow	shallow/point	n/a	23	ins	ins	ins	ins	ins
87	Trebendis	Joseph	168	Barton Rd.	Stow	deep	n/a	115	ins	ins	ins	ins	ins
88	Murphy	Dennis	184	Barton Rd.	Stow	deep	n/a	175	ins	ins	ins	ins	ins
89	Walker	Daniel	95	Kingland Rd.	Stow	shallow/point	driven	16	30	in	ins	no	yes
90	Orf	Janet	52	North Shore Dr.	Stow	deep	n/a	ins	ins	ins	ins	ins	ins
91	Harris	Michelle	116	North Shore Dr.	Stow	deep	n/a	265	ins	ins	ins	ins	ins
92	Hodgkins	Edmund	156	North Shore Dr.	Stow	shallow/point	driven	?	150	out/in	ins	?	yes
93	Murphy	Andrew	10	Pine Point Rd.	Stow	shallow/point	wash well	13	6	out/?	ins	ins	ins
94	Keenan	Jessie	16	Pine Point Rd.	Stow	deep	n/a	>100	ins	ins	ins	ins	ins
95	Daley	Lawrence	18	Pine Point Rd.	Stow	deep	n/a	>100	ins	ins	ins	ins	ins
96	Kendra	John	32	Pine Point Rd.	Stow	deep	n/a	ins	ins	ins	ins	ins	ins
97	Gumbert	Bruce	56	Pine Point Rd.	Stow	shallow/point	driven	?	40	ins	ins	ins	ins
98	Phalan	Neal	60	Pine Point Rd.	Stow	shallow/point	driven	14	25	ins	ins	ins	ins
99	Rockwell	Stanley	64	Pine Point Rd.	Stow	shallow/point	ins	18/10 to H20	ins	ins	ins	ins	ins
100	Frechette	Russell	113	Hunter Ave.	Hudson	shallow/point	driven	26	50	out	dk	not here	ins
101	Patterson	Maryellen	18	Lakeside Ave.	Hudson	shallow/point	?	?	50	in/in	dk	no	yes
102	Anathan	Geraldine	100	North Shore Dr.	Stow	?	?	?	?	in?	dk	not here	yes
103	Fuller	Kenneth	144	North Shore Dr.	Stow	shallow/point	dug	17	20	out/out	dk	dk	possibly
104	Goddin	William	160	North Shore Dr.	Stow	shallow/point	?	20	70	in/in	dk	no	depends on cost
105	Busser	Paul	164	North Shore Dr.	Stow	dug well	dug	15	30	out/in	dk	dk	not sure
106	Doering	Rita	74	Pine Point Rd.	Stow	not sure	?	?	20	in/in	dk	no	probably not
107	Carrig	Mark	271	Sudbury Rd.	Stow	shallow/point	driven	24	50	out/out	dk	freezing	yes
108	Schumann	Deborah	12	Davis Rd.	Stow	shallow/point	driven	18	60	inside	4/maybe	yes	yes

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109 Rogers	Linda	72	Pine Point Rd.	Stow	shallow/point	dug	ins	60	out/in	2/yes 4/yes	not here	possibly
110 Tamker	Joseph	132	North Shore Dr.	Stow	shallow/point	driven	23	40	in/?	2/sb ok 4/?	not here	repair y. replace no
111 Walsh	Henry	130	North Shore Dr.	Stow	shallow/point	driven	15	75	out/out	2/ok, 4/?	don't remember	no
112 Hickey	Brian	270	Sudbury Rd.	Stow	shallow/point	driven	12	80	out/in	2/no, 4/? (no?)	not here	rather not
113 Kuhnelt	Alfred	176	Barton Rd.	Stow	shallow/point	driven	12	7	out/out	2/no, 4/?	no	yes
114 Roach	Dave	8	Davis Rd.	Stow	shallow/point	driven	40	30	?	2/no, 4/?	no?	prob. yes
115 Wetherell	Leslie	16	Davis Rd.	Stow	shallow/point	driven	18	20	in/in	2/no, 4/?	no	no
116 Hawkes	Don	9	Dawes Rd.	Stow	shallow/point	driven	15	85	in/in	2/no, 4/?	not here	minor repairs only
117 Alving	Ronald	84A	North Shore Dr.	Stow	shallow/point	driven	22	30	out/out	2/no, 4/?	no	yes
118 Halprin	Lewis	82	Pine Point Rd.	Stow	shallow/point	driven	10	40	in/in	2/no, 4/?	no	yes
119 McCourt	Anne	136	Barton Rd.	Stow	shallow/point	?	?	?	in/in	2/no 4/maybe	?	yes
120		36	Lakeside Ave.	Hudson	shallow/point	driven	12	50	in/in	2/no 4/?	not here	town h2o soon
121 Katelle	Alan	50	Old Country Rd.	Hudson	shallow/point	driven	?	65	out/out	2/no 4/?	not here	no
122 Hill	Edith	88	Pine Point Rd.	Stow	shallow/point	dug	?	10	out/in	2/? 4/yes	?	yes
123 Cristiano	Frank	52	Pine Point Rd.	Stow	shallow/point	driven	20	30	out/out	2/? 4/yes	no	not sure/no
124 Andrews	David	97	Hunter Ave.	Hudson	shallow/point	driven	8	10	out/out	2/? 4/yes	not here	yes
125 Hicks	Brian	4	Lakeside Ave.	Hudson	shallow/point	?	?	40	out/in	2/? 4/yes	not here	no
126 Marshall	James	10	Dawes Rd.	Stow	shallow/point	driven	8	30	in/in	2/? 4/yes	no	no
127 Rossetti	Phillip	89	Kingland Rd.	Stow	shallow/point	driven	14	30	in/in	2/? 4/yes	no	yes
128 Stiles	Richard	58	Pine Point Rd.	Stow	shallow/point	driven	?	50	in/in	2/? 4/yes	no	no
129 McDonald	Tom	32	Lakeside Ave.	Hudson	shallow/point	driven	?	100	in/in	2/? 4/?	no	possibly
130 DePisco	Dion	44	Lakeside Ave.	Hudson	shallow/point	driven	10	20	in/in	2/? 4/?	not here	no
131 Sweeney	John	58	Lakeside Ave.	Hudson	shallow/point	?	14	30	out/in	2/? 4/?	?	no
132 Pieciewicz	Brian	56	Lakeside Ave.	Hudson	shallow/point	dug	25	10	out/in	2/? 4/?	no	no
133 Smith	Karin	216	Barton Rd.	Stow	shallow/point	driven	15	25	out/in	2/? 4/?	not here	no
134 Pastuck	Mark	107	Hunter Ave.	Hudson	shallow/point	?	?	70	out/out	?	not here	possibly
135 Klauk	John	40	Lakeside Ave.	Hudson	shallow/point	?	?	300	out/in	?	?	no
136 McCue	Judy	49	Lakeside Ave.	Hudson	deep	?	80	30	out/in	?	not here	possibly
137 Davis	Alfred	60	Lakeside Ave.	Hudson	?	?	?	30	out/in	?	?	no
138 Zerega	Alfred	82	Lakeside Ave.	Hudson	shallow/point	driven	20 to 25 (?)	25	out/in	?	new wells	no
139 Zerega	Alfred	84	Lakeside Ave.	Hudson	shallow/point	driven	20 to 25 (?)	50	out/in	?	new wells	no
140 Tong	Cuong	798	Main Street	Hudson	shallow/point	?	?	75	out/in	?	not here	yes
141 Zerega	Alfred	24	Old Country Rd.	Hudson	shallow/point	driven	20 to 25 (?)	100	out/in	?	new wells	no
142 Zerega	Alfred	26	Old Country Rd.	Hudson	shallow/point	driven	20 to 25 (?)	65	out/in	?	new wells	no
143 Zerega	Alfred	28	Old Country Rd.	Hudson	shallow/point	driven	20 to 25 (?)	60	out/in	?	new wells	no
144 Morash	Rose	26	Worcester Ave.	Hudson	shallow/point	?	?	?	in/in	?	not here	not sure

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145	Dougan	Axel	112	Barton Rd.	Stow	shallow/point	?	20	12	out/in	?	new well	possibly
146	Rock	Georgiana	114	Barton Rd.	Stow	shallow/point	?	?	10	out/in	?	not here	no
147	Stern	Gregory	130	Barton Rd.	Stow	?	driven	8	30	out/out	?	no	pump only
148	Gregory	Scott	180	Barton Rd.	Stow	shallow/point	driven	20	100	in/in	?	not here	no
149	Fisher	Weston	200	Barton Rd.	Stow	shallow/point	?	?	100	insider/?	?	?	yes
150		Linda	222	Barton Rd.	Stow	shallow/point	driven	?	40	in/in	?	not here	possibly
151	Cornell	Steve	4	Davis Rd.	Stow	shallow/point	?	6	90	in/in	?	not here	possibly
152	Katz	Kevin	10	Davis Rd.	Stow	shallow/point	driven	?	98	out/in	?	not here	yes
153	Cassidy	Michael	22	Davis Rd.	Stow	shallow/point	driven	?	75	out/?	?	?	prob. yes
154	Hogarty	Michael	26	Davis Rd.	Stow	deep	n/a	280	130	out/out	?	new well	no
155	(for sale)		22	Davis Rd.	Stow	shallow/point	?	?	70	in/in?	?	?	?
156	(for sale)		28	Davis Rd.	Stow	shallow/point	?	?	80	in/in?	?	?	?
157	Kane/summer		34	Davis Rd.	Stow	shallow/point	?	?	65	?	?	?	?
158	Blake	William	44	Davis Rd.	Stow	shallow/point	driven	26	25	in/in	?	?	prob yes
159	Blood	Kenny	9	Hale Rd.	Stow	shallow/point	?	?	50	in/in	?	not here	no
160	McGarry	Jeffrey	11	Hale Rd.	Stow	shallow/point	drilled	?	60	in/in	?	not here/new well	no
161	Jaffee	Cheryl	19	Hale Rd.	Stow	shallow/point	driven (?)	15 (?)	80	in/in	?	not here	depends on cost
162	Fuller	Roger	39	Hale Rd.	Stow	shallow/point	driven	15	50	in/out	?	not here	no
163	Sandbloom	John	25	Hallock Point Rd.	Stow	shallow/point	?	?	60	?	?	?	?
164	Beaudette	Joseph	111	Kingland Rd.	Stow	shallow/point	driven	12	40	in/in	?	no	yes
165	Ver	Istvan	108	North Shore Dr.	Stow	shallow/point	driven	25	140	in/in	?	not here	?
166	John	Toole	34	Pine Point Rd.	Stow	shallow/point	?	?	10	out/out	?	not here	yes
167	Nixon	Gary	98	Pine Point Rd.	Stow	shallow/point	dug	12	15	in/in	?	no	?
168	Perisho	Michael	249	Sudbury Rd.	Stow	?	?	?	100	out/?	?	?	?
169	Norris	Edward	266	Sudbury Rd.	Stow	shallow/point	?	?	30	out/?	?	not here	no
170	Martin	Richard	288	Sudbury Rd.	Stow	shallow/point	?	?	?	out/in	?	not here	with \$ help
171			11	Gateley	Hudson	town water							
172			20	Gateley	Hudson	town water							
173	Wharff	Conway	16	Gateley Rd.	Hudson	shallow/point	driven/drilled	28	130	yard			
174	Bemis	Marion	49	Hunter Ave.	Hudson	town water							
175	McGrath	John	51	Hunter Ave.	Hudson	town water							
176	Birkholz	Betsy	53	Hunter Ave.	Hudson	town water							
177	Armstrong	David	57	Hunter Ave.	Hudson	town water							
178			61	Hunter Ave.	Hudson	town water							
179	Laviano	Gerard	63	Hunter Ave.	Hudson	town water							
180	Kreimeyer	Linda	65	Hunter Ave.	Hudson	town water							

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181	Flynn	John	69	Hunter Ave.	Hudson	town water							
182			75	Hunter Ave.	Hudson	town water							
183			81	Hunter Ave.	Hudson	town water							
184	Possick	Ronald	89	Hunter Ave.	Hudson	town water							
185	Downey	Michael	91	Hunter Ave.	Hudson	shallow/point							
186	Fisher	David	95	Hunter Ave.	Hudson	town water							
187	Freeman	Debra	99	Hunter Ave.	Hudson	town water							
188	Brewer	Francis	101	Hunter Ave.	Hudson	town water							
189	Ryan	Frederick	6	Lakeside Ave.	Hudson	town water							
190	Ryan	Frederick	8	Lakeside Ave.	Hudson	town water							
191	Lucier	John	12	Lakeside Ave.	Hudson	town water							
192	Arsenault	Roger	14	Lakeside Ave.	Hudson								
193	Hanson	Edward	16	Lakeside Ave.	Hudson								
194	Finn	Edwin	20	Lakeside Ave.	Hudson								
195	Smith	Frank	22	Lakeside Ave.	Hudson	town water							
196	Smith	Frank	24	Lakeside Ave.	Hudson	town water							
197	Snashall	Richard	25	Lakeside Ave.	Hudson	town water							
198	Belcuore	Daniel	26	Lakeside Ave.	Hudson	town water							
199	Anagnos	George	28	Lakeside Ave.	Hudson	town water							
200			30	Lakeside Ave.	Hudson								
201	Bobrovsky	Alexander	38	Lakeside Ave.	Hudson	town water							
202			42	Lakeside Ave.	Hudson								
203			48	Lakeside Ave.	Hudson	town water							
204	Mannes	Robert	52	Lakeside Ave.	Hudson	town water							
205	Albertini	Joseph	54	Lakeside Ave.	Hudson	town water							
206	Hebb	Andrew	62	Lakeside Ave.	Hudson	town water							
207	Morgan	Thomas	63	Lakeside Ave.	Hudson	town water							
208	Stacey	James	64	Lakeside Ave.	Hudson	town water							
209	Zerega	Alfred	65	Lakeside Ave.	Hudson	town water							
210	O'Brien	Jody	68	Lakeside Ave.	Hudson	town water							
211	Desjardin	Grace	70	Lakeside Ave.	Hudson	town water							
212	Forsmo	Dennes	72	Lakeside Ave.	Hudson	town water							
213	McDonald	Chester	14	Lynman St.	Hudson	town water							
214	Katelle	Alan	60	Old Country Rd.	Hudson	same as 50							
215	Arbour	Frank	3	Proctor	Hudson	town water							
216			584	State Rd.	Hudson	town water							

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217			586	State Rd.	Hudson	town water							
218			588	State Rd.	Hudson	town water							
219	Bigelow	Erica	13	Temple Ave.	Hudson	town water							
220	DeAngelis	Ronald	15	Temple Ave.	Hudson	town water							
221	Wenners	Joanne	16	Temple Ave.	Hudson	town water							
222	Halliday	James	17	Temple Ave.	Hudson	town water							
223	Billings	Todd	33	Temple Ave.	Hudson	town water							
224	Goguen	Jennifer	5	Worcester Ave.	Hudson	town water							
225	Svenson	Kristine	7	Worcester Ave.	Hudson	summer							
226	Kelsey	Janet	10	Worcester Ave.	Hudson	town water							
227	Schreiner	Michael	24	Worcester Ave.	Hudson	town water							
228	King	Isaac	25	Worcester Ave.	Hudson	town water							
229	Wassmuth	Lesley	28	Worcester Ave.	Hudson	town water							
230			32	Worcester Ave.	Hudson	town water							
231			33	Worcester Ave.	Hudson	town water							
232	Taylor	Richard	35	Worcester Ave.	Hudson	town water							
233			37	Worcester Ave.	Hudson	town water							
234	Gately	James	39	Worcester Ave.	Hudson	town water							
235	Coltone	John	41	Worcester Ave.	Hudson	town water							
236	Woods	Bob	43	Worcester Ave.	Hudson	town water							
237			9B	Worcester Ave.	Hudson	same as 9A							
238	Downey	Harold	81	Barton Rd.	Stow	deep							
239			109	Barton Rd.	Stow	deep	n/a	150					
240	Gascoigne	Kate	122	Barton Rd.	Stow								
241	Oram	Robert	140	Barton Rd.	Stow								
242	Boeske	Howard	142	Barton Rd.	Stow								
243	DeWolfe	Brian	152	Barton Rd.	Stow	deep							
244	Gereke	William	20	Davis Rd.	Stow								
245	O'Connell	William	7	Hale Rd.	Stow								
246	Prescott	Carl	29	Hale Rd.	Stow	shallow/point	driven						
247	Prescott	Carl	31	Hale Rd.	Stow	shallow/point	driven						
248	Prescott	Carl	33	Hale Rd.	Stow	shallow/point	driven						
249			51	Hale Rd.	Stow								
250	Newcomb	Joel	38	Haillock Point Rd.	Stow								
251	Alman	John	50	Haillock Point Rd.	Stow								
252	Kovach	Peter	65	Kingland Rd.	Stow	summer							

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253	Cross	Marshall et.	69	Kingland Rd.	Stow	undeveloped							
254	Winter	Ronald	101	Kingland Rd.	Stow								
255	Ketola	John	96	North Shore Dr.	Stow								
256	Brown	Terrence	102	North Shore Dr.	Stow								
257	Brennan		170	North Shore Dr.	Stow								
258	Theal	George	172	North Shore Dr.	Stow	same as 164							
259	Powell	Arthur	42	Pine Point Rd.	Stow	deep/summer							
260	Ferry	Diana	44	Pine Point Rd.	Stow	summer							
261	Reinheckel	Stephen	46	Pine Point Rd.	Stow								
262	Glynn	Ronald	66	Pine Point Rd.	Stow	same as 98							
263	Cervin	Stephen	96	Pine Point Rd.	Stow	not-participant							
264	Farell	Michael	260	Sudbury Rd.	Stow	shallow/point							
265	Poulson	Ben	264	Sudbury Rd.	Stow	gravel packed drilled							
266	Westberg	Thomas	267	Sudbury Rd.	Stow	deep							
267			547	Sudbury Rd.	Stow	deep							
268			549	Sudbury Rd.	Stow	deep							
269			553	Sudbury Rd.	Stow	deep							
			37	HALE RD									
				- 72 N. Shaw Dr.									

37 HALE RD
- 72 N. Shaw Dr.

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